

BOARD OF  
COUNTY  
COMMISSIONERS



UTILITIES  
DEPARTMENT

January 12, 2009

Ray Eubanks, Plan Processing Administrator  
Division of Community Planning  
Florida Department of Community Affairs  
2555 Shumard Oak Boulevard  
Tallahassee, FL 32399

RE: Adopted 10-Year Water Supply Facilities Work Plan & Associated Comprehensive Plan Elements  
Submittal for Compliance Review  
St. Lucie County Comprehensive Plan  
Ordinance No. 08-013  
DCA No. 08RWSP-1  
Response to Objections, Recommendations and Comments Report dated September 12, 2008

Dear Mr. Eubanks:

St. Lucie County (County) has prepared the following submittal packet consisting of a response to the Objections, Recommendations and Comments Report dated September 12, 2008, which includes responses to questions received and references to appropriate changes to the Work Plan and associated Comprehensive Plan Elements. Please find enclosed one hard copy and two electronic copies on compact disc of the updated and adopted 10-Year Water Supply Facilities Work Plan and related Comprehensive Plan Elements (Future Land Use Element, Potable Water Sub-Element, Sanitary Sewer Sub-Element, Conservation Element, Intergovernmental Coordination Element and Capital Improvements Element).

This amendment is being transmitted to meet the requirements of Section 163.3181, Florida Statutes (FS), and Chapter 9J-5.004, Florida Administrative Code (FAC). After being duly advertised in the Ft. Pierce Tribune and the Port St. Lucie News on December 6, 2008, the Board of County Commissioners held a hearing on December 16, 2008 where the Work Plan and Comprehensive Plan Element modifications were unanimously adopted.

In response to the Objections, Recommendations and Comments report, the County offers the following information.

**Objection No. 1**      **As Identified in the South Florida Water Management District's [SFWMD] letter dated August 26, 2008, the population projections for the County presented in Tables 1-2, 1-3 and 4-1 of the Work Plan are internally inconsistent. The population projections are also inconsistent with the County's Comprehensive Plan, Future Land Use element, the County's Consumptive Use Permit, and the District's Lower East Coast Regional Water Supply Plan.**

Response No. 1

The referenced tables have been revised to more closely match the County's Consumptive Use Permit and the SFWMD's Upper East Coast Water Supply Plan (please note that DCA's comment inadvertently referenced the Lower East Coast Water Supply Plan, rather than the applicable Upper East Coast Water Supply Plan). It should be noted that the projections included in the consumptive use permit differ slightly from those published in the Upper East Coast Water Supply Plan, but have been approved by SFWMD based on assumptions provided by the County in the permitting process.

Tables 1-2 and 1-3 in the Future Land Use Element differed from one another intentionally, as explained in the Element. Table 1-2 is intended to summarize the entire unincorporated County population including all residents, regardless of which water supply system they are connected to or if they are self-served. Table 1-3 was intended to summarize the projected County's public water supply system customers only, and therefore would not be equal to the projections provided in Table 1-2. Upon review, however, the projections included in Table 1-3 were discovered to be erroneous and have since been corrected. The information previously provided in Table 1-3 is better suited to be presented in the Water and Sanitary Sewer Sub-elements, rather than in the Future Land Use Element. The information has been inserted in the appropriate Sub-Elements. The revised Water and Sanitary sewer Sub-Elements are presented in Exhibits 3 and 4 to the 10-Year Water Supply Facilities Work Plan, respectively. Table 4-1 of the 10-Year Water Supply Facilities Work Plan has also been corrected to match these revised projections and those in the consumptive use permit. A revised version of Table 4-1 is also provided in the enclosed updated Work Plan.

Objection No. 2

**The proposed amendment does not address the requirements of Section 163.3180(2)(a), [Florida Statutes] F.S. pertaining to water supply concurrency.**

Response No. 2

The County's developer agreement requires the applicant to request a capacity review for water and/or wastewater service prior to issuance of a building permit. This is further enforced through Objective 6.A.1.2 of the Potable Water Sub-Element, and the associated policies.

The St. Lucie County Development Review Committee (DRC) will review all proposed developments planned for Unincorporated St. Lucie County. The DRC Chair is to verify in which utility service area the proposed development is planned and verify the water and wastewater concurrency in conjunction with the appropriate Utility prior to recommending issuance of a Development Order.

Upon notification that the proposed development is located within the St. Lucie County Utilities service area, the developer is to deliver a set of the proposed utility plans to St. Lucie County Utilities for review. Upon completion and

approval of the proposed utility plans St. Lucie County Utilities will prepare a "Standard Potable Water and Wastewater Development Agreement" to be signed by the developer and returned to the Utility.

Only upon full execution of the Standard Potable Water and Wastewater Development Agreement will water and wastewater capacity be reserved for the proposed development.

**Objection No. 3**      **The proposed amendment does not include a policy that requires coordination with the SFWMD related to updating the County's Water Supply Facilities Work Plan within 18 months after the SFWMD updates the [Upper] East Coast Regional Water Supply Plan.**

Response No. 3      The requested policy has been added to the Potable Water Sub-Element as Objective 6A.3.3, Policy 6A.3.3.1. The revised Potable Water Sub-Element is provided as Exhibit 3 to the 10-Year Water Supply Facilities Work Plan.

**Objection No. 4**      **The County's Work Plan provides a list of water system improvement projects. However, the potable water projects have not been incorporated into the Five-Year Schedule of Capital Improvements.**

Response No. 4      A five-year fiscal analysis of estimated water and wastewater capital improvement projects has been added to Section 2 of the enclosed 10-Year Water Supply Facilities Work Plan (Exhibit 1). The Capital Improvement Element is also updated annually and the most recent update was submitted to DCA in November 2008.

**Objection No. 5**      **The proposed amendment does not include policies with specific programs and activities to ensure ongoing coordination with the Fort Pierce Utility Authority [FPUA] on water supply issues.**

Response No. 5      The County participates in quarterly meetings with the Treasure Coast Regional Utilities Organization, which provides for intergovernmental coordination between utilities including FPUA. Additionally, the County conducts a minimum of at least two annual coordination meetings with FPUA (typically more) to discuss the bulk water agreement status which includes on-going capital projects. The County revises the five-year projections annually and provides the update to FPUA at the end of each October.

These meetings achieve the recommended actions provided in the ORC report, with the exception of implementing alternative water supply projects and establishing level of service. FPUA does not provide reclaimed water to or purchase reclaimed water from the County. Both utilities have established conservation measures. The level of service for each utility is adopted through their respective Master Plans.

Ray Eubanks  
January 12, 2009  
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A policy formalizing these actions has been incorporated into the Intergovernmental Coordination Element of the Comprehensive Plan as Policy 10.1.3.6. The modified pages of the Intergovernmental Coordination Element of the Comprehensive Plan are provided in Exhibit 6 attached to the 10-Year Water Supply Facilities Work Plan.

This Plan is not within an Area of Critical State Concern pursuant to Section 380, FS nor is it located within Orange, Lake or Seminole Counties and is not subject to the Wekiva River Protection Area pursuant to Section 88-393, FS. The amendment is not being adopted under a joint planning agreement nor does it include any optional elements.

A copy of the procedures for public participation that have been adopted by the Planning & Zoning Commission/Local Planning Agency and the Board of County Commissioners in accordance with section 163.3181, F.S. Rule 9J-5.004, F.A.C. is included. Also included in the package as per requirements of 9J-11.011(5)(b) is the "Comprehensive Plan Citizen Information List" intended for those citizens who wish to receive information regarding the publication of the Notice of Intent (NOI). Though the sheet was available at the hearing, no individuals have signed it.

The adopted 10-Year Water Supply Facilities Work Plan, Future Land Use Element, Potable Water Sub-Element, Sanitary Sewer Sub-Element, Conservation Element, Intergovernmental Coordination Element and Capital Improvements Element and all associated information submitted to the Department of Community Affairs is available for public inspection during normal business hours in the St. Lucie County Growth Management Department, 2300 Virginia Avenue, Fort Pierce, Florida 34982. The adopted documents can also be viewed online at [stlucieco.gov/growth](http://stlucieco.gov/growth) under the "Publications and Applications" link.

This amendment is being transmitted to meet the requirements of Chapter 163.3184(7), Florida Statutes, and Chapter 9J-11.011 Florida Administrative Code. The amendment is exempt from the twice a year limitation per Sections 163.3177(12) and 163.3187(1)(1) F.S. for adopting the 10-Year Water Supply Facilities Work Plan & Associated Comprehensive Plan Elements. In accordance with 9J-11.006(1)(a)(b)(c) and (d) Florida Administrative Code, St. Lucie County will also send copies of the plan to the appropriate reviewing agencies.

As per F.S. 163.3184(15)(e), the department will publish the required Notice of Intent, once received, in the Fort Pierce Tribune.

Respectfully,



Laurie Case  
St. Lucie County Utility Director

Ray Eubanks  
January 12, 2009  
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cc (complete package on disc):

Wendy Evans, Administrative Assistant II  
Tracy D. Suber, Education Consultant  
Jim Quinn, Environmental Manager  
Susan Harp, Historical Preservation Planner  
Mary Ann Poole, Director  
Mary Helen Blakeslee, Chief Analyst  
Gerry O'Reilly, Director of Production and Planning  
Terry L. Hess, A.I.C.P., Planning Director  
Jim Jackson, A.I.C.P., Senior Supervisor Planner  
Planning Director  
Dennis Pickle, Utilities Director  
Planning Division  
Comprehensive Plan Reviewer  
Nicki van Vonno, Growth Management Director  
Daniel Holbrook, Director Planning and Zoning  
Stan Boling, Planning Division Director  
Peter Buchwald, Director

Department of Agriculture and Consumer Services  
Department of Education  
Department of Environmental Protection  
Department of State  
Florida Fish and Wildlife Conservation Commission  
Office of Tourism, Trade and Economic Development  
Department of Transportation, District Four  
Treasure Coast Regional Planning Council  
South Florida Water Management District  
Town of St. Lucie Village  
St. Lucie West Service District  
City of Fort Pierce  
Fort Pierce Utilities Authority  
Martin County  
City of Port St. Lucie  
Indian River County  
St. Lucie Transportation Planning Organization

cc (letter only):

St. Lucie County  
Faye Outlaw, County Administrator  
Lee Ann Lowery, Assistant County Administrator  
Daniel McIntyre, County Attorney  
Mark Satterlee, Growth Management Director  
Bob Dennis  
Chip Merriam  
Linda Hoppes  
John Mulliken  
Michael Busha  
Jill Grimaldi

Board of County Commissioners  
St. Lucie County  
St. Lucie County  
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Department of Community Affairs  
South Florida Water Management District  
South Florida Water Management District  
South Florida Water Management District  
Treasure Coast Regional Planning Council  
CDM, Inc.

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Received By  
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Growth Management

ORDINANCE NO. 08-013  
FILE NO. TCP 220081423

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF ST. LUCIE COUNTY, FLORIDA AMENDING THE ST. LUCIE COUNTY COMPREHENSIVE PLAN BY AMENDING THE FUTURE LAND USE ELEMENT; AMENDING THE POTABLE WATER SUB-ELEMENT; AMENDING THE SANITARY SEWER SUB-ELEMENT; AMENDING THE CONSERVATION ELEMENT; AMENDING THE INTERGOVERNMENTAL COORDINATION ELEMENT; AMENDING THE CAPITAL IMPROVEMENTS ELEMENT; ADOPTING THE 10-YEAR WATER SUPPLY FACILITIES WORK PLAN; PROVIDING FOR FILING WITH THE FLORIDA DEPARTMENT OF STATE; PROVIDING FOR TRANSMITTAL TO THE FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS PURSUANT TO SECTION 163.3184, FLORIDA STATUTES; PROVIDING FOR CONFLICT; PROVIDING FOR SEVERABILITY; PROVIDING AN EFFECTIVE DATE; AND PROVIDING FOR ADOPTION

WHEREAS, in 1990 the Board of County Commissioners of St. Lucie County, Florida, adopted the St. Lucie County Comprehensive Plan; and

WHEREAS, §163.3167(2), Florida Statutes, requires that each local government prepare a Comprehensive Land Use Plan in compliance with the Local Government Comprehensive Planning and Land Development Act, as amended from time to time; and

WHEREAS, §163.3184(15), Florida Statutes, requires that the Comprehensive Plan be adopted by the governing body of the local government by Ordinance; and

WHEREAS, §163.3177, Florida Statutes, and the applicable provisions of Chapter 9J-5, Florida Administrative Code, requires that the Local Government Comprehensive Plan shall consist of goals, objectives and policies, procedures for monitoring and evaluation of the local plan, requirements for capital improvements, implementation and required maps; and

1 **WHEREAS**, in 2005, the Florida Legislature enacted Chapters 163 and 373, Florida  
2 Statutes, to improve water supply and land use planning between the five water  
3 management districts, the Florida Department of Environmental Protection, and the  
4 State. In 2006, the Florida Legislature amended Chapter 163, Florida Statutes, requiring  
5 local governments to prepare 10-year water facilities work plans; and  
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7  
8 **WHEREAS**, pursuant to the recently-enacted legislation, the County desires to enhance  
9 the coordination and integration of planning for water supply with the comprehensive  
10 planning processes; and  
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13 **WHEREAS**, County Staff recommends the adoption of the proposed amendments; and  
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15  
16 **WHEREAS**, the Local Planning Agency, at its meeting on March 20, 2008, considered  
17 the proposed amendments to the County's Comprehensive Plan and recommended to  
18 transmit the amended Plan to the Board of County Commissioners and the Department  
19 of Community Affairs ("DCA") with a favorable recommendation; and  
20

21 **WHEREAS**, the Board of County Commissioners, at its meeting on May 6, 2008,  
22 considered the proposed amendments to the County's Comprehensive Plan and voted to  
23 transmit the amended Plan to the Department of Community Affairs ("DCA") with a  
24 favorable recommendation; and  
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26  
27 **WHEREAS**, on September 16, 2008 the County received an Objections,  
28 Recommendations and Comments ("ORC") Report from the DCA, and responded to  
29 objections raised therein; and  
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31  
32 **WHEREAS**, on December 16, 2008 the Board of County Commissioners held a public  
33 hearing and deemed that the adoption of the amendments to the Comprehensive Plan  
34 are in the best interests of the citizens and residents of the County.  
35

36  
37 **NOW, THEREFORE, BE IT ORDAINED BY THE BOARD OF COUNTY**  
38 **COMMISSIONERS OF ST. LUCIE COUNTY, FLORIDA THAT:**  
39

40 **Section 1.** The foregoing "Whereas" clauses are hereby ratified as true and correct  
41 and incorporated herein by this reference.

1  
2 **Section 2.** In order to comply with the provisions of Chapters 163 and 373, Florida  
3 Statutes, the Board of County Commissioners of St. Lucie County, Florida hereby  
4 adopts all exhibits attached hereto amending the Comprehensive Plan by  
5 Ordinance No. 08-013 consisting of the following documents attached hereto and  
6 incorporated herein by reference:  
7

- 8 1. Exhibit 1: Chapter 1, Future Land Use Element
- 9 2. Exhibit 2: Chapter 6(A), Potable Water Sub-Element
- 10 3. Exhibit 3: Chapter 6(D), Sanitary Sewer Sub-Element
- 11 4. Exhibit 4: Chapter 8, Conservation Element
- 12 5. Exhibit 5: Chapter 11, Capital Improvements Element
- 13 6. Exhibit 6: 10-Year Water Supply Facilities Work Plan

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15  
16 **Section 5. CONFLICTING PROVISIONS**

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18 Special acts of the Florida Legislature applicable only to unincorporated areas of  
19 St. Lucie County, County Ordinances and County Resolutions, or parts thereof, in  
20 conflict with this Ordinance are hereby superseded by this Ordinance to the extent  
21 of such conflict.

22  
23 **Section 6. SEVERABILITY**

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25 If any portion of this Ordinance is for any reason held or declared to be  
26 unconstitutional, inoperative or void, such holding shall not affect the remaining  
27 portions of this Ordinance. If this Ordinance or any provision thereof shall be held  
28 to be inapplicable to any person, property, or circumstances, such holding shall  
29 not affect its applicability to any other person, property or circumstance.  
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31  
32 **Section 7. FILING WITH THE DEPARTMENT OF STATE**

33  
34 The Clerk is hereby directed forthwith to send a certified copy of this Ordinance to  
35 the Bureau of Laws, Department of State, The Capitol, Tallahassee, Florida,  
36 32304.

37  
38 **Section 8. FILING WITH THE DEPARTMENT OF COMMUNITY AFFAIRS**  
39

1 The Growth Management Director shall send a certified copy of this Ordinance to  
2 the Department of Community Affairs, 2555 Shumard Oak Boulevard,  
3 Tallahassee, Florida 32399-2100.  
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6 **Section 9. EFFECTIVE DATE**  
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8 This Ordinance shall take effect upon the issuance by the State Land Planning  
9 Agency of a Notice of Intent to find the adopted amendment in compliance in  
10 accordance with Section 163.3184(9), or Section 125.66(4)(a), Florida Statutes, or  
11 upon the Administration Commission issuing a final order finding the adopted  
12 amendment in compliance in accordance with Section 163.3184(10).  
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**ADOPTION**

After motion and second, the vote on this Ordinance was as follows:

Chairman Paula A. Lewis	AYE
Vice Chairman Charles Grande	AYE
Commissioner Doug Coward	AYE
Commissioner Chris Craft	Absent
Commissioner Chris Dzadovsky	AYE

**PASSED AND DULY ADOPTED** this 16 day of December, 2008.

BOARD OF COUNTY COMMISSIONERS  
ST. LUCIE COUNTY, FLORIDA



BY Paula A. Lewis  
Chairman

ATTEST:

[Signature]  
Deputy Clerk

APPROVED AS TO FORM  
AND CORRECTNESS:

[Signature]  
County Attorney



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**Exhibit 1**  
**Amendments to Chapter 1**  
**Future Land Use Element**  
(available for review in the Utilities Department)

**Exhibit 2**  
**Amendments to Chapter 6(A)**  
**Potable Water Sub-Element**  
(available for review in the Utilities Department)

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**Exhibit 3**  
**Amendments to Chapter 6(D)**  
**Sanitary Sewer Sub-Element**  
(available for review in the Utilities Department)

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**Exhibit 4**  
**Amendments to Chapter 8**  
**Conservation Element**  
(available for review in the Utilities Department)

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**Exhibit 5**  
**Amendments to Chapter 11**  
**Capital Improvements Element**  
(available for review in the Utilities Department)

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**Exhibit 6**  
**10-Year Water Supply Facilities Work Plan**  
(available for review in the Utilities Department)

## EXHIBIT 1

St. Lucie County, Florida

**Utilities Department  
10-Year Water Supply Facilities Work Plan**

Revised to Reflect Response to DCA Comments Received on  
September 12, 2008

Submittal to the Florida Department of Community Affairs

December 2008



*Report*

# EXHIBIT 1

St. Lucie County, Florida

**Utilities Department**

**10-Year Water Supply Facilities Work Plan**

**Revised to Reflect Response to DCA Comments Received on  
September 12, 2008**

**Submittal to the Florida Department of Community Affairs**

December 2008

*Report*



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# Executive Summary

## E.1 Regulatory Requirements

In 2002, 2004 and 2005, the Florida Legislature enacted bills modifying Chapters 163 and 273, Florida Statute, to improve water supply and land use planning between the five water management districts, the Florida Department of Environmental Protection and the Department of Community Affairs. The 2002 legislation required local governments to prepare 10-year water supply facilities work plans and incorporate the work plans into their comprehensive plans. The 2004 legislation allowed local governments until December 1, 2006 to complete the work plans - a deadline that was later extended to January 2008. The 2005 update required local governments to coordinate the preparation of the work plans with the water supply plan prepared by the applicable water management district.

The 10-Year Water Supply Facilities Work Plan is required to include the following information:

- 10-year water demand projections;
- Identification of current and proposed facilities and supply sources to meet the demands;
- Identification of funding sources for each identified proposed facility;
- Revised 5-year Capital Improvement Projects to meet the needs identified above; and
- Updates of relevant Comprehensive Plan Sub-Elements (water, sanitary sewer, conservation, etc.).

## E.2 Work Plan Summary

The following work plan presents population projections for the 10-year planning horizon (2008 through 2018) and corresponding demand projections for potable water. In addition to potable water demands, the plan focuses on wastewater treatment facilities and the ability for these facilities to produce and provide reclaimed water to offset potable demands. The plan includes all public and private facilities located within the unincorporated area of St. Lucie County, proposed expansions, and a summary of proposed facilities. The County has also prepared a summary of the capital improvement projects anticipated over the next ten years as they pertain to water supply and reclaimed water. The following plan does not include details related to the City of Port St. Lucie, Fort Pierce Utilities Authority or St. Lucie West Utilities. Each of these entities was required by statute to prepare an independent work plan and they are therefore not included in the County's plan.

## E.3 Comprehensive Plan Updates

One requirement of the work plans is that the County's comprehensive plan elements related to water supply, and all related elements, be updated to reflect the current information provided in the work plan and that the plan itself be incorporated into the comprehensive plan. The County has prepared updates to the following comprehensive plan elements:

- Future Land Use Element
- Potable Water Sub-Element
- Sanitary Sewer Sub-Element
- Conservation Element
- ~~Land Use Element~~
- Intergovernmental Coordination Element
- Capital Improvements Element

The revised elements are attached as **Exhibit 1** through **Exhibit 5-6** to this work plan, respectively.

# Abbreviations and Acronyms

AC	Asbestos Cement
BEER	University of Florida Bureau of Business and Economic Research
CERP	Comprehensive Everglades Restoration Plan
City	City of Port St. Lucie
County	St. Lucie County
DCA	Department of Community Affairs
EPA	U.S. Environmental Protection Agency
ERC	Equivalent Residential Unit
FAC	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
Fe	Iron
FPUA	Fort Pierce Utilities Authority
F.S.	Florida Statute
FY	Fiscal Year
gpcd	Gallons per capita per day
GDU	General Development Utility Corporation
LOS	Level-of-Service
mgd	Million gallons per day
mg/L	Milligrams per Liter
MHP	Mobile Home Park
MSBU	Municipal Service Benefit Unit
NHI	North Hutchinson Island
RO	Reverse Osmosis
SFWMD	South Florida Water Management District

SLCU	St. Lucie County Utilities
SLW	St. Lucie West
SO <sub>2</sub>	Sulfur Dioxide
SO <sub>4</sub>	Sulfates
TBD	To Be Determined
TDS	Total Dissolved Solids
UEC	Upper East Coast
UNC	Unincorporated St. Lucie County
USACOE	U.S. Army Corps of Engineers
WTP	Water Treatment Plant
WWTP	Wastewater Treatment Plant

# Executive Summary

## E.1 Regulatory Requirements

In 2002, 2004 and 2005, the Florida Legislature enacted bills modifying Chapters 163 and 273, Florida Statute, to improve water supply and land use planning between the five water management districts, the Florida Department of Environmental Protection and the Department of Community Affairs. The 2002 legislation required local governments to prepare 10-year water supply facilities work plans and incorporate the work plans into their comprehensive plans. The 2004 legislation allowed local governments until December 1, 2006 to complete the work plans - a deadline that was later extended to January 2008. The 2005 update required local governments to coordinate the preparation of the work plans with the water supply plan prepared by the applicable water management district.

The 10-Year Water Supply Facilities Work Plan is required to include the following information:

- 10-year water demand projections;
- Identification of current and proposed facilities and supply sources to meet the demands;
- Identification of funding sources for each identified proposed facility;
- Revised 5-year Capital Improvement Projects to meet the needs identified above; and
- Updates of relevant Comprehensive Plan Sub-Elements (water, sanitary sewer, conservation, etc.).

## E.2 Work Plan Summary

The following work plan presents population projections for the 10-year planning horizon (2008 through 2018) and corresponding demand projections for potable water. In addition to potable water demands, the plan focuses on wastewater treatment facilities and the ability for these facilities to produce and provide reclaimed water to offset potable demands. The plan includes all public and private facilities located within the unincorporated area of St. Lucie County, proposed expansions, and a summary of proposed facilities. The County has also prepared a summary of the capital improvement projects anticipated over the next ten years as they pertain to water supply and reclaimed water. The following plan does not include details related to the City of Port St. Lucie, Fort Pierce Utilities Authority or St. Lucie West Utilities. Each of these entities was required by statute to prepare an independent work plan and they are therefore not included in the County's plan.

## E.3 Comprehensive Plan Updates

One requirement of the work plans is that the County's comprehensive plan elements related to water supply, and all related elements, be updated to reflect the current information provided in the work plan and that the plan itself be incorporated into the comprehensive plan. The County has prepared updates to the following comprehensive plan elements:

- Future Land Use Element
- Potable Water Sub-Element
- Sanitary Sewer Sub-Element
- Conservation Element
- ~~Land Use Element~~
- Intergovernmental Coordination Element
- Capital Improvements Element

The revised elements are attached as **Exhibit 1** through **Exhibit 5-6** to this work plan, respectively.

# Section 1

## Introduction

### 1.1 Background

In recent years, water supply planning has become an increasing concern in the State of Florida. In 2005, the State Legislature modified Chapters 163 and 373, Florida Statutes (F.S.) to improve water supply and land use planning between the five water management districts, the Florida Department of Environmental Protection (FDEP), and the State. In 2006, the legislature further amended Chapter 163, F.S., requiring local governments to prepare 10-year water supply facilities work plans.

Of Florida's five water management districts, four have determined that current supply sources will not be sufficient to provide potable drinking water over the next 20 years. These districts (excluding the Suwannee River Water Management District) have prepared supply plans identifying the deficiencies within their respective areas. St. Lucie County (County) is included in the South Florida Water Management District (SFWMD) and was evaluated as part of the Upper East Coast (UEC) Water Supply Plan. The UEC Water Supply Plan indicated that the County's current supply sources and water treatment facilities could not sustain growth for the next 20 years without modifications. Each utility within the County, public or private, is required to submit a 10-year water supply facilities work plan. These plans must include:

- 10-year water demand projections;
- Identification of current and proposed facilities and supply sources to meet the demands;
- Identification of funding sources for each identified proposed facility;
- Revised 5-year Capital Improvement Projects to meet the needs identified above; and
- Updates of relevant Comprehensive Plan Sub-Elements (water, sanitary sewer, conservation, etc.).

In addition to providing the required information for the St. Lucie County Utilities Department facilities, the County is required to include updates to the Comprehensive Plan relative to the other public and private utilities within the County boundaries.

### 1.2 Overview of Work Plan

The following work plan is intended to provide information pertinent to water and wastewater facilities owned by the St. Lucie County Utilities Department. There are a number of public utilities within the County, such as the City of Port St. Lucie (City), Fort Pierce Utilities Authority (FPUA) and St. Lucie West (SLW). These utilities were

required to submit individual 10-years Water Supply Facilities Work Plans. Therefore, information specifically related to these utilities has been excluded from this Plan. Copies of the plans as of February 2008 for the above mentioned facilities can be found in **Appendix A**, for informational purposes only. Please note that these Plans are subject to change based on SFWMD reviews and approvals, and information contained in the Appendix should not be used without first confirming accuracy with the respective utilities. Private utilities also exist within the County, including Spanish Lakes, the Reserve, Panther Woods, Harbor Ridge, etc. These utilities are generally smaller than their public counterparts, and therefore, are included in the County's Work Plan in lieu of completing individual plans. The information provided relative to the private utilities in the subsequent sections of this Plan was provided by and/or confirmed by the individual utilities prior to inclusion.

# Section 2

## Water Supply Facilities

### 2.1 Service Areas

The service area for each of the four public utilities is shown on **Figure 2-1**. The locations of each private utility within the County's service area are also shown on **Figure 2-1**. The City's service area extends beyond the City limits. These areas are shown as "Utility Service by Others" on **Figure 2-1**. Additionally, FPUA services portions of the County's service area through a bulk user agreement that took effect on February 10, 2004. The FPUA bulk agreement provides potable water to approximately 12,304 people within the County's "unincorporated" service area, primarily in the northern portion of the County. The agreement's expiration date is officially February 10, 2034. However, the County has given the required 5 year notice informing FPUA of its intent to construct new County-owned facilities. The portion of FPUA's capacity allocated to the County via the bulk user agreement will thereby freeze on March 10, 2010, at which time FPUA will maintain all customers served through the agreement at that time and the County will serve any new customers beyond that date. The County will then provide potable water service to new customers via one of the four planned regional water treatment plants (WTP) described further in subsequent sections of this Plan.

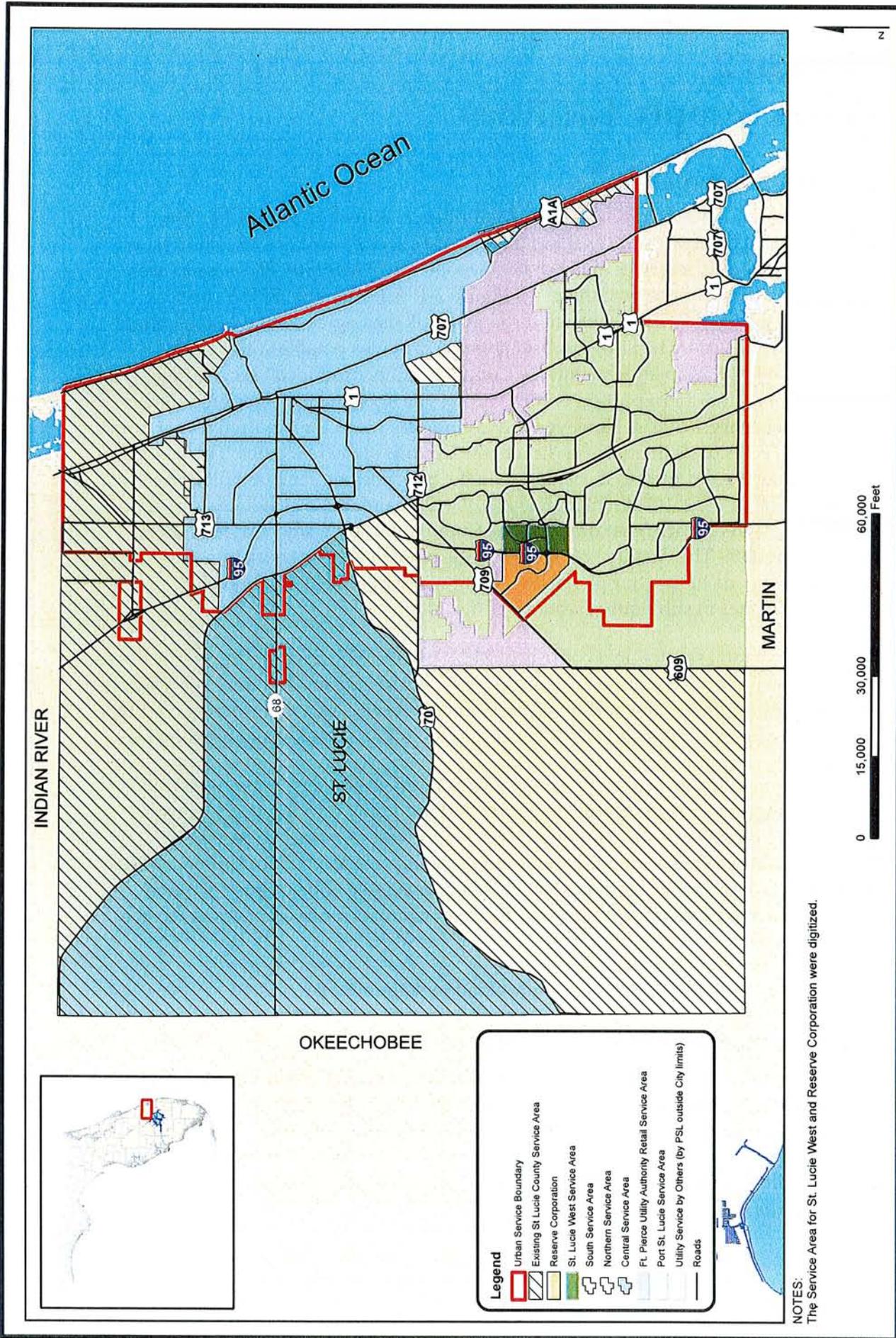
The County's total service area consists of 242,100 acres. The north county service area (57,800 acres), central county service area (96,500 acres) and south county service area (87,800 acres) represent the portion of the County's service area that is not served by the Holiday Pines WTP, H.E.W. WTP or through the FPUA bulk water agreement.

The indication of proposed utility services west of the urban service boundary as shown on **Figure 2-1** is conceptual in nature and used only for long-term utility planning. The County is aware that utility services west of the urban service boundary, are not consistent with the County's Comprehensive Plan. Utility services west of the urban service boundary will be made available only to those planned areas or developments approved by the Board of County Commissioners to receive utility services.

A copy of the bulk user agreement is provided in **Appendix B**.

### 2.2 Summary of Water Utilities

As noted in Section 1, the City, FPUA, and SLW are not included in this Plan due to the requirement that each utility prepares an individual plan. However, the private utilities within the County that are not within the City limits of Port St. Lucie, SLW or the service area of FPUA are included in this plan. The following provides a summary of each utility's system. A summary of the public and private WTPs in the County, excluding the City, FPUA and SLW, is provided in **Table 2-1**.



NOTES:  
The Service Area for St. Lucie West and Reserve Corporation were digitized.

Figure 2-1  
Regional Potable Water and Wastewater Service Areas  
St. Lucie County, FL

**Table 2-1 Summary of WTPs in St. Lucie County Service Area**

Facility	Process	Capacity (MG)	No. of Wells	Aquifer
Existing County WTP (Holiday Pines)	Reverse Osmosis	0.288 <sup>1</sup>	2	Surficial
Proposed North County Regional WTP	Reverse Osmosis	4.000	5	Floridan
Proposed NW County Regional WTP	Reverse Osmosis	4.000	5	Floridan
Proposed Central County Regional WTP	Reverse Osmosis	4.000	5	Floridan
Proposed South County Regional WTP	Reverse Osmosis	4.000	5	Floridan
Panther Woods	Lime Softening	0.432	4	Surficial
Harbour Ridge	Lime Softening	0.360	2	Surficial
Spanish Lakes (Through 2011) <sup>2</sup>	Aeration/Chlorination	0.330	4	Surficial
Spanish Lakes (2011 through 2026) <sup>2</sup>	Aeration/Chlorination	0.330	4	Surficial
Spanish Lakes Fairways	Reverse Osmosis	0.570	4	Surficial

<sup>1</sup> Proposed expansion to 0.5 mgd in Fiscal Year (FY) 2009

<sup>2</sup> Spanish Lakes was given an additional monthly allocation and revised annual allocation to meet immediate needs for 3,040 people in 2011.

### 2.2.1 St. Lucie County Utilities Department

The County owns an existing WTP located in the Holiday Pines development. The WTP was acquired in July 1999 from the Holiday Pines Service Corporation and is part of the North County Utility District. The service area for the North County Utility District lies within the County's mainland north county service area. The portion of the North County Utility District area served by the Holiday Pines WTP includes the Holiday Pines subdivision and some commercial and residential areas fronting Kings Highway and Indrio Road.

The existing facility has a permitted capacity of 0.288 million gallons per day (mgd). Average daily flow at this facility in 2006 was 0.124 mgd. Plans are currently underway to increase the Holiday Pines WTP capacity to 0.5 mgd, as allowed by the existing water use permit. The Holiday Pines WTP serves a population of approximately 2,547 people and is being expanded to offset the need for future reliance on the FPUA bulk user agreement beyond those customers currently served through the agreement. The FPUA bulk user agreement serves all of the County's mainland customers that are not served by the Holiday Pines WTP or the H.E.W. WTP described below. Additionally, the North Hutchinson Island Service Area is served via bulk water purchased from FPUA.

The Sampson Subdivision, located within the Lakewood Park neighborhood, is served by the H.E.W. WTP. The H.E.W. WTP was built by the developer of the subdivision in 1976 and serves approximately 270 residents (108 lots). In 1995, the developer declared bankruptcy and the County took over ownership and operation of the facility. The WTP has a permitted capacity of 0.04 mgd, with no plans for future expansion. The remainder of the Lakewood Park subdivision, currently served by private wells, will be served by the proposed North County Regional WTP (described below) once it is constructed. The H.E.W. WTP will be decommissioned and the

residents will be served by the proposed North County Regional WTP once the new facility is on line.

Chapter 62-555.348, Florida Administrative Code (FAC), requires public water systems to prepare Capacity Analysis Reports when “the total maximum-day quantity of finished water produced by all treatment plants connected to a water system, including water produced to meet any fire-flow demand but excluding water produced to meet any demand that the supplier of water documents to be highly unusual and nonrecurring, exceeds 75 percent of the total permitted maximum-day operating capacity of the plants, the supplier of water shall submit source/ treatment/storage capacity analysis reports to the Department [FDEP]...” While the existing Holiday Pines WTP is below this 75 percent threshold, anticipated growth in the towns, villages and countryside developments, as well as proposed developments throughout the unincorporated area have caused the County to begin planning for long-term water supply for a larger population than the current customers in the northern area of the County. It has been projected that neither the planned expansion of the Holiday Pines WTP or the bulk user agreement with FPUA will be adequate to meet future long-term demand.

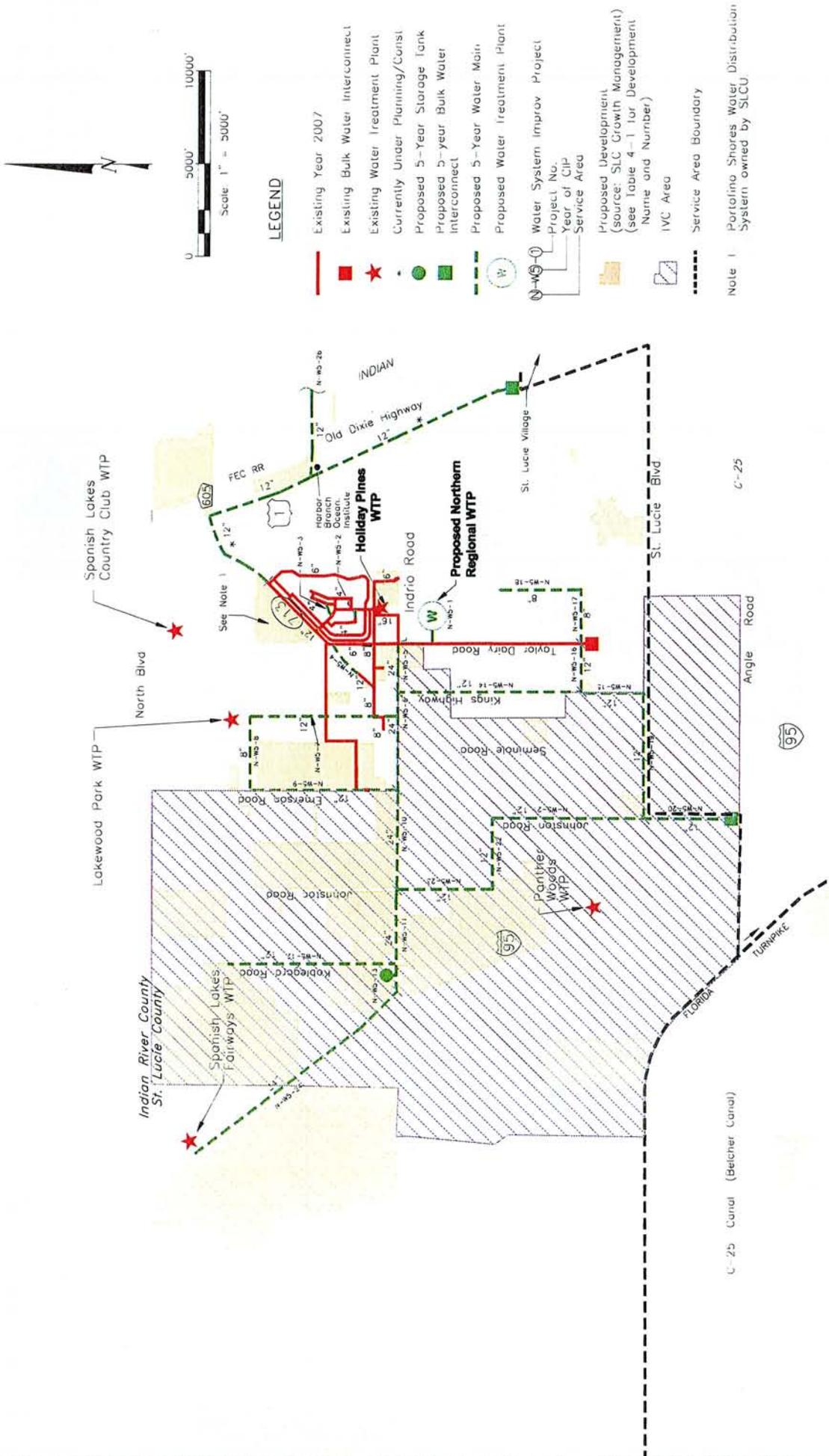
In March 2008, the County received a new water use permit to allow for withdrawals from the Upper Floridan Aquifer to provide raw water to a series of proposed regional WTPs. The first planned facility will be located at the North County Regional site, northwest of the County’s airport along Taylor Dairy Road (anticipated to be constructed in 2013). ~~Another~~ Other proposed locations for regional WTPs that could potentially be required during the 10-year planning horizon of this Work Plan include ~~ais-~~ anticipated in the central County location (in close proximity to the County’s Fairgrounds) in approximately 2018. A potential ~~and a~~ future south County location in the vicinity of Rangeline Road (anticipated in 2022) may also be required, but is outside the 10-year planning horizon of this Work Plan. The proposed improvements to the County’s water supply system have been illustrated in a series of figures. The proposed improvements for the north County service area have been broken down into 5-year, 10-year and 20-year planning horizons and are shown on **Figures 2-2, 2-3 and 2-4**, respectively. The proposed improvements for the central County service area have been broken down into 5-year, 10-year and 20-year planning horizons and are shown on **Figures 2-5, 2-6 and 2-7**, respectively. The proposed improvements for the south County service area have been broken down into 5-year, 10-year and 20-year planning horizons and are shown on **Figures 2-8, 2-9 and 2-10**, respectively. The figures were prepared by AECOM (formerly Boyle Engineering Corporation) as part of the St. Lucie County Utilities Water and Wastewater Master Plan Update, October 2008, working Draft Master Plan Update (March 2008) and are subject to change upon completion of the final Master Plan.



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NOTE: LOCATIONS OF MAINS, PLANTS, AND OTHER FACILITIES ARE BASED UPON POPULATION PROJECTIONS DEVELOPED IN CONSULTATION WITH SLCU STAFF AND CONSULTANTS AND UTILIZING INFORMATION FROM THE ST. LUCIE COUNTY GROWTH MANAGEMENT DEPARTMENT. DEVELOPMENT TIMELINES AND LOCATIONS ARE DEPENDENT UPON A NUMBER OF VARIABLES, SUCH AS THE ECONOMY AND LOCAL PERMITTING ISSUES. THEREFORE, IF FUTURE DEVELOPMENT DOES NOT OCCUR AS PROJECTED IN THIS PLAN, LOCATIONS AND SIZES OF TREATMENT SYSTEMS AND PIPELINES MAY CHANGE.

**Figure 2-2  
Proposed Water System Improvements  
North County Service Area  
5-Year Planning Horizon**

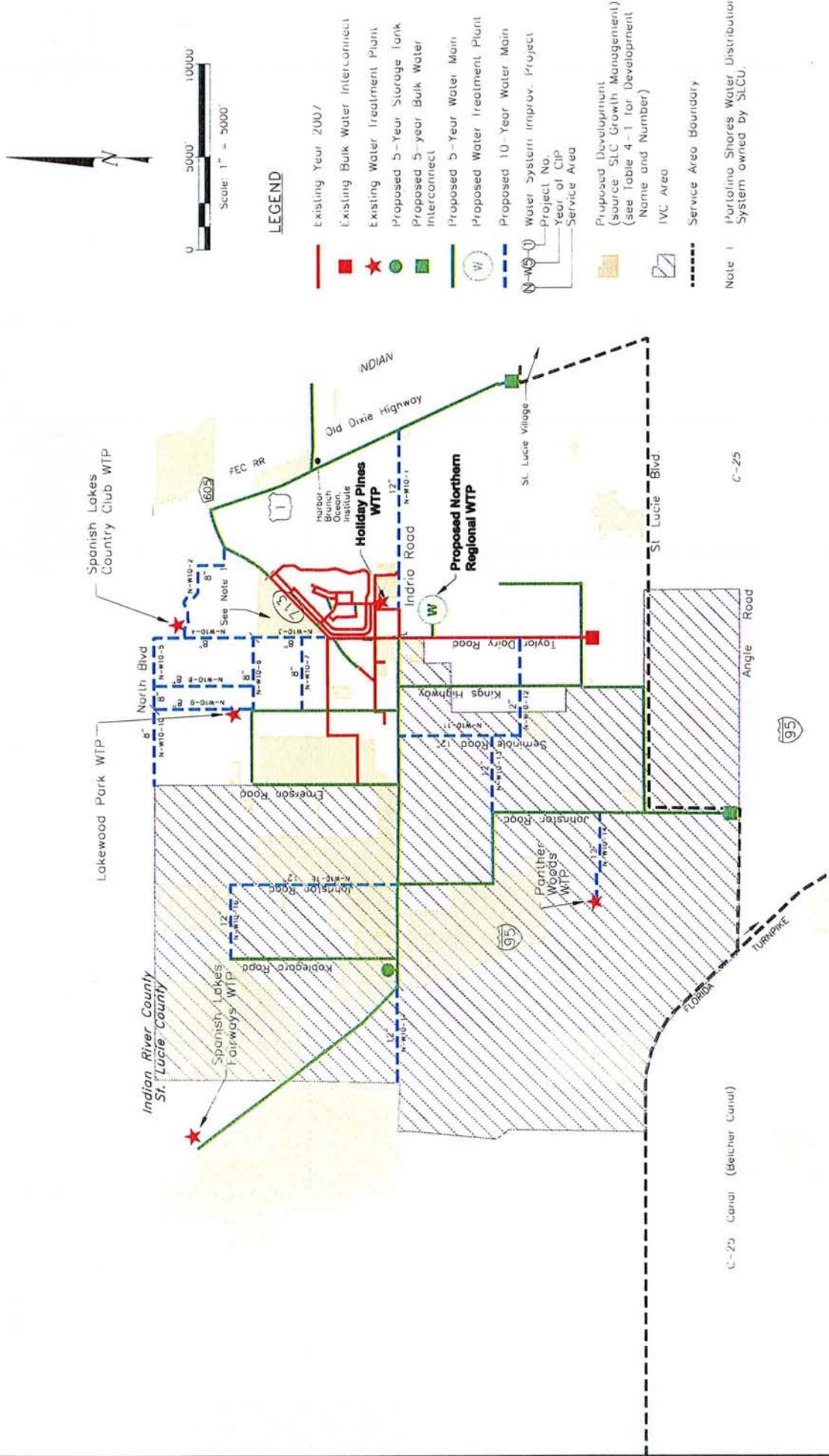


**Figure 2-3**  
**Proposed Water System Improvements**  
**North County Service Area**  
**10-Year Planning Horizon**



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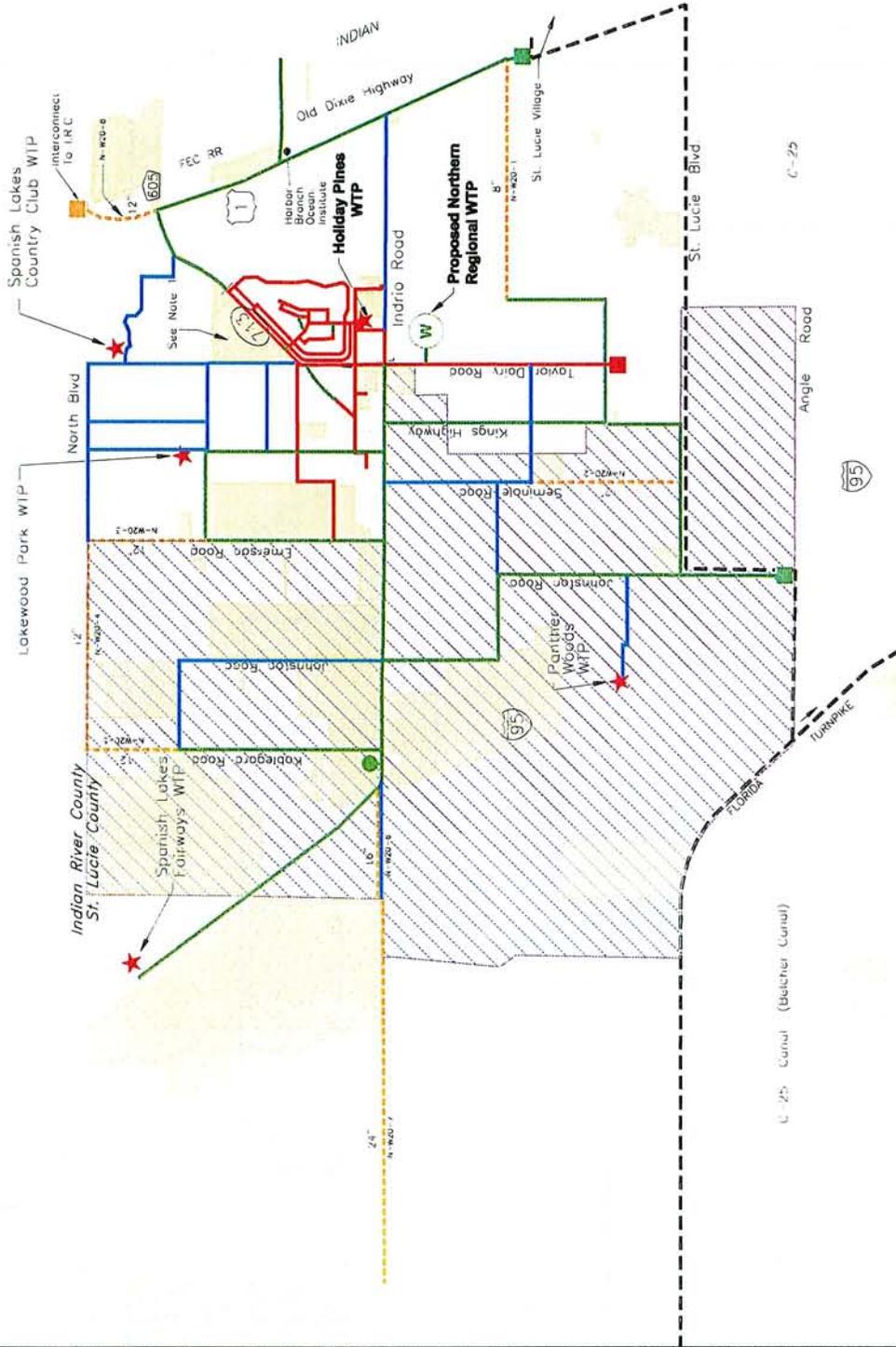
NOTE: LOCATIONS OF MAINS, PLANTS, AND OTHER FACILITIES ARE BASED UPON POPULATION PROJECTIONS DEVELOPED IN CONSULTATION WITH SLCU STAFF AND CONSULTANTS AND UTILIZING INFORMATION FROM THE ST. LUCIE COUNTY GROWTH MANAGEMENT DEPARTMENT. DEVELOPMENT TIMELINES AND LOCATIONS ARE DEPENDENT UPON A NUMBER OF VARIABLES, SUCH AS THE ECONOMY AND LOCAL PERMITTING ISSUES. THEREFORE, IF FUTURE DEVELOPMENT DOES NOT OCCUR AS PROJECTED IN THIS PLAN, LOCATIONS AND SIZES OF TREATMENT SYSTEMS AND PIPELINES MAY CHANGE.





### LEGEND

- Existing Year 2007
- Existing Bulk Water Interconnect
- Existing Water Treatment Plant
- Proposed 5-Year Storage Tank Interconnect
- Proposed 5-Year Bulk Water Interconnect
- Proposed 5-Year Water Main
- Proposed Water Treatment Plant
- Proposed 10-Year Water Main
- Proposed 20-Year Water Main
- Proposed 20-Year Bulk Water Interconnect
- Water System Improv. Project
- Project No. Year of CIP Service Area
- Proposed Development (Source: SLC Growth Management) (See Table A-1 for Development Name and Number)
- IVC Area
- Service Area Boundary
- Note 1
- Portlino Shores Water Distribution System owned by SLCU.

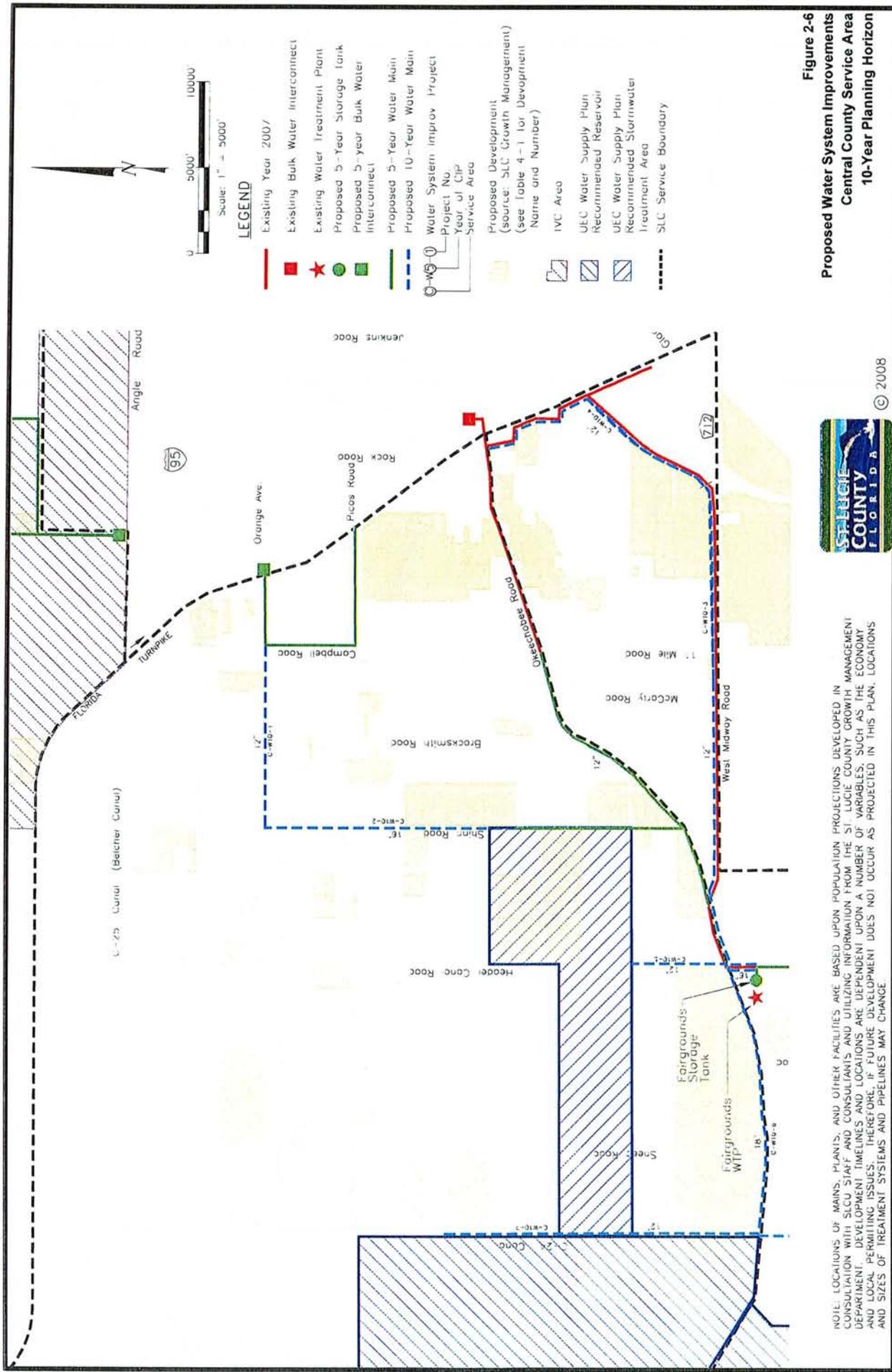


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**Figure 2-4**  
**Proposed Water System Improvements**  
**North County Service Area**  
**20-Year Planning Horizon**

NOTE: LOCATIONS OF MAINS, PLANTS, AND OTHER FACILITIES ARE BASED UPON POPULATION PROJECTIONS DEVELOPED IN CONSULTATION WITH SLCU STAFF AND CONSULTANTS AND UTILIZING INFORMATION FROM THE ST. LUCIE COUNTY GROWTH MANAGEMENT DEPARTMENT. DEVELOPING TIMELINES AND LOCATIONS ARE DEPENDENT UPON A NUMBER OF VARIABLES, SUCH AS THE ECONOMY AND LOCAL PERMITTING ISSUES. THEREFORE, IF FUTURE DEVELOPMENT DOES NOT OCCUR AS PROJECTED IN THIS PLAN, LOCATIONS AND SIZES OF TREATMENT SYSTEMS AND PIPELINES MAY CHANGE.



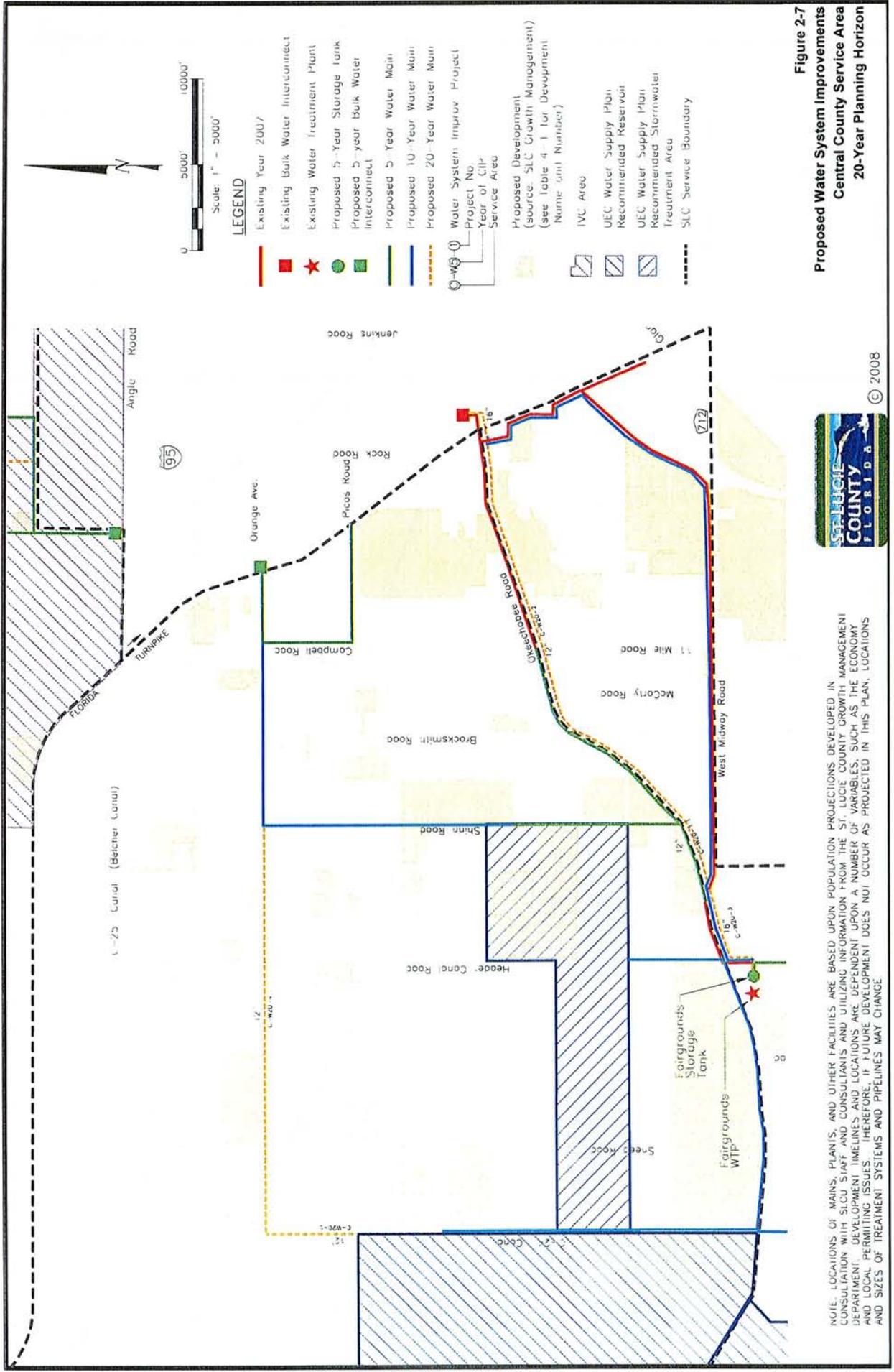


**Figure 2-6**  
**Proposed Water System Improvements**  
**Central County Service Area**  
**10-Year Planning Horizon**



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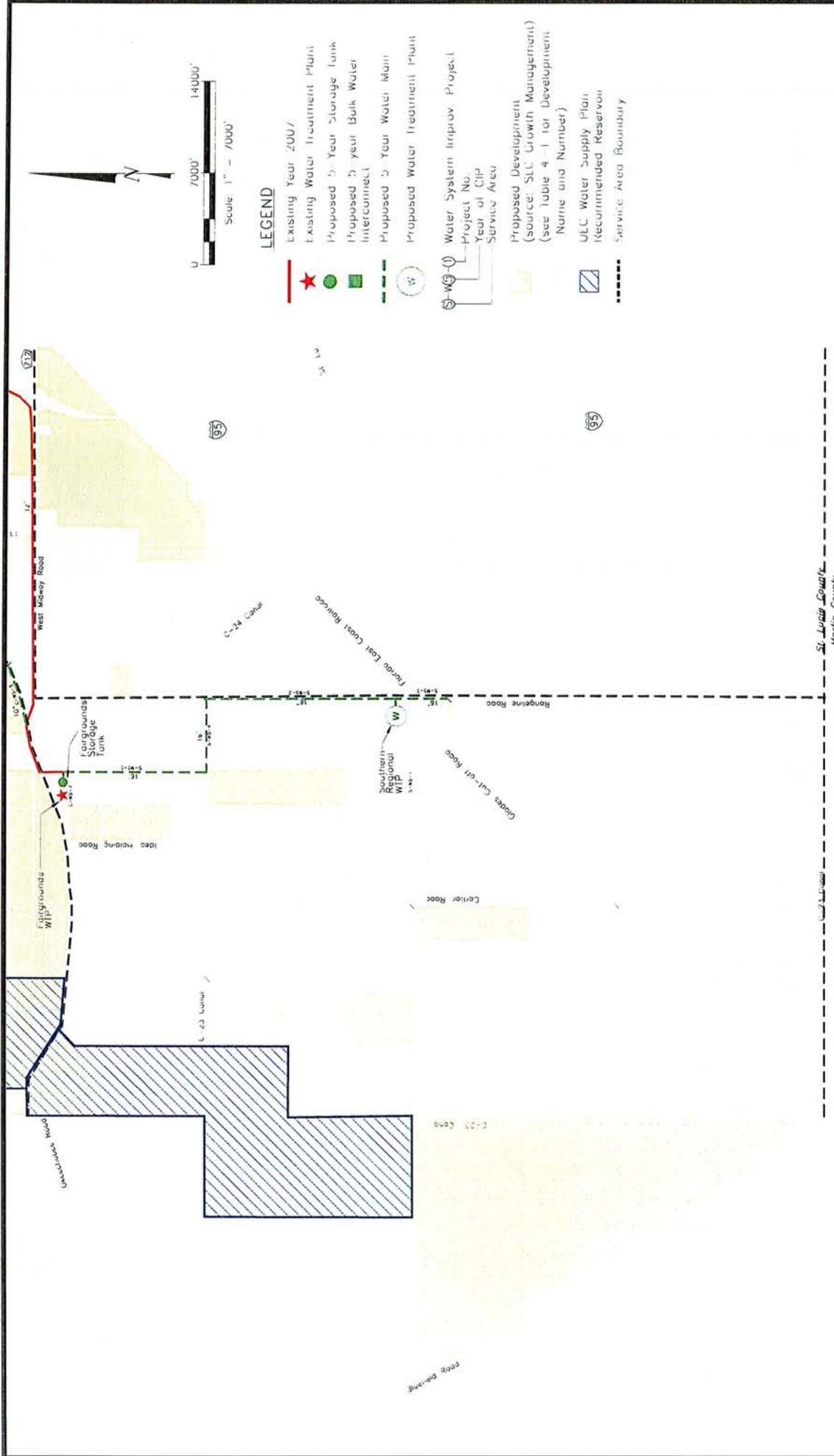


**Figure 2-7**  
**Proposed Water System Improvements**  
**Central County Service Area**  
**20-Year Planning Horizon**



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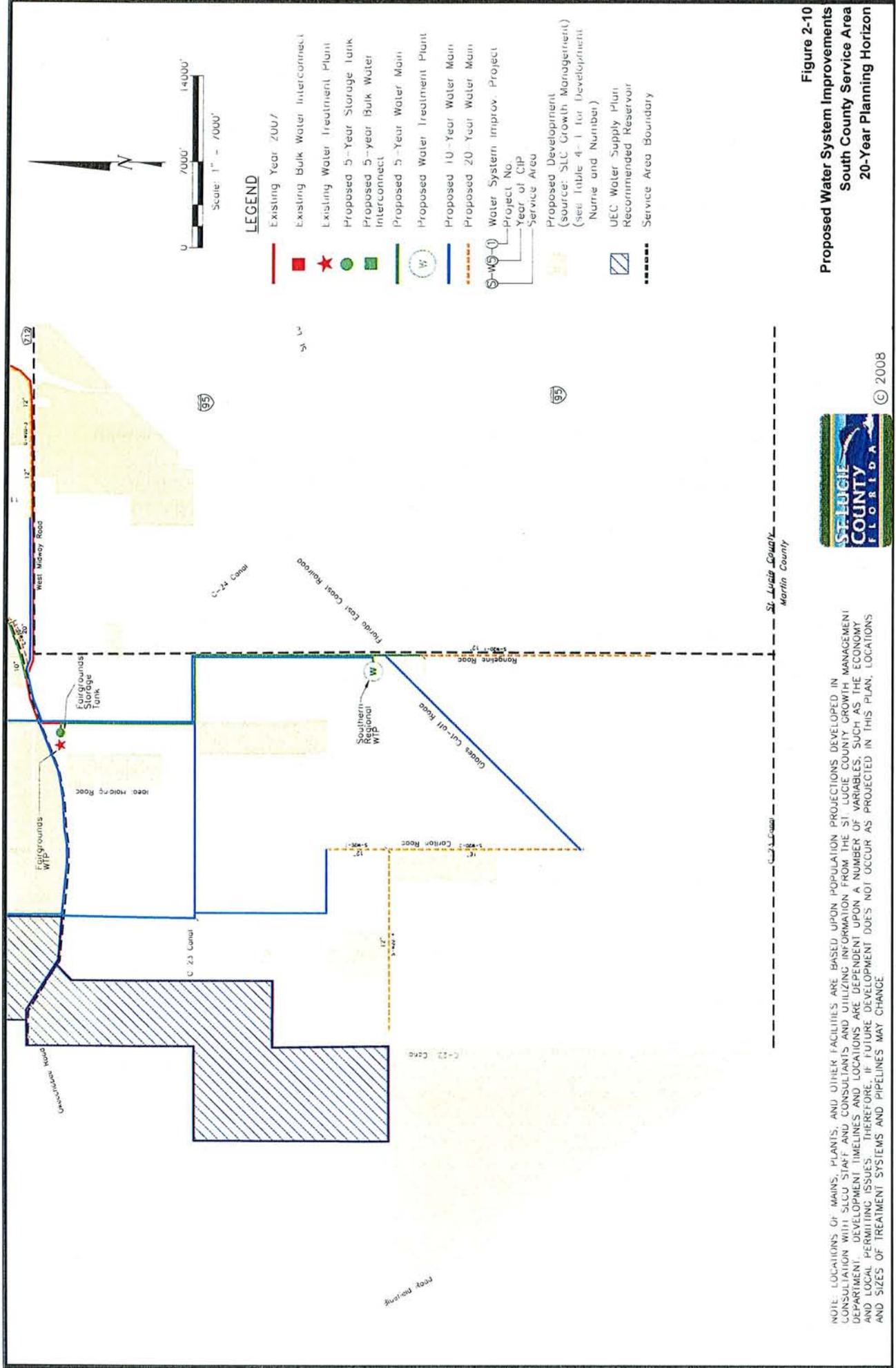
**Figure 2-8**  
**Proposed Water System Improvements**  
**South County Service Area**  
**5-Year Planning Horizon**



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**Figure 2-10**  
**Proposed Water System Improvements**  
**South County Service Area**  
**20-Year Planning Horizon**

NOTE: LOCATIONS OF MAINS, PLANTS, AND OTHER FACILITIES ARE BASED UPON POPULATION PROJECTIONS DEVELOPED IN CONSULTATION WITH SLCU STAFF AND CONSULTANTS AND UTILIZING INFORMATION FROM THE ST. LUCIE COUNTY GROWTH MANAGEMENT DEPARTMENT. DEVELOPMENT TIMELINES AND LOCATIONS ARE DEPENDENT UPON A NUMBER OF VARIABLES, SUCH AS THE ECONOMY AND LOCAL PERMITTING ISSUES. THEREFORE, IF FUTURE DEVELOPMENT DOES NOT OCCUR AS PROJECTED IN THIS PLAN, LOCATIONS AND SIZES OF TREATMENT SYSTEMS AND PIPELINES MAY CHANGE.

Each of the regional facilities is anticipated to have between 2 and 4 mgd of capacity at initial start-up (as determined by development), with provisions for expansion to 6 mgd as needed. Current plans include construction of the North County Regional WTP in Fiscal Year ~~2012/2013-2009/2010~~. This regional facility will likely require 4 mgd of capacity initially and will be fed by four Upper Floridan Aquifer wells (3 primary wells and 1 standby). It is anticipated that an incremental expansion to 6 mgd will be needed in ~~2014-2016~~ if no other regional WTPs are constructed by that time. There are a number of options for concentrate disposal from each site that may be available to the County. Disposal via a deep injection well is one option; however, beneficial reuse options are also available to the County. Beneficial reuse includes alternatives such as mixing the concentrate with surface water to supplement reclaimed water demands for irrigation or mixing with surface or stormwater with ultimate discharge into a wetland system. The County is currently evaluating concentrate disposal options. Concentrate from the Holiday Pines WTP will be re-routed from the Holiday Pines Wastewater Treatment Plant (WWTP) to the North County Regional WTP site (if deep injection well is selected) once the WWTP is decommissioned, or to the identified alternative disposal location upon the conclusion of the evaluation that is currently being conducted.

## **2.2.2 Spanish Lakes**

### **2.2.2.1 Spanish Lakes Mobile Home Park**

The Spanish Lakes Mobile Home Park is owned by the Wynne Building Corporation. Potable water service is provided via an on-site WTP consisting of aeration and disinfection. Raw water is provided via four surficial aquifer wells. The permitted capacity of the WTP is 0.33 mgd. The existing population within the mobile home park is 2,470, which is anticipated to increase to 3,040 in 2010.

### **2.2.2.2 Spanish Lakes Fairways**

Spanish Lakes Fairways is a private development that reached a build-out population of 3,200 people in 2004. Potable water service is provided via an on-site reverse osmosis WTP with a permitted capacity of 0.570 mgd. Raw water is supplied to the WTP by four 8-inch wells constructed into the surficial aquifer.

## **2.2.3 Panther Woods**

Panther Woods, formerly Meadowood Golf and Country Club, owns and operates a lime softening WTP that is permitted to produce up to 0.432 mgd of potable water. The historical peak day production is approximately 0.2 mgd. The WTP, fed by four 8-inch surficial aquifer wells, was recently refurbished and start-up took place in January 2008. The WTP currently serves approximately 700 residents, which is expected to increase to 900 residents at build out.

## 2.2.4 Harbour Ridge

Harbour Ridge Country Club is a private community that relies on their on-site water and wastewater treatment facilities to provide services to approximately 1,573 residents. The Harbor Ridge WTP is permitted to produce 0.360 mgd from surficial aquifer wells. The development is currently built out and there are no plans for expansion of the WTP.

## 2.3 Raw Water Supply

While FPUA and the City currently rely on mixed systems from the surficial and Floridan aquifers and SLW relies fully on the Floridan, existing public and privately owned facilities within the County's service area rely solely on surficial aquifer wells. These wells are constructed to an average depth of approximately 100 feet or less below land surface. The County's proposed regional WTPs will all rely on withdrawals from the upper Floridan aquifer. A summary of the permitted conditions for each WTP in the County's service area is provided in **Table 2-2**. Table 2-2 also includes the permitted conditions for the proposed Upper Floridan Aquifer withdrawals for the County.

## 2.4 Alternative Water Supply Projects

Due to limitations on withdrawals from the surficial aquifer at the Holiday Pines WTP, specifically due to potential impacts on neighboring wetlands, the County has recently faced the need to identify alternative raw water supplies to meet future demands. The 2006 amendment to the UEC Water Supply Plan prepared by the SFWMD identified the need for the County to consider a North County WTP to meet future demand. As a result, the County has pursued and received a water use permit to withdraw from the upper Floridan aquifer to feed a series of new regional WTPs. In addition to identifying an alternative water supply, the County has identified critical path projects to meet future needs for both potable water and reclaimed water.

The following is an updated list of capital improvement projects identified by St. Lucie County Utilities.

### Water and Wastewater Capital Improvement Projects

- H.E.W. (Lakewood Park) WWTP decommissioning and new pump station (5 to 7 years)
- H.E.W. WTP decommissioning and storage tank removal (5 to 7 years)
- Potential Future North Hutchinson Island WWTP and system expansion (3 to 5 years)
- North Hutchinson Island Force Main (4 to 6 years)

**Table 2-2 Summary of Permitted Raw Water Allocations (from SFWMD Water Use Permits)**

Facility	SFWMD WUP No.	Expiration Date	WUP Allocation (MG)				Peaking Factor	Population (Maximum)	Per Capita (gpd/c)
			Annual	Max Month	Max Day	Avg. Day			
Existing County WTP (Holiday Pines)	56-00406-W	March 13, 2028	60.615	5.402	0.180	0.168	2,547	71	
Proposed North County Regional WTP	56-00406-W	March 13, 2028	1,434.005	119.500	3.983	3.265	25,261	110	
Proposed Central County Regional WTP	56-00406-W	March 13, 2028	836.360	69.697	2.323	1.904	14,733	110	
Proposed South County Regional WTP	56-00406-W	March 13, 2028	649.932	54.161	1.805	1.480	11,449	110	
<b>TOTAL New UFA Withdrawal</b>	<b>56-00406-W</b>	<b>March 13, 2028</b>	<b>2,919.600</b>	<b>243.300</b>	<b>8.110</b>	<b>6.650</b>	<b>51,444</b>	<b>110</b>	
Panther Woods	56-004620-W	April 3, 2012	42.377	4.518	0.151	0.118	900	129	
Harbour Ridge	030113-8	June 29, 2008	52.590	6.000	0.200	0.144	1,573	92	
Spanish Lakes (Through 2011) <sup>1</sup>	56-00401-W	July 15, 2026	112.660	12.200	0.407	0.313	3,040	99	
Spanish Lakes (2011 through 2026) <sup>1</sup>	56-00401-W	July 15, 2026	80.250	10.200	0.340	0.262	2,470	99	
Spanish Lakes Fairways	56-00627-W	April 10, 2013	140.160	21.900	0.730	0.384	3,200	120	

<sup>1</sup>Spanish Lakes was given an additional monthly allocation and revised annual allocation to meet immediate needs for 3,040 people through 2011.

- 1 million gallon potable water storage tank on North Hutchison Island (1 to 3 years)
- Water Main on U.S. 1 from North A-1-A to Naco Road (1 to 3 years)
- Water Main on U.S. 1 from Naco Road to Turnpike Feeder Road (3 to 5 years)
- Expansion of the Holiday Pines WTP (1 to 3 years)
- WTP in northeastern section of the County's service area (North County Regional WTP) (4 to 5 years)
- ~~WTP in southwestern section of the County's service area~~
- Rock Road Water Main (1 to 2 years)
- Upper Floridan Aquifer production wells at the proposed regional WTPs (4 to 5 years)
- Water Main on Indrio Road from Emerson Avenue to U.S. 1 (8 to 10 years)
- WWTP in northeastern section of the County's service area (3 to 5 years)
- Master repump station on U.S. 1 (4 to 5 years)
- Force Main on Indrio Road from Emerson Avenue to U.S. 1 (4 to 5 years)
- Force Main on Emerson Avenue from Indrio Road north to Waterstone Subdivision (4 to 6 years)
- Force Main on Midway Road, McCarty Road and Okeechobee Road (5 to 7 years)
- Potential wastewater Municipal Service Benefits Unit project for Atlantic Beach Boulevard, Fort Pierce Shores, Coral Cove, Beach and Queens Cove, etc. (4 to 6 years)
- Plasma Arc Flow sludge treatment operation (4 to 5 years)
- Potential deep injection wells at the regional facilities or construction of alternatively identified beneficial reuse project (4 to 5 years)
- Holiday Pines WWTP decommissioning and new pump station (5 to 7 years)
- 1 million gallon potable water storage tank in Northwestern section of the County's service area (8 to 10 years)
- ~~Water Main on Okeechobee Road from the Florida Turnpike to Midway Road (5 to 7 years)~~

- ~~Force~~Water Main on Orange Avenue, Campbell Road, Picos Road and Rock Road (4 to 6 years)
- Water Main on Kings Highway from Indrio Road to St. Lucie Boulevard (8 to 10 years)
- Residuals dewatering center (4 to 5 years)
- Force Main on Indrio Road from Emerson Avenue to I-95 (8 to 10 years)
- Force Main on Kings Highway from Indrio Road to St. Lucie Boulevard (8 to 10 years)
- Water Main on Johnston Road from Indrio Road to Angle Road (8 to 10 years)
- Water Main on Indrio Road from Emerson Avenue to I-95 (8 to 10 years)
- Water Main loop on Koblegard Road, Emerson Avenue and Indrio Road (8 to 10 years)
- Water Main on Rangeline Road from Glades Cut-off south to County line (8 to 10 years)
- Water Main on Rangeline Road from Glades Cut-off north to Midway Road (8 to 10 years)
- ~~WWTP in southwestern section of the County's service area~~
- Force Main on Johnston Road from Indrio Road north to County line (8 to 10 years)
- Force Main on Koblegard Road from Indrio Road north to County line (8 to 10 years)

## 2.5 Water Supply Project Funding

The County has a number of substantial water, wastewater and reclaimed water capital projects planned for the next 10 years. This will mark the County's transition into a major regional utility system and will require significant funding. The County will fund the various projects through a combination of bonds, impact fees, Senate Bill 444 (i.e. Alternative Water Supply) funding, State Revolving Funds Loans, assessment projects and other available grant programs. Some of the larger projects may be constructed by developers and then turned over to the County to own and operate (via contract operations). Any long-term borrowing required to fund the projects will be repaid with utility rates, fees and charges. Table 2-3 presents the 5-year fiscal analysis of estimated water and wastewater capital improvements that corresponds to the County's anticipated projects. The Capital Improvements Element (CIE) is

**Table 2-3 5-Year Fiscal Analysis of Estimated Water and Wastewater Capital Improvements**

<u>Funding Source</u>	<u>FY 08-09</u>	<u>FY 09-10</u>	<u>FY 10-11</u>	<u>FY 11-12</u>	<u>FY 12-13</u>	<u>TOTALS</u>
Carryforward from FY 07 to FY08	\$ 2,690,909	\$ -	\$ -	\$ -	\$ -	\$ 2,690,909
Fund Balance Forward	\$ 119,185	\$ 1,342,224	\$ 841,582	\$ 2,051,592	\$ 1,332,565	\$ 5,687,148
Water Connection Fees	\$ 262,500	\$ 525,000	\$ 625,000	\$ 300,000	\$ 730,000	\$ 2,442,500
Wastewater Connection Fees	\$ 262,500	\$ 525,000	\$ 625,000	\$ 300,000	\$ 730,000	\$ 2,442,500
Contributions from Private Sources	\$ 338,415	\$ 663,582	\$ 1,050,000	\$ 2,800,000	\$ 5,500,000	\$ 10,351,997
Proceeds from Loans	\$ -	\$ -	\$ 4,000,000	\$ 34,662,000	\$ 24,258,000	\$ 62,920,000
Grants	\$ -	\$ -	\$ 358,000	\$ 1,840,000	\$ 4,042,000	\$ 6,240,000
Interest on Investments	\$ 107,400	\$ 109,548	\$ 111,739	\$ 113,974	\$ 116,253	\$ 558,914
<b>Total Funding</b>	<b>\$ 3,780,909</b>	<b>\$ 3,165,354</b>	<b>\$ 7,611,321</b>	<b>\$ 42,067,566</b>	<b>\$ 36,708,818</b>	<b>\$ 93,333,968</b>
<b>Capital Improvements Cost</b>	<b>\$ 2,550,000</b>	<b>\$ 2,402,000</b>	<b>\$ 5,649,999</b>	<b>\$ 41,400,000</b>	<b>\$ 34,700,000</b>	<b>\$ 86,701,999</b>
<b>Projects to be Determined</b>	<b>\$ 1,230,909</b>	<b>\$ 763,354</b>	<b>\$ 1,961,322</b>	<b>\$ 667,566</b>	<b>\$ 2,008,818</b>	<b>\$ 6,631,969</b>
<b>Total Project Costs</b>	<b>\$ 3,780,909</b>	<b>\$ 3,165,354</b>	<b>\$ 7,611,321</b>	<b>\$ 42,067,566</b>	<b>\$ 36,708,818</b>	<b>\$ 93,333,968</b>

NOTE: "Projects to be Determined" includes potential projects based on growth and developer requirements.

updated annually and transmitted to DCA. The most recent Annual CIE Update for Fiscal Years 2008/2009 through 2012/2013 was transmitted to DCA on November 26, 2008

# Section 3

## Wastewater Facilities

### 3.1 Service Areas

The wastewater service areas for the four public utilities within the County basically coincide with the water supply service areas and are shown on Figure 2-1. Similar to the potable water system, there are several privately owned WWTPs located within the County's service area. As previously stated, all proposed utility services west of the urban service boundary are conceptual in nature and used only for long-term utility planning. The County is aware that utility services west of the urban service boundary are not consistent with the Comprehensive Plan. Utility services west of the urban service boundary will be made available only to those planned areas or developments approved by the Board of County Commissioners to receive utility services.

### 3.2 Summary of WWTPs

As noted in Section 1, the City, SLW and FPUA are not included in this Plan due to the requirement that each utility prepares an individual plan. However, the private utilities within the County that are not within the City limits of Port St. Lucie, SLW or the service area of FPUA are included in this plan. The following provides a summary of each utility's wastewater system and reclaimed water system (where applicable). A summary of the public and private WWTPs in the County, excluding the City of Port St. Lucie, SLW and FPUA, is provided in **Table 3-1**.

**Table 3-1 Summary of WWTPs in St. Lucie County Service Area**

Facility	Current Capacity (MG)	Future Capacity (MG)
Existing County WTP (Holiday Pines)	0.3000	-
North Hutchinson Island WWTP	0.5000	0.8000
South Hutchinson Island WWTP	1.6000	-
Fairwinds Golf Course WWTP*	0.0223	-
H.E.W. WWTP*	0.0200	-
Proposed North County Regional WWTP	2.0000	4.0000
Panther Woods	0.1800	-
Spanish Lakes	0.1600	-
Spanish Lakes Fairways	0.2500	-
Harbour Ridge	0.1200	-

\*to be decommissioned

#### 3.2.1 St. Lucie County Utilities Department

St. Lucie County Utilities owns three primary existing WWTPs that serve North Hutchinson Island, South Hutchinson Island and Holiday Pines, respectively. Additionally, the County operates small WWTPs at the Fairwinds Golf Course and in the Lakewood Park Subdivision (H.E.W. WWTP). There are also plans to construct ~~four~~ several regional WWTPs, as described in the following subsections.

### **3.2.1.1 North Hutchinson Island WWTP**

The North Hutchinson Island facility serves a population of approximately 7,490 residents and has a permitted capacity of 0.5 mgd. The County is currently evaluating the potential to expand the North Hutchinson Island facility to 0.8 mgd in the future. The North Hutchinson Island WWTP produces reclaimed water and disposes of 100 percent of the effluent via public access irrigation. An onsite percolation pond is available for periods of wet weather when the demand for irrigation is low.

### **3.2.1.2 South Hutchinson Island WWTP**

The South Hutchinson Island WWTP was designed to serve a build out population of approximately 15,150 residents and has a permitted capacity of 1.6 mgd. The facility currently operates at approximately 50 percent of the design capacity and fluctuates due to the high occurrence of seasonal residents. This WWTP also produces 100 percent reclaimed water irrigation purposes to minimize the reliance on potable water for irrigation activities. Wet weather discharge is achieved through the FPL ocean outfall canal just north of the WWTP.

### **3.2.1.3 Holiday Pines WWTP**

The Holiday Pines WWTP serves a population of approximately 2,547 residents and has a permitted capacity of 0.3 mgd. The WWTP is also the disposal site for the Holiday Pines WTP's reverse osmosis concentrate, which is piped directly to one of the seven percolation ponds on site at the WWTP. The Holiday Pines WWTP is not currently equipped for the production of reclaimed water. Treated effluent is disposed of via the percolation ponds. With the proposed construction of a regional WWTP at the North County site, the Holiday Pines WWTP is anticipated to be decommissioned and the wastewater (and concentrate) will be redirected to the new facility.

### **3.2.1.4 Fairwinds Golf Course WWTP**

The Fairwinds golf course WWTP is a 0.0223 mgd modular facility that treats wastewater from the golf course clubhouse and the industrial park area between the golf course and the airport. The WWTP produces reclaimed water that is utilized for on-site irrigation. The County has plans to decommission this WWTP and serve the golf course from the proposed North County Regional WWTP (see below).

### **3.2.1.5 H.E.W. WWTP**

The H.E.W. WWTP in the Lakewood Park neighborhood was constructed by the developer of the subdivision. When the developer filed for bankruptcy, the County took over operations of the facility and filed for a permit in 1995. The WWTP has a permitted capacity of 0.020 mgd and treated effluent is disposed of via a single on-site percolation pond or is hauled off site if insufficient capacity is available in the percolation pond. This facility is intended to be decommissioned and the flow will be redirected to the North County Regional WWTP once construction is complete.

### 3.2.1.6 Proposed Regional WWTPs

The County purchased a parcel of land to the northwest of the airport along Taylor Dairy Road and Indrio Road with the intention of co-locating a regional WTP (as described in Section 2.2.1) and WWTP. The proposed North County Regional WWTP will be similar in design to that of the South Hutchinson Island Facility and will be built with an initial capacity of 2 or 4 mgd, as determined by development. It is anticipated that construction of this WWTP will commence in FY ~~2009~~2012/2013~~0~~. The County's Master Plan, ~~which is currently being updated to reflect recent and~~ which was updated in October 2008 to reflect recent and -planned growth, will includes plans for expansion of the reclaimed water system for the distribution of reclaimed water from the proposed facility. The proposed reclaimed system expansion (primarily in the northern service area) is illustrated on **Figure 3-1**. Similar expansion plans for the southern service area are illustrated on **Figure 3-2**. Expansion plans for the central service area have not been developed to the point of preparing a similar figure. Both the northern and southern service area figures were prepared by AECOM (formerly Boyle Engineering Corporation) for inclusion in the ~~working draft of the Master Plan update (March 2008)~~ Water and Sewer Master Plan Update, October 2008. ~~These figures are subject to change when the Master Plan update is finalized.~~ The North County Regional WWTP will be a 100 percent reclaimed water facility, with wet weather disposal via a proposed deep injection well or other identified beneficial reuse disposal location (to be determined). The North County Regional WWTP will also treat redirected wastewater from the Holiday Pines, Fairwinds Golf Course and Lakewood Park WWTPs, which are planned to be decommissioned once the new facility is on line.

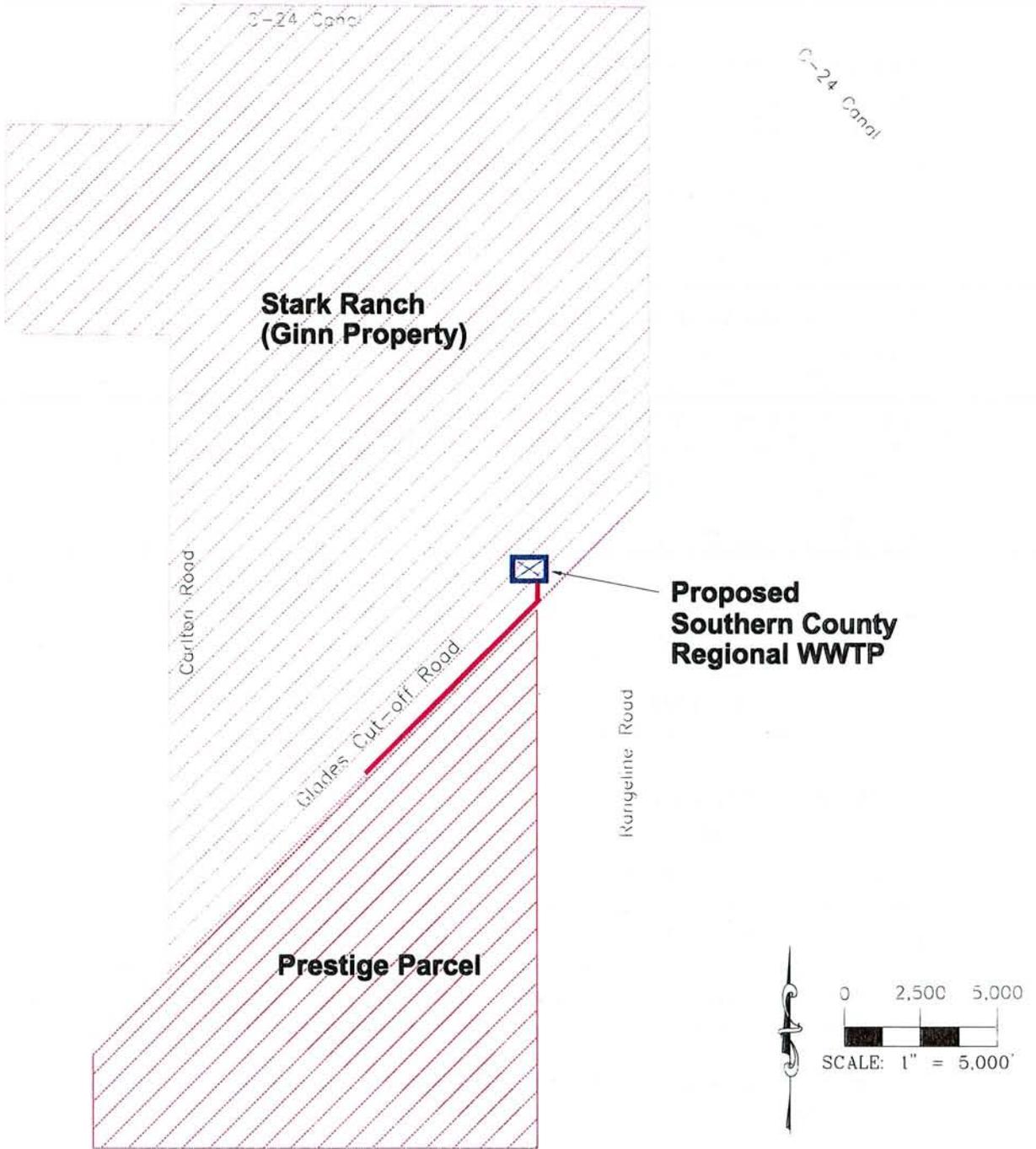
~~Other~~ Another ~~proposed locations for regional WWTPs that could potentially be required during the 10-year planning horizon of this Work Plan include a~~ would be located in the central County location-area (in close proximity to the County's Fairgrounds). A future ~~and a south County WWTP may also be required at some point, but is not anticipated to be necessary during the 10-year planning horizon of this Work Plan.~~ location in the vicinity of Rangeline Road, consistent with the plans for the corresponding WTPs described in Section 2. Each facility's size and ultimate location will be determined by the growth patterns experienced in the unincorporated County areas over the next several years. The timing for the construction of the final regional facilities will be further detailed in the County's updated Master Plan.

## 3.2.2 Spanish Lakes

### 3.2.2.1 Spanish Lakes Mobile Home Park

The Spanish Lakes Country Club owns and operates an extended aeration WWTP with a permitted capacity of 0.160 mgd. The WWTP was designed to serve a build out capacity of 3,040 residents, or 1,300 lots. The mobile home park is currently at build out capacity with no plans for expansion. Treated wastewater effluent is disposed of via a drainfield and percolation pond on site.





**LEGEND**

-  Proposed WWTP
-  Potential Reclaimed Water Main



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**Figure 3-2**  
**Proposed Reclaimed Water System Improvements**  
**SouthCounty Service Area**

**BOYLE**  
 ENGINEERING CORPORATION

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 BPR & FBPE License No's: 2005 & 7622  
 www.boyleengineering.com

### 3.2.2.2 Spanish Lakes Fairways

Spanish Lakes Fairways provides wastewater treatment via an extended aeration WWTP with a permitted capacity of 0.250 mgd, and is designed to serve a build out population of 3,200 residents. The WWTP produces reclaimed water that is used for irrigation of the development's private golf course. There is an on-site storage pond (lined) for reclaimed water storage during periods where production exceeds demand for irrigation water.

### 3.2.3 Panther Woods

Panther Woods owns and operates an on-site WWTP with a permitted capacity of 0.180 mgd, but is limited to 0.105 mgd due to the size of the existing chlorine contact basins. The facility serves a current population of approximately 1,040 residents. Treated effluent is supplemented with well water and used to irrigate the 120-acre Panther Woods golf course.

### 3.2.4 Harbour Ridge

Harbor Ridge Country Club owns and operates an onsite WWTP with a permitted capacity of 0.120 mgd. The WWTP serves the development's 1,570 residents, which represents build out of the community. There is no anticipation of additional growth within the built-out community and consequently, no plans for expansion of the WWTP. The Harbor Ridge WWTP produces reclaimed water for irrigation within the community and utilizes 100 percent of the available supply.

## 3.3 Conservation

The County has a conservation-based inclining block rate structure in place that discourages the use of potable water for non-potable (i.e. irrigation) purposes. All of the WWTPs in the County's service area produce reclaimed water for irrigation purposes, with the exception of the Holiday Pines and H.E.W. WWTPs. Both of these facilities are planned to be decommissioned when the North County Regional WWTP is constructed. By maximizing the amount of reclaimed water available for irrigation purposes, the demand for potable water to meet these demands is inherently reduced.

Additionally, the County has implemented a number of additional water conservation-based elements, as described below.

1. Section 1.20-5.40 of County Ordinance 07-054 requires residents who install automatic sprinkler systems to install rain sensor devices. The use of rain sensors on all irrigation systems reduces the use of automatic sprinkler systems during periods of wet weather.
2. The County Code requires the use of low flow plumbing fixtures in accordance with the State Building Code.

3. The County has developed a Utility Leak Detection and Repair Program to insure that unaccounted for water losses are less than 10 percent. Historically, the County's unaccounted for water total has been less than 5 percent. The leak detection program includes water auditing procedures and infield leak detection and repair programs. The County also utilizes Neptune Meters (AMR T-10), which are equipped with a secondary dial that is sensitive enough to detect slow leaks in addition to totalized monthly flows.
4. The County has implemented a water conservation education program that includes print materials and inserts in customer bills to keep the customers informed of current water issues facing the County.
5. The County has implemented a conservation based rate structure that encourages water conservation. The inclining rates for residential water, irrigation, commercial water and multi-family (MF) water customers are as follows:

0 to 7,500 gallons (0 to 4,500 for MF)	\$3.40
7,501 to 15,000 gallons (4,501 to 10,700 for MF)	\$5.50
15,001 and above (10,701 and above for MF)	\$7.50

A rate study currently under way may result in a change to the blocks (dropping the 0-7,500 gal block to 0-5,000 gal, etc.), including the potential to revise the discrepancy between the rates for single family and multi-family dwellings.

6. In November 2007, the Board of County Commissioners approved an irrigation ordinance that restricts the hours of irrigation to minimize evaporation and maximize the efficiency of watering. The ordinance also created a water shortage plan allowing the Board to enact water restrictions at any time, regardless of the status of water restrictions in place by SFWMD. The SFWMD restrictions supersede the County's restrictions when both are in place.
7. Section 7.09 of the County's Land Development Code requires the use of native vegetation in approved landscaping plans. Utilization of native vegetation reduces the need for irrigation water, thereby promoting water conservation.



# Section 4

## Future Land Use and Population Projections

### 4.1 Future Land Use

In accordance with Rule 163.3177(6)(a), F.S., the County is required to ensure that the future land use plan is based upon the availability of adequate water supplies, public facilities and services.

The population projections described in the following subsections are based on existing approved future land use maps, zoning maps and the corresponding densities for each land use designation. As new developments are approved by the County, and where applicable the Department of Community Affairs (DCA), land use designations will be changed as needed and approved to accommodate the growth. As the designations are changed, the County has the opportunity to revise the population projections used to obtain the water use permit to reflect increased densities. Once revised, the County will apply for modifications to the WUP to obtain additional withdrawals as needed to match demand brought on by the increase in population.

### 4.2 Population Projections

#### 4.2.1 Projections from the BEBR and Shimberg Centers

The population within unincorporated St. Lucie County continues to increase as more and more developers develop property further to the west. Historically, the portion of the total County population that resides in the unincorporated areas has been approximately 27 percent. The University of Florida Bureau of Business and Economic Research (BEBR) publishes projections for municipalities and Counties throughout Florida. The projections for the unincorporated County, however, are more precisely projected by the University of Florida's Shimberg Center, which focuses on unincorporated County areas. Due to the fact that the Shimberg Center projections typically lag behind the BEBR publications by up to one year, the County relied upon adjusted Shimberg Center projections (based on the relative percent increase shown in the current BEBR numbers) in preparation of the population and corresponding demand projections used in obtaining the Water Use Permit. This methodology was accepted by the SFWMD economists for water supply planning purposes, and is therefore being relied upon in preparation of this 10-Year Water Supply Facilities Work Plan.

It should be noted that the overall County population projections used for planning relative to schools, road improvements, etc. are higher than those used for water supply planning. This is due to the fact that other County services, such as schools, law enforcement, fire protection, roads, etc., serve the entire existing County population (including the 72,000 existing residents described below) and plans for future residents. Water supply planning focuses primarily on new

customers/residents who do not currently receive potable water from an existing facility or private well.

In 2007, the existing population in the unincorporated County was approximately 72,000 people. These residents are served via existing WTPs (public and private) or private wells. For the purpose of projecting future water demands beyond the capacity of the existing WTPs, the existing population was subtracted from the adjusted Shimberg Center projections referenced above. The resulting population projections represent new, future customers that would require an alternate water supply/WTP for potable water service. Additionally, it was assumed that approximately 1 percent of the existing population currently served by on-site wells would apply for connection to a potable water system each year when available. The resulting projection of new water customers and the corresponding demand is presented in **Table 4-1**.

**Table 4-1 Ten Year Population and Demand Projections**

Utility	2008 Population	2013 Population	2018 Population	Per Capita Usage	Finished Water Demand in 2018	Existing Capacity	Surplus/ (Deficit)
Existing County WTP (Holiday Pines)	2,547	2,547	2,547	71	444,698	288,000	107,163 143,302
North County Service Area (proposed)	-3,429	8,750	17,909 15,324	110	1,970,044 1,684,640	4,000,000	2,029,956 2,314,360
Central County Service Area (proposed)	-2,000	-	10,577 40,445	110	1,163,470 1,148,996	4,000,000	2,836,530 2,851,004
South County Service Area (proposed)	1,554		8,117	110	892,884	4,000,000	3,107,119
Panther Woods	1,040	1,040	1,040	129	134,160	432,000	297,840
Harbour Ridge	1,573	1,573	1,573	92	144,716	360,000	215,284
Spanish Lakes (Through 2011) <sup>2</sup>	2,470	3,040	3,040	99	300,960	330,000	29,040
Spanish Lakes (2011 through 2026) <sup>2</sup>	3,040	3,040	3,040	99	300,960	330,000	29,040
Spanish Lakes Fairways	3,200	3,200	3,200	120	384,000	570,000	186,000

For planning purposes, the County anticipates that the future demand will require construction of new WTPs and cannot be met through the existing Holiday Pines WTP or the FPUA bulk user agreement (which will flat line capacity in 2010).

The County's historical per capita usage associated with the Holiday Pines WTP is 71 gallons per capita per day (gpcd). However, with a larger regional system, the per capita usage is anticipated to be approximately 110 gpcd. The resulting demand for the 10-year planning horizon is presented in Table 4-1. Also presented in Table 4-1 is the anticipated growth, where applicable, for each of the private utilities within the County's service area.

#### 4.2.2 Additional Anticipated Growth

St. Lucie County, like much of Florida, experienced a significant increase in population between 2004 and 2005. While the development boom has since subsided,

there are still a number of sizeable developments being planned in the unincorporated areas of St. Lucie County. Several of the planned developments are already in the process of being approved by DCA, while others are still in the preliminary stages. In keeping with allowable projection methods outlined by the SFWMD and DCA, the County has limited the population projections shown in Table 4-1 to approved developments only. However, due to the number of potential developments that may be approved and constructed within the 10-year planning horizon for this Work Plan, the County must consider the potential for significant growth beyond that in the above referenced projections.

The developments for which applications have already been submitted to the County for approval are ~~presented, by service area, in Table 4-2 (North County Service Area), Table 4-3 (Central County Service Area) and Table 4-4 (South County Service Area), continuously being updated, modified, submitted or withdrawn. Time frames for the implementation of these projects also change frequently, and are constantly being monitored by the County to insure that utility service will be available when necessary.~~

**Table 4-2 Projected Population from Proposed Developments in the North County Service Area<sup>1</sup>**

Proposed Residential Development <sup>2</sup>	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Seminole Acres Subdivision	-	-	-	-	-	-	-	-	-	-	9
Waterstone FKA Emerson Estates	-	-	180	180	180	180	180	180	180	180	-
Oakland Estates PUD—Woodlake Subdivision	-	-	-	-	-	-	-	-	-	-	20
Coconut Cove	-	-	238	238	238	238	238	237	237	237	237
Visions at Indrio DR!	-	-	-	-	625	625	625	450	450	450	450
Indrio Groves DR!	-	-	-	-	-	940	940	940	940	560	560
Capron Lakes (fka Indrio DR!)	-	-	-	-	-	820	820	1,310	1,310	1,310	1,310
Indrio Crossing	-	-	-	-	-	-	-	-	-	-	21
Seewal Tract PUD	-	-	-	-	-	-	-	-	-	-	15
Lakeside Village	-	-	-	23	23	23	23	23	23	23	23
Indrio Pines	-	-	-	-	-	-	-	-	-	-	19
Plantation Acres PUD	-	-	-	-	-	-	-	-	-	-	12
Indrio Lakes	-	-	-	-	-	74	74	74	74	74	74
Laurel Gardens	-	-	-	-	-	104	104	104	103	103	103
West Indrio Groves	-	-	-	-	-	-	-	-	-	-	20
Adams Record Plat	-	-	-	-	-	-	-	-	-	-	5
-	-	-	-	-	-	-	-	-	-	-	-
<b>Unincorporated Growth (per WUP Application)</b>	<b>0</b>	<b>304</b>	<b>426</b>	<b>986</b>	<b>2,950</b>	<b>2,914</b>	<b>2,878</b>	<b>2,855</b>	<b>2,913</b>	<b>888</b>	<b>864</b>
-	-	-	-	-	-	-	-	-	-	-	-
<b>Yearly Total</b>	<b>0</b>	<b>304</b>	<b>844</b>	<b>1,427</b>	<b>4,016</b>	<b>5,918</b>	<b>5,882</b>	<b>6,173</b>	<b>6,230</b>	<b>4,849</b>	<b>5,006</b>
<b>Total Connected Population<sup>3</sup></b>	<b>3,374</b>	<b>3,678</b>	<b>4,522</b>	<b>5,949</b>	<b>9,965</b>	<b>15,863</b>	<b>21,765</b>	<b>27,938</b>	<b>34,168</b>	<b>37,993</b>	<b>41,735</b>

<sup>1</sup>The distribution of units over the life of each development project has been estimated by the County Utility Department based on the best available information. These estimates are subject to change as dictated by development patterns.

<sup>2</sup>The developments listed in the above table may potentially pursue wells and septic systems rather than public water supply and central sewer. None of these applications have been formally modified to reflect this change. The numbers presented above, therefore, are subject to change.

<sup>3</sup>Projections may change due to possible changes in allowable land uses and densities.

Source: Draft Water and Wastewater Master Plan (March 2008) prepared by Boyle Engineering.

**Table 4-3 Projected Population from Proposed Developments in the Central County Service Area<sup>1</sup>**

Proposed Residential Development <sup>2</sup>	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
West 40 Plat	-	-	40	-	-	-	-	-	-	-	-
East 40 Plat	-	-	40	-	-	-	-	-	-	-	-
Raptor II Subdivision	-	-	43	-	-	-	-	-	-	-	-
Jamies Acres	-	-	-	8	-	-	-	-	-	-	-
Twin Acres	-	-	-	8	-	-	-	-	-	-	-
Schirard Estates	-	-	-	8	-	-	-	-	-	-	-
Trowbridge Lakes	-	-	-	8	-	-	-	-	-	-	-
Schirard Estates S/D, Ph 2	-	-	-	13	-	-	-	-	-	-	-
Pineapple Plantation	-	-	-	10	8	-	-	-	-	-	-
Westland Trails	-	-	-	40	40	40	40	40	40	40	-
Maxwell Acres	-	40	5	-	-	-	-	-	-	-	-
Shinn Road Equestrian Estates	-	-	-	27	27	27	27	27	26	26	26
Shinn 251	-	-	-	13	13	13	13	13	12	12	12
Shinn Lake	-	-	-	19	19	19	19	19	19	19	19
Howard's Twenty	-	-	-	8	-	-	-	-	-	-	-
Toth Subdivision	-	-	-	8	-	-	-	-	-	-	-
Gentile Land	-	-	-	8	-	-	-	-	-	-	-
Markris Acres	-	-	-	8	-	-	-	-	-	-	-
C-24-AG-PUD	-	-	-	15	15	15	15	15	15	15	15
Valencia Country Estates	-	-	-	14	14	14	14	14	13	13	13
-	-	-	-	-	-	-	-	-	-	-	-
<b>Additional Residents</b>	-	1,696	1,696	1,696	1,696	1,696	1,696	1,696	1,696	1,696	1,696
-	-	-	-	-	-	-	-	-	-	-	-
<b>Unincorporated Growth (per WUP Application)</b>	0	478	249	575	554	533	512	499	532	518	504
-	-	-	-	-	-	-	-	-	-	-	-
<b>Yearly Total</b>	0	1,884	1,960	2,385	2,356	2,327	2,306	2,293	2,323	2,309	2,285
<b>Total Connected Population</b>	0	1,884	3,844	6,229	8,585	10,912	13,218	15,511	17,834	20,143	22,428

<sup>1</sup>The distribution of units over the life of each development project has been estimated by the County Utility Department based on the best available information. These estimates are subject to change as dictated by development patterns.

<sup>2</sup>The developments listed in the above table may potentially pursue wells and septic systems rather than public water supply and central sewer. None of these applications have been formally modified to reflect this change. The numbers presented above, therefore, are subject to change.

Source: Draft Water and Wastewater Master Plan (March 2008) prepared by Boyle Engineering.



**Table 4-4 Projected Population from Proposed Developments in the South County Service Area<sup>1</sup>**

Proposed Residential Development <sup>2</sup>	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Manatee Ranchettes	-	-	40	-	-	-	-	-	-	-	-
West Midway	-	-	-18	-	-	-	-	-	-	-	-
Rogers Ranchettes	-	-	-8	-	-	-	-	-	-	-	-
Bridlewood Ranchettes—Unit 1	-	-	-5	-	-	-	-	-	-	-	-
Bridlewood Ranchettes—Unit 2	-	-	-3	-	-	-	-	-	-	-	-
Bridlewood Ranchettes—Unit 4	-	-	-10	-	-	-	-	-	-	-	-
Carlton Country Estates	-	-	40	40	40	40	40	-10	-	-	-
Creekside	-	-	199	199	199	199	199	199	199	199	199
Citrus Lakes Estates	-	-	-	-10	-	-	-	-	-	-	-
Provinces DRI	-	-	-	-	1,110	1,110	1,110	1,110	1,110	1,110	1,110
Hunters Run	-	-	47	47	47	47	47	47	47	47	47
Creekside Addition	-	-	10	10	10	10	10	10	10	10	10
Merritt Subdivision	-	-	-5	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
<b>Additional Residents</b>	-	542	542	542	542	542	542	542	542	542	542
-	-	-	-	-	-	-	-	-	-	-	-
<b>Unincorporated Growth (per-CUP Application)</b>	0	138	193	447	434	414	398	387	414	402	391
-	-	-	-	-	-	-	-	-	-	-	-
<b>Yearly Total</b>	0	680	755	1,225	2,319	2,302	2,286	2,265	2,292	2,280	2,269
<b>Total Connected Population</b>	0	680	1,435	2,660	4,979	7,281	9,567	11,832	14,124	16,404	18,673

<sup>1</sup>The distribution of units over the life of each development project has been estimated by the County Utility Department based on the best available information. These estimates are subject to change as dictated by development patterns.

<sup>2</sup>The developments listed in the above table may potentially pursue wells and septic systems rather than public water supply and central sewer. None of these applications have been formally modified to reflect this change. The numbers presented above, therefore, are subject to change.  
Source: Draft Water and Wastewater Master Plan (March 2008) prepared by Boyle Engineering.

# Section 5

## Comprehensive Plan Updates

### 5.1 Affected Elements

One of the Work Plan requirements in Chapters 163 and 273, F.S., is for the County to update the relevant Comprehensive Plan elements and sub-elements to reflect the objectives of the Work Plan. For the County, the elements affected by this Work Plan are as follows:

- Chapter 1 - Future Land Use Element
- Chapter 6A - Potable Water Sub-Element
- Chapter 6D - Sanitary Sewer Sub-Element
- Chapter 8 - Conservation Element
- Chapter 10 - Intergovernmental Coordination Element
- Chapter 11 - Capital Improvements Element

The afore mentioned elements were updated with regards to population projections, demand values, water supply issues, and budgetary issues. Modifications made reflect changes to the information in the previous version of the Comprehensive Plan adopted by the Board of County Commissioners in January 2004. The modifications were primarily related to water supply and production. However, the sanitary sewer (or wastewater) sub-element was also affected because the production and utilization of reclaimed water directly impacts the demands placed on the potable water system. As such, both elements have been revised.

Since the County encompasses all private and public utilities within its boundaries, the County was required to collect current information from each utility described in the previous sections of this Work Plan and incorporate all applicable changes into the Comprehensive Plan. It should be noted that the County's Water and Wastewater Master Plan is currently undergoing an update. Draft information pertaining to the County's planned facilities and projections of demand were used wherever possible (as noted throughout the modified elements). As previously noted, the Water and Wastewater Master Plan is currently being updated (draft completed in March 2008, prepared by Boyle Engineering Corporation). Any elements of the Comprehensive Plan that require further updating as a result of changes to the Master Plan will be addressed at that time.

The following sub-sections provide an overview of the changes made to each element. A copy of each revised element is provided in **Exhibit 1-2** through **Exhibit 5-67** of this Work Plan.

## 5.2 Future Land Use Element

Modifications to this element were limited to updating population projections and clarifying the discrepancy between the projections used for water and sewer planning purposes vs. those projections used for roadway planning, school planning, etc. While the latter departments must plan for all existing and future residents, the Utilities department's future planning is primarily focused on new customers. As a result, the existing approximately 72,000 residents of the unincorporated County were not included in the projections. Sections of the Land Use Element not exclusively related to water and sewer planning were not modified as part of this effort. The pages of the Future Land Use Element that were updated as part of this effort have been provided in Exhibit 12.

## 5.3 Potable Water Sub-Element

This sub-element was the primary section affected by the Work Plan. Updates and modifications included revising outdated information related to existing and proposed facilities (as well as those that have been decommissioned), demands, permitted conditions, planning documents, water supply sources and more. Each utility referred to in the potable water sub-element was contacted individually and updated information was requested. As noted above, draft Master Plan (March 2008) was used wherever possible and believed to be reasonably accurate. This sub-element has been fully updated with the exception of Table 6-A-1. This table contains a substantial amount of information on public, private and package WTPs that must be revisited. Many of the package WTPs have either been taken out of service (i.e. connected to a regional system) or had name changes since the last update to the Comprehensive Plan. These changes will be made under separate cover once updated information is available. The updated Potable Water Sub-Element is provided in Exhibit 23.

## 5.4 Sanitary Sewer Sub-Element

The sanitary sewer, or wastewater, sub-element modifications stemmed from the impacts of reclaimed water production/use on the potable water system. In the process of updating the reclaimed water portions, each utility was contacted and current WWTP information and reclaimed water information was obtained. This sub-element has been fully updated with the exception of Table 6-D-1. This table contains substantial amount of information on public, private and package WWTPs that must be revisited. Many of the package WWTPs have either been taken out of service (i.e. connected to a central sewer system) or had name changes since the last update to the Comprehensive Plan. These changes will be made under separate cover once updated information is available. The updated Sanitary Sewer Sub-Element is provided in Exhibit 34.

## 5.5 Conservation Element

Modifications to this element were limited to issues pertaining directly to the water and sewer systems. Substantive edits were limited to water and sewer-related items. Specifically, the sections of this element titled Groundwater, Demand for Water, Groundwater Quality concerns, and portions pertaining to native vegetation and irrigation restrictions were modified. Sections of the Conservation Element not exclusively related to water and sewer planning were not modified as part of this effort, beyond making minor editorial and grammatical corrections. The pages of the Conservation Element that were updated as part of this effort have been provided in Exhibit 45.

## 5.6 Intergovernmental Coordination Element

The modifications to this element were limited to the addition of an objective and a policy to ensure a meaningful process for collaborative planning and intergovernmental coordination on a continuing basis. Sections of the Intergovernmental Coordination Element not exclusively related to water and sewer planning were not modified as part of this effort. The pages of the Intergovernmental Coordination Element that were updated as part of this effort have been provided in Exhibit 56.

## 5.76 Capital Improvements Element

The modifications to this element were limited to issues pertaining directly to the water and sewer systems. Specifically, Table 11-1 was updated to reflect a repair and replacement budget number and a future needs dollar estimate. The remainder of Table 11-1 was not updated for other departments. Sections of the Capital Improvements Element not exclusively related to water and sewer planning were not modified as part of this effort. The pages of the Capital Improvements Element that were updated as part of this effort have been provided in Exhibit 567.



# References

"Feasibility Study of Water Supply Integration – St. Lucie County." Summary Memorandum. SFWMD (prepared by Metcalf & Eddy); July 2006.

"Ten Year Water Supply Facilities Work Plan." Fort Pierce Utilities Authority; December 28, 2007.

"Water Supply Facility Work Plan." City of Port St. Lucie (prepared by Reiss Environmental); Revised November 2007.

"Water Supply Facility Work Plan." St. Lucie West Services District; Revised January 11, 2008.

"St. Lucie County Utilities Master Plan – Draft." St. Lucie County Utilities (prepared by Boyle Engineering); Working Draft, March 2008.

"A Guide for Local Governments in Preparing Water Supply Comprehensive Plan Amendments and Water Supply Facilities Work Plans." Florida Department of Community Affairs, Division of Community Planning; September 2007.

Applicable Water Use Permits issued by SFWMD



Appendix A  
Other Utilities' Work Plans



FORT PIERCE UTILITIES AUTHORITY



# **Ten Year Water Supply Facilities Work Plan**

**Fort Pierce Utilities Authority  
City of Fort Pierce  
St. Lucie County  
Florida**

**December 28, 2007**

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## **I. Introduction**

In anticipation of rapid population growth, increasing water demand, and the potential threat of inadequate water supplies to both the economy and the environment, the Legislature amended the Florida Water Resources Act (Chapter 373, Florida Statutes) in 1997. The amendments require the water management districts to initiate regional water supply planning in all areas of the state where anticipated sources of water were deemed inadequate to meet the projected water demands for 2020.

The water supply plans include a list of water source options, which have been identified to meet anticipated demands while sustaining water resources and related natural systems. The South Florida Water Management District Board approved the 2006 Upper East Coast Water Supply Amendment (WSA) of July 12, 2006. Local governments are required to adopt their Comprehensive Plan Amendments in conformance with the District WSA by January 1, 2008.

The 2002 Legislature expanded the local government comprehensive plan requirements to strengthen coordination of water supply planning and local land use planning. One of the most significant new requirements is a 10-year Water Supply Facilities Work Plan. The Work Plan must, at a minimum:

1. Project the local government's needs for at least a 10-year period;
2. Identify and prioritize the water supply facilities and sources of water that will be needed to meet those needs; and
3. Include in the local government's Five-Year Schedule of Capital Improvements the capital improvements identified as needed for the first five years, including financially feasible revenue sources. A current five-year schedule must be maintained and updated annually.

In addition, the following supporting data and analysis is to be provided to document the utility's water needs and its plan to meet the identified needs:

1. Description of the existing potable water facilities, including the design capacity of the production and treatment facilities, the current demand, the geographic area served, relevant consumptive use permit conditions, and conservation and reuse practices.
2. Maps of the major water supply facilities and transmission mains.
3. A water supply service area map.

The following report was provided to the City of Fort Pierce, Planning and Development Department by the Fort Pierce Utilities Authority for inclusion in the City of Fort Pierce's Comprehensive Plan in conformance with the requirements described above.

## **II. Water Supply and Facilities Information**

### **A. Service Area**

The Fort Pierce Utilities Authority (FPUA) provides potable water to the incorporated section for the City of Fort Pierce (City) and the surrounding areas of unincorporated St. Lucie County, including South Hutchinson Island to the Martin County line. The FPUA also provides bulk water to North Hutchinson Island, northern St. Lucie County, and western St. Lucie County. The FPUA currently serves approximately 17,500 water accounts within the FPUA's service area (excluding bulk customers) with a service area of approximately 61 square miles.

As indicated in the FPUA Water & Wastewater Master Plan dated September 2006 and prepared by LBFH, Inc., most of the land inside the City limits is currently zoned and being utilized for residential purposes with the majority specifically zoned as medium density residential. The FPUA's Retail Service Area Boundary was established in the Bulk Water/Wastewater Agreement with St. Lucie County, which also provides for bulk sales of FPUA water and wastewater services to St. Lucie County's retail customers. The predominate medium residential zoning is generally concentrated south of Orange Avenue and north of Midway Road between US 1 and Indian River Drive. The second highest land use category is general commercial. The general commercial zoned areas tend to follow the City's main access roads (i.e. Okeechobee Road, Orange Avenue, and US 1). The vacant land inside the City limits constitutes approximately 16.7% of the total area. Approximately 28% of the area between the City limits and the Retail Service Area Boundary is currently vacant.

In the area between the City limits and FPUA's Retail Service Area Boundary, most of the land is currently zoned as "Agriculture, Residential", "Agricultural", or "Industrial, Light". Agricultural Residential is the largest of the three zoning categories. Based on future land use, the largest category is "Residential" closely followed by "Non-Agricultural Acreage". Areas of Residential lands are located throughout the area between the City limits and the FPUA Retail Service Area Boundary. Large Non-Agricultural Acreage areas are located north and west of the City limits but the largest tracts are concentrated in the northwest corner of the Retail Service Area.

### **B. Water Supply Facility**

The Henry A. Gahn Water Treatment Facility (WTF) treats and supplies potable water to the FPUA service area. The WTF site contains two water treatment plants (WTP's) with two separate treatment processes. The original treatment plant utilizes a lime softening/dual media filtration process which is supplied from a surficial aquifer source. At times, Floridan Aquifer water is blended with the shallow surficial wells for treatment in the lime softening WTP. The newer plant constructed in December 2002 uses a reverse osmosis (RO) process to treat water from the Floridan Aquifer.

Treated water from the lime softening and RO WTP's is pumped to three on-site ground storage tanks (GST's). The storage tanks feed four high service pumps (HSP's) that supply the distribution system. There are three re-pump stations located within the distribution system.

The three ground storage tanks (GST's) at the Henry A. Gahn WTF have capacities of 1.0, 1.5, and 3.0 million gallons (MG) and were constructed in 1959, 1983, and 2000, respectively. The GST's provide water to the main high service pumps as well as the on-site pump station on 25<sup>th</sup> Street. The two older GST's are reportedly in good condition following rehabilitation in 1999.

There are three additional storage tanks at the Jaycee Park, South Hutchinson Island, and Savannah Road re-pump stations. These tanks have capacities of 1.0, 1.0, and 1.5 MG, respectively. The January 2007 Capacity Analysis Report (CAR) prepared by Global Tech for FPUA's Henry A. Gahn Water Treatment Facility indicates that no additional expansion plans for the treatment facilities are currently required. The current Florida Department of Environmental Protection (FDEP) permitted average-day flow capacity of the facility is 18.99 million gallons per day (MGD). The current FDEP permitted capacity is more than adequate to meet the demand growth projected over the next 10 years.

### **C. Raw Water Wells**

FPUA currently owns and operates a total of 44 groundwater wells, including 35 wells that draw water from the surficial aquifer and 9 wells that draw water from the Floridan Aquifer. The 35 surficial wells are dedicated to the lime softening WTP along with one Floridan Aquifer well. Eight of the Floridan Aquifer wells normally provide water to the RO WTP. Three of the Floridan wells could also be routed to the lime softening WTP, if needed. FPUA is currently constructing two new Floridan wells which will be available for service in 2008.

Two additional wells are then scheduled to be put in service at the end of fiscal year 2010. FPUA is also in the second year of a four year program to rehabilitate and improve its existing surficial aquifer wells.

### **D. Water Use Permit**

The South Florida Water Management District (SFWMD) issued Water Use Permit 56-00085W to the FPUA on July 11, 2007. The permit grants the FPUA an annual allocation of 7,713 MG of which up to 2,920 MG can come from the Surficial Aquifer with the remaining 4,793 MG to be supplied from the Floridan aquifer. Monthly restrictions on the surficial and Floridan aquifer systems are 243.20 MG and 467.98 MG, respectively. This permit expires in 2027. The Floridan Aquifer wells dedicated for the RO WTP are currently permitted for a firm capacity of 6.91 mgd per FDEP permit number 0081062-176-WC.

### III. Projected Water Demands

Fort Pierce is located in an area that has experienced a fast-paced growth rate that has recently slowed due to the impact of two hurricane strikes in recent years and a general economic slow down in the national residential construction market. The 2006 Water and Wastewater System Master Plan used a methodology for determining the future water demands that included the utilization of information on potential development activity within the FPUA Retail Service Area and a geographic information systems (GIS) analysis of land use and buildable lands within the Retail Service Area.

In addition to the provision of water supply to its own service area, FPUA provides water to the St. Lucie County Utilities Department (SLCUD) distribution network. Based on SLCUD's current plan, it is anticipated that water will be provided to its North Hutchinson Island and Indian River Estates indefinitely. Demand growth in other areas of the County which receive bulk service from FPUA will be served for approximately the next four years through the interconnects serving the Northern District and the West District. It is planned that in 2012 the County bulk water demand growth in these two areas will be served by SLCUD water treatment facilities. SLCUD has provided FPUA a 5-year notice for construction of their water and wastewater plants to serve future growth in these areas, as provided in the Bulk Water/Wastewater Agreement.

**Table 1**

**Fort Pierce Utilities Authority Historical Water Demands  
From 2006 FDEP Capacity Analysis Report**

<u>Year</u>	<u>Annual Average Day Flow (mgd)</u>
1997	8.49
1998	8.65
1999	8.72
2000	8.81
2001	8.73
2002	8.90
2003	8.60
2004	8.97
2005	8.65
2006	9.52

Note: Year 2006 was an extreme drought year.

**Table 2**

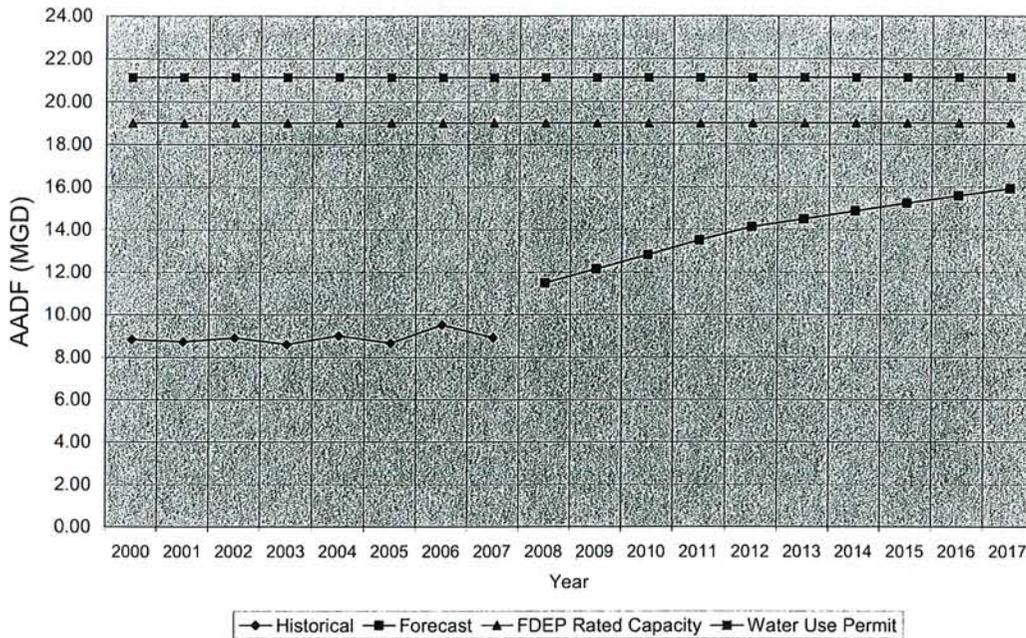
**Fort Pierce Utilities Authority Forecast Water Demands  
From SFWMD Water Use Permit (per capita demand 123 gpd)**

<u>Year</u>	<u>Service Population</u>	<u>Demand (mgd)</u>
2007	82,848	10.74
2008	85,953	11.50
2009	89,057	12.16
2010	92,161	12.82
2011	95,184	13.52
2012	98,208	14.14
2013	101,231	14.51
2014	104,255	14.88
2015	107,278	15.25
2016	110,035	15.59
2017	112,792	15.93

Note: Economic slow down may result in a reduction in these demand projections during the next forecast.

**Figure 1**

FPUA Water Annual Average Day Flow



**IV. Conservation Rate Structure**

The current FPUA water rate structure is a multi-tier conservation rate structure which increases the unit cost as consumption levels increase. This rate applies to both residential and commercial customers. The current monthly water usage rate is shown below:

<u>Water Usage</u>	<u>Charge per 1,000 gallons</u>
10,000 gallons or less	\$2.67
10,001 to 15,000 gallons	\$3.33
Over 15,000 gallons	\$4.00

As an enhanced conservation measure, irrigation customer using in excess of 15,000 gallons per month will be charged \$5.65 per 1000 gallons.

**V. Reclaimed Water**

FPUA has entered into an Agreement with Florida Municipal Power Agency (FMPA) to provide reclaimed water for use in their cooling towers at their Treasure Coast Energy Center (TCEC). This Agreement was executed in October 2005, between FMPA and FPUA. It binds FPUA to guarantee to reserve reclaimed water in the

amount of 2.9 mgd for TCEC Unit 1. Under the Agreement, FMPA will periodically evaluate its reclaimed water needs and notify FPUA of changes in the required quantity of reclaimed water it will need to operate TCEC Unit 1.

The provisions of the Agreement between FMPA and FPUA may limit FPUA's ability to enter into additional agreements to provide reclaimed water to other users, should FPUA be required to provide the up to 11.6 MGD of reclaimed water capacity FMPA is authorized to reserve and utilize for its future TCEC Units 2, 3, and 4.

FPUA has investigated potential future reclaimed water users at locations that could become large reuse sites within an approximate two mile radius of the MWRf. Sites were identified and owners of the properties contacted to gauge the interest in the use of reuse water. At this time, with the exception of the St. Lucie County Landfill, none of the owners contacted indicated an interest or need for provision of reclaimed water service.

St. Lucie County is planning on constructing a plasma-arc gasification facility at their landfill. The facility was contacted as part of this study and personnel indicated that the water requirements for the facility were still being defined. FPUA will continue to monitor the progress of this project and inquire if it can enter into a reuse supplier agreement with the County for water needed for the new plasma-arc facility.

## **VI. Capital Improvement Plan**

The FPUA prepares an annual capital budget which is reviewed and approved by its Board and the City of Fort Pierce City Commission. As a part of the annual budget preparation process, the FPUA updates its Five-Year Capital Improvement Plan. Projects included in the plan include both capital improvements, which add new system capacity and replacement & rehabilitation (R&R) projects which replace components of the system which are approaching the end of their useful life. A significant portion of new water transmission capacity is constructed by developers and dedicated to FPUA as a part of the development process or through upsizing of existing water mains during the construction of roadway projects as part of City, County, or State roadway projects.

Major plant capital projects include: the ongoing replacement and upgrading of existing surficial wells, the addition of two new Floridan wells, the addition of a back up deep injection well for disposal of RO brine concentrate, the addition of emergency power generators for the Floridan wellfield, and the construction of additional emergency power capacity for the RO plant.

**Table 3**  
**FPUA Five Year Water Capital Improvement Program**  
**FY 2008 to FY 2012**

<u>Project Title</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>
<b>Water Mains</b>					
Main Replacement	150,000	156,751	163,804	171,175	178,878
Water Main R&R	750,000	750,000	750,000	750,000	750,000
Intergovernmental Roadway Projects	600,000	627,000	655,000	684,701	715,512
Development Project Participation	400,000	418,000	436,810	456,466	477,007
<b>Plant Projects</b>					
RO Equipment R&R	80,000	83,600	87,362	91,293	95,401
RO Plant Phase IV	50,000	700,000			
Generators for Floridan Wellfield	50,000	950,000			
2 <sup>nd</sup> Deep Injection Well @ WTP	500,000	4,500,000			
Surficial Well Replacement	450,000	500,000	550,000		
Two New Floridan Wells	200,000	150,000	1,600,000		

**Appendix 1  
Zoning Map**

**Appendix 2**  
**Service Area and Water System Map**

CITY OF PORT ST. LUCIE



**CITY OF PORT SAINT LUCIE, FLORIDA**

**WATER SUPPLY FACILITY WORK PLAN**

**PREPARED FOR:  
CITY OF PORT ST. LUCIE**

**PREPARED BY:**

**REISS ENVIRONMENTAL  
12001 RESEARCH PARKWAY, SUITE 228  
ORLANDO, FL 32826  
407.679.5358  
REI PROJECT No. 5505**

**JULY 2007 (ORIGINAL)  
NOVEMBER 2007 (REVISED)**

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APPENDIX D - WATER CONSUMPTION PER CAPITA DATA

# SECTION 1.0 INTRODUCTION

## 1.1 Background

The City of Port St. Lucie has prepared this 10-Year Water Supply Facility Work Plan (Work Plan) to provide the information necessary to meet the criteria set forth by the State Legislature. This Work Plan addresses potable water supply and demand for the City's utility service area for 2008 through to the year 2017, which is the current 10-year planning period. This Work Plan will be reviewed on an annual basis and updated every five years to coincide with the Upper East Coast (UEC) Planning Area Regional Water Supply Plan (RWSP) update by South Florida Water Management District (SFWMD).

In 2002, 2004, and 2005, the Florida Legislature expanded the requirements for local governments in preparing Comprehensive Plans. These regulatory changes were designed to strengthen coordination of water supply planning with local land use planning, in response to concerns that the limits of groundwater are being approached in many areas of the State. The legislation directed that alternative water supplies be identified, quantified and developed by affected municipalities, with additional requirements in addition to the implementation of local water conservation strategies and Florida Department of Environmental Protection (FDEP) permitted water reuse programs.

A requirement of the 2005 legislation is the completion of a 10-Year Water Supply Facilities Work Plan (Work Plan) by all counties and cities within the UEC Planning Area. The UEC Planning Area is one of the four planning areas in the South Florida Water Management District's boundary for which water supply plans are prepared. The UEC Planning Area consists of St. Lucie and Martin counties and eastern Okeechobee County. SFWMD approved the 2006 UEC Water Supply Plan Amendment (2006 UEC Plan Amendment) on July 12, 2006. The 2006 UEC Plan Amendment amends the RWSP for the UEC Planning Area to meet the requirements of the 2005 legislation. Per the 2005 legislation, all the local governments within the UEC Planning Area have 18 months from the regional water supply plan update to develop a Work Plan and amend their respective Comprehensive Plans. The deadline to have the Work Plan completed including all necessary review and approval processes is January 12, 2008.

The local governments' Work Plan must project water demands for at least a 10-year period, and must demonstrate that the current and planned water supply facilities and source(s) of water will meet the projected demands. The Work Plan must also be adopted as part of the Potable Water Sub-Element of the community's Comprehensive Plan. The Capital Improvements Element must also be amended to include projects listed in the first five years of the ten-year Work Plan, as well as the text of other Plan elements, as appropriate. The Work Plan must be approved by the Department of Community Affairs (DCA).

This document and the information contained herein will serve as the Water Supply Facilities Work Plan for the City of Port St Lucie to meet these requirements. This document will be incorporated into the City's Comprehensive Plan, as well as coinciding with the other related Elements.

## **1.2 Overview of the Regional Water Supply Plan**

SFWMD prepared the original Regional Water Supply Plan for the UEC Planning Area in 1998. This Regional Supply Plan was updated in 2004 and again in 2006, in order to take into account recent population growth and provide important information to local governments concerning revisions to state law requirements relevant to water supply planning. The UEC Planning Area's projected population growth over the next 20 years indicates that there will be a significant increase in the region's public water demands, particularly in the urban sector. According to the UEC Regional Supply Plan, the UEC Region's total population is expected to increase from 320,664 in 2000 to about 584,927 residents by 2025. Development of alternative water supplies will play a vitally important role in meeting these projected water needs, as further development of traditional supplies becomes increasingly limited.

## SECTION 2.0 EXISTING CONDITIONS

### 2.1 Summary of City Potable Water Providers

The City of Port St. Lucie (City) is located in St. Lucie County (County). **Figure 1** shows the delineation of the various public and private potable water service areas in the City. Within the City's current water service area boundary, potable water is produced or supplied by the following jurisdictional and private water utilities:

- Port St. Lucie Utility Systems Department
- St. Lucie West Services District
- The Reserve

It is important to note that the Reserve property is not currently within the city limits for Port St. Lucie and is supplied by St. Lucie West Services District's system.

#### ***2.1.1 Port St. Lucie Utility Systems Department***

The City's utility service area is currently comprised of approximately 132 square miles, including the entire city limits and some unincorporated areas of St. Lucie County adjacent to the city limits. As shown in **Figure 1**, this service area is bordered to the north by Midway Road, to the east by the Indian River, to the west by Rangeline Road and to the south by the St. Lucie County southern boundary. The current system, as of June 2007, is comprised of approximately 63,177 active water connections and 44,020 active wastewater connections.

With the 2004 annexation of roughly 42 square miles west of Interstate 95, approximately one third of the current 132 square mile service area is undeveloped and has several large, planned communities scheduled for immediate construction. These large developments, along with other major developments in the City, are also depicted in **Figure 1**.

The City currently owns its potable water, wastewater, and reuse systems, which are operated and maintained by the City's Utility Systems Department. The existing potable water system consists of three (3) water supply and treatment facilities, three (3) water storage and re-pump stations, and transmission and distribution infrastructure. The wastewater system consists of a network of gravity collection, low pressure force mains, lift stations force mains, three (3) regional wastewater treatment facilities and effluent disposal facilities, consisting of reclaimed water and deep injection wells. The City's water and wastewater treatment facilities are located on **Figure 2**.

#### ***2.1.2 St. Lucie West Services District***

The St. Lucie West Services District provides potable water for its seven square mile service area. The water supply for the St. Lucie West WTP facility is withdrawn from the brackish Floridan aquifer with treatment provided by a reverse osmosis (RO) water treatment plant. The

brine concentrate from this process, which is approximately twenty five (25) percent of the raw water processed, is disposed of by deep well injection at the District's privately owned and operated wastewater treatment plant. The St. Lucie West Water Treatment Plant facilities are not owned or operated by the Port St. Lucie Utility Systems Department (PSLUSD). They are owned and operated by the St. Lucie West Services District. However, PSLUSD has two (2) emergency potable water inter-connections with St. Lucie West that were used extensively in 2005 to serve all of its customers with potable water due to an issue with St. Lucie West's water treatment plant.

### ***2.1.3 The Reserve***

The Reserve, a large development surrounded by City limits, is also outside the Port St. Lucie Utility Systems Department (PSLUSD) service area. The Reserve development owns and operates their own water and wastewater treatment facilities. In addition the Reserve development is partially served by the St. Lucie West Services District and is not currently provided any water and wastewater services by PSLUSD.

### ***2.1.4 Other Unincorporated Areas***

Unincorporated residents not receiving potable water from the County, Cities or Private Utilities obtain water from private wells or through small self supply facilities including mobile home parks or water associations.

### ***2.1.5 Summary***

Since the City of Port St. Lucie current does not provide potable water services to the St. Lucie West or the Reserve service areas, the City does not currently have any water supply plans for these areas, nor anticipates any in the near future. The City of Port St. Lucie assumes that the St. Lucie West Services District has sufficient water supply plans to meet the similar requirements for the District's 10-Year Plan and have submitted their own water supply plan to the South Florida Water Management District under separate cover.

Consistent with SFWMD policies, the City has separate Inter-local Agreements with four neighboring utilities that allow for emergency potable water interconnections with those utilities through certain existing metered connection sites. The subject agreements are with:

- a. St. Lucie West Services District - two 12" connections
- b. Fort Pierce Utilities Authority (FPUA) - one 12" connection
- c. St. Lucie County Utilities - one 12" connection
- d. Martin County Utilities - one 4" connection

Water can flow into the City's system to supplement water produced by the City's water treatment facilities and the reverse can occur whereby the City can provide emergency potable water to any of the other utilities. The interconnections with FPUA, St. Lucie County, and Martin County have not been used in more than 10 years. The interconnection with St. Lucie West Services District was activated for a several month period in 2005 after the St. Lucie West system encountered a catastrophic failure.

## 2.2 Water Supply Sources

The City of Port St. Lucie's raw water supply is currently provided from two groundwater supplies known as the surficial aquifer and brackish Floridan Aquifer. The withdrawal rates from both aquifers are limited per the Consumptive Use Permit 56-00142-W issued in January 12, 2005 and will expire in 2025 (Appendix A). The total annual allocation is not to exceed 12,757 MG (34.95 MGD) and the monthly allocation is not to exceed 1,332.5 MG (43.80 MGD). On April 25, 2005, the City submitted an application to modify their current permit. This permit application is currently undergoing technical review by District staff. In addition, there is an additional permit application to add an additional Floridan Aquifer Well Field, which is also under review by District staff.

### 2.2.1 Surficial Aquifer

Originally constructed in the 1960s and 1970s by General Development Utilities, the groundwater supply for the original Prineville Lime Softening WTP facility is from the surficial aquifer. Raw water supply from the surficial aquifer is currently withdrawn from a combination of thirty-four (34) shallow wells. The locations of the wells are presented in **Figures 3 to 5**. These wells supply raw water to the Prineville Lime Softening WTP and are further described in **Table 1** below. The withdrawal limitations from the surficial aquifer are as follows per the current Consumptive Use Permit:

- Annual allocation: 1,825 MG (5 MGD)
- Monthly allocation: 186 MG (6.11 MGD)

### 2.2.2 Brackish Groundwater

The second groundwater supply for the City's potable water system is from the upper Floridan Aquifer. The Floridan Aquifer groundwater is a brackish groundwater and is considered an alternative water supply since the chloride contents are more than 1,000 mg/L. Withdrawals of the Floridan Aquifer groundwater are from twelve (12) existing and six (6) under construction and/or proposed wells. Six of the twelve existing raw water wells supply brackish groundwater to the Prineville Reverse Osmosis WTP (**Figure 3**) and the other six existing wells supply water to the James E. Anderson (JEA) WTP (**Figure 4**).

The withdrawal limitations from the Floridan Aquifer are as follows per the current Consumptive Use Permit:

- Annual allocation: 10,932 MG (29.95 MGD)
- Monthly allocation: 1,146.5 MG (37.69 MGD)

**Table 1. Well Description**

<b>Well Diameter</b>	<b>Total Depth</b>	<b>Cased Depth</b>	<b>Pump Capacity</b>	<b>Well ID #</b>	<b>Status</b>
inch	ft	ft	gpm		
<i>Surficial Aquifer</i>					
16	95	60	600	1	Existing
16	103	45	200	2	Existing
16	90	45	400	3	Existing
16	114	79	125	4	Existing
16	111	76	275	6	Existing
16	111	69.5	265	7	Existing
16	111	75	200	8	Existing
16	110	65	320	9	Existing
16	110	70	320	10	Existing
16	111	71	180	11	Existing
16	111	71	225	12	Existing
16	99.5	54.5	190	13	Existing
16	100	60	300	14	Existing
16	99.5	64.5	300	15	Existing
16	90	55	300	16	Existing
16	110	55	300	17	Existing
16	95	50	100	18	Existing
16	95	60	275	19	Existing
16	105	57	350	20	Existing
16	99.5	59	300	22	Existing
12	107	23	120	24	Existing
12	111	61	140	25	Existing
24	85	52	180	26	Existing
20	100	60	350	27	Proposed
12	107	23	500	28	Existing
12	99	40	350	29	Existing
20	100	60	350	30	Proposed
20	100	60	350	31	Proposed
12	103	60	230	32	Existing
12	84	51	220	33	Existing
24	90	67	365	34	Existing
20	100	60	350	35	Proposed
24	91	63	515	36	Existing
24	97	64	520	37	Existing
<b>Floridan Aquifer</b>					
16	1,350	650	1,700	F-1	Existing
17	1,350	650	1,700	F-2, F-3, F-5, F-6	Existing
20	1,350	650	1,700	F-4, F-7, F-8, F-9	Existing
17	1,350	750	1,780	F-10 to F-12	Existing
17	1,350	750	1,780	F-13 to F-18	Proposed

## 2.3 Water Supply Facilities

The two groundwater sources are treated by three existing water treatment facilities (WTFs) to meet the City's potable water needs: the Prineville Lime Softening WTF, the Prineville Reverse Osmosis (RO) WTF and the James E. Anderson Reverse Osmosis WTF.

The Prineville Lime Softening WTF was originally constructed in 1963, and has since undergone a sequence of modifications over the past forty plus years. The Prineville RO facility was originally constructed in 1999, and was expanded in 2003 to its build-out design capacity. Capacity details are presented in **Table 2**.

The James E. Anderson RO WTF was initially constructed in 2005, and future expansion can be completed by adding additional raw water supply wells, RO skids, and other associated equipment. Following the completion of construction of both Phases II & III, the treatment capacity is now 10.0 MGD. The JEA RO WTF is currently being expanded to a build-out water treatment capacity of 22.5 MGD (**Table 2**).

**Table 2. Summary of Existing Water Treatment Facilities**

Description	Prineville WTF – Lime Softening	Prineville WTF – Reverse Osmosis	James E. Anderson WTF
Source Supply	Surficial Aquifer	Floridan Aquifer	Floridan Aquifer
Rated Permit Capacity in maximum daily flow (MDF - MGD)	8.0	11.15	10.0
Build-out Capacity (MGD)	8.0	11.15	22.5
Storage Capacity (MG)	0.6	5.0	8.0
Build-out Storage Capacity (MG)	0.6	8.0	12.0
Design Pump Capacity (MGD)	19.45	14.40	12.10

## 2.4 Finished Water Storage and Distribution

In addition to the water treatment facilities, the City has several remote potable (finished water) water storage and repump facilities known as the Midport Repump, Westport Repump, and Southport Repump Stations. These remote repump facilities are needed in order to maintain minimum residual pressure throughout the distribution system (**Table 3**).

**Table 3. Summary of Existing Water Repump Stations**

Description	Midport Repump	Southport Repump	Westport Repump
Existing Storage Capacity (MG)	1.50	3.00	2.00
Build-out Storage Capacity (MG)	3.50	6.00	4.00
Design Pump Capacity (MGD)	5.76	7.77	6.05

Potable water is distributed to the City’s customers via high service pumps, re-pump stations, and water transmission and distribution mains. The water transmission and distribution system consists of water mains ranging in size from four inches (4-inch) to thirty-six inches (36-inch) in diameter. The transmission system includes 10-inch diameter and larger pipes, while the distribution system includes 8-inch diameter and smaller pipes. The City has several emergency potable water interconnects that can flow water into or out of the system including at St. Lucie West along both California Boulevard and Cashmere Boulevard, Fort Pierce Utility Authority at St. James Drive and Midway Road, Martin County Utilities at Bakersfield Street, and with St. Lucie County at Glades Cut-Off Road and Midway Road. The existing water transmission and distribution system is shown on **Figure 5**.

**2.5 Wastewater Treatment / Reclaimed Water Facilities**

The City’s wastewater system is currently served by three wastewater treatment facilities (WWTFs). These WWTFs are Southport WWTF, Westport WWTF and the Glades WWTF, which are detailed in **Table 4**.

Effluent disposal practices at the WWTFs consist of reuse of reclaimed water, deep well injection, and rapid infiltration basins (RIBS). A portion of Southport WWTF’s effluent is utilized for irrigation at the nearby Ballantrae Golf Course, and Westport WWTF provides reuse water for irrigation purposes to the nearby Tesoro Development. Additionally, the new Glades WWTF has been designed to provide reclaimed water for irrigation purposes. The City recently contracted with Copper Creek and Verano for reclaimed water irrigation services.

The City of Port St. Lucie has plans to sequentially expand the Westport WWTF to a build-out capacity of 16.0 MGD. As expansions occur, the Southport WWTF will divert flows exceeding 1.0 MGD to Westport WWTF until 2012. Then the Southport WWTF will be phased-out and all raw flows will be diverted to the Westport WWTF. Additionally, the City is planning to expand the Glades WWTF to a build-out capacity of 24 MGD.

**Table 4. Summary of Existing Wastewater Treatment Facilities**

Description	Glades WWTF	Westport WWTF	Southport WWTF
Existing Treatment Capacity (MGD)	6.0	4.0	2.8
Build-out Treatment Capacity (MGD)	24.0	16.0	0.0 (decommissioning in 2012)

## 2.6 Conservation

The City's water conservation program complies with the conditions imposed by South Florida Water Management District in its Water Use Permit, No. 56-00142-W. The plan for the City to comply with the District conditions have been strengthened by the adoption of several City Codes (Code excerpts 65.01 and 65.02 presented in Appendix B). The City has also implemented and is enforcing water use restrictions as stated in the Code excerpt 65.04 to 65.07 (Water Shortage Codes). The specific elements of the water conservation plan are as follows:

1. A new rate structure has been implemented by the City in a string effort to promote water conservation. The water rate increases by 20% and 40% of the basic rate for consumption higher than 5,000 and 12,000 gallons per connection and per month, respectively.
2. The City's Code of Ordinances specifies that State building codes are followed and Section 604.4 of the State Plumbing code specifies maximum flow rates and consumption from plumbing fixtures and fittings in new construction.
3. The City is operating and maintaining their water facilities and water distribution system such that the unaccounted water loss has been averaging approximately 8 %.
4. The City has also implemented a Water Conservation Education Program and holds activities related to National Water Week through the American Water Works Association (AWWA), such as elementary school education and slogan contests.
5. The City is implementing a comprehensive reclaimed water program that has a goal to optimize the use of reclaimed water by meeting reclaimed water quality standards at the wastewater treatment facilities and by constructing reclaimed water mains in the western side of the City.

## SECTION 3.0 LAND USE, POPULATION & WATER PROJECTIONS

### 3.1 Future Land Use

The predominant land use in the City has been low density residential, commercial use and industrial use. Historically, lands in the surrounding areas to the west of the City were utilized for agricultural and farming purposes. However, the growth trends in land development have recently shifted the western area of the City towards a greater mix of residential and commercial. The current land use designations are shown in **Table 5**.

**Table 5. Listing of Current Land Use Designations (Zoning Districts)**

Code	Description
CG	General Commercial
CH	Highway Commercial
CN	Neighborhood Commercial
CS	Service Commercial
GU	General Use
I	Institutional
IN	Industrial
LMD	Limited Mixed
OSC	Open Space Conservation
OSR	Open Space Recreational
P	Professional
PUD	Planned Unit Development
RE	Estate Residential
RM-5, RM-8, RM-11, RM-15	Multiple Family Residential
RMH	Mobile Family Residential
RS-1, RS-2, RS-3	Single-Family Residential
WI	Warehouse Industrial

Source: City and County GIS Parcel Data

While existing land use is helpful for existing analyses, long range master planning is based on future land use. Areas within the City are subject to land use changes, which has occurred with the planned City Center development. Future land use designations are utilized in master planning to assist in the development of the build-out wastewater flow and potable water demand projections. The City's Planning and Zoning Department maintains a future land use map as presented in **Figure 6**. The future land use map was developed in March 2004 and is subject to continuous updating by the City. Land use for the proposed large developments west of I-95 was acquired in tabular or flat map format from the individual developers in 2004 through 2006.

### 3.2 Population Projection

In recent years the City of Port St. Lucie has experienced unprecedented accelerated growth trends. The City population grew almost 60% in the 1990s to reach 89,000 residents in 2000. The very high growth rate continued and the City soon reached 100,000 residents in 2002, 118,396 in July 2004 and 155,000 in December 2006. This growth trend was taken into consideration when determining the water and wastewater projections. Growth within the PSLUSD service area is expected to occur in two general areas:

1. In-fill of property within existing developed areas.
2. Large undeveloped tracts of land located primarily west of Interstate 95.

With the tremendous growth in the City for the past decade, standard population projections, such as BEBR and other typically accepted methods have fallen significantly short of the actual numbers recorded. As such, the City of Port St. Lucie commissioned a population study to review the historical trends and develop detailed and specific projections. These population projections for the City of Port St. Lucie were performed by Fishkind & Associates, 2007 (see Appendix C) and have been reviewed by the DCA for approval. These projections are also the basis of the current South Florida Water Management District Consumptive Use Permit. The Utility Service Area population forecast is the sum of development potential in the areas including "Old City" (east of I-95), Municipal Areas West of I-95, DRI areas, and the Northeast Utility Service Area. The population forecasts are fundamentally driven by known, planned residential development and average historic growth in the Old City (all assumptions being presented in Appendix C). Permanent population derived from the residential development is determined by applying a household size and subtracting the seasonal component. Peak population includes permanent population plus population expected in the seasonal units.

The population projections are presented below in **Table 6** from 2010 to 2035 with 5-year increments. The Table also includes the historical population data from years 2005 and 2006. As mentioned earlier, the City observed accelerated growth in the past few years such that the 2006 population already matches the population for 2015 projected in 2005 by SFWMD. This demonstrates that City growth has outpaced past projections.

**Table 6. Population Projections**

	2005	2006	2010	2015	2020	2025	2030	2035
Old City	124,311	141,203	168,417	199,750	228,440	234,176	234,176	234,176
Municipal West of I-95 (PUDs)	996	1,379	2,972	5,637	9,570	13,558	13,558	13,558
DRI Area	1,385	1,907	6,438	25,544	52,458	85,576	114,642	135,063
Northeast Utility Area	11,104	11,229	12,353	12,887	12,887	12,887	12,887	12,887
Total Utility Service Area*	137,796	155,718	190,180	243,819	303,356	346,197	375,263	395,684
<b>Peak Utility Service Area**</b>	<b>143,318</b>	<b>161,814</b>	<b>197,235</b>	<b>252,266</b>	<b>313,331</b>	<b>357,058</b>	<b>386,668</b>	<b>407,472</b>

\* note: this area excludes St. Lucie West and The Reserve

\*\* note: peak population includes permanent and seasonal residents

### 3.3 Water Demand Projections

The potable water demand projections for the City’s Utility Service Area were based on the population projections and the historical per capita potable water usage. An assessment of water demand for the past 5 years has shown that the average daily consumption per capita is approximately 115 gallons (see Appendix D). Table D-1 provides a summary of the total finished water utilized for the service for the years 2002 to 2006. The table also summarizes the actual number of residential accounts within the City’s service area and utilizes a historical per home population index to estimate service area population. The per capita value of 115 gallons per day is actually a “total” value and includes residential, commercial and unaccounted for water usage. As shown in Table D-2, residential usage of accounted for water is approximately 78 percent and commercial usage is approximately 22 percent. Applying these percentages to the total finished water usage yields the following:

Residential Usage	72 %
Commercial Usage	20%
Unaccounted for Water	8 %

The information summarized above (as detailed in Appendix D) presents historical potable water use in the City of Port St. Lucie for the past five years. This calculation was performed in order to disaggregate water demands from both the commercial and residential sectors, as well as to determine a per capita water use factor based on historical water usage. These calculations are not intended to change the level of service requirements currently found within the City's Comprehensive Plan. Instead, this calculation was required by the South Florida Water Management District as a part of the City’s Consumptive Use Permit in order to accurately project future water demands.

Using the recently updated population projections for the City and the per capita water demand value of 115 gpcd, the water projections were developed and are shown in **Table 7**.

**Table 7. Water Demand and Surplus/Deficit Projections**

	2005	2006	2010	2015	2020	2025	2030	2035
Peak Season Utility Service Area Population Projection	143,318	161,814	197,235	252,266	313,331	357,058	386,668	407,472
Water Demand Projections (MGD-AADD)	--	--	22.68	29.01	36.03	41.06	44.47	46.86
Surficial groundwater allocation (build-out) (MGD-AADD)	--	--	5.00	5.00	5.00	5.00	5.00	5.00
Floridan groundwater allocation needed (MGD-AADD)*	--	--	22.10	30.01	38.79	45.08	49.33	52.32
Current Water Supply FA Capacity (MGD-AADD)	--	--	29.95	29.95	29.95	29.95	29.95	29.95
<b>Surplus/Deficit</b>	--	--	7.85	-0.06	-8.84	-15.13	-19.38	-22.37

FA: Floridan Aquifer

\* This is equal to the demand minus surficial groundwater allocation. The value is then divided by 0.8, since the treatment consists of treating the FA groundwater with a reverse osmosis process which is based on an 80% recovery of the total quantity of raw water supply used.

It is important to note, the City of Port St. Lucie is aware that water supply demands presented above in Table 7 are not consistent with the demand projections presented in the Water Management District's "2006 Upper East Coast Water Supply Plan Amendment". The projections in this 2007 Work Plan for the City of Port St. Lucie are significantly higher than the projections presented in the "2006 Upper East Coast Water Supply Plan Amendment". The water demand projections in this UEC Water Supply Plan were prepared prior to the development and publishing of this study. The City intends to further coordinate this data with the District, following the approval of this initial 2007 Plan.

## SECTION 4.0 10-YEAR WORK PLAN

Based on the water demand projections, it is anticipated that the City of Port St. Lucie will need to implement the construction of additional water supply wells, additional treatment facilities and additional water delivery infrastructures to ensure that safe and reliable drinking water is supplied to the existing and future customers to meet projected potable water demands. In addition, the City is currently implementing a comprehensive reuse system in order to conserve water and replenish the aquifer.

### 4.1 Water Supply Improvement

As mentioned earlier, potable water is currently supplied to the City's WTPs via wells which withdraw groundwater from the surficial aquifer and from the Floridan Aquifer, as summarized in **Table 1** and discussed in detail in Section 2.0. The City is planning on withdrawing additional brackish groundwater supply from the Floridan Aquifer to meet short term and long term (up to 2035) water demands as long as there are no significant environmental impacts.

- The City has been using brackish Floridan Aquifer since 1999 to supply water to two of the three City's Water Treatment Facilities. The City plans on meeting future water demands by expanding the brackish groundwater supply. The City does not plan on expanding the traditional source supply (surficial groundwater).
- The City is continuing to implement a comprehensive reuse system in order to maximize the use of reclaimed water and therefore offset some of the drinking water demand through irrigation.

#### 4.1.1 Alternative Source Water Supply

Plans for additional brackish groundwater supply well capital improvements for the next 10 years are as follows:

- Six (6) new groundwater supply wells will be installed as approved per the current CUP:
  - Wells #F-13 through F-18 at the James E. Anderson Wellfield were designed and constructed to have a rated capacity of 1,780 gpm each. These wells are anticipated to be completed in late 2007.
- Seven (7) new groundwater supply wells will be installed (**Figure 7**):
  - Wells #PF-21 through #PF-27 are currently planned to be located at the proposed Southwest Wellfield, which will ultimately provide raw water supply for the future Rangeline Reverse Osmosis WTP. Each well will have a rated capacity of 1,780 gpm. These wells are anticipated to be completed by 2015. Note that Figure 7 shows well locations for Rangeline buildout in 2025 (PF-21 to PF-37).

### **4.1.2 Traditional Source**

Plans for traditional groundwater supply well capital improvements are as follows:

- Four (4) new wells will be installed as approved per the existing CUP:
  - Wells 27, 30, 31 and 35 at the Prineville Wellfield to replace existing wells, however, there is no increase in pumping capacity.

### **4.2 Water Treatment Facilities**

Facility improvement projects include expansion of an existing facility and construction of a new facility. Plans for water facilities capital improvements are as follows:

- Expansion of the James E. Anderson Water Treatment Facility:
  - Expansion from 10.0 to 22.5 MGD of the JEA WTF to be completed by Spring 2008. This expansion will result in the production of 22.5 MGD of finished water by treating brackish groundwater to meet the future water demand.
- Construction of the Rangeline Water Treatment Facility:
  - Construction of the Rangeline Water Facility Phase I storage and repump station to be completed by the end of 2008 or early 2009.
  - Expansion of the Rangeline Water Treatment Facility Phase II from 0 to 10 MGD reverse osmosis treatment facility to be completed by 2015. This expansion will result in the production of 10.0 MGD of finished water by treating brackish groundwater to meet the future water demand.

### **4.3 Storage and High Service Pumps**

The City recently completed the rehabilitation and capacity increase of the Southport Storage and Repump Station and the plans for storage and repumping facilities are as follows:

- Rehabilitation and capacity increase of the Midport Repump Station to be completed by 2008.
- Capacity increase of the Westport Storage and Repump Station to be completed by 2014.

The following Schematic presents a timeline summary for the supply, treatment and storage infrastructure improvements for the City of Port St. Lucie for the next 10 years.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Wells</b>											
Prineville WTF Wellfield	◆	◆	◆								
JEA WTF Wellfield	◆	◆	◆								
Rangeline WTF Wellfield								◆	◆	◆	
<b>Treatment Facilities</b>											
<b>JEA WTF</b>											
Expansion from 10 to 22.5 MGD	◆	◆	◆								
Rangeline WTF											
<b>Repump Station</b>											
Expansion to 10 MGD							◆	◆	◆	◆	
<b>Storage/Pumping</b>											
<b>Midport Repump</b>											
Midport Repump	◆	◆	◆								
<b>Westport Repump</b>											
Westport Repump							◆	◆	◆		

#### 4.4 Distribution System Improvement

Numerous projects for expansion and maintenance of the existing potable water distribution system are included in the City's current CIP program, covering efforts in almost all of the major service areas. A majority of the new construction and upsizing of existing lines is planned for the fast-growing western service area, and are included in **Table 8**. It is important to note that Table 8 includes both projects to be funded by the City and projects that will actually be funded by the developers. It should also be noted that only the projects funded by the City have associated costs estimates. The timing of the Developer funded projects have been assumed based on previous information provided by the Planning Department and the developers. The actual timing of these developments is assumed to be based on the current and future housing market.

#### 4.5 Reuse Distribution System Improvement

The City is planning expansion of its public access reuse system to additional customers including provision of reuse water to several new developments in the Western side of the City. The City requires all new development to install reuse distribution lines. Reuse of reclaimed water provides utilities benefits in terms of conserving potable water, reduction of effluent discharge, effective water management, and recharge of potable quality aquifers in accordance with the goals and objectives of the SFWMD's RWSP.

Numerous projects for expansion and maintenance of the existing reuse water distribution system are included in the City's current CIP program. In addition, the City is requesting developers to install reclaimed water-distribution mains in the new development areas. A majority of the new construction and upsizing of existing lines is planned for the fast-growing western area.

**Table 8. Recommended Water Delivery Capital Improvement Project Summary**

Year in Operation	Project Name	Cost Estimates	Funding***
<b>2008 -2012</b>			
2008	West Virginia WM Phase 2	\$2,737,000	2005 Bond
2008	Crosstown Parkway WM	\$4,418,000	2005 Bond
2008	Midport Repump Expansion – Storage and Repump Upgrade	\$2,500,000	2006 Bond
2008	Rangeline WTP – Phase I	\$12,200,000	2006 Bond
2008	JE Anderson 22.5 MGD Expansion*	\$25,959,000	2006 Bond
2008	New Development WM - Traditions/Montage Phase 1A	\$2,286,000	Developer
2008	New Development & Site WM - Various Areas	\$6,889,000	Developer
2008	Midway Rd WM	\$1,801,000	Developer
2008	New Development WM	\$3,559,000	Developer
2010	New Development WM-Southern Grove/Tradition Ph. 1B	\$11,228,000	Developer
2010	New Development WM-Southern Grove/Tradition Ph. 2	\$10,777,000	Developer
2010	New Development WM - Eastern Areas	\$2,916,000	Developer
2010	New Development WM - Eastern Areas	\$6,456,000	Developer
2010	East Snow Rd. WM	\$1,077,000	Developer
2010	Walton Rd. WM	\$417,000	Developer
2010	New Development WM-Kenco/Kennedy Grv./Wilson Grv.	\$10,390,000	Developer
2010	New Development WM - Verano	\$3,767,000	Developer
2010	Glades Cutoff Developer Extension	\$833,000	Developer
2010	New Development WM - Eastern Areas	\$1,480,000	Developer
2010	New Development WM-Southern Grove/ Tradition Ph. 1B	\$1,770,000	Developer
2010	New Development WM - North Pointe	\$2,422,000	Developer
<b>2013 -2017</b>			
2013	Belcrest St. WM	\$675,000	City
2013	Prineville Sandia - South WM	\$1,725,000	City
2013	Crosstown Parkway WM	\$4,418,000	City
2013	JE Anderson Rear WM Phase 1	\$2,097,000	City
2013	Westport South WM	\$508,000	City
2013	Lennard Rd. Area WM	\$1,044,000	City
2014	Peru St. WM	\$110,000	City
2014	Misc. Small WM-Crosspoint Dr, Morningsidel	\$633,000	City
2014	JE Anderson Rear WM Phase 2	\$2,288,000	City
2014	Westport Repump Expansion - Storage and Pump Upgrade	\$3,807,000	City
2015	Rangeline WTF Phase II Expansion from 0 to 10 mgd **	\$38,829,000	City
2015	New Development WM - Not Determined	\$7,348,000	Developer
2015	Westport Fill WM	\$5,267,000	City
2015	Westport Pumpout WM	\$264,000	City
2015	Northwestern Area City Piping	\$381,000	City

WM: water main. The water main will be constructed to transport finished water to new developments

\* Expansion from 10 to 22.5 MGD using brackish groundwater as source water to meet future water demand

\*\* Expansion from 0 to 10 MGD using brackish groundwater as source water to meet future water demand

\*\*\* “Developer” indicates that projects are funded by the developer through an enforceable development agreement

#### 4.6 Conservation

The City plans on continuing its effort to conserve water as explained in Section 2.0 and by implementing other plan elements that the District requires the City to perform. As recommended by the SFWMD, the City plans to adopt a water conservation policy based on *Conserve Florida Goal Based Guidelines* to establish an effective, long term water conservation plan through the employment of specific measurable objectives.

**APPENDIX A**  
**CONSUMPTIVE USE PERMIT**

**APPENDIX B**  
**CODE EXCERPTS**

**APPENDIX C**  
**POPULATION PROJECTIONS**

## **APPENDIX D**

### **WATER CONSUMPTION PER CAPITA DATA**

**Table D-1**

**CITY OF PORT ST. LUCIE  
ESTIMATED ANNUAL POPULATION AND WATER USE PER CAPITA RATES**

	Active Used Residential Accounts	Served Population	Total to All Customers (MGD)	Scrubber Water (MGD)	Instruments Water (MGD)	Total Water Used (MGD)	Per Capita Rates (gpcd)
Jan-02	22,027	56,169	7.830	0.07	0.14	8.040	124
Dec-02	28,971	73,876					
Average-02	25,499	65,022					
Dec-02	28,971	73,876	8.727	0.07	0.14	8.937	112
Dec-03	33,724	85,996					
Average-03	31,348	79,936					
Dec-03	33,724	85,996	9.913	0.07	0.14	10.123	108
Dec-04	39,669	101,156					
Average-04	36,697	93,576					
Dec-04	39,669	101,156	12.543	0.07	0.14	12.753	114
Dec-05	48,195	122,897					
Average-05	43,932	112,027					
Dec-05	48,195	122,897	15.362	0.07	0.14	15.572	116
Dec-06	57,276	146,054					
Average-06	52,736	134,476					

5-Year Average    115

**TABLE D-2  
CITY OF PORT ST. LUCIE  
COMMERCIAL AND RESIDENTIAL WATER USE DISTRIBUTION**

	2002	2003	2004	2005	Average
<b>Residential</b>	4,756,282	5,583,737	6,878,542	7,796,970	78%
<b>Residential %</b>	76.27%	76.50%	78.00%	79.87%	
<b>Commercial</b>	1,479,992	1,715,712	1,940,447	1,965,118	22%
<b>Commercial %</b>	23.73%	23.50%	22.00%	20.13%	
<b>Total</b>	6,236,274	7,299,449	8,818,989	9,762,088	100.00%



CITY OF PORT ST. LUCIE



**CITY OF PORT SAINT LUCIE, FLORIDA**

**WATER SUPPLY FACILITY WORK PLAN**

**PREPARED FOR:  
CITY OF PORT ST. LUCIE**

**PREPARED BY:**

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REI PROJECT No. 5505**

**JULY 2007 (ORIGINAL)  
NOVEMBER 2007 (REVISED)**

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# SECTION 1.0 INTRODUCTION

## 1.1 Background

The City of Port St. Lucie has prepared this 10-Year Water Supply Facility Work Plan (Work Plan) to provide the information necessary to meet the criteria set forth by the State Legislature. This Work Plan addresses potable water supply and demand for the City's utility service area for 2008 through to the year 2017, which is the current 10-year planning period. This Work Plan will be reviewed on an annual basis and updated every five years to coincide with the Upper East Coast (UEC) Planning Area Regional Water Supply Plan (RWSP) update by South Florida Water Management District (SFWMD).

In 2002, 2004, and 2005, the Florida Legislature expanded the requirements for local governments in preparing Comprehensive Plans. These regulatory changes were designed to strengthen coordination of water supply planning with local land use planning, in response to concerns that the limits of groundwater are being approached in many areas of the State. The legislation directed that alternative water supplies be identified, quantified and developed by affected municipalities, with additional requirements in addition to the implementation of local water conservation strategies and Florida Department of Environmental Protection (FDEP) permitted water reuse programs.

A requirement of the 2005 legislation is the completion of a 10-Year Water Supply Facilities Work Plan (Work Plan) by all counties and cities within the UEC Planning Area. The UEC Planning Area is one of the four planning areas in the South Florida Water Management District's boundary for which water supply plans are prepared. The UEC Planning Area consists of St. Lucie and Martin counties and eastern Okeechobee County. SFWMD approved the 2006 UEC Water Supply Plan Amendment (2006 UEC Plan Amendment) on July 12, 2006. The 2006 UEC Plan Amendment amends the RWSP for the UEC Planning Area to meet the requirements of the 2005 legislation. Per the 2005 legislation, all the local governments within the UEC Planning Area have 18 months from the regional water supply plan update to develop a Work Plan and amend their respective Comprehensive Plans. The deadline to have the Work Plan completed including all necessary review and approval processes is January 12, 2008.

The local governments' Work Plan must project water demands for at least a 10-year period, and must demonstrate that the current and planned water supply facilities and source(s) of water will meet the projected demands. The Work Plan must also be adopted as part of the Potable Water Sub-Element of the community's Comprehensive Plan. The Capital Improvements Element must also be amended to include projects listed in the first five years of the ten-year Work Plan, as well as the text of other Plan elements, as appropriate. The Work Plan must be approved by the Department of Community Affairs (DCA).

This document and the information contained herein will serve as the Water Supply Facilities Work Plan for the City of Port St Lucie to meet these requirements. This document will be incorporated into the City's Comprehensive Plan, as well as coinciding with the other related Elements.

## **1.2 Overview of the Regional Water Supply Plan**

SFWMD prepared the original Regional Water Supply Plan for the UEC Planning Area in 1998. This Regional Supply Plan was updated in 2004 and again in 2006, in order to take into account recent population growth and provide important information to local governments concerning revisions to state law requirements relevant to water supply planning. The UEC Planning Area's projected population growth over the next 20 years indicates that there will be a significant increase in the region's public water demands, particularly in the urban sector. According to the UEC Regional Supply Plan, the UEC Region's total population is expected to increase from 320,664 in 2000 to about 584,927 residents by 2025. Development of alternative water supplies will play a vitally important role in meeting these projected water needs, as further development of traditional supplies becomes increasingly limited.

## SECTION 2.0 EXISTING CONDITIONS

### 2.1 Summary of City Potable Water Providers

The City of Port St. Lucie (City) is located in St. Lucie County (County). **Figure 1** shows the delineation of the various public and private potable water service areas in the City. Within the City's current water service area boundary, potable water is produced or supplied by the following jurisdictional and private water utilities:

- Port St. Lucie Utility Systems Department
- St. Lucie West Services District
- The Reserve

It is important to note that the Reserve property is not currently within the city limits for Port St. Lucie and is supplied by St. Lucie West Services District's system.

#### ***2.1.1 Port St. Lucie Utility Systems Department***

The City's utility service area is currently comprised of approximately 132 square miles, including the entire city limits and some unincorporated areas of St. Lucie County adjacent to the city limits. As shown in **Figure 1**, this service area is bordered to the north by Midway Road, to the east by the Indian River, to the west by Rangeline Road and to the south by the St. Lucie County southern boundary. The current system, as of June 2007, is comprised of approximately 63,177 active water connections and 44,020 active wastewater connections.

With the 2004 annexation of roughly 42 square miles west of Interstate 95, approximately one third of the current 132 square mile service area is undeveloped and has several large, planned communities scheduled for immediate construction. These large developments, along with other major developments in the City, are also depicted in **Figure 1**.

The City currently owns its potable water, wastewater, and reuse systems, which are operated and maintained by the City's Utility Systems Department. The existing potable water system consists of three (3) water supply and treatment facilities, three (3) water storage and re-pump stations, and transmission and distribution infrastructure. The wastewater system consists of a network of gravity collection, low pressure force mains, lift stations force mains, three (3) regional wastewater treatment facilities and effluent disposal facilities, consisting of reclaimed water and deep injection wells. The City's water and wastewater treatment facilities are located on **Figure 2**.

#### ***2.1.2 St. Lucie West Services District***

The St. Lucie West Services District provides potable water for its seven square mile service area. The water supply for the St. Lucie West WTP facility is withdrawn from the brackish Floridan aquifer with treatment provided by a reverse osmosis (RO) water treatment plant. The

brine concentrate from this process, which is approximately twenty five (25) percent of the raw water processed, is disposed of by deep well injection at the District's privately owned and operated wastewater treatment plant. The St. Lucie West Water Treatment Plant facilities are not owned or operated by the Port St. Lucie Utility Systems Department (PSLUSD). They are owned and operated by the St. Lucie West Services District. However, PSLUSD has two (2) emergency potable water inter-connections with St. Lucie West that were used extensively in 2005 to serve all of its customers with potable water due to an issue with St. Lucie West's water treatment plant.

### ***2.1.3 The Reserve***

The Reserve, a large development surrounded by City limits, is also outside the Port St. Lucie Utility Systems Department (PSLUSD) service area. The Reserve development owns and operates their own water and wastewater treatment facilities. In addition the Reserve development is partially served by the St. Lucie West Services District and is not currently provided any water and wastewater services by PSLUSD.

### ***2.1.4 Other Unincorporated Areas***

Unincorporated residents not receiving potable water from the County, Cities or Private Utilities obtain water from private wells or through small self supply facilities including mobile home parks or water associations.

### ***2.1.5 Summary***

Since the City of Port St. Lucie current does not provide potable water services to the St. Lucie West or the Reserve service areas, the City does not currently have any water supply plans for these areas, nor anticipates any in the near future. The City of Port St. Lucie assumes that the St. Lucie West Services District has sufficient water supply plans to meet the similar requirements for the District's 10-Year Plan and have submitted their own water supply plan to the South Florida Water Management District under separate cover.

Consistent with SFWMD policies, the City has separate Inter-local Agreements with four neighboring utilities that allow for emergency potable water interconnections with those utilities through certain existing metered connection sites. The subject agreements are with:

- a. St. Lucie West Services District - two 12" connections
- b. Fort Pierce Utilities Authority (FPUA) - one 12" connection
- c. St. Lucie County Utilities - one 12" connection
- d. Martin County Utilities - one 4" connection

Water can flow into the City's system to supplement water produced by the City's water treatment facilities and the reverse can occur whereby the City can provide emergency potable water to any of the other utilities. The interconnections with FPUA, St. Lucie County, and Martin County have not been used in more than 10 years. The interconnection with St. Lucie West Services District was activated for a several month period in 2005 after the St. Lucie West system encountered a catastrophic failure.

## 2.2 Water Supply Sources

The City of Port St. Lucie's raw water supply is currently provided from two groundwater supplies known as the surficial aquifer and brackish Floridan Aquifer. The withdrawal rates from both aquifers are limited per the Consumptive Use Permit 56-00142-W issued in January 12, 2005 and will expire in 2025 (Appendix A). The total annual allocation is not to exceed 12,757 MG (34.95 MGD) and the monthly allocation is not to exceed 1,332.5 MG (43.80 MGD). On April 25, 2005, the City submitted an application to modify their current permit. This permit application is currently undergoing technical review by District staff. In addition, there is an additional permit application to add an additional Floridan Aquifer Well Field, which is also under review by District staff.

### 2.2.1 Surficial Aquifer

Originally constructed in the 1960s and 1970s by General Development Utilities, the groundwater supply for the original Prineville Lime Softening WTP facility is from the surficial aquifer. Raw water supply from the surficial aquifer is currently withdrawn from a combination of thirty-four (34) shallow wells. The locations of the wells are presented in **Figures 3 to 5**. These wells supply raw water to the Prineville Lime Softening WTP and are further described in **Table 1** below. The withdrawal limitations from the surficial aquifer are as follows per the current Consumptive Use Permit:

- Annual allocation: 1,825 MG (5 MGD)
- Monthly allocation: 186 MG (6.11 MGD)

### 2.2.2 Brackish Groundwater

The second groundwater supply for the City's potable water system is from the upper Floridan Aquifer. The Floridan Aquifer groundwater is a brackish groundwater and is considered an alternative water supply since the chloride contents are more than 1,000 mg/L. Withdrawals of the Floridan Aquifer groundwater are from twelve (12) existing and six (6) under construction and/or proposed wells. Six of the twelve existing raw water wells supply brackish groundwater to the Prineville Reverse Osmosis WTP (**Figure 3**) and the other six existing wells supply water to the James E. Anderson (JEA) WTP (**Figure 4**).

The withdrawal limitations from the Floridan Aquifer are as follows per the current Consumptive Use Permit:

- Annual allocation: 10,932 MG (29.95 MGD)
- Monthly allocation: 1,146.5 MG (37.69 MGD)

**Table 1. Well Description**

<b>Well Diameter</b>	<b>Total Depth</b>	<b>Cased Depth</b>	<b>Pump Capacity</b>	<b>Well ID #</b>	<b>Status</b>
inch	ft	ft	gpm		
<i>Surficial Aquifer</i>					
16	95	60	600	1	Existing
16	103	45	200	2	Existing
16	90	45	400	3	Existing
16	114	79	125	4	Existing
16	111	76	275	6	Existing
16	111	69.5	265	7	Existing
16	111	75	200	8	Existing
16	110	65	320	9	Existing
16	110	70	320	10	Existing
16	111	71	180	11	Existing
16	111	71	225	12	Existing
16	99.5	54.5	190	13	Existing
16	100	60	300	14	Existing
16	99.5	64.5	300	15	Existing
16	90	55	300	16	Existing
16	110	55	300	17	Existing
16	95	50	100	18	Existing
16	95	60	275	19	Existing
16	105	57	350	20	Existing
16	99.5	59	300	22	Existing
12	107	23	120	24	Existing
12	111	61	140	25	Existing
24	85	52	180	26	Existing
20	100	60	350	27	Proposed
12	107	23	500	28	Existing
12	99	40	350	29	Existing
20	100	60	350	30	Proposed
20	100	60	350	31	Proposed
12	103	60	230	32	Existing
12	84	51	220	33	Existing
24	90	67	365	34	Existing
20	100	60	350	35	Proposed
24	91	63	515	36	Existing
24	97	64	520	37	Existing
<b>Floridan Aquifer</b>					
16	1,350	650	1,700	F-1	Existing
17	1,350	650	1,700	F-2, F-3, F-5, F-6	Existing
20	1,350	650	1,700	F-4, F-7, F-8, F-9	Existing
17	1,350	750	1,780	F-10 to F-12	Existing
17	1,350	750	1,780	F-13 to F-18	Proposed

## 2.3 Water Supply Facilities

The two groundwater sources are treated by three existing water treatment facilities (WTFs) to meet the City's potable water needs: the Prineville Lime Softening WTF, the Prineville Reverse Osmosis (RO) WTF and the James E. Anderson Reverse Osmosis WTF.

The Prineville Lime Softening WTF was originally constructed in 1963, and has since undergone a sequence of modifications over the past forty plus years. The Prineville RO facility was originally constructed in 1999, and was expanded in 2003 to its build-out design capacity. Capacity details are presented in **Table 2**.

The James E. Anderson RO WTF was initially constructed in 2005, and future expansion can be completed by adding additional raw water supply wells, RO skids, and other associated equipment. Following the completion of construction of both Phases II & III, the treatment capacity is now 10.0 MGD. The JEA RO WTF is currently being expanded to a build-out water treatment capacity of 22.5 MGD (**Table 2**).

**Table 2. Summary of Existing Water Treatment Facilities**

Description	Prineville WTF – Lime Softening	Prineville WTF – Reverse Osmosis	James E. Anderson WTF
Source Supply	Surficial Aquifer	Floridan Aquifer	Floridan Aquifer
Rated Permit Capacity in maximum daily flow (MDF - MGD)	8.0	11.15	10.0
Build-out Capacity (MGD)	8.0	11.15	22.5
Storage Capacity (MG)	0.6	5.0	8.0
Build-out Storage Capacity (MG)	0.6	8.0	12.0
Design Pump Capacity (MGD)	19.45	14.40	12.10

## 2.4 Finished Water Storage and Distribution

In addition to the water treatment facilities, the City has several remote potable (finished water) water storage and repump facilities known as the Midport Repump, Westport Repump, and Southport Repump Stations. These remote repump facilities are needed in order to maintain minimum residual pressure throughout the distribution system (**Table 3**).

**Table 3. Summary of Existing Water Repump Stations**

Description	Midport Repump	Southport Repump	Westport Repump
Existing Storage Capacity (MG)	1.50	3.00	2.00
Build-out Storage Capacity (MG)	3.50	6.00	4.00
Design Pump Capacity (MGD)	5.76	7.77	6.05

Potable water is distributed to the City’s customers via high service pumps, re-pump stations, and water transmission and distribution mains. The water transmission and distribution system consists of water mains ranging in size from four inches (4-inch) to thirty-six inches (36-inch) in diameter. The transmission system includes 10-inch diameter and larger pipes, while the distribution system includes 8-inch diameter and smaller pipes. The City has several emergency potable water interconnects that can flow water into or out of the system including at St. Lucie West along both California Boulevard and Cashmere Boulevard, Fort Pierce Utility Authority at St. James Drive and Midway Road, Martin County Utilities at Bakersfield Street, and with St. Lucie County at Glades Cut-Off Road and Midway Road. The existing water transmission and distribution system is shown on **Figure 5**.

**2.5 Wastewater Treatment / Reclaimed Water Facilities**

The City’s wastewater system is currently served by three wastewater treatment facilities (WWTFs). These WWTFs are Southport WWTF, Westport WWTF and the Glades WWTF, which are detailed in **Table 4**.

Effluent disposal practices at the WWTFs consist of reuse of reclaimed water, deep well injection, and rapid infiltration basins (RIBS). A portion of Southport WWTF’s effluent is utilized for irrigation at the nearby Ballantrae Golf Course, and Westport WWTF provides reuse water for irrigation purposes to the nearby Tesoro Development. Additionally, the new Glades WWTF has been designed to provide reclaimed water for irrigation purposes. The City recently contracted with Copper Creek and Verano for reclaimed water irrigation services.

The City of Port St. Lucie has plans to sequentially expand the Westport WWTF to a build-out capacity of 16.0 MGD. As expansions occur, the Southport WWTF will divert flows exceeding 1.0 MGD to Westport WWTF until 2012. Then the Southport WWTF will be phased-out and all raw flows will be diverted to the Westport WWTF. Additionally, the City is planning to expand the Glades WWTF to a build-out capacity of 24 MGD.

**Table 4. Summary of Existing Wastewater Treatment Facilities**

Description	Glades WWTF	Westport WWTF	Southport WWTF
Existing Treatment Capacity (MGD)	6.0	4.0	2.8
Build-out Treatment Capacity (MGD)	24.0	16.0	0.0 (decommissioning in 2012)

## 2.6 Conservation

The City's water conservation program complies with the conditions imposed by South Florida Water Management District in its Water Use Permit, No. 56-00142-W. The plan for the City to comply with the District conditions have been strengthened by the adoption of several City Codes (Code excerpts 65.01 and 65.02 presented in Appendix B). The City has also implemented and is enforcing water use restrictions as stated in the Code excerpt 65.04 to 65.07 (Water Shortage Codes). The specific elements of the water conservation plan are as follows:

1. A new rate structure has been implemented by the City in a string effort to promote water conservation. The water rate increases by 20% and 40% of the basic rate for consumption higher than 5,000 and 12,000 gallons per connection and per month, respectively.
2. The City's Code of Ordinances specifies that State building codes are followed and Section 604.4 of the State Plumbing code specifies maximum flow rates and consumption from plumbing fixtures and fittings in new construction.
3. The City is operating and maintaining their water facilities and water distribution system such that the unaccounted water loss has been averaging approximately 8 %.
4. The City has also implemented a Water Conservation Education Program and holds activities related to National Water Week through the American Water Works Association (AWWA), such as elementary school education and slogan contests.
5. The City is implementing a comprehensive reclaimed water program that has a goal to optimize the use of reclaimed water by meeting reclaimed water quality standards at the wastewater treatment facilities and by constructing reclaimed water mains in the western side of the City.

## SECTION 3.0 LAND USE, POPULATION & WATER PROJECTIONS

### 3.1 Future Land Use

The predominant land use in the City has been low density residential, commercial use and industrial use. Historically, lands in the surrounding areas to the west of the City were utilized for agricultural and farming purposes. However, the growth trends in land development have recently shifted the western area of the City towards a greater mix of residential and commercial. The current land use designations are shown in **Table 5**.

**Table 5. Listing of Current Land Use Designations (Zoning Districts)**

Code	Description
CG	General Commercial
CH	Highway Commercial
CN	Neighborhood Commercial
CS	Service Commercial
GU	General Use
I	Institutional
IN	Industrial
LMD	Limited Mixed
OSC	Open Space Conservation
OSR	Open Space Recreational
P	Professional
PUD	Planned Unit Development
RE	Estate Residential
RM-5, RM-8, RM-11, RM-15	Multiple Family Residential
RMH	Mobile Family Residential
RS-1, RS-2, RS-3	Single-Family Residential
WI	Warehouse Industrial

Source: City and County GIS Parcel Data

While existing land use is helpful for existing analyses, long range master planning is based on future land use. Areas within the City are subject to land use changes, which has occurred with the planned City Center development. Future land use designations are utilized in master planning to assist in the development of the build-out wastewater flow and potable water demand projections. The City's Planning and Zoning Department maintains a future land use map as presented in **Figure 6**. The future land use map was developed in March 2004 and is subject to continuous updating by the City. Land use for the proposed large developments west of I-95 was acquired in tabular or flat map format from the individual developers in 2004 through 2006.

### 3.2 Population Projection

In recent years the City of Port St. Lucie has experienced unprecedented accelerated growth trends. The City population grew almost 60% in the 1990s to reach 89,000 residents in 2000. The very high growth rate continued and the City soon reached 100,000 residents in 2002, 118,396 in July 2004 and 155,000 in December 2006. This growth trend was taken into consideration when determining the water and wastewater projections. Growth within the PSLUSD service area is expected to occur in two general areas:

1. In-fill of property within existing developed areas.
2. Large undeveloped tracts of land located primarily west of Interstate 95.

With the tremendous growth in the City for the past decade, standard population projections, such as BEBR and other typically accepted methods have fallen significantly short of the actual numbers recorded. As such, the City of Port St. Lucie commissioned a population study to review the historical trends and develop detailed and specific projections. These population projections for the City of Port St. Lucie were performed by Fishkind & Associates, 2007 (see Appendix C) and have been reviewed by the DCA for approval. These projections are also the basis of the current South Florida Water Management District Consumptive Use Permit. The Utility Service Area population forecast is the sum of development potential in the areas including "Old City" (east of I-95), Municipal Areas West of I-95, DRI areas, and the Northeast Utility Service Area. The population forecasts are fundamentally driven by known, planned residential development and average historic growth in the Old City (all assumptions being presented in Appendix C). Permanent population derived from the residential development is determined by applying a household size and subtracting the seasonal component. Peak population includes permanent population plus population expected in the seasonal units.

The population projections are presented below in **Table 6** from 2010 to 2035 with 5-year increments. The Table also includes the historical population data from years 2005 and 2006. As mentioned earlier, the City observed accelerated growth in the past few years such that the 2006 population already matches the population for 2015 projected in 2005 by SFWMD. This demonstrates that City growth has outpaced past projections.

**Table 6. Population Projections**

	2005	2006	2010	2015	2020	2025	2030	2035
Old City	124,311	141,203	168,417	199,750	228,440	234,176	234,176	234,176
Municipal West of I-95 (PUDs)	996	1,379	2,972	5,637	9,570	13,558	13,558	13,558
DRI Area	1,385	1,907	6,438	25,544	52,458	85,576	114,642	135,063
Northeast Utility Area	11,104	11,229	12,353	12,887	12,887	12,887	12,887	12,887
Total Utility Service Area*	137,796	155,718	190,180	243,819	303,356	346,197	375,263	395,684
<b>Peak Utility Service Area**</b>	<b>143,318</b>	<b>161,814</b>	<b>197,235</b>	<b>252,266</b>	<b>313,331</b>	<b>357,058</b>	<b>386,668</b>	<b>407,472</b>

\* note: this area excludes St. Lucie West and The Reserve

\*\* note: peak population includes permanent and seasonal residents

### 3.3 Water Demand Projections

The potable water demand projections for the City’s Utility Service Area were based on the population projections and the historical per capita potable water usage. An assessment of water demand for the past 5 years has shown that the average daily consumption per capita is approximately 115 gallons (see Appendix D). Table D-1 provides a summary of the total finished water utilized for the service for the years 2002 to 2006. The table also summarizes the actual number of residential accounts within the City’s service area and utilizes a historical per home population index to estimate service area population. The per capita value of 115 gallons per day is actually a “total” value and includes residential, commercial and unaccounted for water usage. As shown in Table D-2, residential usage of accounted for water is approximately 78 percent and commercial usage is approximately 22 percent. Applying these percentages to the total finished water usage yields the following:

Residential Usage	72 %
Commercial Usage	20%
Unaccounted for Water	8 %

The information summarized above (as detailed in Appendix D) presents historical potable water use in the City of Port St. Lucie for the past five years. This calculation was performed in order to disaggregate water demands from both the commercial and residential sectors, as well as to determine a per capita water use factor based on historical water usage. These calculations are not intended to change the level of service requirements currently found within the City's Comprehensive Plan. Instead, this calculation was required by the South Florida Water Management District as a part of the City’s Consumptive Use Permit in order to accurately project future water demands.

Using the recently updated population projections for the City and the per capita water demand value of 115 gpcd, the water projections were developed and are shown in **Table 7**.

**Table 7. Water Demand and Surplus/Deficit Projections**

	2005	2006	2010	2015	2020	2025	2030	2035
Peak Season Utility Service Area Population Projection	143,318	161,814	197,235	252,266	313,331	357,058	386,668	407,472
Water Demand Projections (MGD-AADD)	--	--	22.68	29.01	36.03	41.06	44.47	46.86
Surficial groundwater allocation (build-out) (MGD-AADD)	--	--	5.00	5.00	5.00	5.00	5.00	5.00
Floridan groundwater allocation needed (MGD-AADD)*	--	--	22.10	30.01	38.79	45.08	49.33	52.32
Current Water Supply FA Capacity (MGD-AADD)	--	--	29.95	29.95	29.95	29.95	29.95	29.95
<b>Surplus/Deficit</b>	--	--	7.85	-0.06	-8.84	-15.13	-19.38	-22.37

FA: Floridan Aquifer

\* This is equal to the demand minus surficial groundwater allocation. The value is then divided by 0.8, since the treatment consists of treating the FA groundwater with a reverse osmosis process which is based on an 80% recovery of the total quantity of raw water supply used.

It is important to note, the City of Port St. Lucie is aware that water supply demands presented above in Table 7 are not consistent with the demand projections presented in the Water Management District's "2006 Upper East Coast Water Supply Plan Amendment". The projections in this 2007 Work Plan for the City of Port St. Lucie are significantly higher than the projections presented in the "2006 Upper East Coast Water Supply Plan Amendment". The water demand projections in this UEC Water Supply Plan were prepared prior to the development and publishing of this study. The City intends to further coordinate this data with the District, following the approval of this initial 2007 Plan.

## SECTION 4.0 10-YEAR WORK PLAN

Based on the water demand projections, it is anticipated that the City of Port St. Lucie will need to implement the construction of additional water supply wells, additional treatment facilities and additional water delivery infrastructures to ensure that safe and reliable drinking water is supplied to the existing and future customers to meet projected potable water demands. In addition, the City is currently implementing a comprehensive reuse system in order to conserve water and replenish the aquifer.

### 4.1 Water Supply Improvement

As mentioned earlier, potable water is currently supplied to the City's WTPs via wells which withdraw groundwater from the surficial aquifer and from the Floridan Aquifer, as summarized in **Table 1** and discussed in detail in Section 2.0. The City is planning on withdrawing additional brackish groundwater supply from the Floridan Aquifer to meet short term and long term (up to 2035) water demands as long as there are no significant environmental impacts.

- The City has been using brackish Floridan Aquifer since 1999 to supply water to two of the three City's Water Treatment Facilities. The City plans on meeting future water demands by expanding the brackish groundwater supply. The City does not plan on expanding the traditional source supply (surficial groundwater).
- The City is continuing to implement a comprehensive reuse system in order to maximize the use of reclaimed water and therefore offset some of the drinking water demand through irrigation.

#### 4.1.1 Alternative Source Water Supply

Plans for additional brackish groundwater supply well capital improvements for the next 10 years are as follows:

- Six (6) new groundwater supply wells will be installed as approved per the current CUP:
  - Wells #F-13 through F-18 at the James E. Anderson Wellfield were designed and constructed to have a rated capacity of 1,780 gpm each. These wells are anticipated to be completed in late 2007.
- Seven (7) new groundwater supply wells will be installed (**Figure 7**):
  - Wells #PF-21 through #PF-27 are currently planned to be located at the proposed Southwest Wellfield, which will ultimately provide raw water supply for the future Rangeline Reverse Osmosis WTP. Each well will have a rated capacity of 1,780 gpm. These wells are anticipated to be completed by 2015. Note that Figure 7 shows well locations for Rangeline buildout in 2025 (PF-21 to PF-37).

### **4.1.2 Traditional Source**

Plans for traditional groundwater supply well capital improvements are as follows:

- Four (4) new wells will be installed as approved per the existing CUP:
  - Wells 27, 30, 31 and 35 at the Prineville Wellfield to replace existing wells, however, there is no increase in pumping capacity.

### **4.2 Water Treatment Facilities**

Facility improvement projects include expansion of an existing facility and construction of a new facility. Plans for water facilities capital improvements are as follows:

- Expansion of the James E. Anderson Water Treatment Facility:
  - Expansion from 10.0 to 22.5 MGD of the JEA WTF to be completed by Spring 2008. This expansion will result in the production of 22.5 MGD of finished water by treating brackish groundwater to meet the future water demand.
- Construction of the Rangeline Water Treatment Facility:
  - Construction of the Rangeline Water Facility Phase I storage and repump station to be completed by the end of 2008 or early 2009.
  - Expansion of the Rangeline Water Treatment Facility Phase II from 0 to 10 MGD reverse osmosis treatment facility to be completed by 2015. This expansion will result in the production of 10.0 MGD of finished water by treating brackish groundwater to meet the future water demand.

### **4.3 Storage and High Service Pumps**

The City recently completed the rehabilitation and capacity increase of the Southport Storage and Repump Station and the plans for storage and repumping facilities are as follows:

- Rehabilitation and capacity increase of the Midport Repump Station to be completed by 2008.
- Capacity increase of the Westport Storage and Repump Station to be completed by 2014.

The following Schematic presents a timeline summary for the supply, treatment and storage infrastructure improvements for the City of Port St. Lucie for the next 10 years.

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Wells</b>											
Prineville WTF Wellfield	◆	◆	◆								
JEA WTF Wellfield	◆	◆	◆								
Rangeline WTF Wellfield								◆	◆	◆	
<b>Treatment Facilities</b>											
<b>JEA WTF</b>											
Expansion from 10 to 22.5 MGD	◆	◆	◆								
Rangeline WTF											
<b>Repump Station</b>											
Expansion to 10 MGD							◆	◆	◆	◆	
<b>Storage/Pumping</b>											
<b>Midport Repump</b>											
Midport Repump	◆	◆	◆								
<b>Westport Repump</b>											
Westport Repump							◆	◆	◆		

#### 4.4 Distribution System Improvement

Numerous projects for expansion and maintenance of the existing potable water distribution system are included in the City's current CIP program, covering efforts in almost all of the major service areas. A majority of the new construction and upsizing of existing lines is planned for the fast-growing western service area, and are included in **Table 8**. It is important to note that Table 8 includes both projects to be funded by the City and projects that will actually be funded by the developers. It should also be noted that only the projects funded by the City have associated costs estimates. The timing of the Developer funded projects have been assumed based on previous information provided by the Planning Department and the developers. The actual timing of these developments is assumed to be based on the current and future housing market.

#### 4.5 Reuse Distribution System Improvement

The City is planning expansion of its public access reuse system to additional customers including provision of reuse water to several new developments in the Western side of the City. The City requires all new development to install reuse distribution lines. Reuse of reclaimed water provides utilities benefits in terms of conserving potable water, reduction of effluent discharge, effective water management, and recharge of potable quality aquifers in accordance with the goals and objectives of the SFWMD's RWSP.

Numerous projects for expansion and maintenance of the existing reuse water distribution system are included in the City's current CIP program. In addition, the City is requesting developers to install reclaimed water-distribution mains in the new development areas. A majority of the new construction and upsizing of existing lines is planned for the fast-growing western area.

**Table 8. Recommended Water Delivery Capital Improvement Project Summary**

Year in Operation	Project Name	Cost Estimates	Funding***
<b>2008 -2012</b>			
2008	West Virginia WM Phase 2	\$2,737,000	2005 Bond
2008	Crosstown Parkway WM	\$4,418,000	2005 Bond
2008	Midport Repump Expansion – Storage and Repump Upgrade	\$2,500,000	2006 Bond
2008	Rangeline WTP – Phase I	\$12,200,000	2006 Bond
2008	JE Anderson 22.5 MGD Expansion*	\$25,959,000	2006 Bond
2008	New Development WM - Traditions/Montage Phase 1A	\$2,286,000	Developer
2008	New Development & Site WM - Various Areas	\$6,889,000	Developer
2008	Midway Rd WM	\$1,801,000	Developer
2008	New Development WM	\$3,559,000	Developer
2010	New Development WM-Southern Grove/Tradition Ph. 1B	\$11,228,000	Developer
2010	New Development WM-Southern Grove/Tradition Ph. 2	\$10,777,000	Developer
2010	New Development WM - Eastern Areas	\$2,916,000	Developer
2010	New Development WM - Eastern Areas	\$6,456,000	Developer
2010	East Snow Rd. WM	\$1,077,000	Developer
2010	Walton Rd. WM	\$417,000	Developer
2010	New Development WM-Kenco/Kennedy Grv./Wilson Grv.	\$10,390,000	Developer
2010	New Development WM - Verano	\$3,767,000	Developer
2010	Glades Cutoff Developer Extension	\$833,000	Developer
2010	New Development WM - Eastern Areas	\$1,480,000	Developer
2010	New Development WM-Southern Grove/ Tradition Ph. 1B	\$1,770,000	Developer
2010	New Development WM - North Pointe	\$2,422,000	Developer
<b>2013 -2017</b>			
2013	Belcrest St. WM	\$675,000	City
2013	Prineville Sandia - South WM	\$1,725,000	City
2013	Crosstown Parkway WM	\$4,418,000	City
2013	JE Anderson Rear WM Phase 1	\$2,097,000	City
2013	Westport South WM	\$508,000	City
2013	Lennard Rd. Area WM	\$1,044,000	City
2014	Peru St. WM	\$110,000	City
2014	Misc. Small WM-Crosspoint Dr, Morningsidel	\$633,000	City
2014	JE Anderson Rear WM Phase 2	\$2,288,000	City
2014	Westport Repump Expansion - Storage and Pump Upgrade	\$3,807,000	City
2015	Rangeline WTF Phase II Expansion from 0 to 10 mgd **	\$38,829,000	City
2015	New Development WM - Not Determined	\$7,348,000	Developer
2015	Westport Fill WM	\$5,267,000	City
2015	Westport Pumpout WM	\$264,000	City
2015	Northwestern Area City Piping	\$381,000	City

WM: water main. The water main will be constructed to transport finished water to new developments

\* Expansion from 10 to 22.5 MGD using brackish groundwater as source water to meet future water demand

\*\* Expansion from 0 to 10 MGD using brackish groundwater as source water to meet future water demand

\*\*\* “Developer” indicates that projects are funded by the developer through an enforceable development agreement

#### 4.6 Conservation

The City plans on continuing its effort to conserve water as explained in Section 2.0 and by implementing other plan elements that the District requires the City to perform. As recommended by the SFWMD, the City plans to adopt a water conservation policy based on *Conserve Florida Goal Based Guidelines* to establish an effective, long term water conservation plan through the employment of specific measurable objectives.

**APPENDIX A**  
**CONSUMPTIVE USE PERMIT**

**APPENDIX B**  
**CODE EXCERPTS**

**APPENDIX C**  
**POPULATION PROJECTIONS**

## **APPENDIX D**

### **WATER CONSUMPTION PER CAPITA DATA**

**Table D-1**

**CITY OF PORT ST. LUCIE  
ESTIMATED ANNUAL POPULATION AND WATER USE PER CAPITA RATES**

	Active Used Residential Accounts	Served Population	Total to All Customers (MGD)	Scrubber Water (MGD)	Instruments Water (MGD)	Total Water Used (MGD)	Per Capita Rates (gpcd)
Jan-02	22,027	56,169	7.830	0.07	0.14	8.040	124
Dec-02	28,971	73,876					
Average-02	25,499	65,022					
Dec-02	28,971	73,876	8.727	0.07	0.14	8.937	112
Dec-03	33,724	85,996					
Average-03	31,348	79,936					
Dec-03	33,724	85,996	9.913	0.07	0.14	10.123	108
Dec-04	39,669	101,156					
Average-04	36,697	93,576					
Dec-04	39,669	101,156	12.543	0.07	0.14	12.753	114
Dec-05	48,195	122,897					
Average-05	43,932	112,027					
Dec-05	48,195	122,897	15.362	0.07	0.14	15.572	116
Dec-06	57,276	146,054					
Average-06	52,736	134,476					

5-Year Average    115

**TABLE D-2  
CITY OF PORT ST. LUCIE  
COMMERCIAL AND RESIDENTIAL WATER USE DISTRIBUTION**

	2002	2003	2004	2005	Average
<b>Residential</b>	4,756,282	5,583,737	6,878,542	7,796,970	78%
<b>Residential %</b>	76.27%	76.50%	78.00%	79.87%	
<b>Commercial</b>	1,479,992	1,715,712	1,940,447	1,965,118	22%
<b>Commercial %</b>	23.73%	23.50%	22.00%	20.13%	
<b>Total</b>	6,236,274	7,299,449	8,818,989	9,762,088	100.00%



SAINT LUCIE WEST



**ST. LUCIE WEST SERVICES DISTRICT**

**WATER SUPPLY FACILITY WORK PLAN**

**PREPARED BY:**

**DENNIS PICKLE**

**UTILITIES DIRECTOR**

**ST. LUCIE WEST SERVICES DISTRICT**

**450 S. W. UTILITY DRIVE**

**PORT ST. LUCIE, FL 34986**

**772-340-0220**

**December 11, 2007**  
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## **SECTION 1.0**

### **INTRODUCTION**

This document describes the Water Supply Facility Work Plan prepared for the St. Lucie West Services District

#### **1.1 BACKGROUND**

The St. Lucie West Services District has prepared this 10-Year Water Supply Facility Work Plan (Work Plan) to provide the information necessary to meet the criteria set forth by the State Legislature. This Work Plan addresses potable water supply and demand for the District's utility service area for 2008 through to the year 2017, which is the current 10-year planning period. This Work Plan will be reviewed on an annual basis and updated every five years to coincide with Upper East Coast (UEC) Planning Area Regional Water Supply Plan (RWSP) update by South Florida Water Management District (SFWMD).

The St. Lucie West Services District is a local unit of special purpose government of the State of Florida, created pursuant to the Uniform Community Development District Act of 1980, Chapter 190, Florida Statutes, as amended (the "Act") by rule adopted by the Florida Land and Water Adjudicatory Commission effective December 12, 1989. The St. Lucie West Services District boundaries are located within corporate City limits of the City of Port Saint Lucie thus the St. Lucie West Services District is included in the City's Comprehensive Plan.

The local governments' Work Plan must project water demands for at least a 10-year period, and must demonstrate that the current and planned water supply facilities and source(s) of water will meet projected demands.

This document and the information contained herein will serve as the Water Supply Facilities Work Plan for the St. Lucie West Services District to meet these requirements.

#### **1.2 OVERVIEW OF THE REGIONAL WATER SUPPLY PLAN**

SFWMD prepared the original Regional Water Supply Plan for the UEC Planning Area in 1998. This Regional Supply Plan was updated in 2004 and again in 2006, in order to take into account recent population growth and provide important information to local governments concerning revisions to state law requirements relevant to water supply planning. The UEC Planning Area's projected population growth over the next 20 years indicates that there will be a significant increase in the region's public water demands, particularly in the urban sector. According to the UEC Regional Supply Plan, the UEC Region's total population is expected to increase from 320,664 in 2000 to about 584,927 residents by 2025. Development of alternative water supplies will play a vitally important role in meeting these projected water needs, as further development of traditional supplies becomes increasingly limited.

**SECTION 2.0**  
**EXISTING CONDITIONS**

**2.1 ST. LUCIE WEST SERVICES DISTRICT UTILITY SYSTEMS DEPARTMENT**

The St. Lucie West Services District's utility service area is currently comprised of approximately seven square miles. The service area is bordered to the north by N.W. Peacock Boulevard, to the east by the Florida Turnpike, to the West by Interstate 95 and to the south by Juliet Avenue. The current system, as of December 2007, is comprised of approximately 6612 active water connections, 6576 active wastewater connections and 5109 active Irrigation connections.

The District currently owns its potable water, wastewater and reuse irrigation system, which is operated and maintained by the District's Utility System Department. The existing potable water system consists of three (3) Floridan aquifer wells and one reverse osmosis (RO) water treatment facility with two storage tanks with 4 high services pumps to pressurize the distribution infrastructure. The brine concentrate from the RO process is approximately twenty five (25) percent of the raw water processed and is disposed of by deep well injection. The wastewater system consists of a network of gravity collection, lift stations, force mains, feeding into one (1) wastewater treatment facility that utilizes 100% of the effluent for reuse irrigation.

**2.1.2 THE RESERVE**

The Reserve, a large development on the western boundary of St. Lucie West Services District, owns and operates its own water and wastewater treatment facilities. In addition the Reserve development is partially served by the St. Lucie West Services District Utility Department through a bulk use agreement. The District has issued 1,000 ERC's as of December 2007, and has an agreement to provide an additional 200 ERC per year through 2012 with an option to provide up to an additional 200 ERC's per year through 2017 for a total of 3000 ERC's or twenty two million eight hundred and twelve thousand five hundred gallons per month (22,812,500 g/mth). The flow demand from the Reserve is included in Section 3.2 Water Demand Projections. The Reserve agreement is attached in Appendix A.

**2.1.3 INTER-LOCAL AGREEMENT**

Consistent with SFWMD policies, the District has an Inter-local Agreement with the City of Port Saint Lucie Utility Department that allows for emergency potable water interconnections through two (2), twelve inch (12") metered connections. Water can flow into the District system to supplement water produced by the District's water treatment facility and the reverse can occur whereby the District can provide emergency potable water to the City.

**2.2 WATER SUPPLY SOURCES**

The St. Lucie West Services District's raw water supply is currently provided from the brackish upper Floridan Aquifer. The withdrawal rates from the aquifer are limited per

the Water Use Permit 56-00614-W issued in September 14, 2005 and will expire in 2025 (Appendix B). The Floridan Aquifer groundwater is a brackish groundwater and is considered an alternative water supply since the chloride contents are more than 1,000 mg/L. Withdrawals of the Floridan Aquifer groundwater are from three (3) existing wells further described on Table 1. The raw water wells supply brackish groundwater to the Reverse Osmosis WTP (Figure 1).

The withdrawal limitations from the Floridan Aquifer are as follows per the current Water Use Permit:

- Annual allocation: 851 MG (2.33 MGD)
- Monthly allocation: 80.8178 MG (2.61 MGD)

**Table 1 Well Description**

<b>Floridan Aquifer</b>					
<b>Well Diameter</b>	<b>Total Depth</b>	<b>Cased Depth</b>	<b>Pump Capacity</b>	<b>Well ID #</b>	<b>Status</b>
<b>inch</b>	<b>ft</b>	<b>Ft</b>	<b>GPM</b>		
16	1321	908	2000	1	Existing
18	1657	885	2000	2	Existing
18	1896	865	2000	3	Existing

**2.3 WATER SUPPLY FACILITIES**

The groundwater source is treated by a Reverse Osmosis (RO) water treatment facility to meet the District's potable water needs: The RO facility was originally constructed in 1987, and was expanded in 1999 and 2005 to its current build-out design capacity. Capacity details are presented in Table 2. Future expansion can be completed by adding additional RO skids, and other associated equipment. Following the completion of construction the treatment capacity is now 3.4 MGD (Table 2).

**Table 2 Summary of Existing Water Treatment Facility**

<b>Description</b>	<b>SLWSD WTF</b>
<b>Source Supply</b>	<b>Floridan Aquifer</b>
Rated Capacity in maximum daily flow (MDF -MGD)	3.4
Build-out Capacity (MGD)	3.4
Current Storage Capacity (MG)	2.0
Build-out Storage Capacity (MG)	4.0
Design Well Pump Capacity (MGD)	8.64
Design Water Treatment Plant Capacity (MGD)	3.4

**2.4 FINISHED WATER STORAGE AND DISTRIBUTION**

Potable water is distributed to the St. Lucie West Services District's customers via high service pumps, and water distribution mains. The water distribution system consists of water mains ranging in size from six inches (6-inch) to twenty four inches (24-inch) in diameter. The District has two emergency potable water interconnects that can flow water into or out of the system at both California Boulevard and Cashmere Boulevard. The existing water distribution system is shown on Figure 2.

**2.5 WASTEWATER TREATMENT / RECLAIMED WATER/IRRIGATION FACILITIES**

The St. Lucie West Services District's wastewater system is currently served by one wastewater treatment facility (WWTF) detailed in Table 3.

Effluent disposal practices at the WWTF consist of 100% total reuse of reclaimed water for commercial and residential irrigation services. The Irrigation system supplements the additional flow requirements with area storm-water retention ponds. The WWTF on an average supplies 37% of the irrigation demand, or one million one hundred and ten thousand (1,110,000) gallons of reclaimed water per day. The additional irrigation demand is supplemented by storm-water retention ponds, that supply on an average 63%, one million nine hundred and five thousand (1,905,000) gallons per day.

**Table 3. Summary of Existing Wastewater Treatment Facility**

Description	District WWTF
Existing Treatment Capacity (MGD)	2.0
Build-out Treatment Capacity (MGD)	2.0

**2.6 CONSERVATION PLANS**

The St. Lucie West Services District's water conservation program complies with the conditions imposed by South Florida Water Management District (SFWMD) in its Water Use Permit, No. 56-00142-W. The St. Lucie West Services District has a relatively low consumption rate largely due to the fact that the District is relatively new (began in 1988) resulting in the use of water conserving plumbing fixtures and the community wide irrigation system uses reuse water supplemented by retention ponds. Drought tolerant plants are used heavily in the landscaping, and the utility maintains control of the irrigation distribution and does not allow private wells within the District. In addition, 100% of the treated wastewater is utilized for the reclaimed water irrigation system.

The St. Lucie West Services District is located in the City limits of Port Saint Lucie and is bound by the City's Code of Ordinances. The City specifies that State building codes are followed and Section 604.4 of the State Plumbing code specifies maximum flow rates and consumption from plumbing fixtures and fittings in new construction. The City has also implemented a Water Conservation Education Program and holds activities

related to National Water Week through the American Water Works Association (AWWA), such as elementary school education and slogan contests.

**SECTION 3.0**  
**POPULATION AND WATER PROJECTIONS**

**3.1 POPULATION PROJECTION**

In recent years the City of Port St. Lucie has experienced unprecedented accelerated growth trends. The City population grew almost 60% in the 1990s to reach 89,000 residents in 2000. The very high growth rate continued and the City soon reached 100,000 residents in 2002, 118,396 in July 2004 and 155,000 in December 2006. This growth trend was taken into consideration when determining the water and wastewater projections. Growth within the St. Lucie West Services District service area is expected to occur primarily in the Commercial Acreage as the Residential area is ninety five (95%) percent built out. There are 7570 residential properties located in SLWSD of which 385 remain undeveloped. The Undeveloped Properties are depicted in Figure 3

The population projections are derived by multiplying the active household billing meters (6166) plus 824 multi family units by a statistical U.S. household average of 2.55 persons per meter resulting in a population of 17,825 persons. The population projections for the St. Lucie West Services District are presented below in Table 5 from 2007 to 2018.

As mentioned earlier, the District observed accelerated growth in the past few years such that the 2007 population already matches the population for 2015 projected in 2005 by SFWMD. This demonstrates that St. Lucie West Services District growth has outpaced past projections

**3.2 WATER DEMAND PROJECTIONS**

The potable water demand projections for the District's Utility Service Area were based on the population projections and the historical per capita potable water usage. An assessment of water demand over the last 11 months has shown that the average daily consumption per capita is approximately 70 gallons (as shown in Table 5). Table 5 summarizes the actual number of residential accounts within the District's service area and utilizes a historical per home population index of 2.55 to estimate service area population. The per capita value of 70 gallons per day is actually a "total" value and includes residential, commercial and unaccounted for water usage but does not include the Reserve Bulk water demand.

Table 4 provides a summary of the total finished water utilized in the year 2007 excluding December and as shown in Table 4, residential usage of accounted for water is approximately 45.3 percent, the Reserve Bulk water usage is approximately 13.4 percent and commercial usage is approximately 31.2 percent. Applying these percentages to the total finished water usage yields the following:

Residential Usage	45.3 %
Commercial Usage	31.2 %
The Reserve Bulk Usage	13.4 %
Unaccounted for Water	10.2 %

The information summarized above (as detailed in table 4) presents historical potable water use in the St. Lucie West Services District for the past eleven months. This calculation was performed in order to disaggregate water demands from both the commercial and residential sectors, as well as to determine a per capita water use factor based on historical water usage.

**Table 4: Totals for 2007 Minus-December**

<u>Finished Water Produced</u>	<u>Residential Water Consumption</u>	<u>Percentage Residential Water</u>	<u>Commercial Water Consumption</u>	<u>Percentage Commercial Water</u>
481,787,200	218,064,353	45.3%	150,118,486	31.2%
<u>The Reserve Bulk Water Consumption</u>	<u>Percentage Bulk Water</u>	<u>Unaccounted for Water</u>	<u>Percentage Unaccounted for Water</u>	<u>Total Water Consumption</u>
64,611,000	13.4%	48,993,360	10.2%	432,793,840

Using the recently updated population projections for the District and the gallons per capita per day water demand value of 81 gpcd as described in the SFWMD WUP, the water projections were developed and are shown in **Table 5**.

**Table 5**

	2007	2010	2015	2018
Population Served	17,825	18,676	19,951	21,226
Residential Customers	6,990	7,324	7,824	8,324
The Reserve Committed Capacity	0.250	0.400	0.500	0.500
The Reserve Current Annual Avg. Daily Demand	0.197	N/A	N/A	N/A
SLW Current Annual Avg. Daily Demand	1.24	N/A	N/A	N/A
Annual Avg. Daily Demand (MGD)	1.44	1.91	2.12	2.22
Demand per Capita (GPD)	69.71	81.00	81.00	81.00
Available Facility Capacity (MGD)	3.40	3.40	3.40	3.40
Permitted Amount (MGD Annual Avg.)*	2.33	2.33	2.33	2.33
Facility Capacity Surplus (Deficit)**	1.96	1.49	1.28	1.18
Permitted Surplus (Deficit)***	0.42	-0.05	-0.25	-0.36

MGD= Million Gallons Per Day; GPD= Gallons Per Day

\* CUP for 2.33 MGD annual average expires September 2025

\*\* Calculated by subtracting Average Daily Demand from Available Facility Capacity

\*\*\* Calculated by subtracting Average Daily Demand from 80% of the Permitted Amount due to the RO treatment process recovering 80 to 85% of the groundwater withdrawn from the Floridan aquifer.

It is important to note, the St. Lucie West Services District is aware that water supply demands presented above in Table 5 are not consistent with the demand projections presented in the Water Management District's "2006 Upper East Coast Water Supply Plan Amendment". The projections in this 2007 Work Plan for the St. Lucie West Services District are significantly higher than the projections presented in the "2006 Upper East Coast Water Supply Plan Amendment". The water demand projections in this UEC Water Supply Plan were prepared prior to the development and publishing of this study. The St. Lucie West Services District intends to further coordinate this data with the SFWMD, following the approval of this initial 2007 Plan.

## **SECTION 4.0** **10-YEAR WORK PLAN**

Based on the water demand projections, it is anticipated that the St. Lucie West Services District will not need to construct any additional water supply wells, or additional treatment facilities but will need to amend the Consumptive Use Permit to withdraw additional water from the Alternative Water Source the Floridan Aquifer.

### **4.1 WATER SUPPLY IMPROVEMENT**

As mentioned earlier, potable water is currently supplied to the District's WTP via wells which withdraw groundwater from the Floridan Aquifer, as summarized in Table 1 and discussed in detail in Section 2.0. The District is planning on withdrawing additional brackish groundwater supply from the Floridan Aquifer to meet short term and long term (up to 2035) water demands as long as there are no significant environmental impacts.

- The St. Lucie West Services District has been using the brackish Floridan Aquifer since 2005 to supply water to the Water Treatment Facility. The District plans on meeting future water demands by amending the CUP.
- The St. Lucie West Services District will continue to operate the reclaimed irrigation system in order to maximize the use of reclaimed water and therefore offset the potable water demand for irrigation.

#### **4.1.1 ALTERNATIVE SOURCE WATER SUPPLY**

There are no plans for adding additional brackish groundwater supply wells in the capital improvements for the next 10 years. The Water Treatment Plant can meet the flow demand with the existing wells with a permit modification:

### **4.2 WATER TREATMENT FACILITIES**

There are no plans to modify the existing WTP. It is designed to meet future demands through 2017.

### **4.3 STORAGE AND HIGH SERVICE PUMPS**

The St. Lucie West Services District has no immediate plans to make modifications to the high service pumps but is in the planning stages of converting a two (2) million gallon storage tank from a RO concentrate storage tank to an additional storage tank for finished water and constructing a smaller storage tank for concentrate.

### **4.4 DISTRIBUTION SYSTEM IMPROVEMENT**

The St. Lucie West Services District's distribution system meets the demand through 2017 and there are no plans for upgrade at this time.

**4.5 REUSE/IRRIGATION DISTRIBUTION SYSTEM IMPROVEMENT**

The St. Lucie West Services District is currently working on a new CUP with the SFWMD to address the use of surficial wells and Floridan wells to supplement Reuse/Irrigation shortages during drought conditions.

**4.6 CONSERVATION**

The St. Lucie West Services District plans on continuing its' effort to conserve water as explained in Section 2.0 and by implementing other plan elements that the SFWMD requires the District to perform. As recommended by the SFWMD, the District plans to adopt a water conservation policy based on Conserve Florida Goal Based Guidelines to establish an effective, long term water conservation plan through the employment of specific measurable objectives.

**APPENDIX A**  
**THE RESERVE AGREEMENT**

**APPENDIX B**  
**CONSUMPTIVE USE PERMIT**

**FIGURE 1**  
**WATER TREATMENT PLANT**

**FIGURE 2**  
**WATER DISTRIBUTION SYSTEM**

**FIGURE 3**  
**UNDEVELOPED PROPERTIES**



Appendix B

FPUA Bulk User Agreement



Return to: (E)  
OFFICE OF CITY CLERK  
CITY OF FT. PIERCE  
100 N. U.S. 1  
P.O. BOX 1480  
FT PIERCE, FL 34954

INTERLOCAL AGREEMENT

THIS AGREEMENT made entered into this 10 day of February, 2004, by and among the CITY OF FORT PIERCE ("CITY"), a Florida municipal Corporation, The FORT PIERCE UTILITIES AUTHORITY ("FPUA"), a Special District organized under the Charter of the City of Fort Pierce, ST. LUCIE COUNTY ("County"), a political subdivision of the State of Florida.

WITNESSETH:

WHEREAS, the CITY and COUNTY are currently adverse parties in *St. Lucie County v. City of Fort Pierce*, Case No.: 02-CA-000390(PC), in the Circuit Court of the Nineteenth Judicial Circuit in and for St. Lucie County and *City of Fort Pierce v. St. Lucie County*, Case No.: 03-CA-000483(OC), in the Circuit Court of the Nineteenth Judicial Circuit in and for St. Lucie County; and,

WHEREAS, all parties hereto are likewise parties to *City of Fort Pierce and Fort Pierce Utilities Authority v. St. Lucie County and Port St. Lucie*, Case No.: 03-CA-000530(OC), in the Circuit Court of the Nineteenth Judicial Circuit in and for St. Lucie County; and,

WHEREAS, there exists numerous disputes between the CITY and COUNTY over the CITY's annexation policy wherein the CITY imposes a requirement that property owners agree to annexation when property becomes contiguous, as a condition for receipt of potable water and wastewater services from the FPUA; and,

WHEREAS, the COUNTY is desirous of entering into an agreement with the CITY and FPUA for potable water and wastewater services in certain geographical areas under a bulk sale agreement; and,

JOANNE HOLMAN, CLERK OF THE CIRCUIT COURT - SAINT LUCIE COUNTY  
File Number: 2365476 OR BOOK 1917 PAGE 1819  
Recorded: 03/11/04 08:41

WHEREAS, there exists a dispute between the City and FPUA on the one hand, and the COUNTY on the other, over whether FPUA is the sole provider of potable water and wastewater services in certain geographical areas and whether provisions of service by the County in any of these geographical areas violates the COUNTY's Comprehensive Plan, any element thereof, the COUNTY's potable water/wastewater master plan, County Resolution 91-106, and other implementing documents; and

WHEREAS, the parties are desirous of eliminating disputes over their current and future utility service areas and boundaries as to which they respectively provide or will provide potable water and wastewater services; and,

WHEREAS, the parties jointly recognize declared public policy of this state, as expressed by Fla. Stat. Section 164.102, that conflicts between governmental entities be resolved to the greatest extent possible without litigation wherein it is in the public's interest that expense and uncertainty of such litigation be avoided and where important public policies involving annexation, future revenues and provision of potable water and wastewater services are better served by what follows; and

WHEREAS, it is the purpose and intent of this Agreement to resolve most, but not all of the current disputes between the parties, and to further provide a framework within which such disputes and concerns as aforesaid may be discussed and potentially resolved as herein provided for; and,

WHEREAS, the parties intend to be bound by the terms and provisions hereof and further recognize that this Agreement sets forth specific legal rights and remedies with respect to the subject matter herein contained.

NOW THEREFORE, it is agreed by and among the parties hereto as follows:

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1. COUNTY shall not provide potable water or wastewater utility service within the boundaries of the area designated on Exhibit 1 attached hereto, such area known hereafter as "Area A", without the prior written consent of CITY and FPUA, which consent may be withheld at the sole discretion of CITY and FPUA. FPUA shall provide potable water and wastewater utility service in Area "A". The County acknowledges that FPUA will provide such utility services within Area "A" in a manner consistent with the City's annexation policies. The County further agrees to adopt appropriate policies within the County's Comprehensive Plan, Utility Master Plan and other growth management regulations acknowledging, without prejudice, that FPUA will provide water and wastewater service within Area "A" in a manner consistent with the City's annexation policies. COUNTY shall withdraw and agrees not to proceed with all pending objections to any CITY annexation located within Area "A" whether currently in litigation or conflict resolution. CITY shall withdraw without prejudice those Ordinances (Nos. K-129 through K-134) that proposed to annex all of those properties that were included as part of the City's plan to annex the County-owned airport properties and agrees not to proceed with the adoption of those Ordinances. Notwithstanding anything to the contrary in this Agreement, the currently existing annexation agreement covering the St. Lucie County Airport will remain in full force and effect and no party shall be deemed to have waived any right or entitlement under the annexation agreement or any objection to the annexation agreement by entering into this Agreement. Upon signing this Agreement, CITY and COUNTY shall, immediately work together towards the goal of entering into a Joint Planning Agreement to eliminate future annexation disputes within Area "A" and coordinate the provision of governmental services related to such

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annexation. The County, City and FPUA agree to cooperate on the eventual relocation of the FPUA's Hutchinson Island wastewater treatment plant.

2. The FPUA shall not provide potable water and wastewater utility service within the boundaries of the area designated on Exhibit 1 as attached hereto, such area known hereafter as "Area B" (except as to customers currently being serviced by the FPUA, and as listed in Exhibit 3 attached hereto), without the prior written consent of County, which consent may be withheld at the sole discretion of County.

3. FPUA may provide the County with bulk potable water, wastewater and reclaimed water service within Area B in accordance with the terms of the bulk service agreement (the "Bulk Service Agreement") in Exhibit 4 attached hereto. The parties shall execute the Bulk Service Agreement upon execution of this Agreement. When provided, the FPUA shall provide such bulk services to the County without the requirement of annexation into the City as a condition to such service.

4. It is expressly intended that nothing in this Agreement be construed as creating or evidencing an obligation on the part of any of the parties to unconditionally provide potable water or wastewater services in Area "A" or Area "B". That is FPUA may not be compelled by any party, person or entity to provide service within Area A, and COUNTY may not be compelled by any party, person or entity to provide service within Area B.

5. In accordance with FPUA Resolution UA 91-8, and subject to the conditions set forth below, FPUA shall sell the FPUA water distribution system south of the Florida Power & Light nuclear power plant ("FP&L Plant") to the County. FPUA will retain retail water service to the area between the current City limits (Blue Heron Boulevard) and the FP&L Plant in Area A. From that point south to the Martin County Line, FPUA will continue to provide retail water

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service until bulk water revenues from the County on the County's mainland utility system equal the difference between combined current FPUA revenues on North and South Hutchinson Island and the bulk water revenues for those areas at the \$1.90 per 1000 gallons rate (plus any incremental increases as allowed by the Bulk Service Agreement). At such time, the County shall compensate FPUA for the value of the water distribution system and Repump No. 2., which value is to be determined to the mutual satisfaction of the County and FPUA.

6. COUNTY agrees, for itself, that the Bulk Rate Utility Interlocal Agreement entered into by the City of Port St. Lucie and COUNTY, as approved by the County Commission on or about November 4, 2002, and as may be subsequently modified or amended, shall not apply to any potable water or wastewater service within Area "A" which is reserved by this Agreement to CITY and FPUA.

7. The parties agree that no development order shall be issued, nor any construction commence, after this Agreement is approved by each of the parties and it becomes effective according to the terms hereof which may be inconsistent with the terms and provisions above which, among other things, establish service Area "A" to CITY and FPUA, and service Area "B" to COUNTY.

8. The parties agree that within sixty (60) days after this Agreement becomes effective, COUNTY will conduct a straw poll of the residents of the Indian River Estates area as to whether or not they desire to receive water service and if so, whether they desire to receive retail utility service from the FPUA subject to a deferred annexation policy of 15 years as approved and ratified by previous action of the CITY, or if they desire to receive retail utility service by COUNTY with bulk utility service provided by FPUA. The CITY and FPUA shall prepare the form of the straw poll ballot with COUNTY providing CITY a description of the COUNTY

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service option as well as the no water service option. The parties agree that service to the Indian River Estates area will be provided based upon the decision of the majority vote of those residents participating in the straw poll. In the event that the residents approve retail service by FPUA, FPUA agrees to contribute \$3,500,000 toward the construction of the MSBU project.

9. The parties understand and represent that the terms of this Agreement either are, or should be consistent with requirements of their respective comprehensive plans and current potable water/wastewater master plans. Each will provide the other written confirmation of consistency, in form and substance acceptable to the others, and approved by the governing body. In the event there is a material inconsistency between the terms of this Agreement and either or both of any party's comprehensive plan and potable water/wastewater master plan, such inconsistency shall be promptly reviewed and addressed within the next one hundred eighty (180) days in the manner provided by law, based upon considerations of public health, safety and general welfare and such other factors as are properly considered in the course of normal review. Such review is not to be construed as "contract planning" as prohibited by law inasmuch as no party hereto commits itself in advance to eliminate any such inconsistency based solely upon this Agreement.

10. In the event that either party considers an amendment of its Comprehensive Plan or potable water/wastewater Master Plan which could reasonably be interpreted or understood as inconsistent with any term of this Agreement, such party shall give immediate written notice of the considered provision to the other parties as early in the process of proposed adoption as possible.

11. Upon execution of this Agreement by all governing bodies, through resolution, and when it further becomes effective, it shall be submitted for approval by the Court, as incorporated in joint motions for approval, and shall be binding upon the parties as to any subject matters covered

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by this Agreement, which may be embodied within issues in each of the pending cases named above, numbers 02-CA-000390(PC), 03-CA-000483(OC), and 03-CA-000530(OC). To the extent this Agreement may constitute a full and final settlement of all issues pending in such case, the parties shall agree to a stipulated final judgment, and such cases will then be dismissed. Such dismissal shall be with prejudice except that it shall be without prejudice to any matter, cause, or issue not otherwise governed by this Agreement, and shall further be without prejudice to revival to any proceedings otherwise dismissed in the event this Agreement or any part thereof is invalidated hereafter through final judgment by a court of competent jurisdiction in any proceeding brought by a person or entity who is not a party to this Agreement. Should any such action be refiled after dismissal, it is agreed that no Section 95.11, or defense of collateral estoppel, or other defense based upon passage of time, nor shall any subsequent voluntary dismissal by any party thereafter be deemed an adjudication on the merits for purposes of Fla.R.Civ.P. Rule 1.420(a) by virtue of the original dismissal pursuant to this Agreement.

12. The parties to this Agreement agree that neither the City, the FPUA, nor the County shall take any actions, either directly or indirectly, to prevent the implementation of this Agreement or alter the terms of this Agreement, including, but not limited to filing legal actions or administrative actions.

13. This Agreement may be executed in counterparts, and shall become effective upon filing with the Clerk of the Circuit Court.

14. This Agreement has been approved by the governing political bodies of the CITY, County and FPUA, and each signatory hereto represents their authority to execute this Agreement on behalf of their respective local government.

15. Nothing in this Agreement shall be deemed to affect the rights of any person not a party to

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this Agreement. This Agreement is not intended to benefit any third party who is not a signatory to this Agreement.

16. Each party to this Agreement shall bear its own costs, including attorneys' fees, incurred in connection with the legal proceedings resolved by this Agreement.

17. All parties to this Agreement are deemed to have participated in its drafting. In the event of any ambiguity in the terms of this Agreement, the parties agree that such ambiguity shall be construed without regard to which of the parties drafted the provision in question.

18. Should any part of this Agreement be found and declared by a Court of competent jurisdiction to be invalid for any reason, such invalid portion shall be severed from this Agreement and the remainder of the Agreement not otherwise declared expressly invalid shall remain in full force and effect.

19. Each party further agrees and consents that in the event of a breach or threatened breach of the provisions of this Agreement by any party, in addition to any other rights and remedies available to any party under this Agreement or otherwise, any party shall be entitled to an injunction to be issued by a court of competent jurisdiction, restricting or prohibiting the other party from committing or continuing any violation of this Agreement, and upon a proper showing as to the breach or threatened breach, irreparable harm, damage, or injury shall be presumed. The parties further agree that if either party avails itself of the procedure set forth in Florida Statute 164.1041(2)(as such statute exists or is hereafter amended), and a finding is made that an immediate danger to health, safety, or welfare of the public requires immediate legal action, or that significant legal rights will be compromised if a court proceeding does not take place immediately, the other party shall not challenge or otherwise object to the factual finding by the governing body of the other party except as to any procedural error or defect.

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20. All notices required or permitted to be given under the terms and provisions of this Agreement by either party to the other shall be in writing and shall be sent by registered or certified mail, return receipt requested, to the parties as follows:

As to the CITY:

Fort Pierce City Manager  
Fort Pierce City Hall  
100 North U.S. 1  
Post Office Box 1480  
Fort Pierce, Florida 34954-1480

With a copy to:

Fort Pierce City Attorney  
Fort Pierce City Hall  
100 North U.S. 1  
Post Office Box 1480  
Fort Pierce, Florida 34954-1480

As to the FPUA:

Fort Pierce Utilities Authority Director  
206 South 6<sup>th</sup> Street  
Fort Pierce, Florida 34950

With a copy to:

Fort Pierce Utilities Authority Attorney  
401-A South Indian River Drive  
Fort Pierce, Florida 34950

As to the COUNTY:

St. Lucie County Administrator  
2300 Virginia Avenue  
Administrative Annex  
Fort Pierce, Florida 34982

With a copy to:

St. Lucie County Attorney  
2300 Virginia Avenue  
Administrative Annex  
Fort Pierce, Florida 34982

21. In the event suit is brought to resolve any dispute between the parties arising from this Agreement, each party shall bear its own attorneys' fees, court costs and litigation expenses, including all fees and costs of all experts, consultants, and other related out-of-court expenses. Each party shall bear its own costs, including attorneys fees, incurred in connection with the legal proceedings resolved by this Agreement.

22. This Agreement shall not be changed, modified or amended in any respect except by written instrument signed by the parties hereto.

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IN WITNESS WHEREOF the parties have executed the Agreement.

ST. LUCIE COUNTY

CITY OF FORT PIERCE

Paula A. Lewis, Chairman

By: Paula A. Lewis  
CHAIR BOCC  
DATE: 2/10/04

By: Robert J. Benton, III, Mayor

DATE: March 1, 2004

FORT PIERCE UTILITIES AUTHORITY

By: Thomas K. Perona, Chairman

DATE: 3/2/04

APPROVED AS TO FORM AND CORRECTNESS

BY: [Signature]  
Assistant City Attorney

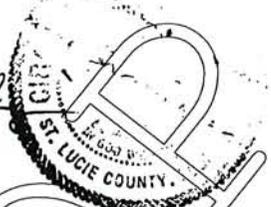
ATTEST:

Cassandra Steele  
By: Cassandra Steele, City Clerk  
Date: March 1, 2004



ATTEST:

[Signature]  
DEPUTY CLERK



APPROVED AS TO FORM AND CORRECTNESS

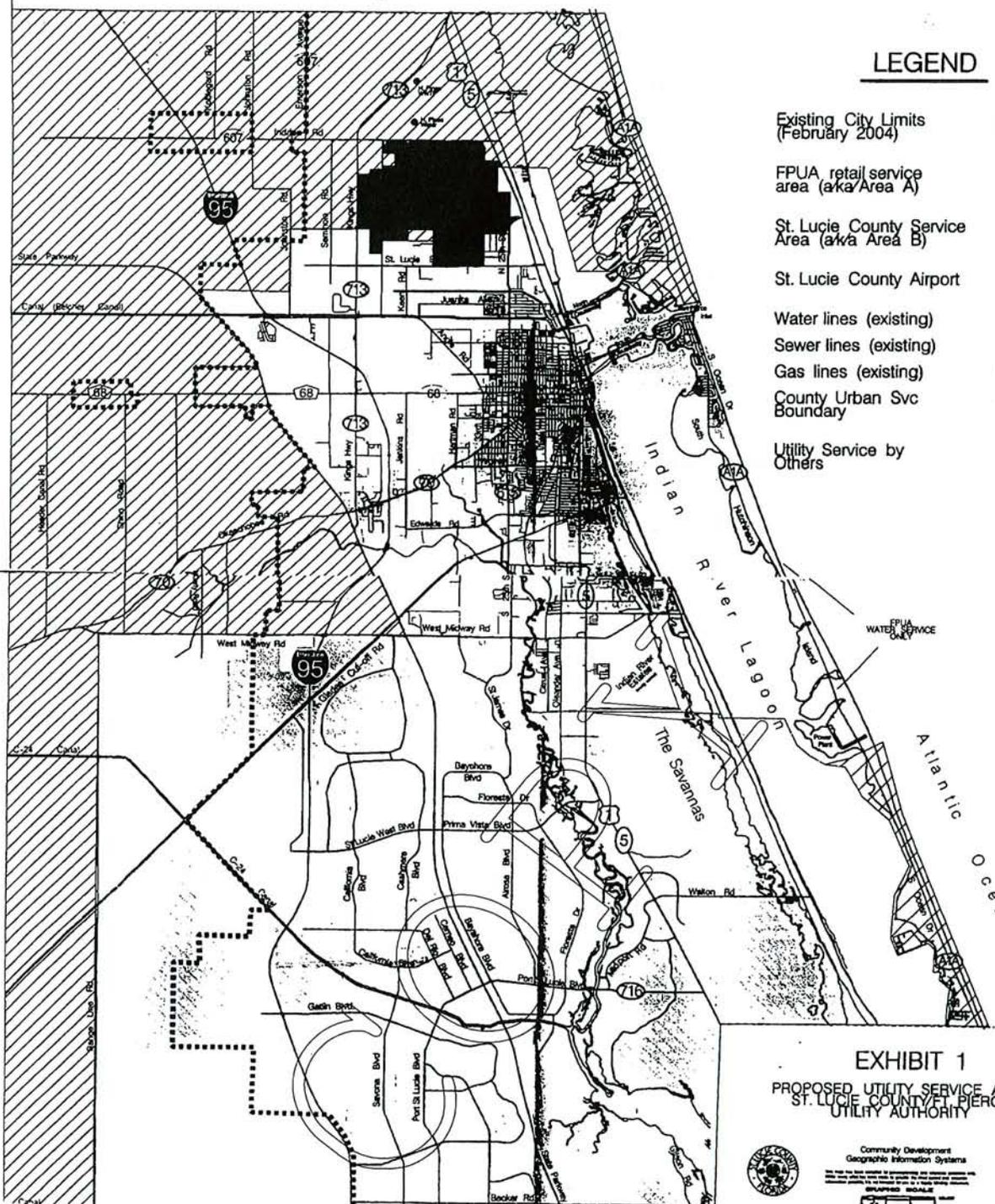
[Signature]  
COUNTY ATTORNEY

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# Indian River County

## LEGEND

- Existing City Limits (February 2004) 
- FPUA retail service area (aka Area A) 
- St. Lucie County Service Area (aka Area B) 
- St. Lucie County Airport 
- Water lines (existing) 
- Sewer lines (existing) 
- Gas lines (existing) 
- County Urban Svc Boundary 
- Utility Service by Others 



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**EXHIBIT 1**  
**PROPOSED UTILITY SERVICE AREA**  
**ST. LUCIE COUNTY/FORT PIERCE**  
**UTILITY AUTHORITY**



Community Development  
 Geographic Information Systems

THIS MAP WAS PREPARED BY CONTRACTORS FOR THE CITY OF FORT PIERCE, ST. LUCIE COUNTY, AND THE FORT PIERCE UTILITIES AUTHORITY. THE CITY OF FORT PIERCE, ST. LUCIE COUNTY, AND THE FORT PIERCE UTILITIES AUTHORITY ARE NOT RESPONSIBLE FOR ANY ERRORS OR OMISSIONS. THE SHOWN SCALE IS APPROXIMATE.



# Martin County

NOTE: DETAILED COLOR-CODED MAP (Exhibit 1) IS ATTACHED TO THE ORIGINAL INTERLOCAL AGREEMENTS ON FILE WITH THE CITY OF FORT PIERCE, ST. LUCIE COUNTY, AND THE FORT PIERCE UTILITIES AUTHORITY.

EXHIBIT 2

(INTENTIONALLY OMITTED)

COPY

EXHIBIT 3

Customers Serviced by FPUA within Area B

As of the effective date of the Interlocal Agreement and Bulk Service Agreement, FPUA provides service to the following customers in Area B:

St. Lucie County Landfill – Wastewater Service Only

  
\_\_\_\_\_  
Elie J. Boudreaux III, PE  
Director of Utilities

COPY

**EXHIBIT 4**

**AGREEMENT BETWEEN FORT PIERCE UTILITY AUTHORITY  
AND ST. LUCIE COUNTY, FLORIDA, FOR PROVISION OF  
BULK WATER, WASTEWATER AND RECLAIMED WATER SERVICE**

THIS AGREEMENT is entered into between the Fort Pierce Utility Authority, a Special District organized under the Charter of the City of Fort Pierce ("FPUA"), and St. Lucie County, Florida, a political subdivision of the State of Florida ("St. Lucie County").

**WITNESSETH:**

WHEREAS, St. Lucie County has various needs from time to time throughout the areas that St. Lucie County's utility department provides service to purchase bulk potable water, wastewater and reclaimed water service; and

WHEREAS, FPUA has available water, wastewater and possible future reclaimed water service from time to time which it desires to make available to St. Lucie County for Purchase; and

WHEREAS, both St. Lucie County and FPUA have the legal ability and authority to enter into an agreement for the sale and purchase of water and wastewater; and

WHEREAS, the Parties find that this Agreement serves a public purpose and is to the public's benefit; and

WHEREAS, St. Lucie County and FPUA desire to enter into this Agreement to accomplish the purposes set forth above (the "Agreement").

NOW, THEREFORE, in consideration of the premises and covenants herein contained, FPUA and St. Lucie County agree as follows:

1. Whereas Statements: The foregoing statements are true and correct.
2. Agreement to Serve:
  - a. FPUA agrees to provide bulk potable water, wastewater and reclaimed water service ("Bulk Service") to St. Lucie County, in accordance with the terms and provisions of this Agreement. Subject to availability at the time of request, St. Lucie County may, from time to time, request FPUA to provide water, wastewater or reclaimed water service to St. Lucie County at points of connection located outside of FPUA's existing utility service area as proposed by St. Lucie County. To the extent that the service requested by St. Lucie County (a "Service Request") is available at the time of request and interconnection with the St. Lucie County utility system at the proposed points of connection is economically feasible, as determined in the reasonable discretion of FPUA, and provided that the provisions of Section 3 below are complied with, including a determination that utility service within the city limits of Fort Pierce or FPUA service area will not be impaired or detrimentally affected, FPUA shall provide the requested service. Provided each Service Request complies with the requirements of this Agreement, the respective staffs of St. Lucie County and FPUA are authorized to implement the terms of this Agreement with respect to such Service Request without further action of the St. Lucie County Commission or FPUA governing board. There is no annexation requirement

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as a condition of provision of service by FPUA to St. Lucie County pursuant to the terms of this Agreement.

b. As required by all applicable FPUA resolutions addressing FPUA's Industrial Pretreatment Program and City of Fort Pierce Sewer Use Ordinance No. UA 98-5 or succeeding revised Sewer Use Ordinance, any industrial users that connect to the St. Lucie County utility system served by FPUA Bulk Wastewater Service will be subject to FPUA's industrial pretreatment program. This program is governed by Administrative Code 62-625 and administered by the State of Florida Department of Environmental Protection, Tallahassee, Florida. All permitting and operational costs, including surcharges/excess strength fees as defined and applicable in the FPUA resolutions, will be collected by St. Lucie County from such industrial users and remitted to FPUA with the next month's billing of Bulk Service Rates. The specific responsibilities of FPUA and St. Lucie County with regard to implementing and enforcing an Industrial Pretreatment Program that meets all state and federal requirements will be delineated in a separate Interlocal Agreement dealing only with the Industrial Pretreatment program in the bulk wastewater service areas.

3. Method of Extension and Delivery of Service: The provisions for the construction, installation and operation of the facilities of FPUA up to the point(s) of connection and the facilities of St. Lucie County past the point(s) of connection will be determined jointly by FPUA and St. Lucie County. St. Lucie County shall share equitably with FPUA in the capital cost associated with the extension of new mains or oversizing of mains necessary to bring adequate quantities of water to the bulk metering point(s) of connection in accordance with the then current FPUA policies for extending water and sewer service to new customers. St. Lucie County shall bear the initial capital cost of the master meter(s), backflow prevention devices, and pressure-sustaining valves required for service to St. Lucie County and shall transfer ownership of such master meter(s) and other backflow prevention or pressure sustaining devices to FPUA, which shall, after transfer, assume the obligation to operate, maintain and replace such master meter(s) and other devices. All master meters and backflow prevention devices shall be tested annually by FPUA, with the cost of such testing to be paid by St. Lucie County. FPUA shall provide service to St. Lucie County at the points of connection in accordance with then existing regulations and standards not in conflict with the terms of this Agreement or the Charter of the City of Fort Pierce.

4. Rates and Charges: St. Lucie County agrees to pay the following bulk rates for the services requested. FPUA shall charge St. Lucie County for bulk water service at a rate of \$1.90 per thousand gallons (the "Bulk Water Rate"), for bulk wastewater service at a rate of \$4.60 per thousand gallons (the "Bulk Wastewater Rate") and a rate for bulk reclaimed water service (including Capital Improvement Charges, if any) as shall be agreed upon between the parties at such time as FPUA institutes a reclaimed water service program (the "Bulk Reclaimed Water Rate"), all as measured at master meter(s) for each service (collectively, the "Bulk Service Rates"). Bulk wastewater volumes for billing shall be determined from bulk water meter readings and retail irrigation-only meter readings within the bulk water service area, as described in Paragraph 6. The Bulk Service Rates may be revised from time to time by FPUA, at such time and in the same percentage as FPUA revises its retail residential customer class commodity charges for the lowest consumption level. There shall be no surcharge imposed on the Bulk Rates charged to St. Lucie County. Retail water and wastewater rates established by St. Lucie County for the bulk water service areas shall be structured such that they will not be lower than the retail water and wastewater rates for FPUA customers within the City of Fort Pierce.

5 Payments of Water/Wastewater Capital Improvement Charges:

a. Provisions with respect to St. Lucie County's payment of Water and Wastewater Capital Improvement Charges are as follows: Water Capital Improvement Charges: \$1,378.00 per

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equivalent residential connection ("ERC"). A Water ERC is based upon 300 gallons per day; Wastewater Capital Improvement Charges: \$1,222.00 per ERC. A Wastewater ERC is based upon 240 gallons per day. Separate Capital Improvement Charges will be assessed for irrigation-only water use, in accordance with standard FPUA policies. All Capital Improvement Charges may be revised from time to time by FPUA, at such time and in the same percentage as the FPUA revises its retail residential customer class Capital Improvement Charges. There shall be no other capital or impact charges to St. Lucie County for Bulk Service.

b. St. Lucie County will collect the Water Capital Improvement Charges and Wastewater Capital Improvement Charges and remit the same to FPUA upon the earlier of the initial provision of utility service by St. Lucie County to a customer or the receipt of payment by St. Lucie County of such Capital Improvement Charges pursuant to a developers agreement reserving utility capacity with St. Lucie County. St. Lucie County and FPUA shall resolve in good faith any issues regarding whether a particular customer or developer agreement is being provided utility service pursuant to this Bulk Service Agreement. St. Lucie County and FPUA shall perform a true-up of Capital Improvement Charge payments as of October 1 of each year during the term of this Agreement based upon the average daily flows for the prior 12 months, as measured at the master meter(s), divided by the agreed upon Water ERC and Wastewater ERC set forth above ("True Up ERC's). In the event that the True Up ERC's exceed the number of ERC's for which St. Lucie County has made payment to FPUA, then St. Lucie County shall pay the difference between the True Up ERC's and the paid ERC's. If bulk average daily flows indicate a lower demand than ERC projections, there shall be no downward adjustment of ERC's or Capital Improvement Charges. The bulk wastewater service areas will coincide with bulk water service areas.

c. It is the intention of FPUA to utilize the existing South Hutchinson Island (SHI) Water Reclamation Facility (WRF) to it's fullest capacity. ERC's for wastewater treatment will be issued to FPUA and St. Lucie County bulk wastewater customers until 100% of the SHI WRF capacity is reached. St. Lucie County agrees that Capital Improvement Charges collected for bulk wastewater ERC's connected to the SHI WRF are reimbursements to FPUA for sunk cost of treatment and transmission facilities necessary to transport and treat the wastewater. Both parties understand that when certain capacity limits are reached, State regulations require certain steps to be taken to start the process for a new plant to be sited, designed and constructed. Both parties agree that in the event the SHI WRF is required to be taken out of service by a regulatory agency or by any statute, rule, regulation or court order, it will be the joint responsibility of St. Lucie County and FPUA to plan for replacement capacity at another site. FPUA and St. Lucie County will plan for and construct the future mainland wastewater treatment plant as partners, with each party paying it's share of costs on an allocated capacity basis, rather than a capital improvement charge basis.

6. Billing: FPUA shall bill St. Lucie County each month for Bulk Service, subject to the provisions of the FPUA rules and regulations, as amended from time to time. Bulk wastewater billings shall be based upon bulk water meter readings, less the aggregate sum of all irrigation-only water meter readings within the County's bulk water service area. FPUA shall separate each month's bill by points of connection between FPUA and St. Lucie County. Bills are due when rendered and will be considered late if not paid within 15 days. Notwithstanding provisions in the FPUA Code to the contrary, FPUA shall not discontinue Bulk Service to St. Lucie County for non-payment unless it has provided St. Lucie County 30 days written notice of FPUA's intention to discontinue service for non-payment by St. Lucie County with a right to cure. In the event of a dispute over the accuracy of a bill, St. Lucie County shall pay the non-disputed portion of the bill to FPUA and provide FPUA written notice detailing the reason for the disputed portion of the bill. FPUA shall not discontinue service for non-payment of the disputed portion of the bill. Disputes over billing accuracy that are not amicably resolved between the parties within 20 days of written notice to FPUA from St. Lucie County shall be resolved pursuant to the Dispute Resolution provisions set forth in Section 10 below.

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7. North Hutchinson Island Service Agreement: Upon execution of this Agreement, the current North Hutchinson Island Bulk Utility Service Agreement between the County and FPUA ("NHI Bulk Service Agreement") shall be automatically terminated, and the Bulk Service Agreement shall take immediate effect for service to North Hutchinson Island, subject to the following bulk water rate transition period: (1) for a period of two years from the date of this Agreement, the bulk water rate shall remain at the current rate charged by FPUA to the County under the NHI Bulk Service Agreement ("Current Rate"); (2) commencing at the end of the two year period, and on the same date for the next three years, the bulk water rate will be reduced by one quarter of the difference between the Current Rate and the bulk water rate for the same time frame as calculated under the Bulk Service Agreement (including any applicable incremental increases); (3) commencing at the end of fifth year, the bulk water rate shall be the same as the then current bulk water rate under the Bulk Service Agreement (including any applicable incremental increases). St. Lucie County shall pay no Capital Improvement Charges or impact fees for development that is existing (or fully permitted by St. Lucie County and FDEP) at the time of this Agreement and for a period of two years from the date of this Agreement. St. Lucie County shall pay capacity fees to FPUA for all development on North Hutchinson Island permitted after said two-year period.

8. Airport Properties Service Agreement: Upon execution of this Agreement, the existing water service agreements between FPUA and St. Lucie County for service to St. Lucie County's Airport Properties shall be automatically terminated and replaced by this Agreement. The parties agree that such termination shall be without prejudice to the separate annexation agreement which shall otherwise remain in full force and effect, and no party shall be deemed to have waived any right or entitlement under the annexation agreement or any objection to the annexation agreement by entering into this Agreement. The rates for bulk service as set forth in this Agreement shall commence with the next billing cycle 30 day after the execution of this Agreement ("Changeover Date"). The rates for bulk service in the existing bulk water service agreement shall apply until the Changeover date. St. Lucie County shall pay no Capital Improvement Charges or impact fees for the existing bulk service provided at the Changeover Date. St. Lucie County shall pay capacity fees to FPUA for all development on St. Lucie County's Airport Properties permitted after the Changeover Date.

9. Term: The term of this Agreement shall be 30 years, and may be extended by the parties for 2 additional terms of 30 years which extension must be agreed upon on or before the 15<sup>th</sup> year of the initial term or an extension term, as applicable. Either party may terminate this agreement upon providing the other party 15 years written notice of termination; provided, however, that in the event the remaining term at the time of notice of termination is less than 15 years, the term of this Agreement shall be extended so that the Agreement will terminate in not less than 15 years.

10. Force Majeure: In the event that performance of this Agreement by either party to this Agreement is prevented or interrupted beyond the control of either party, including, but not limited to, act of God or the public enemy, war, national emergency, allocation or of other governmental restrictions upon the use or availability of labor or materials, rationing, civil insurrection, riot, radical or civil rights disorder or demonstration, strike embargo, flood, tidal wave, fire, explosion, bomb detonation, nuclear fallout, windstorm, hurricane, earthquake, or other casualty or disaster or catastrophe, failure or breakdown of pumping transmission or other facilities, governmental rules or acts or orders or restrictions or regulations of requirements, acts or action of any government or public or governmental authority or commission or board or agency or agent or official officer, the enactment of any statute or ordinance or resolution or regulation or rule or ruling or order, in order to decree or judgment or restraining order or injunction of any court, said party shall not be liable for such non-performance.

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11. Laws of Florida: This Agreement shall be governed by the laws of the State of Florida and it shall become effective immediately upon execution by both parties hereto, subject to any approvals which must be obtained from governmental authority, if applicable, and subject to all conditions precedent for the rendering of service as set forth in this Agreement.

12. Dispute Resolution: In the event either party to this Agreement is required to enforce this Agreement the following procedure shall be followed:

12.1 Prior to initiating any litigation between the parties, the initiating party shall provide a written notice to the non-initiating party of its intent to bring litigation together with a reasonably detailed description of the nature of the claim. Within ten (10) days of receipt of such notice, the parties shall schedule a pre-litigation mediation proceeding which meeting shall take place within twenty (20) days or such other time as the parties may agree to attempt to mediate an amicable resolution of the dispute. The parties shall cooperate with each other to select a mutually agreeable mediator. The cost of mediation shall be borne equally by each party. Mediation shall take place at the FPUA administrative complex.

12.2 Any controversy or claim arising out of or relating to this Agreement, or any breach thereof, that is not resolved through the mediation process specified in subsection 12.1, shall be resolved by binding arbitration, before a three member panel, in accordance with the rules then obtaining of the American Arbitration Association. Each party shall select one arbitrator and the two arbitrators so selected shall select a third arbitrator. The third arbitrator must have experience in the water and wastewater utility operations and management business. Arbitration shall take place at the FPUA's administrative complex. Any judgment upon the award rendered may be entered in any court having jurisdiction. The cost of arbitration shall be borne equally by each party. Each party shall bear its own attorneys fees and costs arising out of any mediation and arbitration.

### MISCELLANEOUS PROVISIONS

13. Whenever the singular number is used in this Agreement and when required by the context, the same shall include the plural, and the masculine, feminine and neuter genders shall each include the others.

14. Exhibits mentioned in this Agreement are hereby incorporated herein by reference and made a part hereof as fully set forth herein.

15. This Agreement may be executed in several counterparts, each of which shall be deemed an original and such counterparts shall constitute one and the same instrument.

16. No agreement shall be effective to add to, change, modify, waive or discharge this Agreement, in whole or in part, unless such agreement is in writing and signed by the parties hereto. In the event that any non-material provision of this Agreement is determined to be of no force and effect by a court of law, such provision shall be severed from this Agreement and the remaining Agreement shall continue in full force and effect.

17. Whenever approvals of any nature are required by either party to this Agreement, it is agreed that same shall not be unreasonably withheld or delayed.

18. Within sixty days of execution of this Agreement, St. Lucie County shall provide FPUA with a 5-year projection of bulk water and wastewater demands at all connection points. St. Lucie County shall update the 5-year projection annually thereafter during the term of this Agreement.

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At least annually, FPUA shall also provide the City of Fort Pierce a written report analyzing the extension of facilities, services and capacities required of it under this Agreement.

19. In the event that during the term of this Agreement, St. Lucie County elects to construct water or wastewater treatment capacity for new development not already served under this Agreement, then St. Lucie County shall provide FPUA with 5 years prior notice of such construction. Such construction may not replace existing demand on FPUA's bulk supply (unless such notice is accompanied by a notice of termination of this Agreement, in which event the constructed capacity may not be used to replace existing demand on FPUA's bulk supply until the effective date of the termination of this Agreement).

20. During the term of this Agreement, St. Lucie County shall not reduce the number of ERC's of water and wastewater service utilized under this Agreement and furnish those St. Lucie County Customers with water and wastewater service from another source, including one owned and operated by St. Lucie County (provided the County may continue to provide water and wastewater service from its existing water and wastewater facilities until the current capacity of those existing systems is fully utilized). This requirement shall allow, however, for normal fluctuations in water and wastewater demand.

21. During the term of this Agreement, FPUA shall be the exclusive bulk service provider to St. Lucie County within Area B, subject to the following conditions: (1) to the extent that FPUA denies a Service Request from St. Lucie County, St. Lucie County may meet such Service Request from another source, including one owned and operated by St. Lucie County; (2) to the extent that St. Lucie County currently receives bulk utility service from the City of Port St. Lucie for the Okeechobee Road corridor, St. Lucie County may continue such bulk service but only to the extent of capacity reserved as of the date of this Agreement as set forth on Attachment A to this Agreement; and (3) to the extent that St. Lucie County secures emergency interconnections with other utility systems and utilizes such emergency interconnections for temporary or emergency service needs.

22. St. Lucie County's retail customers in the bulk water service areas will be subject to the same water use restrictions as may be imposed on FPUA's retail customers under emergency conditions.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement on the respective dates under each signature:

**FORT PIERCE UTILITIES AUTHORITY**

By: [Signature]  
Chairman

**APPROVED AS TO FORM AND CORRECTNESS:**

By: [Signature]  
FPUA General Counsel

**BOARD OF COUNTY COMMISSIONERS  
ST. LUCIE COUNTY, FLORIDA**

By: [Signature]  
Chairman

OR BOOK 1917 PAGE 1837

ATTEST:

[Signature]  
Secretary

ATTEST:



APPROVED AS TO FORM AND  
CORRECTNESS:

*[Handwritten Signature]*  
Deputy Clerk

*[Handwritten Signature]*  
St. Lucie County Attorney

COPY

DR BOOK 1917 PAGE 1838

**EXHIBIT 2**

**Chapter 1, Future Land Use Element**



**CHAPTER 1**

**ST. LUCIE COUNTY  
COMPREHENSIVE PLAN**

**FUTURE LAND USE ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 5, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - ~~May 6~~December, 2008 (Pending Board Approval)

**FUTURE LAND USE ELEMENT  
ST. LUCIE COUNTY**

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In addition to the permanent population of the community, an estimate of the increases resulting from a seasonal adjustment to the permanent population has been included. The seasonal adjustment factor used in these population estimates is 20 percent of the permanent population. This multiplier was developed utilizing information provided through the Florida Department of Transportation 1985 Highway Capacity Manual and by Dr. James Nicholas, PhD, Technical Memorandum on the Methods Used to Calculate Road Impact Fees, St. Lucie County Florida (1989). No local surveys or empirical studies have been conducted that would provide a more definitive statistical base.

**TABLE 1-2  
St. Lucie County Population Projections**

Year	St. Lucie County	Unincorporated
1980	87,182	38,097
1985	116,239	47,120
1990	120,582	47,629
1995	171,003	61,676
2000	198,143	67,765
2005	222,140	72,764
2010	298,800	81,473
2015	346,200	87,707
2020	390,400	93,398
2025	429,700	98,067

Source: 2006 University of Florida, Bureau of Business and Economic Research (published February 2007);  
Unincorporated projections from University of Florida Shimberg Center

In 1988, the City of Port St. Lucie accounted for about 30 percent of the total County population, while at the same time the unincorporated areas of County accounted for 40 percent of the overall permanent population. The existing Plan projected that the population of Port St. Lucie would surpass the populations of both the City of Ft. Pierce and the unincorporated County within 25 years. This, in fact, happened within 10 years of the adoption of that Plan. As of 2006, Port St. Lucie accounts for about 56 percent of the population while the unincorporated County accounts for about 27 percent. Rapid growth in Port St. Lucie is expected to continue. Its affect has caused the population of unincorporated St. Lucie County to decrease as a percentage of the county's population, even as it increases numerically. The relative percentage of population in the unincorporated County is anticipated to decrease to 22 percent by 2025.

For the purposes of water and wastewater service planning, the above population projections must be modified slightly. This is due to the fact that existing residents included in Table 1-2 are served by existing County-owned or municipal treatment facilities, privately owned treatment facilities, or on site wells and septic systems.

Therefore, for planning purposes, the County must consider new residents when planning future facilities. Revised population projections specific to water and sewer planning purposes are presented in the Water and Sanitary Sewer Sub-Elements of this Comprehensive Plan. **Table 1-3** provides a summary of the population projections used in preparation of the water and sewer sub-elements (Chapters 6(A) and 6(D)).

**Table 1-3  
St. Lucie County Utilities Service Area—Connected Water and Wastewater Population Projections, 2007-2027**

Service Area	2007	2012	2017	2022	2027
North County Service Area	3,194	45,824	48,968	69,044	80,059
Central County Service Area	0	8,852	20,384	31,337	41,962
South County Service Area	0	6,292	18,703	28,134	32,508
North Hutchinson Island <sup>1</sup>	8,098 / 6,580 <sup>2</sup>	8,557 / 7,449 <sup>2</sup>	9,017 / 8,258 <sup>2</sup>	9,476 / 9,096 <sup>2</sup>	9,935

<sup>1</sup>Connected population based on Equivalent Residential Connections (ERC) connected to North Hutchinson Island (NHI) water system and assumes 2.2 people per ERC.

<sup>2</sup>Connected water/wastewater connected population, respectively. Water and wastewater projections for the remaining service areas are equal.

### CONSIDERATIONS IN LAND USE DECISION MAKING

#### A. SOILS

In considering lands that are potentially available for development, the sensitive nature of the environment and its ability to support that development must be carefully considered. Development activities in much of St. Lucie County need to address the issues of poorly drained soils. Typical of this region, the dominant soil series is the Pineda-Wabasso-Riviera and Winder-Riviera soil groups. These are classified by the U.S. Soil Conservation Service as being soils of swamps, marshes, and very wet areas that are subject to ponding or flooding. They are not considered as prime for development in their natural state. However, it should be noted that through the application of proper building practices, these soils may be used for urban development purposes. Map 8-5 (Conservation Element) provides a generalized description of the various soil types found in St. Lucie County.

#### B. HISTORIC RESOURCES

Within St. Lucie County, there are several historical sites and places, identified on both State and National registers. These sites and facilities consist of both onshore locations as well as offshore treasure wrecks. The region's name, *The Treasure Coast*, was in large measure brought about because of the number of Spanish treasure ships lost in storms off the coastal areas.

Within the unincorporated areas of the County only one nationally recognized historic structure is identified, the Casa Caprona Apartment site. Built during the first quarter of the 20th century, in conjunction with what is now called the Florida East Coast Railroad, the Casa Caprona facility served as a hotel for travelers and land purchasers from the north during the early Florida land boom periods. The facility, constructed in the typical Mediterranean style of the time, is now used as a co-op apartment complex. Its inclusion on the National Historic Register may assist in its preservation for the future. To date, it has not been well maintained.

EXHIBIT 3

Chapter 6(A), Potable Water Sub-Element



**CHAPTER 6 (A)**

**ST. LUCIE COUNTY  
COMPREHENSIVE PLAN**

**POTABLE WATER SUB-ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 5, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - ~~May 6~~December \_\_, 2008 (Pending Board Approval)

**ST. LUCIE COUNTY  
POTABLE WATER SUB ELEMENT**

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(will be updated prior to submittal to DCA)

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# ST. LUCIE COUNTY POTABLE WATER SUB ELEMENT

## INTRODUCTION

The Potable Water Sub-Element provides a summary of existing potable water supplies and treatment facilities in St. Lucie County (County). These facilities include municipal regional systems and area or development-specific systems, in addition to systems for individual residences. Only a small portion of the Unincorporated County is currently serviced through County owned services (primarily the Holiday Pines development). A bulk user agreement is in place with the Ft. Pierce Utilities Authority (FPUA) to provide service in the northern portion of the County's service area within the Urban Service Boundary. FPUA also serves customers within its retail service area. The Port St. Lucie Utility Systems Department provides service in the southeast portion of the County within their designated service area. The majority of the residential supply within the Unincorporated County is provided by private means. The needs for the County's future are discussed, with goals, objectives and policies focusing on specific activities which will remedy those needs.

## BACKGROUND

### Terms and Concepts

A potable water supply system normally consists of a water supply source, a treatment plant, and a distribution and storage network. Either surface water, stored in natural lakes or man-made reservoirs, groundwater, or some combination of the two usually constitute the supply source for a system. The selection of a source for any system must consider the type and quality of sources available and the cost of developing the source for use.

Before being used for public consumption, all water must be treated. Treatment either removes impurities or renders them harmless from the raw water in order to improve its quality for either public health or aesthetic reasons, or both. The treatment process adds to the cost of supplying water, but it also expands the range of raw water sources that can be utilized.

After treatment, the water is supplied to individual users in a community by way of a network of pipes and storage tanks. Large transmission lines, called distribution mains, carry water to major demand areas and interconnect with a network of smaller lines which eventually supply individual establishments. Both the distribution mains and distribution network should be interconnected to form flow loops to allow water to circulate from various portions of the system to areas of highest momentary demand.

Water is delivered under pressure within the distribution system in order to ensure adequate flow to meet demands. Demand fluctuates during each day, usually exhibiting peaks during the morning and evening, corresponding to periods of highest residential use. Localized demand peaks also occur when the system is utilized for fire fighting purposes. In order to provide adequate quantities and pressure to meet peak use and fire flow demands, storage tanks are linked with the distribution system at strategic locations. During low demand periods these tanks are filled as water is pumped into the system. During the peak demand periods, water flows from the tanks back into the system to augment flows and maintain pressure. Ground level and elevated storage tanks are both commonly used. Many systems also include auxiliary pumps which operate only during peak demand periods.

## Regulatory Framework

---

St. Lucie County  
Comprehensive Plan

Infrastructure/ Water - March 5, 2002  
Revised: January, 2004  
Revised: May 6 December, 2008 (Pending Board Approval)

The federal government has established water quality standards for the protection of water for public use, including operating standards and quality controls for public water systems. These regulations are provided in the Safe Drinking Water Act, Public Law 99-339. This law directed the Environmental Protection Agency (EPA) to establish minimum drinking water standards. The EPA standards are divided into Primary (those required for public health) and Secondary (recommended for aesthetic quality) categories.

In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act, Sections 403.850 - 430.864, Florida Statute. The Florida Department of Environmental Protection (FDEP) is the State agency responsible for implementing this act. In this regard, FDEP has promulgated rules classifying and regulating public water systems under Chapter 17-550, 555 and 560 of the F.A.C. The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida.

South Florida Water Management District (SFWMD) is responsible for managing water supplies to meet existing and future demands. Regulation of consumptive use is achieved through a permitting system, through which water resources are allocated among the permitted consumers.

In 2002, 2004 and 2005, the Florida Legislature enacted bills modifying Chapters 163 and 273, Florida Statute, to improve water supply and land use planning between the five water management districts, FDEP and the Department of Community Affairs (DCA). The 2002 legislation required local governments to prepare 10-year water supply facilities work plans and incorporate the work plans into their comprehensive plans. The 2004 legislation allowed local governments until December 1, 2006 to complete the work plans - a deadline that was later extended to January 2008. The 2005 update required local governments to coordinate the preparation of the work plans with the water supply plan prepared by the applicable water management district. In conjunction with the preparation of the 2008 comprehensive plan updates pertaining to water and sewer services, the County prepared the required work plan summarizing the existing and proposed conditions of each public and privately-owned Water Treatment Plant (WTP) in the unincorporated County area. Facilities owned by the City of Port St. Lucie, FPUA and St. Lucie West were not included in the County's Work Plan due to the fact that each entity was required to submit an individual plan. The Work Plan and comprehensive plan updates will be submitted to DCA and SFWMD upon approval by the County's Planning & Zoning Commission and the Board of County Commissioners.

## **EXISTING CONDITIONS**

### **Existing Planning Documents**

St. Lucie County is in the process of updating the completed the Water and Wastewater Master Plan Update in October 2008, which will serve as an overall planning document for potable water facilities. ~~Completion of the master plan is anticipated in 2008.~~ The two major urban areas of the County, Ft. Pierce and Port St. Lucie, have regionalized potable water treatment and distribution systems. St. Lucie County Utilities (SLCU) is currently developing a regional water treatment and distribution system to serve unincorporated areas of the County within the urban service boundary. The City of Ft. Pierce completed a master plan update for water and wastewater in September 2006.

### **Regional Facilities**

**Figure 6A-1** outlines general areas of potable water service for the major regional facilities now operating in the County. Many small treatment facilities holding service area franchises also exist, but their area is usually limited to a single development or a relatively small area. The majority of these small facilities are listed in the

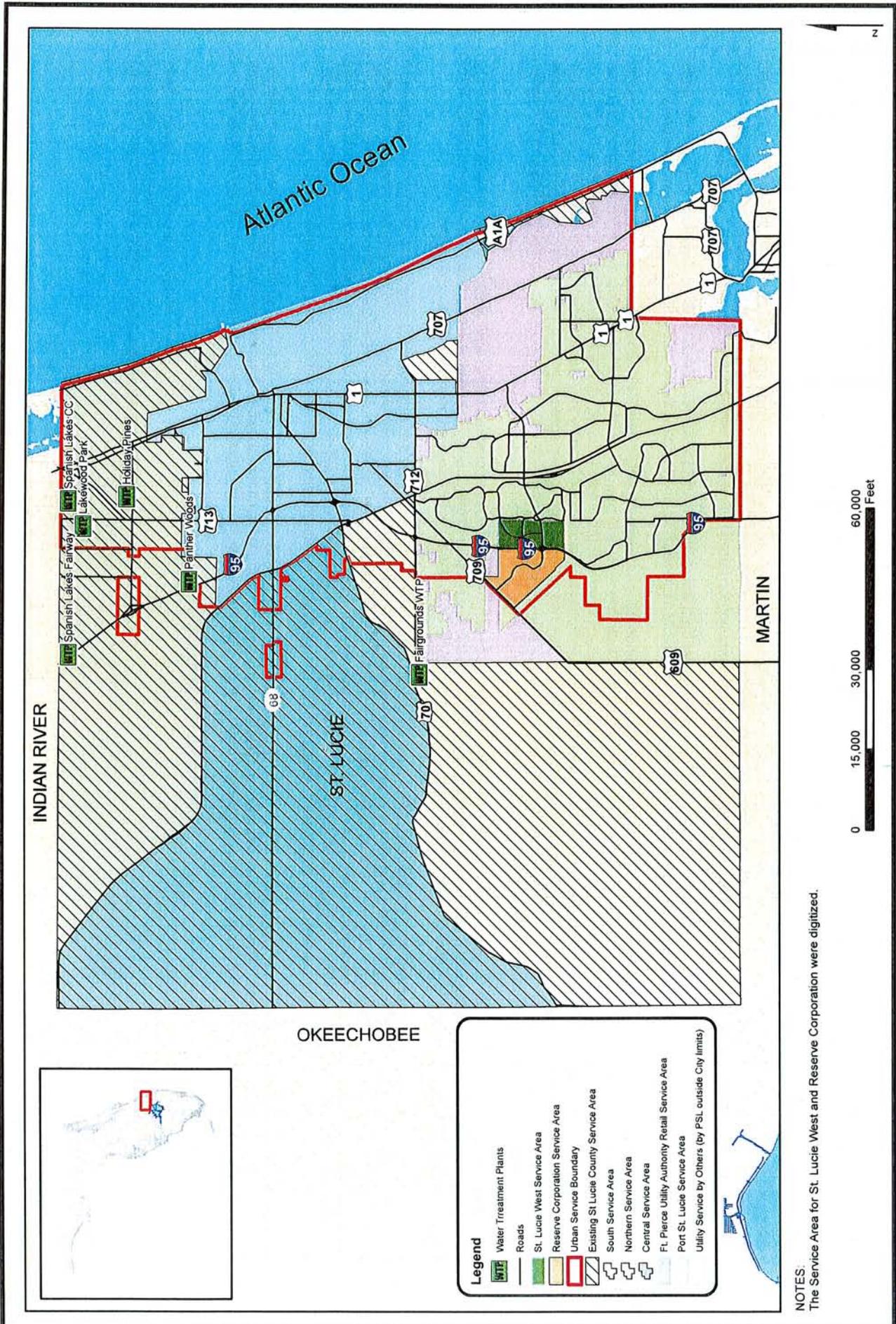


Figure 6-A-1  
Potable Water Service Areas and WTP Locations  
St. Lucie County, FL

NOTES:  
The Service Area for St. Lucie West and Reserve Corporation were digitized.



package plant portion of this sub-element.

**Ft. Pierce Utilities Authority:** FPUA maintains a 20 million gallon per day (MGD) potable water treatment plant referred to as the Henry A. Gahn WTP located on 25<sup>th</sup> Street in Ft. Pierce. This facility consists of two separate WTPs, one lime-softening and one reverse osmosis (RO), with a combined permitted capacity of 18.99 MGD. Raw water is obtained from several municipal wellfields consisting of both surficial aquifer and Floridan aquifer wells and is processed for potable water use at the. The water distribution system currently contains well over 200 miles of water mains.

In 1999, the FPUA announced plans to complete a 4.0 MGD RO expansion to the existing facility, bringing the total plant capacity to 25.2 MGD. An additional 2.0 MGD filter system in the future will increase the permitted treatment capacity to 27.2 MGD. The production capacity of this facility is presently permitted 17.9 MGD by the South Florida Water Management District water use permit. The first phase of expansion occurred in late 2000, with future expansion plans being adopted.

The current method of disinfection with chloramination requires continual operation of both lime softening units to achieve the 20 MGD design flow. Because this does not allow for maintenance down time, an effective maximum flow of 13 MGD is probably more realistic and in line with the currently available raw water supply.

This facility currently provides water service to the City of Ft. Pierce and adjacent unincorporated areas, including most of South Hutchinson Island to the Martin County line, and to areas north, west, and south of the City limits. Although the line on the South Island runs to one mile north of the Martin County line, most of the taps have been purchased resulting in limited additional available capacity. The water service boundary is approximately bounded by Midway Road to the south (and, on South Hutchinson Island by the Martin County line); by the Turnpike to the west; by St. Lucie Boulevard to the north; and by the Atlantic Ocean to the east. This is an area in which service could be provided given current capacity of the existing system. FPUA has entered into a bulk agreement with the County to serve some of these adjoining properties. Properties located adjacent to and nearby the City, are responsible for locating and maintaining their own water supplies. These on-site water supplies normally obtain their water from shallow aquifer wells.

During the 1990's, St. Lucie County initiated condemnation proceedings against the assets of General Development Utilities. After assuming responsibility of operating the General Development Utility system, St. Lucie County became the second largest water supplier in the County. In 1994, St. Lucie County transferred to the City of Port St. Lucie all of the former General Development Utility assets. The Port St. Lucie Utility Systems Department now operates this system.

**Port St. Lucie Utility Systems Department:** On October 1, 1994, the City of Port St. Lucie acquired the Utility's assets from St. Lucie County through an Agreement of Transfer. The City subsequently implemented a phased water and sewer expansion plan that now provides a centralized water and wastewater treatment system to nearly every property within the City's limits, as well as to certain properties located in the unincorporated County. Prior to the City's expansion efforts, seventeen (17) sub-regional systems existed within the boundaries of Port St. Lucie's Utility Service Area. These sub-regional systems were not interconnected to each other and only served a small part of the population within the City's Utility Service Area. As the City's primary water and sewer systems were extended throughout the community, twelve (12) of these isolated treatment systems have been connected to the City's wastewater system and their treatment facilities decommissioned.

In addition to the system operated under the direction of the City of Port St. Lucie's Utility Systems Department, there are two other sizable sub-regional providers located within the City's corporate limits. The water and wastewater system belonging to St. Lucie West Community Development Services District was constructed as part of the St. Lucie West Development of Regional Impact in the late 1980's and is operated under the oversight of the Development District's Board of Supervisors.

The water and wastewater system belonging to The Reserve Community Development Services District was constructed in the early 1980's to serve the Go Team Industrial Park that is located within the City and a portion of The Reserve, an adjacent residential community that is located in unincorporated St. Lucie County.

As of January 2008, there were no plans to have either of these systems absorbed by the City; however, operational interconnects exist between the water systems to provide for back up services, should they be needed

**St. Lucie West:** St. Lucie West is a large development in the western part of Port St. Lucie. This system's franchise area is entirely within the City limits. St. Lucie West produces its water from the shallow aquifer, after being treated by membrane softening (a low pressure RO process). There is an existing 2 MGD RO WTP with plans to increase capacity to match the needs of the development. The St. Lucie West plant discharges its RO concentrate to its own wastewater treatment plant.

**North Hutchinson Island Utility District:** In 1991, SLCU acquired the Bryn Mawr and North Hutchinson Island Water and Wastewater Utilities and expanded them to form a regional water and wastewater utility serving all of North Hutchinson Island. In 1996, the North Hutchinson Island Wastewater Utility became fully operational with the 0.5 MGD wastewater plant.

North Hutchinson Utility District offers potable water to North Hutchinson Island from North A1A/ Little Jim Bridge north to approximately 2.2 miles south of the County line. Construction is currently underway to extend this service north to the County line. The North Hutchinson Utility District purchases potable water from FPUA and resells the water to its customers on North Hutchinson Island.

In August 2005, the North Hutchinson Island Utility District, the Airport Utility District, the North County (Holiday Pines) Utility District, the Mid County District, the Indian River Estates Municipal Services Benefit Unit (MSBU) District and the H.E.W. Utility District were consolidated into the St. Lucie County Water and Sewer District.

**St. Lucie County Water and Sewer District (formerly known as Holiday Pines Service Corporation):** In July 1999, SLCU acquired the Holiday Pines Service Corporation. The service area for the St. Lucie County Water and Sewer District includes the Holiday Pines subdivision and some commercial and residential areas fronting Kings Highway and Indrio Road. The August 2005 consolidation of the various utility districts described above incorporated the corresponding service areas into the St. Lucie County Water and Sewer District.

SLCU owns and operates a water treatment plant in the St. Lucie County Water and Sewer District with a permitted capacity of 0.288 MGD (Holiday Pines WTP). Average daily flow at this facility in 2006 was 0.124 MGD. Plans are currently underway to increase the Holiday Pines WTP capacity to 0.5 MGD.

**Reserve Utility Corporation:** This utility is intended to serve the area just west of Port St. Lucie known as The Reserve. The Reserve is a planned residential, commercial, and industrial development. There will be 3,200 residences, 240 acres of industrial and 55 acres of commercial, with approximately 80 percent of residences currently in place. The water treatment plant has a permitted capacity of 0.414 MGD and an interconnect agreement with St. Lucie West Services District for up to 0.750 MGD, which combined will serve all units at build out.

#### **Privately Owned Utilities with Capacities Greater than 0.1 MGD**

**Panther Woods:** Panther Woods, formerly Meadowood Golf and Country Club, owns and operates a lime softening WTP that is permitted to produce up to 0.432

MGD of potable water. The historical peak day production is approximately 0.2 MGD. The WTP, fed by four 8-inch surficial aquifer wells, was recently refurbished and start-up took place in January 2008.

Raw water is pumped from four 8-inch diameter surficial aquifer wells that are approximately 95 feet deep and have a combined capacity of about 200 gallons per minute.

**Spanish Lakes Country Club:** The Spanish Lakes Mobile Home Park is owned by the Wynne Building Corporation. Potable water service is provided via an on-site RO WTP. As of February 2008, the RO system construction is not fully complete, but is operating with FDEP permission. Raw water is provided via four surficial aquifer wells. The permitted capacity of the WTP is 0.33 MGD. The existing population within the mobile home park is 2,470 (1,300 lots), which is anticipated to increase to 3,040 in 2010.

#### **Spanish Lakes Fairways:**

Spanish Lakes Fairways is a private adult community located in the northwest portion of the County's mainland St. Lucie County Water and Sewer District service area. The 1,600 unit development reached a build-out population of 3,200 people in 2004 and has no plans for further expansion. The development owns and operates a water treatment plant that provides potable water service via an on-site RO WTP with a permitted capacity of 0.570 MGD. Raw water is supplied to the water treatment plant by four 8-inch wells constructed into the surficial aquifer. The maximum day demands are well within the plant's permitted capacity.

#### **Package Treatment Plants**

A number of package treatment plants supply potable water in St. Lucie County. **Figure 6A-2** shows water treatment plants situated throughout the eastern half of the County including package treatment plants and was last updated in 1999. **Table 6A-1** lists the plants by name and groups these plants by land use, also last updated in 1999. The table shows the location of the plants, the design capacity, operating capacity, percentage of capacity allocated for the unincorporated County, current number of people served, projected 1995 and 2000 population served and the current level of service (LOS). Many of these plants are concentrated on South Hutchinson Island, the White City area, and along U.S. 1. Both the Figure and Table require will require extensive efforts to update with current information. The County intends to update these items and the related information at a later date in the near future. Updates are, therefore, not included in the May-December 2008 revision to this sub-element.

#### **Water Supply Wells**

There is an increasing trend in the County to shift from the use of shallow groundwater, or the surficial aquifer, to a deeper aquifer known as the Floridan. The majority of the water supply wells in St. Lucie County presently draw water from the surficial aquifer. The wells located in this aquifer range in size from one-inch, for the low demand systems, such as a home or small business, to twenty-four inches for the larger demand regional systems. Also in service in the County are deeper wells which are fed from the Floridan aquifer.

A large number of the smaller wells are concentrated in residential developments that are not served by any regional water or wastewater facility. Many of these wells exist on 1/4-acre lots which generally also have on-site septic systems for their wastewater disposal.

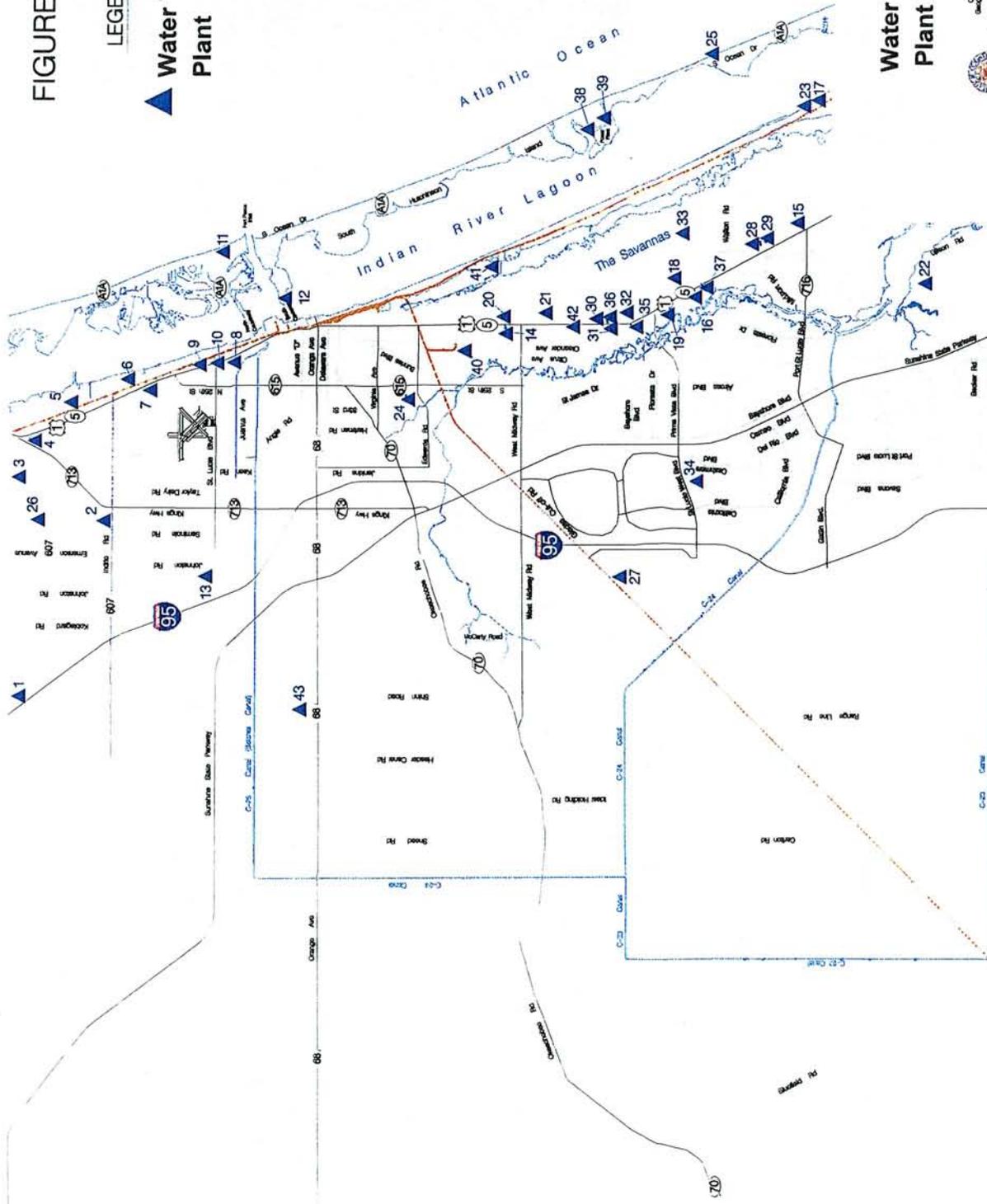
The larger wells are primarily used to supply water to package plants and regional facilities. The regional facilities are as previously described. The package plants are

FIGURE 6A-2

LEGEND

▲ Water Treatment Plant

Water Treatment Plant Locations



Continuing Development  
Geographic Information Systems  
Florida Department of Transportation  
1111 North West 17th Avenue  
Tallahassee, Florida 32310-3000  
904.487.3000  
www.flhwy.com

September 24, 1999

This figure was not updated as part of the May 2008 revisions. Figure will be updated with the completion of the EAR.

TABLE 6-A-1  
 (Not Updated in May December 2008 Revision)  
 Water Treatment Plants, St. Lucie County

Map Key	Water Plant	Location	Design Capacity (MGD)	Operating Capacity (MGD)	% Capacity for UNC	Current # of People Served	Projected 1995 Population Served	Projected 2000 Population Served	Current LOS
2	Benton Wood MHP	County	.057	not in file	100	134	134	134	98 <sup>ef</sup>
3	Between the Waters MHP	County	.046	not in file	100	48	48	48	220 <sup>e</sup>
6	Country Cove MHP	County	.129	not in file	100	296	296	296	100 <sup>ef</sup>
8	FPUA	FP	10.00	9.3346 ave.	X <sup>b</sup>	X <sup>b</sup>	X <sup>b</sup>	X <sup>b</sup>	170 <sup>b</sup>
11	Glen Oaks MHP System 2	County	not in file	not in file	100	54	54	54	801 <sup>e</sup>
13	H & H MHP	County	.036	not in file	100	50	50	50	166 <sup>e</sup>
14	Harbour Ridge	County	.036	.120	100	900	1520	1520	92 <sup>e</sup>
16	Indian River Landing	County	.090	.017	100	44	136	136	470 <sup>e</sup>
17	Lake Manor MHP	County	.100	not in file	100	120	120	120	192 <sup>e</sup>
18	Sampson Subdivision (H.E.W. WTP)	County	.050	.059	100	150	210	210	77 <sup>ef</sup>
19	Meadowood County Club (a.k.a. Panther Woods)	County	432	.059	100	30	100	500	1967 <sup>d</sup>
20	North Hutchinson Services <sup>a</sup>	County	see FPUA	.525	100	498	498	498	170 <sup>a</sup>
21	Ocean Towers/Island Village	County	.120	.133	100	768	768	768	36 <sup>ef</sup>
22	Orange Co. Of Florida	County	.144	not in file	100	42	42	42	789 <sup>e</sup>
23	Orchid Acres Trailer Park	County	.0225	.005	100	150	150	150	35 <sup>ef</sup>
25	Rainbow Trailer Court	County	.036	.016	100	34	34	34	244 <sup>e</sup>
26	The Reserve Utility Corp.	County	.200	.073	100	220	400	1000	332 <sup>d</sup>
28	Rio del Mar MHP	County	.015	not in file	100	128	128	128	27 <sup>ef</sup>

TABLE 6-A-1  
 (Not Updated in May/December 2008 Revision)  
 Water Treatment Plants, St. Lucie County

Map Key	Water Plant	Location	Design Capacity (MGD)	Operating Capacity (MGD)	% Capacity for UNC	Current # of People Served	Projected 1995 Population Served	Projected 2000 Population Served	Current LOS
29	St. Lucie West	PSL	1.000	.076	0	185	1832	26335	411 <sup>d</sup>
32	Spanish Lakes Country Club Village	County	.115	.1263	100	1200	1200	1200	22 <sup>ef</sup>
33	Spanish Lakes Fairways	County	.233	.080	100	300	1000	1600	267 <sup>d</sup>
34	Spanish Lakes One MHP	County	.864	.241	100	1000	1000	1000	241 <sup>d</sup>
37	Whispering Creek Village	County	.064	not in file	100	300	300	300	49 <sup>ef</sup>
41	CJ's Steak House	County	.002	not in file	100	60	***	***	33
46	Delmaroo's Italian Restaurant	County	.003	.001 max.	100	50	***	***	60
50	Farrell's Motel	County	.014	not in file	100	45	***	***	311
53	Fontenelle Plaza	County	.079	not in file	100	250	***	***	316
56	Ft. Pierce Cottages and Trailer Park	County	.050	not in file	100	75	***	***	667
59	Gingerbread Land North Daycare	County	.0003	not in file	100	99	***	***	3
60	Gingerbread Lane Too Daycare	PSL	.002	not in file	0	75	***	***	27
61	Golfland Golf Shop	County	not in file	not in file	100	25	***	***	x <sup>h</sup>
70	Lexington Supplies	County	.0015	not in file	100	75	***	***	20
71	Monkey Tree Daycare Center	County	.002	not in file	100	45	***	***	44
72	Loyal Order of Moose #248	County	.00114	not in file	100	200	***	***	6
73	Norris's Place for Ribs	County	.010	not in file	100	192	***	***	52
84	Skyway Motel	County	.036	not in file	100	30	***	***	1200
86	Sorrento's Restaurant	County	.010	not in file	100	150	***	***	67

TABLE 6-A-1  
(Not Updated in May/December 2008 Revision)  
Water Treatment Plants, St. Lucie County

Map Key	Water Plant	Location	Design Capacity (MGD)	Operating Capacity (MGD)	% Capacity for UNC	Current # of People Served	Projected 1995 Population Served	Projected 2000 Population Served	Current LOS
90	Timberland Campground	County	.030	.0039 max.	100	100	***	***	300
95	Cloud Groves/Coca Cola Foods	County	.036	.004 max.	100	40	***	***	900
100	Indian River Foods, Inc.	County	.130	not in file	100	34	***	***	3824
102	St. Lucie Packing Corp.	County	.072	not in file	100	60	***	***	1200
114	Sun Grove Montessori School	County	.005	.0006 max.	100	115	***	***	4
115	White City Park	County	.0072	not in file	100	160	***	***	45

Notes:

- a North Hutchinson Services receive its water from FPUA. The current LOS set by the FPUA in the 1988 Master Plan.
- b FPUA data is based on connections. A connection could be hooked up to a single-family residence or to a condominium with numerous units. It is impossible to determine the exact numbers with the information available. Also, some residential units are considered commercial and are included in the AGeneral@ category. From September 1989, the connection count is: residential inside the City 9388; residential outside city 1805; general inside city 1972; general outside city 372. The Utilities Authority estimates the total number of residents served currently (December 1989) at 45,000. The projections for 1995 and 2000, taken from the 1988 FPUA Master Plan, are 54,252 and 58,412, respectively. The LOS of 170 gpd is taken from the FPUA 1988 Master Plan.
- c Current LOS was determined by dividing the average current operating capacity by the current number of people served.
- d Current LOS was determined from the following equation: (Design Capacity) (Factor of 0.23) / Current # of people served. The factor was determined from the total average difference between average operating capacity (exclusive of FPUA and PSL) and design capacity, for those plants where data was available on both capacities.
- e Strongly influenced by seasonal population 60% of the year. Off-season population is approximately 65% of current number of people served.
- f Current LOS was determined from the following equation: Design Capacity/Current # of people served. Due to lack of operating capacity, in some cases the LOS will be high. Due to the nature of commercial, industrial and public facilities, it is difficult to evaluate the LOS when it is determined this way.
- g Current LOS not determined due to lack of design capacity data.

Notes:

- 1) Not in file refers to information the local FDEP office would normally have in their files.
- 2) Due to lack of sufficient data, it is not possible to determine the current capacity surplus or deficiency.

**TABLE 6-A-1  
 (Not Updated in May-December 2008 Revision)  
 Water Treatment Plants, St. Lucie County**

Map Key	Water Plant	Location	Design Capacity (MGD)	Operating Capacity (MGD)	% Capacity for UNC	Current # of People Served	Projected 1995 Population Served	Projected 2000 Population Served	Current LOS
3)	FPUA - (Ft. Pierce Utilities Authority), PSL (Port St. Lucie Utility Systems Department), SLCU, LOSLOS, UNC (Unincorporated St. Lucie County).								

found throughout the eastern portion of the County. The Floridan aquifer wells are generally located in the coastal areas. On South Hutchinson Island, Ocean Towers and Miramar condominiums use Floridan aquifer wells for their private WTPs. FPUA has recently received a water use permit from the SFWMD to construct Floridan aquifer wells that will allow FPUA to blend treated water from the Floridan aquifer with water from the surficial aquifer. FPUA currently operates 35 surficial aquifer wells and 9 Floridan aquifer wells, and is currently in the process of constructing 2 additional Floridan aquifer wells. The City of Port St. Lucie has a combined system consisting of 34 surficial aquifer wells, 11 existing Floridan aquifer wells and 6 proposed Floridan aquifer wells. St. Lucie County operates 2 surficial aquifer wells that serve the Holiday Pines water treatment plant, and a pending water use permit from the SFWMD will allow for up to 25 future Floridan aquifer wells to supply 3 to 4 regional water treatment plants at build out of the unincorporated area.

### **Water Quality**

As previously mentioned, most of the water supply systems in St. Lucie County obtain their raw water from the surficial aquifer or a combined surficial/Floridan system. Water quality is variable in the shallow aquifer due to natural and artificial causes. Water quality ranges from fair in the southeast mainland part of the County to brackish in the northwestern part of the County. The poorer water quality has been associated with the use of the brackish artesian aquifer for irrigation of citrus. Drilling records indicate that there is also an area of connate saltwater extending from the vicinity of St. Lucie Village to the northern and eastern shores of Lake Okeechobee. The concentration of minerals in the connate water increases with depth to the base of the shallow aquifer and at that point it exceeds the mineral content of the artesian aquifer.

The artesian aquifer system is part of an extensive carbonate rock aquifer system that underlies most of Florida. In St. Lucie County, the artesian Floridan aquifer has three distinct producing zones of different hydrologic properties and water quality separated by semi-permeable zones. The upper producing zone of Zone 1 has the best water quality, but it is too brackish for domestic or public water supply without proper treatment (i.e. RO membranes). The water from Zone 1 is suitable for stock watering and some crops, most notably citrus. Most of the artesian wells in the County are developed in Zone 1 of the Floridan aquifer.

The Surficial aquifer is recharged through local area rainfall. In periods of prolonged drought, water supplies can become a concern. There is no natural groundwater recharge to the Floridan aquifer in St. Lucie County. The Floridan aquifer in St. Lucie County is believed to be recharged in the regions of West Central Florida (Polk, Lake and Orange Counties.)

The quality of water in the surficial aquifer is generally good. Bacteriological results indicate no bacterial problems now exist although in some areas noncoliform bacteria are present. Iron (Fe) and sulfates ( $SO_4$ ) are problems in some areas. These areas generally have a problem with either Fe or  $SO_4$ , but not both, although exceptions do exist. Sulfur dioxide ( $SO_2$ ) is a frequent problem. The total dissolved solids (TDS) content causes no problems in this water. It ranges from 150-450 milligrams per liter (mg/l) with the average being approximately 300. Certain areas do exist in the County where, due to leaking flow wells (artesian wells flowing from the Floridan aquifer), the TDS content is uncharacteristically high for surficial aquifer wells of this type. An additional source of Floridan aquifer water originates from the use of these artesian wells as an alternate source of irrigation water which ultimately infiltrates and contaminates the potable surficial aquifer.

Water from the Floridan aquifer originates from two sources; relict sea water, and rainwater from recharge areas. Remnant sea water deposited along with the marine limestone of the Floridan aquifer is characterized by high concentrations of dissolved salts. The water quality in the upper portion of this aquifer in St. Lucie County is fair to poor as potable water, without treatment via a membrane system (such as RO). With proper treatment, the Floridan aquifer water is ideal for potable use. Waters usually contain more than 250 mg/l of chloride ions and are therefore classified as non-potable. Because of this poor water quality, the treatment systems which utilize the Floridan aquifer for their source water generally use a RO treatment process.

## NEEDS ASSESSMENT

The County presently has potable water service provided by three major utilities, several medium sized utilities, small package plants, and domestic wells. This section examines the needs of those areas in the County which are not included in a major or medium-sized utility service area and which have been determined to be potential high growth areas or areas with identified problems.

### Areas not in the Scope of the 10-Year Water Supply Facilities Work Plan Prepared in May-December 2008

**Ft. Pierce Service Area:** The FPUA Service Areas is identified as extending south to about Easy Street, west to about North Kings Highway and north to about St. Lucie Boulevard. This encompasses a large area of unincorporated St. Lucie County, as identified in the bulk user agreement between FPUA and the County. FPUA has planned to serve these areas in their water and wastewater master plan.

**Port St. Lucie:** The Port St. Lucie Utilities Department service area generally encompasses everything south of FPUA, west to Rangeline Road, and south to the County Line. The City contains several County pockets. However, these areas are considered to be within the Port St. Lucie service area.

**Savannas Area:** The Savannas Area is generally defined as that area bounded on the north by the northern boundary of Sections 23, 24 and a small portion of 19 and 22; on the south by the northern boundary of the Port St. Lucie City limits; on the east by South Indian River Drive, and by an imaginary line located approximately 2 mile west of U.S.1.

**Unincorporated County Areas not in Water Service Area:** The future land use plan for St. Lucie County identifies several higher density residential and commercial areas. Of the land uses identified, classifications which would be dense enough to require some form of regional or sub-regional public water supply are medium and high density residential, commercial, industrial and mixed use.

Much of the area east of I-95 is served by SLCU (the consolidated St. Lucie County Water and Sewer District), FPUA, Martin County (South Hutchinson Island) and Port St. Lucie Utility Systems Department (St. Lucie West). The far western area of the County is planned as agricultural. Much of the area just west of Interstate 95 has been acquired by developers. Proposed developments in this area are in various stages of approvals and several may require land use designation changes through the Department of Community Affairs. In anticipation of these areas being developed, SLCU is planning a series of 3 to 4 regional WTPs to provide service in the North, Central, and South County Service Areas.

### Capacity Assessment

This assessment identifies facility requirements in the study areas by estimating demand, assigning demand to the existing (if any) facilities, and quantifying facility deficiencies. Demand was estimated by applying a LOS standard for each facility to the projected population and land use within the study area, in order to estimate average flows for the planning period. Resident population estimates and projections were based on the University of Florida Bureau of Economic and Business Research medium values and the University of Florida Shimberg Center, which focuses more closely on projections in the unincorporated County.

A range of per capita consumption, based on water use permits issued by the SFWMD is presented in Table 6-A-2. The land uses for City of Port St. Lucie Utility System Department and the small utilities reflect the proposed uses in the study areas and an LOS of 117 gallons per capita per day (gpcd) or 120% of sewage flow is used herein as a planning guide. The LOS standard for potable water systems other than those operated by FPUA shall be 100 gpcd; in February 2004, the Board of County Commissioners adopted the Water and Wastewater Master Plan Update. A subsequent update is currently underway and a revised Master Plan is anticipated to be completed in 2008 and is awaiting adoption by the County Commission.

The LOS standard for those areas of the unincorporated County served by FPUA shall be 123 gpcd. This figure comes from the FPUA water use permit obtained in 2006 and the master plan update prepared in September 2006.

TABLE 6-A-2

Raw Water Demand in St. Lucie County (Source: SFWMD Water Use Permits)

Facility	SFWMD WUP No.	Expiration Date	WUP Allocation (MG)			Peaking Factor	Population (maximum)	Per Capita (gpcd)
			Annual	Max Month	Max Day			
Existing County WTP (Holiday Pines)	56-00406-W	March 13, 2028	60,615	5,402	0.180	0.168	2,547	71
Proposed North County Regional WTP <sup>1</sup>	56-00406-W	March 13, 2028	1,434,005	119,500	3,983	3,265	25,261	110
Proposed Central County Regional WTP	56-00406-W	March 13, 2028	836,360	69,697	2,323	1,904	14,733	110
Proposed South County Regional WTP	56-00406-W	March 13, 2028	649,932	54,161	1,805	1,480	11,449	110
Panther Woods	56-004620-W	April 3, 2012	42,377	4,518	0.151	0.118	900	129
Harbour Ridge	030113-8	June 29, 2008	52,590	6,000	0.200	0.144	1,573	92
Spanish Lakes (Through 2011) <sup>2</sup>	56-00401-W	July 15, 2026	112,660	12,200	0.407	0.313	3,040	99
Spanish Lakes (2011 through 2026) <sup>2</sup>	56-00401-W	July 15, 2026	80,250	10,200	0.340	0.262	2,470	99
Spanish Lakes Fairways	56-00627-W	April 10, 2013	140,160	21,900	0.730	0.384	3,200	120
City of Port St. Lucie	56-00142-W	January 12, 2025	17,844,696	1,487,058	49,5686	40,63	347,243	117
Fort Pierce Utilities Authority	56-00085-W	January 11, 2027	4,793,000	467,980	15,599	14,053	141,741	123

Water treatment facilities are designed based on the maximum daily flow expected, which is generally about 1.5 times the average daily flow. Storage, distribution and pumping capacity is based on the maximum hourly flow (generally 1.5 times the maximum daily flow) or maximum daily flow plus a fire flow, whichever is greater.

Distribution systems should be looped to minimize stagnation of water, which makes proper disinfection difficult. Pipe sizes should be determined with consideration given to ultimate flows. System pressures should be maintained at a minimum of 20 psi under maximum (fire) flow conditions. Treatment facilities should be in the planning phase for expansion when flows reach 80 percent of capacity, and under construction at 90 percent of capacity.

A good master plan for system development is essential, as is the commitment to follow the plan.

### SERVICE AREA POPULATION PROJECTIONS

The SLCU service area was previously separated into several sub-service areas: North Hutchinson Island Service Area (now consolidated into the St. Lucie County Water and Sewer District) from the Ft. Pierce Inlet north to the Indian River County Line on the barrier island; South Hutchinson Island Service Area from the Martin County Line north to the Ft. Pierce City Limits on the barrier island; the St. Lucie County Water and Sewer District from the Indian River Lagoon to the east, the Indian River County Line to the north, Interstate 95 to the west and St. Lucie Boulevard to the south. The previously separated sub-areas listed above have all been consolidated, with the exception of South Hutchinson Island, into the St. Lucie County Water and Sewer District. The Indian River Estates MSBU District was also included in the consolidated County district. The County has recently reconfigured the service areas to include the north, central and south county service areas as illustrated on Figure 6A-1. The service areas for FPUA and the City of Port St. Lucie are also depicted on Figure 6A-1.

The population projection for each of the service areas indicates that as St. Lucie County grows there will be a need for additional service capacity within the existing water service facilities. **Table 6-A-3** indicates the projected population within the Service Areas in five year increments from 2007-2008 to 2027. This table indicates a significant portion of the County's overall population resides in an area located outside the proposed service area of the SLCU. Those areas lying outside of the County's service area that are not served by FPUA or the City of Port St. Lucie will be provided potable water service via one of the 3 to 4 proposed regional water treatment plants or private onsite well systems.

**Table 6A-3**

<b>St. Lucie County Utilities Service Area - Connected Water Customer Population Projections, 2008-2027</b>					
<u>Service Area</u>	<u>2008</u>	<u>2013</u>	<u>2018</u>	<u>2022</u>	<u>2027</u>
Existing North County Service Area (Holiday Pines)	2,547	2,547	2,547	2,547	2,547
Future North County Regional Service Area	-	8,750	15,324	18,744	22,714
Future Central County Regional Service Area	-	-	10,577	12,601	14,733
Future South County Regional Service Area	-	-	-	9,559	11,449
<b><u>Unincorporated County Residents (Served directly by SLCU)<sup>1,2</sup> - Subtotal</u></b>	<b><u>2,547</u></b>	<b><u>11,297</u></b>	<b><u>28,448</u></b>	<b><u>43,452</u></b>	<b><u>51,444</u></b>
Unincorporated Mainland SLCU Customers (via FPUA Bulk Agreement)					
Okeechobee Road <sup>3</sup>	580	4,180	5,400	5,400	5,400
Taylor Dairy Road <sup>4</sup>	750	12,100	13,000	13,000	13,000
North Hutchinson Island	8,750	10,250	10,750	10,750	10,750

Indian River Estates	850	2,000	2,500	2,500	2,500
Additional Unincorporated (Self-Served) <sup>5</sup>	65,507	44,349	31,174	20,270	16,670
<b>Unincorporated County Residents (Served by Others) - Subtotal</b>	<b>76,437</b>	<b>72,879</b>	<b>62,824</b>	<b>51,920</b>	<b>48,320</b>
<b>TOTAL UNINCORPORATED COUNTY<sup>6</sup></b>	<b>78,984</b>	<b>84,176</b>	<b>91,272</b>	<b>95,372</b>	<b>99,764</b>

<sup>1</sup>From Table G of the St. Lucie County Water Use Permit

<sup>2</sup>Years 2008, 2012, and 2018 differ slightly from Table G due to changes in growth patterns since the WUP was issued and the implementation schedule for the proposed plants

<sup>3</sup>Creekside, Zentner, Provinces, Avelon

<sup>4</sup>Portofino Shores, Waterstone, Coconut Cove

<sup>5</sup>Includes Pather Woods, Harbour Ridge, Spanish Lakes, Spanish Lakes Fairways, and Private Well/Septic Residents)

<sup>6</sup>From WUP application Table 1 showing adjusted Shimberg/BEBR projections for unincorporated County

**Table 6-A-3**

St. Lucie-County Utilities Service Area -- Connected	Population Projections, 2007-2027				
	2007	2012	2017	2022	2027
North-County Service Area	3,194	15,821	48,968	69,041	80,059
Central-County Service Area	0	8,852	20,384	31,337	41,962
South-County Service Area	0	6,292	18,703	28,131	32,508
North-Hutchinson Island <sup>1</sup>	8,098	-	-	-	8,935

<sup>1</sup>Connected Population based on ERCs connected to NHH water system and assumes 2.2 people per ERC.

Within St. Lucie County the average daily potable water demands were based on the following per capita demands: permanent & seasonal residents - 100 gpcd, employees - 120 gpcd, and school students - 20 gpcd. Water demands will increase as the population increases within the service delivery area.

The SLCU Water and Wastewater Master Plan also identifies the total projected demands for water connections through the build out date. As Table 6-A-4 indicates, the demand for water connections will rise and, at build out, will account for the total water demand as previously indicated in Table 6-A-3.

**Table 6-A-4**

Service Area	Connected Water Demand <sup>1</sup> (MGD)			
	2007/2008	2012/2013	2017	2022
Northern	-0.351	0.9631-740	1.6865-386	2.0627-594
Central	-0.000	-0.974	1.1632-242	1.3863-447
				1.6214-616

Southern	-0.009	-0.692	-2.057	1.0523-094	1.2593-576
North Hutchinson Island	0.894	-	-	-	1.093

<sup>1</sup>Water demand based on population projections and an assumed per capita flow of 110 gpcd.

**Savannas Area Needs**

This area is expected to develop into a fairly high density area with residential urban, residential medium, and commercial uses represented. Although the existing water treatment plants are expected to accommodate the existing developments for several years, as the smaller treatment plants reach their useful life and more demand is placed on the aquifer, and as septic tank and treated effluent discharge to the groundwater become more common, the need for a sub regional system will be increased.

**South Hutchinson Island Needs**

South Hutchinson Island is currently served in part by FPUA down to the St. Lucie/Martin County line. A 12-inch water main runs the length of the island and at the south end runs adjacent to a 12-inch line coming from Martin County. FPUA and Martin County Utilities have recently completed construction of an interconnect on South Hutchinson Island.

The population of South Hutchinson Island is expected to grow only slightly, if at all, due to environmental concerns. Average daily flow is based on the LOS standard of 120 gpcd. This area has minimal commercial flow, which is estimated at 30,000 gallons per day (gpd). It is assumed that no additional commercial development will take place on this portion of the island.

South Hutchinson Island does not have a drinking water capacity problem, since apparent deficiencies are in reality served by FPUA. The facilities with on-site RO systems, however, are presently limited in their expansion capabilities by the new FDEP policy of requiring an Industrial Waste operating permit for the RO concentrate from new or modified systems. FPUA recently completed construction of an emergency interconnect with Martin County to provide for protection against line breaks and to meet emergency demands. The availability of reclaimed water for all wastewater customers has increased the amount of domestic water capacity on Hutchinson Island.

SLCU does not own or operate any water facilities on South Hutchinson Island. However, SLCU has a formal agreement with FPUA that took effect in February 2004, which states that the South Hutchinson Island water distribution facilities could be acquired by SLCU in the future. SLCU and FPUA are currently evaluating the viability of this option.

**Unincorporated County Area Needs**

As shown in Figure 6A-1, the County's service area consists of all portions of the County within the Urban Service Boundary that are not currently served by FPUA or the City of Port St. Lucie. Within the Urban Service Boundary, the St. Lucie County Water and Sewer District (from the Indian River Lagoon on the east, the Indian River County Line to the north, Interstate 95 to the west and St. Lucie Boulevard to the south) is primarily served by the FPUA bulk user agreement and/or the Holiday Pines water treatment plant. This long strip is expected to develop as residential urban, residential medium density and commercial in the eastern portion and

residential suburban in the western portion. Other water treatment plants of appreciable size in this area are at Spanish Lakes Country Club Village and Spanish Lakes Fairways. The area outside of the Urban Service Boundary (primarily west of I-95) is also part of SLCU's service area and is broken down into the North, Central and South County Service areas.

Increasing growth within the St. Lucie County Water and Sewer District service area has warranted the need for a regional water treatment plant. SLCU currently plans to construct a regional system at the parcel recently acquired northwest of the County's airport, with construction anticipated to commence in FY2009/2010. This facility will serve the future residents within the St. Lucie County Water and Sewer District (existing customers will continue to receive potable water through the FPUA bulk user agreement), future growth within the remainder of the North County service area, and customers of the Sampson subdivision (located within Lakewood Park), currently served by the H.E.W. water treatment plant or via private wells (The County has a proposed MSBU project for the Lakewood Park neighborhood).

The County has also made provisions for a future South County water treatment plant in the vicinity of Rangeline Road and a Central County water treatment plant in the vicinity of the Fairgrounds to meet potential growth from new developments. These facilities will not likely be required until after 2010. The County has secured a water use permit for the proposed facilities.

In 1999, St. Lucie County acquired the Holiday Pines WTP. The current Holiday Pines WTP has a permitted capacity of 0.288-MGD and the associated distribution system. Treatment within this facility is provided by the membrane softening RO process and raw water is supplied by two surficial wells. Treatment facilities include pretreatment (sulfuric acid, caustic and anti-scalant), pressure filtration and a single skid-mounted RO unit. Chlorination facilities were recently converted from a dual gas chlorinator with automatic switchover mounted on 150-pound chlorine cylinders to chloramination for compatibility with the water received through the FPUA bulk user agreement. Other facilities include a degasifier mounted on top of a precast concrete clear well. A recent expansion of the facility included the addition of a new 1.0 MG ground storage tank in addition to the existing 0.2-MG ground storage tank. Two high service pumps pressurize the distribution system and a 50 horsepower fire pump is available to boost pressure for fire demand. The County plans to expand the existing facility to 0.5 MGD via the addition of a second RO treatment skid. The County's existing water use permit has provisions for increased withdrawals from the existing surficial aquifer wells. Additional future demand in the unincorporated area will be provided by the proposed regional WTPs as described above and the related water supply facilities as follows:

1. WTP in northeastern section of the County's service area (North County Regional WTP)
2. Expansion of the Holiday Pines WTP
3. WTP in southwestern section of the County's service area (2022 or later)
4. Upper Floridan Aquifer production wells at the proposed regional WTPs
5. H.E.W. WTP decommissioning and storage tank removal
6. 1 million gallon potable water storage tank in Northwestern section of the County's service area
7. Water Main on Okeechobee Road from the Florida Turnpike to Midway Road
  - 7.8 Water Main on Rock Road
  - 8.9 Water Main on Johnston Road from Indrio Road to Angle Road
  - 9.10 Water Main on Indrio Road from Emerson Avenue to I-95
  - 10.11 Water Main on U.S. 1 from North A-1-A to Naco Road
  - 11.12 Water Main loop on Koblegard Road, Emerson Avenue and Indrio Road
  - 12.13 Water Main on Indrio Road from Emerson Avenue to U.S. 1
  - 13.14 Water Main on U.S. 1 from Naco Road to Turnpike Feeder Road

14. Water Main on Orange Avenue, Campbell Road, Picos Road and Rock Road
15. Water Main on Kings Highway from Indrio Road to St. Lucie Boulevard
16. Water Main on Rangeline Road from Glades Cut-off south to County line
17. Water Main on Rangeline Road from Glades Cut-off north to Midway Road

#### North Hutchinson Island

On North Hutchinson Island, SLCU provides potable water to all developed units. SLCU owns and operates the North Hutchinson Island water distribution system storage and pumping facilities at the Bryn Mawr utility site and obtains water from FPUA through a master metered interconnect. The distribution system served approximately 3,681 equivalent residential connections (ERC's) in 2007. There are some limited shallow wells utilized for irrigation on North Hutchinson Island, but none produce water of sufficient quality for potable water use.

Water distribution piping on North Hutchinson Island is a combination of PVC, ductile iron and asbestos cement (AC) pipe. There are approximately 5 miles of 6-inch to 10-inch AC pipe in the older, south portion of the system. Replacement of this AC pipe was included in the SLCU's 10-year Improvement Plan. There are approximately 5 miles of transmission main between the master metered FPUA connection at Little Jim Bridge and the northern limit of the distribution system. This transmission main is primarily 18-inch ductile iron pipe, with the exception of approximately 3,000 feet of 10-inch AC pipe south of the WWTP. Most of the newer water main installations are PVC pipe. All of the distribution piping is in good operating condition.

The Bryn Mawr utility water site includes a 0.2MG ground storage tank, two 40 horsepower high service pumps with associated piping and valves, and a 10,000-gallon hydro pneumatic tank. These facilities boost the system pressure for Bryn Mawr Ocean Towers, a high-rise development. The ground storage tank is a field-erected tank concrete tank and is in poor condition. The high service pumps and associated piping and valves are in good operating condition, with most of this newly installed in 1996. The current capital budget includes provisions for replacement of the high service pumps (with relocation planned to the Bryn Mawr property) and demolition of the storage tank. The County has future plans to construct a new 1 MG ground storage tank at a site to be determined.

In order to maintain sufficient water capacity at the North Hutchinson WTP to maintain quality service at the build out of North Hutchinson Island, the following required improvements have been identified:

1. Implement the planned water system improvements;
  - a. 1 million gallon potable water storage tank on North Hutchinson Island and repump facility (currently included in SLCU capital budget)
  - b. Rehabilitate/replace portions of the existing distribution system.
  - c. Replace portions of the water line distribution system.
2. Interconnect the existing system with Vero Beach to insure future delivery of services.

### General Performance of Existing Facilities

As can be seen in the preceding data, with the exception of FPUA and the City of Port St. Lucie Utility Systems Department, all other treatment facilities in the County are project specific package plants. Information was not readily available with which to analyze the general performance of these facilities which serve the unincorporated County, evaluate the adequacy of the current LOS provided by the facilities, the general condition and expected life of the facilities, and the impact of the facilities upon adjacent natural resources. The smaller facilities have been included in the County Water Supply Facilities Work Plan.

### Potable Water Master Plan for the Unincorporated County

In 2004, SLCU completed a revision to the 1998-99 Water and Wastewater Master Plan Update. The County is currently in the process of preparing a subsequent revision that is anticipated to be complete in 2008. This update will analyze the existing systems, identify deficiencies overall needs and lay out a program for the orderly provision of this service. Upon completion of this master plan, pertinent information will be incorporated into this sub-element through the plan amendment process.

### GOALS, OBJECTIVES AND POLICIES

The following Comprehensive Plan Goals, Objectives, and Policies are modifications of the portions of the Element as adopted in January 2004 update.

**POTABLE WATER SUB-ELEMENT  
GOALS, OBJECTIVES AND POLICIES**

**GOAL 6A.1:** **PROVIDE NEEDED PUBLIC UTILITIES IN A MANNER THAT RESULTS IN THE MOST EFFECTIVE, ENVIRONMENTALLY SOUND, SAFE AND ECONOMIC POTABLE WATER SYSTEMS CONSISTENT WITH PRESENT DEMAND AND FUTURE GROWTH REQUIREMENTS AND THAT PROMOTES ORDERLY, COMPACT URBAN GROWTH.**

**Objective 6A.1.1:** **The County shall provide potable water facilities that do not promote urban sprawl.**

**Policy 6A.1.1.1:** The utility service areas, as delineated in the Water and Wastewater Master Plan, will be determined on the basis of economy and efficient operation but will not promote linear or leapfrog development. The utility service areas shall be reviewed and updated every 5 years (beginning 2013).

**Policy 6A.1.1.1b:** The County will determine the most cost effective and efficient means of providing potable water service to all areas of the urban service area as depicted in Policy 1.1.5.1 in a manner that will not promote linear or leapfrog development consistent with Policy 1.1.5.2. The County utility department will publish on an annual basis a Service Availability Report setting forth the availability of potable water service from the various potential suppliers of such service to the unincorporated areas of the County that meets the requirements of Goal 6D.1 and this Policy.

**Policy 6A.1.1.2:** Provision of regional (not including package treatment plants) potable water service shall be limited to the utility service availability options set forth in the annual Service Availability Report described in Policy 6D.1.1.1b.

**Objective 6A.1.2:** **The County shall implement procedures for ensuring that when a development permit is issued, pursuant to the then current Service Availability Report, adequate facility capacity is available or will be available to serve the development concurrent with the impacts, in order to meet the adopted LOS standards.**

**Policy 6A.1.2.1:** All development will be specifically conditioned on the availability of services necessary to maintain LOS standards as adopted within this Comprehensive Plan.

**Policy 6A.1.2.2:** The LOS standard for those areas of the unincorporated County served by FPUA shall be 117 gpcd (FPUA Water Use Permit, 2007).

**Policy 6A.1.2.3:** The LOS standard for potable water systems other than those owned and operated by FPUA shall be permanent and seasonal residents - 100 gpcd, employees - 120 gpcd and school students - 20 gpcd.

**POTABLE WATER SUB-ELEMENT  
GOALS, OBJECTIVES AND POLICIES**

Policy 6A.1.2.4 The County shall include in the annual Service Availability Report an update of all improvements, expansions, or increases in the capacities of facilities of the various potential suppliers of service to the unincorporated areas of the County to ensure compatibility with the established LOS standards for such facilities.

Policy 6A.1.2.5 The County shall prepare annual summaries of capacity and demand information for each facility of the various potential suppliers of service to the unincorporated areas of the County.

Policy 6A.1.2.6 Development within the unincorporated areas of the County will only be permitted when such development ties into or makes provision for tying into a regional or sub-regional system that is available as set forth in the annual Service Availability Report.

Policy 6A.1.2.7 The County shall require that developments of regional impact determine the available quantity and quality of water resources for treatment to potable water beneath the development; determine the effect of withdrawal on surrounding environment, users and potential users; and make such information available to the County.

**Objective 6A.1.3 The County will establish and maintain a five-year and twenty-year schedule of capital improvement needs for the public facilities in the recognized County service areas.**

Policy 6A.1.3.1 The following public facility improvements within a facility type are to be considered in the following order of priority, as determined by the Board of County Commissioners:

- A. Replacement of obsolete or worn out facilities, including repair, remodeling and renovation of facilities that contribute to achieving and/or maintaining levels of service.
- B. New facilities that reduce or eliminate existing deficiencies in levels of service.
- C. New facilities that provide the adopted levels of service for new growth during the next five fiscal years, as updated by the annual review of the Capital Improvements Element.
- D. Improvements to existing facilities, and new facilities that significantly reduce the operating cost of achieving and/or maintaining levels of service.
- E. New facilities that exceed the adopted levels of service for new growth during the next five fiscal years by either:
  - 1. providing excess public facility capacity that may be needed by future growth beyond the next five fiscal years, or
  - 2. providing higher quality public facilities that are contemplated in the County's normal design criteria for such facilities.

- F. Facilities not described in Subsections A through E, above, but which the County is obligated to complete, provided that such obligation is evidenced by a written agreement the County executed prior to July 31, 1990.
- G. All facilities scheduled for construction or improvement in accordance with this Policy shall be evaluated to identify any plans of State agencies or the South Florida Water Management District that affect, or will be affected by, the proposed capital improvement.
- H. Project evaluation may also involve additional criteria that are unique to each type of public facility, as described in other elements of this Comprehensive Plan.

Policy 6A.1.3.2 In the event that the planned capacity of public facilities is insufficient to serve all applicants for development orders, the Board of County Commissioners will schedule capital improvements to serve developments in the following order of priority:

- A. previously approved orders permitting new development,
- B. new orders permitting redevelopment, and
- C. new orders permitting new development.

**Objective 6A.1.4** The County shall take steps to insure that entities in the unincorporated County are adequately served, and in order to protect our drinking water shall investigate needs for waste disposal other than septic tanks and sewage systems.

**Objective 6A.1.5** The County shall coordinate with the other potential providers of central potable water service within the unincorporated areas of the County so that the extension of, or increase in the capacity of, facilities to meet future potable water capacity is available when needed.

Policy 6A.1.5.1 Prior to issuance of a building permit, the County shall require that all applicants provide verification that water service can be provided in conformance with the policies in this plan and that adequate system capacity is available if a central system is to be utilized.

**GOAL 6A.2 THE COUNTY SHALL AGGRESSIVELY IDENTIFY, PROTECT, CONSERVE, AND BEST UTILIZE THE COUNTY'S AVAILABLE WATER SUPPLY RESOURCES.**

**Objective 6A.2.1** By ~~December January 31, 2008~~2009, the County will update the wellfield protection plan for public potable water supply sources in or adjacent to the unincorporated County.

Policy 6A.2.1.1 By ~~December January 2009~~, the County shall in conjunction with FDEP, SFWMD, the St. Lucie County Health Department and existing utility systems, determine and map the location of all existing public potable water supply wells which are permitted to withdraw 100,000 gpd or greater. The County shall annually update this map and keep copies of this map on file.

Policy 6A.2.1.2 The County shall in conjunction with FDEP, SFWMD, County Public Health Unit, utilities and other potential providers of central potable water service establish the probable location of public potable water supply wells in the County.

Policy 6A.2.1.3 The County shall identify land uses which may not be compatible with, and may contribute to the degradation of, public potable water supply wells.

Policy 6A.2.1.4 The County shall condition the issuance of development orders or permits on demonstration of the compatibility of the proposed land uses with existing or future public potable water supply wells.

**Objective 6A.2.2**  
**The County shall continue to develop a comprehensive water conservation program incorporating, at a minimum, the following policies.**

Policy 6A.2.2.1 The County shall continue to require water saving devices in new construction, consistent with the requirements of the Florida Building Code.

Policy 6A.2.2.2 The County shall enforce the landscaping portion of the existing land development regulations and on an ongoing basis require more exacting provisions for native landscaping plants.

Policy 6A.2.2.3 The Land Development Regulations shall require wastewater reuse plans for new sewage treatment plants operating above 250,000 gpd. Any new reuse plan shall be approved by the FDEP.

Policy 6A.2.2.4 The County shall encourage reuse and reclamation of water for irrigation, landscape, agriculture, and industry as an alternative to the use of potable water supplies.

Policy 6A.2.2.5 The County shall provide for education of the public concerning the need for water conservation and the use of gray water for irrigation.

Policy 6A.2.2.6 No Conditional Uses for sand mining and no re-zonings to Industrial, Extraction (IX) will be granted within public potable water supply recharge areas designated through the Wellfield Protection Ordinance; when the information is available to designate aquifer recharge areas, this policy will be revised through a Comprehensive Plan Amendment to include those areas.

**Objective 6A.2.3**  
**By December 2010, the County shall implement the Upper East Coast Water Supply Plan, prepared by the SFWMD, by amending the land development regulations to identify water available and allocation rates to protect natural systems from competing water uses.**

Policy 6A.2.3.1 For normal, average rainfall years, water availability, use, allocation, and management plans, the County shall prevent the increasing water demands from reducing the important ecological, recreational and navigational values provided by the natural systems.

Policy 6A.2.3.2 Water use, allocation, and management plans for emergency drought and flood situations shall avoid irreversible impacts on ecological systems and minimize long term adverse impacts.

Policy 6A.2.3.3 The County shall not rely upon water supply sources outside its jurisdictional boundaries to meet the water supply needs of new growth and development until water availability, use, allocation and management plans have been adopted for the proposed source areas which specifically allocate water for such use.

**GOAL 6A.3** The County shall institute a program to identify the availability of public potable water supplies required to provide for the growth needs in the unincorporated County.

**Objective 6A.3.1** In cooperation with the SFWMD, the County shall, in 2008, complete a master plan which determines and quantifies groundwater resources available to growth areas in both the surficial and Floridan aquifers, evaluates methods of treatment, considers environmental impact, considers alternative financing options, and provides a schedule for County acquisition of water service.

**Policy 6A.3.1.1.** The County shall update the Water and Wastewater Master Plan approximately every 5 years to identify and provide for public water supplies to include:

- A. Identification of areas of high growth potential which are (or will be) isolated by existing service areas, natural geographic boundaries, political boundaries, low growth potential areas, or other demarcations.
- B. Projection of population growth in these areas.
- C. Inventory of existing water treatment plants within the area, their condition, and their potential for acquisition.

Establishment of needs of a public water system, based on LOS, provision of service by potential suppliers of water and population as established above.

**Policy 6A.3.1.2** The County shall as part of the Master Plan Update process, authorize or cause to be authorized, a treatment and transport study to determine the recommended methods for supplying water treatment and transport, if necessary, for each service area identified under Policy 6D.3.1.1.

The studies will include:

- A. A review of needs, based on projected population and LOS.
- B. An inventory of available water quantity and quality data.
- C. An analysis of potential aquifer sources, well locations, treatment methods, environmental effects, waste disposal considerations, and economic costs and efficiencies.
- D. Recommended method of treatment.
- E. An evaluation of environmental effects, waste disposal considerations, and costs.

- F. Identification of transfer needs and alternatives to deliver treated or raw water from the source to the distribution system.
- G. An application to SFWMD for water withdrawal from the selected aquifer(s).
- H. A recommendation for wellfield location, configuration, source aquifer, number and spacing of wells.

**Objective 6A.3.2 The County shall provide, where feasible, public water supply service within the unincorporated areas of the County; criteria for evaluating the feasibility of providing such public water service will be part of each Water Master Plan Update.**

Policy 6A.3.2.1 The County shall authorize engineering and financial studies for areas identified under Policy 6D.3.1.1, which studies will include:

- A. Review of area needs and time frame for development.
- B. Preliminary identification of facility development necessary to meet the needs and timing of provision of public water service.
- C. Preliminary cost estimates and a schedule of capital expenditure projects financial considerations, including recommended method of funding, rate structure and revenue projections.

Policy 6A.3.2.2 The cost of all new potable water infrastructure and distribution systems shall be borne by those who directly benefit from the improved facilities.

Policy 6A.3.2.3 In order to provide the most cost effective and efficient provision of public water service within the unincorporated areas of the County, the County shall communicate with the other potential providers of public water service regarding availability of and willingness to provide public water service from such providers to meet the needs of development within the unincorporated areas of the County.

Policy 6A.3.2.4 By December 31, 2013, in order to provide maximum coverage of potable water delivery within the St. Lucie County Water and Sewer District Service Area, for the 5-year planning period of the Master Plan and through build out of the area, the County shall implement the Water and Wastewater Master Plan by determining if the following identified facility needs and/or improvements will be required:

- A. Expansion of the Holiday Pines WTP from 0.288 MGD to 0.5 MGD in FY 2009/2010.
- B. Expand the distribution system along Indrio Road from US Highway 1 to I-95 Interchange, along US Highway No. 1 to Harbor Branch and St. Lucie Village, to the St. Lucie Airport Industrial Park.
- C. Provide service to the existing developments within the North County Service Area, including the towns, villages and countryside area, through a Regional North County WTP. Constructed is anticipated to commence in FY2009/2010.
- D. Research and provide alternative raw water sources from either Surficial Wells or Upper Floridian Aquifer Wells.

E. Create a program for disposal of RO concentrate from the Holiday Pines Water Treatment Plan and proposed North County Regional WTP via deep injection well located at the North County WTP or alternatively identified beneficial reuse project.

Policy 6A.3.2.5 By December 31, 2013, in order to provide maximum coverage of potable water delivery within the North Hutchinson Island Service Area, for the 5-year planning period and through build out of the area, the County shall implement the Water and Wastewater Master Plan by determining if the following facility needs and/or improvements will be required:

- A. Implement the following planned water system improvements
  - 1. Construct a 1.0 MG water storage tank and re-pump facility at a site to be determined at a later date (currently locating property).
  - 2. Rehabilitate/replace portions of the existing distribution system.
  - 3. Replace portions of the water line distribution system.
- B. Interconnect the existing system with Vero Beach to insure future delivery of services.

Policy 6A.3.3.1 Within 18 months of completion of the South Florida Water Management District updates to the Upper East Coast Water Supply Plan, the County shall coordinate with SFWMD to update the County's 10-Year Water Supply Facilities Work Plan.

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**EXHIBIT 4**

**Chapter 6(D), Sanitary Sewer Sub-Element**



**CHAPTER 6 (D)**

**ST. LUCIE COUNTY  
COMPREHENSIVE PLAN**

**SANITARY SEWER SUB-ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 5, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - ~~May 6~~December, 2008 (Pending Board Approval)

**ST. LUCIE COUNTY  
SANITARY SEWER SUB ELEMENT**

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**(will be updated prior to submittal to DCA)**

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## ST. LUCIE COUNTY SANITARY SEWER SUB ELEMENT

### INTRODUCTION

The Sanitary Sewer Sub-Element provides a complete summary of the wastewater treatment facilities in St. Lucie County. Sanitary sewer services are provided in only a small portion of the unincorporated County. Central utility services are provided by the Ft. Pierce Utilities Authority (FPUA), the Port St. Lucie Utility Systems Department, St. Lucie County Utilities, or St. Lucie West Utility District. Generally, St. Lucie County Utilities provides sanitary sewer service to those properties located on North and South Hutchinson Island and within the Holiday Pines neighborhood on the mainland. The County also owns and operates a small wastewater treatment facility in the Lakewood Park subdivision. Those multi-family residential developments and Planned Unit Developments in the unincorporated County that are not serviced by St. Lucie County Utilities are serviced by their own on-site wastewater treatment plants (WWTP). Most of the single-family home sites in the unincorporated County are served with individual septic tanks. The importance of the municipal regional systems and on-site treatment facilities is noted.

### BACKGROUND

#### A. TERMS AND CONCEPTS

Wastewater treatment systems occur in many different types. They may range from individual septic tanks and drain fields to large regional systems that include gravity collection sewers, low-pressure collection systems, lift stations, regional treatment plants, and effluent disposal facilities.

**Regional Facilities:** Regional facilities are large-scale sanitary sewage systems that generally provide service to densely populated areas. These facilities are comprised of three components that perform the basic functions of collection, treatment, and disposal of domestic sewage. Some regional facilities may also treat industrial waste on which pre-treatment may have already been performed.

The collection system is composed of a network of gravity sewer pipes or low-pressure conveyors that collect sewage from individual sources and convey it to a central location for treatment. **Figure 6-D-1** schematically represents a typical system.

A gravity system is normally made up of laterals, mains and manholes used to collect water and convey it by gravity to a pumping station. The small pipes that come from a home or business are called laterals. These laterals take the wastewater from the home or business to the main or a manhole. The main, through gravity, takes the wastewater from the laterals or the manholes to a lift station which pumps the wastewater through a force main to the wastewater treatment plant.

In South Florida, gravity sewers would become very deep long before they reached regional treatment plants. Therefore, collection systems usually contain several lift stations within the system. These lift stations discharge into force mains, which may in turn discharge into larger force mains, other lift stations, other gravity sewer systems, or into a treatment plant. Lift stations, which receive flow from several sub-systems, are often called master lift stations. Large force mains, which receive flow from several lift stations, are called manifolds.

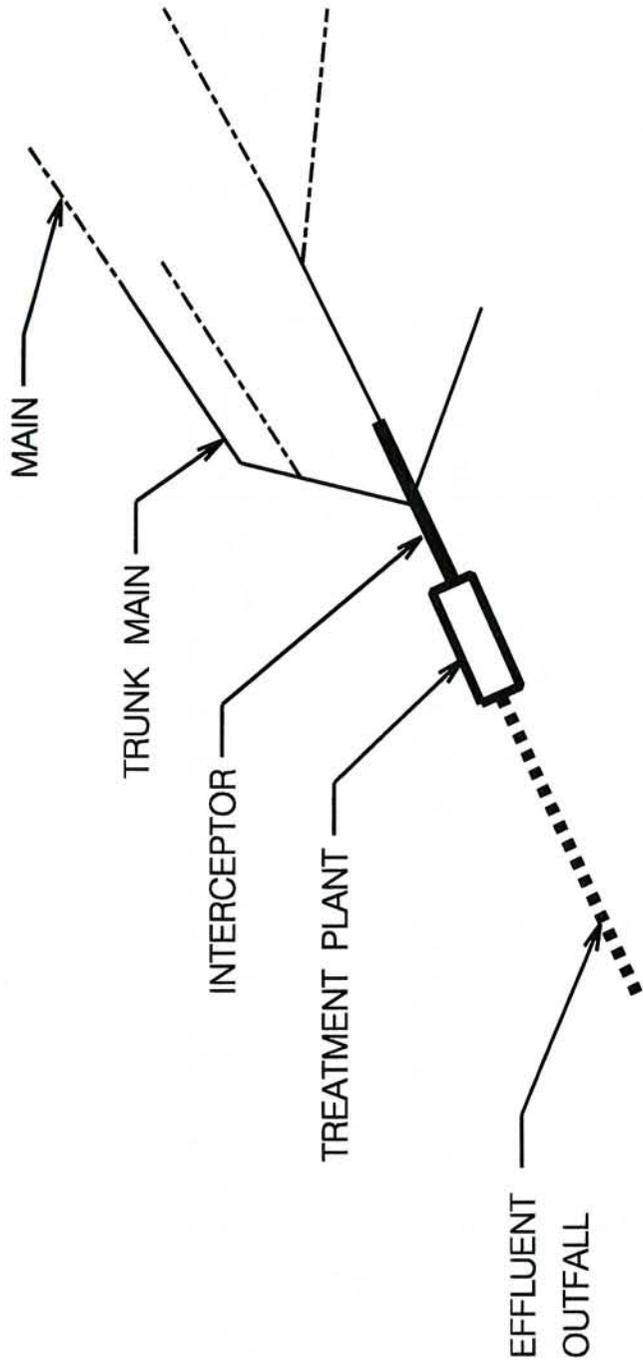


Figure 6-D-1

SEWER SYSTEM SCHEMATIC  
St. Lucie County, Florida

Source: Adapted from Land Use and the Pipe,  
Tabors, et al, 1976  
Florida Department of Community Affairs, Model Element

The treatment plant is the component of the regional sanitary sewer facility that functions to remove solid and organic materials from the sewage. There are a large number of processes that can accomplish this, but they are generally grouped into one of the following three categories depending on the proportion of the material removed.

**Primary Treatment:** This refers to a removal of between 30 percent and 35 percent of the organic materials and up to 50 percent of the solids from the sewage. This may also be referred to as physical treatment, because screens and settling tanks are the most common methods used to remove the solids.

**Secondary Treatment:** Secondary treatment processes remove between 80 percent and 90 percent of total organic material and suspended solids from sewage. This level of treatment generally requires multiple steps involving at least one biological process and one or more processes for removal of suspended solids. The effluent from a secondary plant may also be chemically treated and filtered. This is sometimes referred to as enhanced secondary treatment.

**Tertiary Treatment:** Sewage may also contain large quantities of synthetic organic compounds or inorganic chemicals which may create pollution problems if not removed. Tertiary or advanced treatment provides processes to remove these pollutants. The most common tertiary processes remove compounds of phosphorus and nitrogen, nutrients that promote unwanted growth of biota in the environment, which may remove oxygen necessary for desirable environmental conditions. The effluent of advanced treatment processes often approaches potable water purity.

The treated water produced by the wastewater treatment system is known as effluent. Effluent disposal alternatives in St. Lucie County include discharge to a water body, irrigation reuse, percolation into the shallow groundwater, or injection into deep aquifers.

The solid by-product, or residual, of the treatment process is known as sludge. Prior to final disposal, sludge is usually subjected to one or more additional processes to remove pathogens, stabilize, and/or dewater. These processes allow for a safe disposal and facilitate transportation and deposition. Common disposal methods include burial in solid waste landfills, land application as a soil conditioner for agricultural purposes, and incineration.

**Package Treatment Plants:** Package treatment plants are essentially small treatment systems, which have a collection network, treatment plant, and disposal system. In St. Lucie County a few small package plants are actually very large septic tanks with sand filters and chlorination.

Package plants may be designed to provide any level of treatment, but in St. Lucie County plants providing, at a minimum, secondary treatment is used. Package plants are available in a range of capacities up to one-million gallons per day (MGD). They are generally used to serve isolated developments and are usually partially, or completely, preassembled by the manufacturer prior to shipment to the site of use.

Effluent disposal in package plants may take a variety of forms. Most common in St. Lucie County are drain fields, percolation ponds, and spray irrigation. Except for disposal by deep well injection, all effluent from package plants must be chlorinated for disinfection prior to disposal.

Small package plants usually do not require full-time attendance by an operator, and many small package plants in the County are run by operating services. Some small package plants only require an operator for two or three non-consecutive visits per week, totaling one to one and one-half hours per week. The average small package plant has an operator on-site for only one-half hour per day, five days per week. As a result, preventive maintenance of the plant and/or collection system may not be fully achievable, potentially leading to premature deterioration of facilities. Some of the larger package plants have their own operators, usually for only a portion of the day.

**Septic Tanks:** Septic tank systems are usually used to serve single housing units, although relatively large scale systems have proven successful. The system consists of two components, the septic tank and the drainfield. The tank receives wastewater from the home and provides a period of settling, during which time a significant portion of the suspended solids settles out. The remaining liquids are discharged through underground perforated drainage pipes into the drainfield and percolate into the soil where microorganisms and filtration processes purify the liquids. Septic tanks generally require cleaning every two to three years to remove accumulated solids. These solids, called septage, are generally transported to regional sanitary septage facilities for treatment prior to disposal.

Septic tanks can be adversely affected by a number of conditions. These include high water table, poor drainage, lack of space, and miscellaneous effects from other conditions such as hydraulic overloads from washing machines.

## **B. REGULATORY FRAMEWORK**

The Federal Water Pollution Control Act (PL 92-500) is the controlling national legislation relating to the provision of sanitary sewer service. The goal of this act is the restoration and/or maintenance of the chemical, physical and biological integrity of the nation's waters. The act established the national policy of implementing area-wide waste treatment and management programs to ensure adequate control of courses of pollutants. Under Section 201 of PL 92-500, grants are made available to local governments to construct facilities to treat "point sources" of pollution, which include effluent from sewage treatment processes. The U.S. Environmental Protection Agency is responsible for implementing the act.

The Florida Department of Environmental Protection (FDEP) is responsible for ensuring that the State carries out responsibilities assigned to it under PL 92-500. FDEP has adopted rules for the regulation of wastewater facilities in Chapter 64-600, Florida Administrative Code (F.A.C.). These rules apply to facilities that treat flows exceeding 5,000 gallons per day (gpd) for domestic establishments, 3,000 gpd for food service establishments, and where the sewage contains industrial, toxic, or hazardous chemical wastes.

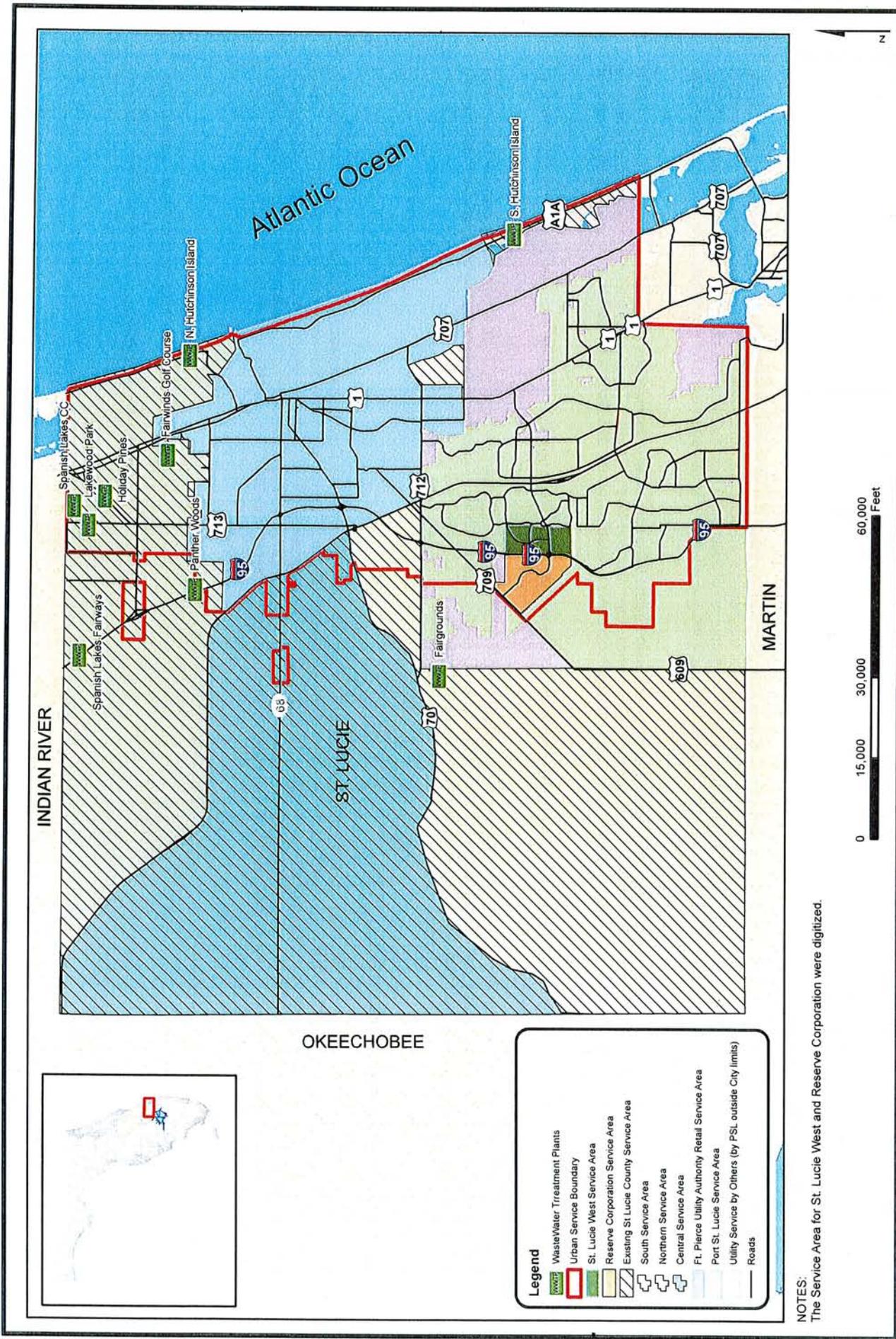
The Florida Department of Health regulates septic tank and drainfield installation within the State. These requirements have been adopted by rule in Chapter 69E-6, F.A.C.

Individual septic tanks are permitted by the County Health Department and regulated in accordance with Chapter 69E-6, F.A.C. When a privately or municipally owned utility serves a community and charges on an individual basis, it is regulated by an overseeing Commission or Authority. Until recently, this body was the Public Service Commission. The Public Service Commission still regulates privately owned systems.

## **EXISTING CONDITIONS**

### **A. EXISTING PLANNING DOCUMENTS**

In 1992, St. Lucie County completed and adopted its Water and Wastewater Master Plan. In 1999, St. Lucie County underwent a revision to the 1992 Water and Wastewater Master Plan. In August 2000, the Board of County Commissioners adopted the St. Lucie County Utilities Water and Wastewater Master Plan. ~~The subsequent Water and Wastewater Master Plan Update was completed in October 2008 in the process of being updated and a revised Master Plan is anticipated to be complete in 2008.~~ The two major urban areas of the County, Ft. Pierce and Port St. Lucie, have regionalized wastewater collection treatment and disposal systems. FPUA completed a master plan for water and wastewater in 1987 and updated most recently in September 2006. **Figure 6-D-2** shows the intended area of service for these municipal systems in St. Lucie County.



**Legend**

- Waste Water Treatment Plants
- Urban Service Boundary
- St. Lucie West Service Area
- Reserve Corporation Service Area
- Existing St. Lucie County Service Area
- South Service Area
- Northern Service Area
- Central Service Area
- Ft. Pierce Utility Authority Retail Service Area
- Port St. Lucie Service Area
- Utility Service by Others (by PSL outside City limits)
- Roads

NOTES:  
The Service Area for St. Lucie West and Reserve Corporation were digitized.



**Figure 6-D-2**  
Central Sewer Service Areas and WWTP Locations  
St. Lucie County, FL

In late 1990s, St. Lucie County initiated condemnation proceedings against the assets of the General Development Utility (GDU) Corporation in St. Lucie County. GDU was providing wastewater services for certain areas of the City of Port St. Lucie and the unincorporated areas around the River Park Subdivision area.

On October 1, 1994, the City of Port St. Lucie acquired the Utility's assets from St. Lucie County through an Agreement of Transfer. The City subsequently implemented a phased water and sewer expansion plan that now provides a centralized water and wastewater treatment system to nearly every property within the City's limits, as well as to certain properties located in the unincorporated County.

Prior to the City's expansion efforts, seventeen (17) sub-regional systems existed within the boundaries of Port St. Lucie's Utility Service Area. These sub-regional systems were not interconnected to each other and only served a small part of the population within the City's Utility Service Area. As the City's primary water and sewer systems were extended throughout the community, twelve (12) of these isolated treatment systems have been connected to the City's wastewater system and their treatment facilities decommissioned.

In addition to the system operated under the direction of the City of Port St. Lucie's Utility Systems Department, there are two other sizable sub-regional providers located within the City's corporate limits.

The water and wastewater system belonging to St. Lucie West Community Development Services District was constructed as part of the St. Lucie West Development of Regional Impact in the late 1980's and is operated under the oversight of the Development District's Board of Supervisors.

The water and wastewater system belonging to The Reserve Community Development Services District was constructed in the early 1980's to serve the Go Team Industrial Park that is located within the City and a portion of The Reserve, an adjacent residential community that is located in unincorporated St. Lucie County.

As of May 2008, there were no plans to have either of these systems absorbed by the City; however, operational interconnects exist between the water systems to provide for back up services, should they be needed

## **B. REGIONAL FACILITIES**

Figure 6-D-2 outlines the general areas of service for the major regional facilities now operating in the County which are described below. These areas were franchised by the Public Service Commission.

Other sub-regional franchises also operate in the County, but their area is usually limited to a single development or a relatively small area. These sub-regional franchises are listed with the package plants.

**Ft. Pierce Utilities Authority (FPUA):** According to the September 2006 FPUA Water and Wastewater Master Plan, FPUA operates the Island Water Reclamation Facility with a permitted capacity of 12 MGD (max month average daily flow) on the barrier island. This facility provides service to approximately 49,029 residents throughout their service area and treats an average of 5.62 MGD, less than half of the permitted capacity. FPUA produces reclaimed water which is almost exclusively provided to the Florida Municipal Power Agency for use in cooling towers at the Treasure Coast Energy Center. The Island Water Reclamation Facility also utilizes approximately 300,000 gpd of reclaimed water for wash down and irrigation purposes.

FPUA is in the planning process for the construction of a mainland water reclamation facility located in the proximity of the County's landfill. Reclaimed water from the proposed facility may be allocated to the proposed Plasma Arc Gasification Facility planned at the landfill.

The FPUA, via a bulk user agreement with the County, has extended its wastewater service beyond the boundaries of the City of Ft. Pierce, and presently serves areas in unincorporated St. Lucie County.

**Port St. Lucie Utility Systems Department:** The City of Port St. Lucie owns and operates three WWTPs within its city limits. The Northport WWTP was phased out in 2007 due to the recent completion of the Glades Water Reclamation Facility. The Glades Water Reclamation Facility came on line in 2007 has a permitted capacity of 6 MGD. An expansion to 12 MGD is currently underway and there are provisions for ultimate build out of 24 MGD. This facility utilizes 100 percent of the reuse produced to serve existing developments, and relies on a deep injection well for alternate disposal during wet weather. The Southport Reuse WWTP operates at a three month average daily flow of approximately 2.8 MGD. This facility provides reclaimed water to the Ballentine Golf and Country club, and also relies on a deep injection well for alternate disposal. The City plans to decommission the Southport WWTP in 2012. The Westport WWTP has a permitted capacity of 4 MGD, with provisions for expansion to 12 MGD in approximately 2012. Flow from the Southport facility will be redirected to the expanded Westport WWTP when it is decommissioned.

**North Hutchinson Island Utility District:** In 1992, St. Lucie County acquired the North Hutchinson Services Corporation. The North Hutchinson Island facility and service area of this private utility provider became the foundation for the establishment of the North Hutchinson Island Utility District of St. Lucie County. The North Hutchinson Island Utility District was consolidated into the St. Lucie County Water and Sewer District in August 2005. The St. Lucie County Utilities Department provides wastewater service to approximately 7,490 residents on North Hutchinson Island. St. Lucie County Utilities owns and operates the North Hutchinson Island wastewater collection system and a 0.5 MGD WWTP. The County is currently evaluating the potential for a future expansion of the facility to increase the capacity to 0.8 MGD. This plant produces reclaimed water that is made available to nearly all of the larger developed parcels on the island.

The upgraded WWTP was placed into service in January 1996. This facility is permitted through the FDEP for 0.50 MGD of treatment capacity. The current FDEP wastewater facility permit expires on October 21, 2008. This upgraded WWTP replaced two smaller sub-regional package treatment plants, one at the Bryn Mawr utility site and one at the Sands utility site, in addition to a number of individual WWTPs that served individual residential developments.

**South Hutchinson Island:** In 1996/1997, the South Hutchinson Island wastewater collection and treatment system was constructed by St. Lucie County to provide central sewer service for the portion of South Hutchinson Island located outside of the City of Ft. Pierce. Just as with the North Hutchinson Island service area, this system was intended to eliminate all of the numerous individual wastewater package treatment plants that had been constructed in the absence of a centralized treatment network. Many of these existing WWTPs and all existing lift stations were upgraded or replaced to meet St. Lucie County Utility standards and a force main system was constructed to connect these lift stations to the new WWTP. The WWTP was designed to accommodate build out flows for South Hutchinson Island (based on a build out population of 15,150 residents). The primary method of effluent disposal is reclaimed water irrigation, with backup disposal provided by discharge to the FPL Nuclear Power Plant ocean discharge canal.

This WWTP is permitted for 1.6 MGD and utilizes a conventional plug flow, extended aeration, activated sludge process followed by filtration and high-level disinfection to produce reclaimed water for irrigation. The plant is located on a 19.2 acre, county-owned site approximately two miles south of the FPL Nuclear Power Plant on the west side of A-1-A.

**St. Lucie County Water and Sewer District (formerly known as Holiday Pines Service Corporation):** The service area of the St. Lucie County Water and Sewer

District water and wastewater utilities lies within the St. Lucie County Utilities (SLCU) mainland north county service area. The St. Lucie County Water and Sewer District service area includes the Holiday Pines subdivision and some additional commercial and residential areas fronting Kings Highway and Indrio Road. In August 2005, the North Hutchinson Island Utility District, the Airport Utility District, the North County (Holiday Pines) Utility District, the Mid County District, the Indian River Estates MSBU District and the H.E.W. Utility District were consolidated into a single utility district now known as the St. Lucie County Water and Sewer District. As such, the above mentioned North Hutchinson Island Utility District service area is now included in this District.

The St. Lucie County Water and Sewer District (Holiday Pines) WWTP is a field-erected, precast package plant with a design capacity of 0.3 MGD. The WWTP is located on a 9.8-acre utility site near the Indian Pines Golf Course. Seven percolation ponds are utilized for effluent disposal. Concentrate from the St. Lucie County Water and Sewer District water treatment plant is also discharged into these ponds. Sludge from the facility is lime stabilized and hauled to land application sites.

There are no plans to expand the Holiday Pines WWTP. Upon completion of the North County Regional Water Reclamation Facility (WRF), the Holiday Pines WWTP will be decommissioned and replaced with a master lift station to redirect flow to the new facility.

### C. PRIVATELY OWNED UTILITIES WITH CAPACITIES GREATER THAN 0.1 MGD

**Port St. Lucie:** There are three privately owned WWTPs in Port St. Lucie with capacities greater than 0.1 MGD: Reserve Utility Corporation (0.122 MGD), St. Lucie West Utilities (2.0 MGD) and Savannah Club (0.15 MGD). Spanish Lakes East (0.294 MGD) and Spanish Lakes Riverfront (0.1 MGD) WWTPs were decommissioned in 2003. Since these private utilities lie within the Port St. Lucie Utilities service area, any acquisition, interconnection or expansion associated with these facilities would not involve SLCU.

**Panther Woods:** Panther Woods owns and operates an on-site WWTP with a permitted capacity of 0.18 MGD, but is limited to 0.105 MGD due to the size of the existing chlorine contact basins. The facility serves a current population of approximately 1,040 residents. Treated effluent is supplemented with well water and used to irrigate the 120-acre Panther Woods Golf Course.

**Spanish Lakes Country Club:** Spanish Lakes Country Club is an adult mobile home community with approximately 1,300 mobile home lots. The community is built out and is home to 3,040 residents. The WWTP serving the Spanish Lakes Country Club is a field-erected, precast concrete package plant with a permitted capacity of 0.160 MGD. Average daily flow is 0.121 MGD. This plant utilizes the extended aeration process to produce a secondary effluent. Effluent disposal facilities include a one-cell percolation pond and a three-cell drainfield. Sludge from this facility is lime stabilized on-site and hauled to land application sites.

The WWTP is adequately sized for the development it serves, but is has no excess capacity. There is minimal area available for expansion on the WWTP site.

**Spanish Lakes Fairways:** Spanish Lakes Fairways is a 1,600 unit (3,200 residents) adult community located in the northwest portion of the St. Lucie County Water and Sewer District service area. The Spanish Lakes Fairways WWTP is a field-erected, precast concrete package plant with a permitted capacity of 0.250 MGD. Average daily plant flow is 0.116 MGD. The plant utilizes the extended aeration process to produce reclaimed water that meets FDEP standards for public access irrigation. The plant consists of two separate treatment trains which include: two 0.127 mg aeration basins with mechanical surface aerators, two rectangular clarifiers, two sand filters, two 0.025 mg digesters and a baffled chlorine contact tank. The primary means of effluent disposal is irrigation on the development's private golf course. A lined pond is provided adjacent to the WWTP for reclaimed water storage. Backup effluent disposal capacity is provided by three percolation ponds at the WWTP site. Sludge from the facility is lime stabilized on-site and hauled to land application sites.

The WWTP is designed to accommodate the community to build out. The maximum flow is 0.142 MGD, or approximately 56 percent of the plant's permitted capacity. The excess capacity will be utilized to serve additional phases of the development. There is limited area available for expansion of the wastewater treatment plan.

#### D. PACKAGE TREATMENT PLANTS

There are numerous package treatment plants within the County that make up a significant portion of the wastewater treatment capacity in the County. **Figure 6-D-3** shows WWTPs throughout the County, including package treatment plants, and was last updated in 1999. **Table 6-D-1** lists the plants by name and groups these plants by land use, and was also last updated in 1999. The table shows the location of the plants, the design capacity, operating capacity, percentage of capacity allocated for the unincorporated County, current number of people served, projected 2000 and 2010 population served, and the current level of service. Many of these package plants are concentrated in the White City and Indrio Road areas. Some of these plants have experienced difficulties in effluent disposal, where disposal systems have failed. The majority of the package plants within the County are under consent order and the Florida Department of Environmental Protection (FDEP) has urged each facility (through their permit renewal process) to seek connection to a central sewer system where available and feasible. As such, these facilities are slowly being connected to the public sewer systems available within the County. Both the Figure and Table require will require extensive efforts to update with current information. The County intends to update these items and the related information at a later date in the near future. Updates are, therefore, not included in the May 2008 revision to this sub-element.

#### E. SEPTIC TANKS

Septic tank systems are used principally for the treatment of wastewater from individual residences. In rural areas they are also used for establishments such as schools, motels, rural hotels, trailer parks, housing projects, camps and others. It is impossible to determine the current number of septic tanks in the County since, prior to 1984, the rules and regulations were different and some septic tanks were installed without permits. According to the Environmental Health Section of the County's Public Health Unit, from 1985 to January 2008, 27,193 septic tanks were permitted (approximately 10 percent of permitted septic tanks are never installed). Approximately 50 septic tanks are permitted each month. **Figure 6-D-4** indicates the areas within St. Lucie County with the greatest concentrations of septic tank systems. With the expansion and availability of public utility in the Port St Lucie area, the concentration of septic system use is being decreased by attrition as systems reach the end of their useful life and connection to sewer is mandated by Statute and city policy.

Septic tank systems were invented by Colin Scott-Moncrief of the Indian Civil Service in 1892. These systems treat wastewater by allowing the solids to settle out of the waste and permitting a clarified effluent to be discharged. Although single chamber tanks are often used, two or more chambers in series are required by Florida Administrative Code. In a dual-chamber septic tank, the first compartment provides for sedimentation, sludge digestion, and sludge storage. The second compartment provides additional sedimentation and sludge storage capacity and thus serves to protect against the discharge of sludge and other material that might escape the first chamber.

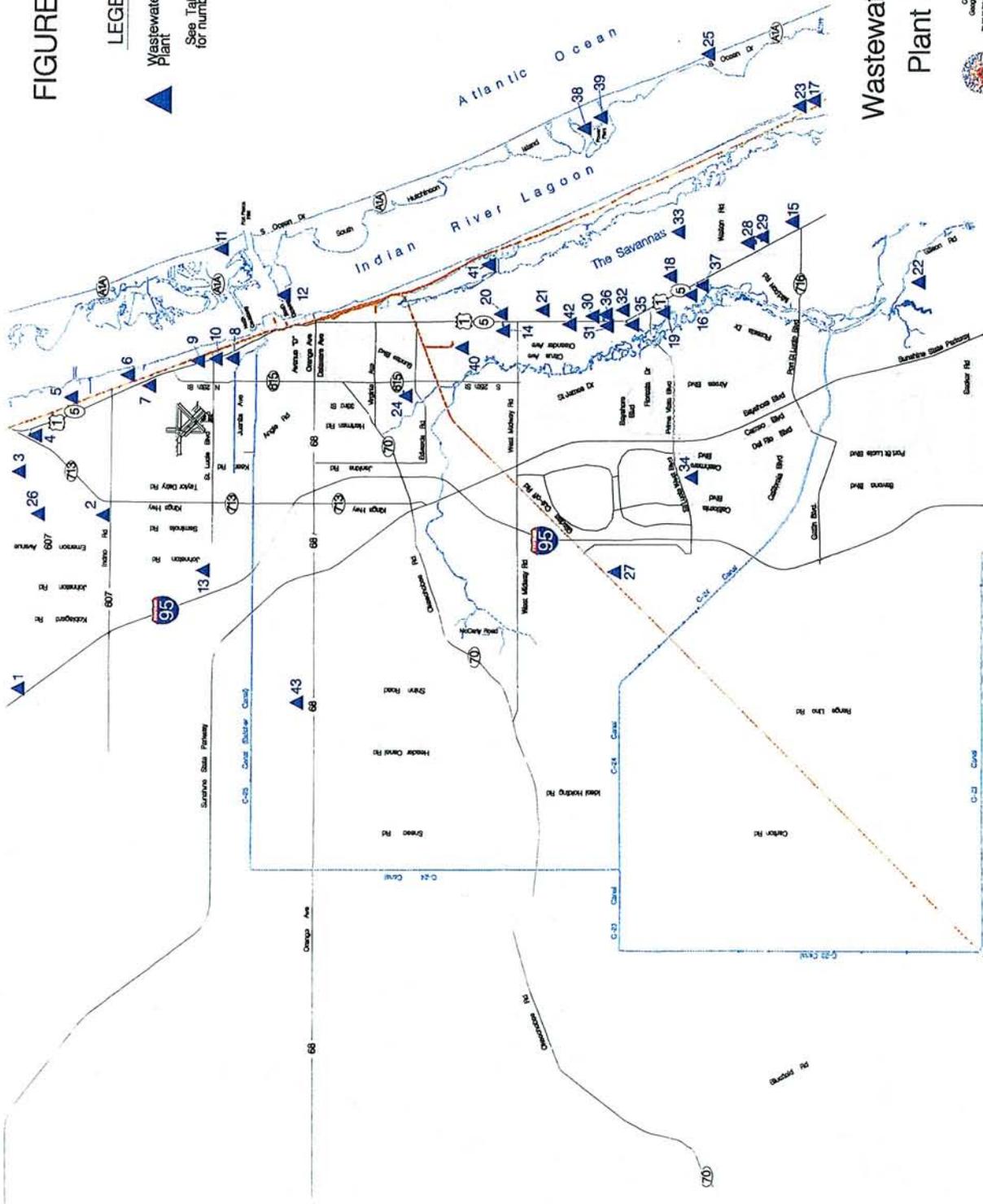
Septic tanks designed for residential use generally have a 24-hour detention period. For larger installations serving multiple families or institutions, a shorter detention period may be permissible. In either case, it is essential that adequate storage capacity be provided so that the deposited sludge remains in the tank for a sufficient length of time to undergo decomposition or digestion before being withdrawn. In general, sludge should be removed every 2 to 3 years. Tanks are normally pumped out by a septage hauling company when contacted by the septic tank owner. The overall life of a septic tank system is 10 years.

St. Lucie County is presently served by several privately owned sewage/septage hauling companies. A few of the companies are located in Martin County and haul septage back into Martin County where it is disposed of at their septage treatment facility. The remaining haulers are located in St. Lucie County and dispose of their

FIGURE 6D-3

LEGEND

- ▲ Wastewater Treatment Plant
- See Table 6-D-1 for numbering key



Wastewater Treatment Plant Locations



Geographic Information Systems  
 U.S. Army Corps of Engineers  
 Savannah District

**TABLE 6-D-1**  
**(Not Updated in May 2008 Revision)**  
**Wastewater Treatment Plants, St. Lucie County**

Map Key	Wastewater Plant	Location	Design Capacity (1 MGD)	Operating Capacity - average (1 MGD)	% Capacity for UNC	Current # of People Served	Projected 2000 Population Served	Projected 2005 Population Served	Current LOS	Current GPCD
	<b>RESIDENTIAL</b>									
5	Benton Wood Mobile Home Park (MHP)	County	.008	.003	100	134	134	134	22 <sup>d</sup>	22 <sup>d</sup>
6	Beverly MHP	County	.0033	.002	100	48	48	48	42 <sup>d</sup>	42 <sup>d</sup>
8	Country Cove MHP	County	.030	.025	100	296	296	296	84 <sup>d</sup>	84 <sup>d</sup>
11	FPUA	Ft. Pierce	9.000	5.103	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	X <sup>a</sup>	130 <sup>a</sup>	130 <sup>a</sup>
16	The Grove of Ft. Pierce	County	.160	.007	100	288	1120	1120	24 <sup>d</sup>	24 <sup>d</sup>
17	Harbour Ridge	County	.120	.013	100	900	1520	1520	14 <sup>d</sup>	14 <sup>d</sup>
20	Indian River Landing	County	.025	.005	100	44	136	136	114	114
24	La Buona Vita MHP	County	.040	.008	100	334	340	340	24 <sup>d</sup>	24 <sup>d</sup>
25	Lake Manor MHP	County	.010	.008	100	120	120	120	67 <sup>d</sup>	67 <sup>d</sup>
26	Lakewood Park Subdivision		.020	.009	100	150	210	210	60 <sup>d</sup>	60 <sup>d</sup>
27	Meadowood Country Club	County	.180	.005	100	30	100	500	167	167
35	Orange Co. of Florida	County	.010	.003	100	42	42	42	71 <sup>d</sup>	71 <sup>d</sup>
36	Orchid Acres Trailer Park	County	.005	.004	100	150	150	150	27 <sup>d</sup>	27 <sup>d</sup>
38	The Reserve Utility Corp.		.175	.020	100	220	400	1000	91 <sup>d</sup>	91 <sup>d</sup>
39	Ridgecrest MHP	County	.020	.011	100	364	364	364	30 <sup>d</sup>	30 <sup>d</sup>
40	Rio del Mar MHP	County	.015	.008	100	128	128	128	63 <sup>d</sup>	63 <sup>d</sup>
41	Riviera Apartments	County	.005	.001	100	42	42	42	24 <sup>d</sup>	24 <sup>d</sup>
43	Savanna Club PUD	County	.065	.017	100	1874	3384	4700	9 <sup>d</sup>	9 <sup>d</sup>
44	St. Lucie West		1.000	.026	0	185	1832	26335	141	141
46	Spanish Lakes Country Club Village	County	.160	.111	100	1200	1200	1200	93 <sup>d</sup>	93 <sup>d</sup>
47	Spanish Lakes Fairways	County	.300	.058	100	300	1000	1600	193	193
48	Spanish Lakes One MHP	County	.294	.159	100	1000	1000	1000	159	159
49	Spanish Lakes Riverfront	County	.100	.058	100	800	1000	1284	73 <sup>d</sup>	73 <sup>d</sup>
50	Tanglewood MHP	County	.020	.011	100	316	316	316	35 <sup>d</sup>	35 <sup>d</sup>

**TABLE 6-D-1  
(Not Updated in May 2008 Revision)  
Wastewater Treatment Plants, St. Lucie County**

Map Key	Wastewater Plant	Location	Design Capacity (1 MGD)	Operating Capacity - average (1 MGD)	% Capacity for UNC	Current # of People Served	Projected 2000 Population Served	Projected 2005 Population Served	Current LOS GPCD
52	Tropical Isle MHP PUD	County	.050	.005	100	334	668	668	15 <sup>d</sup>
53	Vista St. Lucie	County	.125	.029	100	924	924	924	31 <sup>d</sup>
54	Whispering Creek Village	County	.025	.016	100	300	300	300	53 <sup>d</sup>
	<b>COMMERCIAL</b>								
	<b>INDUSTRIAL</b>								
71	Harbor Branch Foundation	County	.015	.003	100	159	***	***	19
	<b>PUBLIC</b>								
76	SLC Juvenile Detention Center	County	.015	.005	100	106	***	***	47
77	Savannas Recreation Area	Ft. Pierce	.0075	.003	0	unknown	***	***	x <sup>e</sup>
a	FPUA data is based on connections. A connection could be hooked up to a single family residence or to a condominium with numerous units. It is impossible to determine the exact numbers with the information available. Also, some residential units are considered commercial and are included in the A-General category. From September, 1990, the connection count is: residential inside city 9146; residential outside city 736; general inside city 1724; and, outside city 89. The Utilities Authority estimates the total number of residents served currently (December, 1989) at 30,000. The projections for 1995 and 2000, taken from the 1988 FPUA Master Plan, are 39,125 and 40,867 respectively. The level of service (LOS) of 130 gpcd is taken from the FPUA 1988 Master Plan.								
b	GDU currently serves a total population of 22,922 with 2,380 customers residing in the unincorporated County. The total percent capacity allocated by the GDU facilities for the unincorporated County is 10 percent. From the information available, the number of residents served per plant is not known. At this time, the projected service population for 1990 and 1995 and the current capacity surplus/deficiency is unavailable.								
c	Current LOS was determined by dividing the average current operating capacity by the current number of people served.								
d	Strongly influenced by seasonal population 60 percent of the year, off-season population is approximately 65 percent of current number of people served.								
e	Current LOS not determined due to lack of design capacity data and/or current # of people served.								
***	The 2005 and 2010 projected population served is unavailable due to lack of data.								

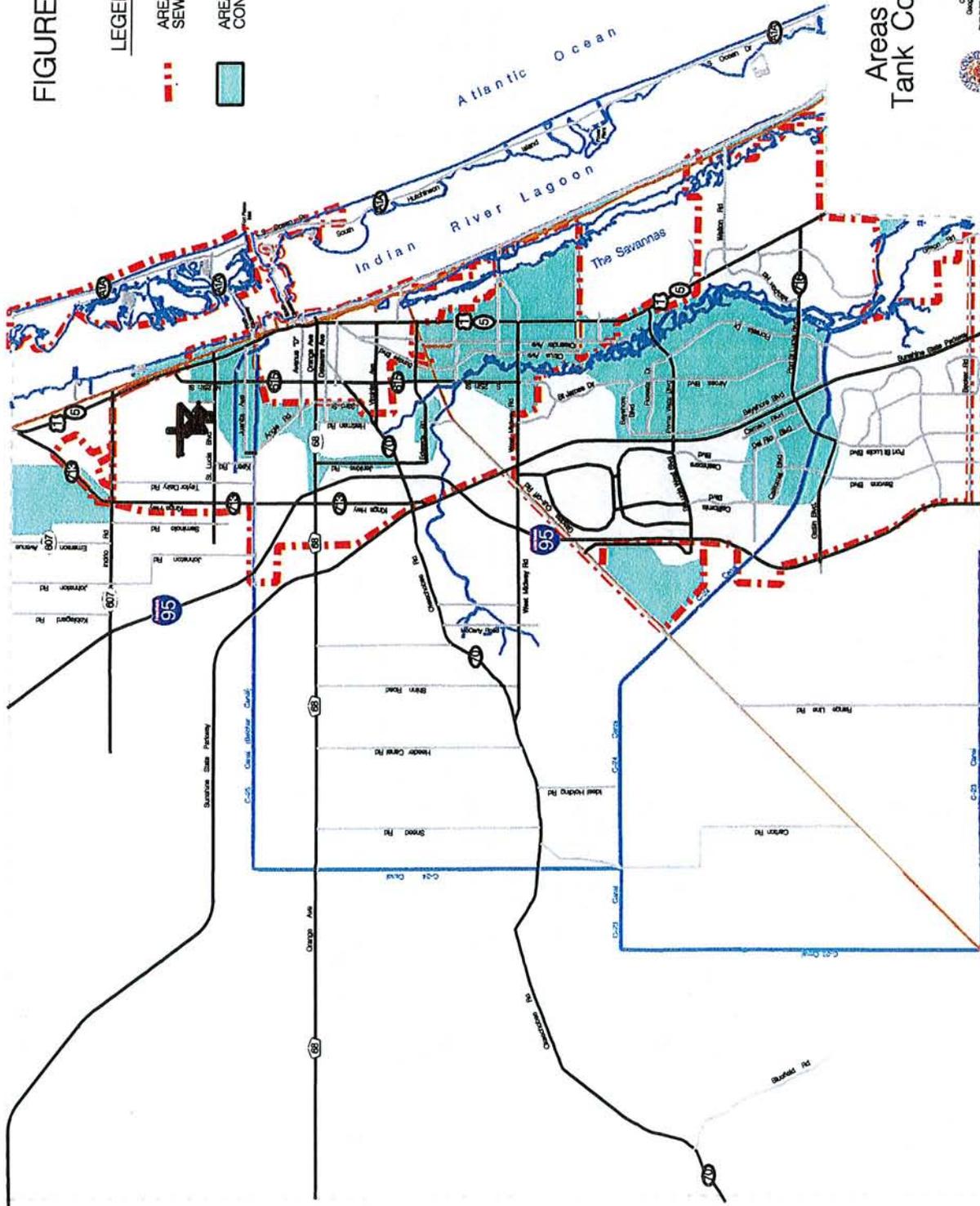
**TABLE 6-D-1  
(Not Updated in May 2008 Revision)  
Wastewater Treatment Plants, St. Lucie County**

Map Key	Wastewater Plant	Location	Design Capacity (1 MGD)	Operating Capacity - average (1 MGD)	% Capacity for UNC	Current # of People Served	Projected 2000 Population Served	Projected 2005 Population Served	Current LOS GPCD
Notes:	1. Not in file refers to information the local FDEP office would have normally have in their files. 2. Due to lack of sufficient data, it is not possible to determine the current capacity surplus or deficiency. 3. UNC refers to Unincorporated St. Lucie County. 4.								

FIGURE 6D-4

LEGEND

- AREAS OF PLANNED SEWER SERVICE
- AREAS OF SEPTIC TANK CONCENTRATION



Areas of Septic Tank Concentration



septage in St. Lucie County.

Effluent from septic tanks is normally discharged to a drainfield where it is allowed to percolate into the ground. Soil permeability and depth to the wet season water table are limiting factors on septic tank drainfield performance and may require construction of elevated drainage field grounds to ensure adequate performance. **Figure 6-D-5** indicates the general soil types present in St. Lucie County as identified in the Soil Survey of St. Lucie County (U.S. Department of Agriculture, 1980). As this figure indicates, virtually all soils within the County (98.4 percent), excluding a small area located on the Atlantic Coastal Ridge west of the Intracoastal Waterway, have moderate or severe limitations for septic tank drainage fields. Due to the unsuitability of the soil, the St. Lucie County Health Department, which permits all septic tank system installations in the County, requires 95 percent excavation of the drainfield area and backfilling with acceptable material.

Of the areas with high concentrations of septic tank systems shown on Figure 6-D-4 (not updated as part of the May 2008 revision) all have been experiencing some drainfield failures. These drainfield failures are caused by one or any combination of the following:

1. **Hydraulic Overloading:** This involves the application of septic tank effluent at rates greater than the rate at which the effluent can percolate through the soil in the drainfield.
2. **Suspended Solids Clogging:** This clogging occurs when the septic tank is not operating properly and a portion of the solids which normally settle out in the tank flow to the drainfield in the effluent.
3. **High Groundwater Table:** In some areas of the County, poor drainage allows the groundwater table to reach levels which intersect with the percolation area of septic tank systems thus lowering the drainfield capacity.
4. **Proximity of Drain fields:** In several areas noted, drain fields are in some cases located within 10 feet of each other. This circumstance causes the groundwater in the area of these drain fields to be higher than if a greater separation of the drain fields existed. Ultimately this higher groundwater level reduces the drain fields' capacity to dispose of effluent.

The Health Department has no verified cases of well contamination by septic tanks in St. Lucie County (January, 2008). This stems from the fact that, in many of the developments located in these areas, the home septic tank system and potable water well are all constructed on a 1/4 acre lot. As these developments approach 100 percent build-out, the possibility of non-disinfected septic tank effluent reaching a potable water well increases. It is a well-documented fact that domestic wastewater carries bacteria and viruses capable of causing serious illness and, therefore, well contamination poses severe health implications. In areas that may experience failures, the distinct possibility of groundwater contamination exists.

It is therefore reasonable to project that areas of high septic tank concentration will experience an increasing number of septic tank system failures. This is especially the case in older areas where the systems may be reaching the end of their functioning life.. Additionally, those areas with private well water supplies could see cases of well contamination by septic tanks.



## NEEDS ASSESSMENT

The unincorporated County presently has wastewater service provided by three major municipal utilities (FPUA, Port St. Lucie Utilities and SLCU), several medium sized utilities (St. Lucie West and private utilities), small package plants, and septic tanks. This section examines the needs of those areas in the County which are not included in the major or medium sized utilities or in the service areas now identified by those wastewater utilities.

The area of growth in the unincorporated County directly corresponds to the urban service areas for water and sewer service. The area west of this growth area of the County is planned as agricultural.

The most intense development in these areas is expected to occur along the I-95 corridor with concentrations at the Gatlin Boulevard I-95 Intersection, mid-County, and the north County area. Other areas of the unincorporated County exhibiting needs include the Savannah Club area extending north past Tilton Road to Easy Street.

With a few exceptions, all of the package plants were designed to serve a small community, condominium, or commercial area. These plants are designed with a specific capacity in mind, determined by the proposed size of the development and the standards set by the FDEP for flow per unit. Therefore, these developments neither have appreciable excess capacity, nor do they exhibit appreciable needs beyond their initial design capacity. FDEP has urged each of the remaining facilities to seek connection to a central sewer system where available and feasible.

Because these smaller plants require daily attention, tend to wear out with time, and occupy increasingly valuable land, many are candidates for connection to a regional system within the next 20 years. With areas of proliferation of the small plants a County supported regional system would be a viable improvement in the future.

## SERVICE AREA POPULATION PROJECTIONS

The St. Lucie County utilities service area is separated into several sub-service areas: North Hutchinson Island Service Area from the Ft. Pierce Inlet north to the Indian River County Line on the barrier island; South Hutchinson Island Service Area from the Martin County Line north to the Ft. Pierce City Limits on the barrier island; the St. Lucie County Water and Sewer District from the Indian River Lagoon to the east, the Indian River County Line to the north, Interstate 95 to the west and St. Lucie Boulevard to the south; and the unincorporated County service areas (north, central and south) as illustrated on Figure 6-A-1. The service areas for FPUA and the City of Port St. Lucie are also depicted on Figure 6-D-1.

The population projections for each of the service areas indicates that as St. Lucie County grows there will be a need for additional service capacity within the existing wastewater service facilities. **Table 6-D-2** provides the projected population within the Service Areas for the years ~~2007~~2008, ~~2012~~2013, 2017, 2022 and 2027. The information provided in ~~Tables 6-D-2 and Table 6-D-3~~ **Table 6-D-2 and Table 6-D-3** was obtained from the ~~March 2008 draft of the revised Water and Wastewater Master Plan. The Master Plan is still subject to change as it is finalized. Significant changes to the information provided in the tables will be revised as needed once the Master Plan is complete.~~ **As** this table indicates a significant portion of the County's overall population resides in an area located outside the proposed service area of the St. Lucie County Utilities. Those areas lying outside of the County's service area will be provided wastewater service via the following methods: one of the other two public utility providers - FPUA or City of Port St. Lucie Utilities; an on-site package wastewater treatment plant or via an on-site septic system.

**Table 6-D-2**  
**St. Lucie County Utilities Service Area - Connected Population Projections, 2007-2027**

Service Area	20072008	20122013	20172018	2022	2027
North County Service Area	-3,194	8,75015,821	15,32448,968	18,74469,041	22,71480,059
Central County Service Area	-0	-8,852	10,57720,384	12,60131,337	14,73341,962
South County Service Area	-0	-6,292	-18,703	9,55928,131	11,44932,508
North Hutchinson Island <sup>1</sup>	6,580	7,419	8,258	9,097	9,935

<sup>1</sup>Connected population refers to Equivalent Residential Connections (ERC) connected to North Hutchinson Island wastewater system and assumes 2.2 people per ERC.

**Table 6-D-3**  
**Estimated Connected Wastewater Flows<sup>1</sup> (MGD)**

Service Area	20072008	20122013	20172018	2022	2027
North County Service Area	-0.319	0.87515.822	1.532448.968	1.87469.041	2.271480.059
Central County Service Area	-0.000	-0.885	1.05820.384	1.26031.337	1.47341.962
South County Service Area	-0.000	-0.629	-1.870	0.95628.131	1.14532.508
North Hutchinson Island	0.658	0.742	0.826	0.91	0.994

<sup>1</sup>Wastewater Demand based on Population projections and an assumed per capita flow of 100 gpd/person

Within St. Lucie County the average daily wastewater demands were based on an average per capita flow of 100 gpd. Wastewater flow will increase as the population increases within the service delivery area.

The St. Lucie County Utilities Water and Wastewater Master Plan Update was completed in October 2008 and identifies is currently being updated (and a revised Master Plan is anticipated to be complete in 2009) and will identify the total projected flow demands for wastewater connections through the build out date. Updated projections for each WWTP will be provided in Table 6-D-3 through the amendment process upon completion of the Master Plan Update.

### CAPACITY ASSESSMENT

A level of service for wastewater facilities has been defined by the FDEP at 100 gallons per day per capita (gpcd) of capacity. This makes some allowance for infiltration. Treatment facilities should be planning for expansion when they reach 80 percent of their flow capacity, and under construction at 90 percent of their flow capacity.

The level of service standard for sanitary sewer systems other than those owned and operated by FPUA shall be 100 gpcd. Upon completion of the Sanitary Sewer Master Plan, any necessary changes in the level of service standard will be made through a Comprehensive Plan Amendment.

The LOS standard for those areas of the unincorporated County served by FPUA shall be 110 gpcd (FPUA Master Plan, September 2006).

Many of the WWTPs in St. Lucie County are small package plants intended to serve individual communities, businesses, and condominiums. This type of facility has no significance in a capacity assessment, since it is not large enough to provide service to an expanded service area. As previously discussed, Table 6-D-1, identifies the average operating capacity for treatment plants. These figures were obtained from FDEP records and/or the individual utilities.

The following particular observations are made:

- § The FPUA is capable of receiving flow from their expanded service area.
- § The South Hutchinson Island WWTP is capable of handling flows at the projected build out conditions (district south of the FPL nuclear power plant).
- § Panther Woods Country Club is underutilized, but is designed to serve a specific development at build out. Although continued development has not been significant, future use of this plant as additional development does take place is likely.
- § Reserve Utility Corporation is adequate for present needs, and is planning to expand as development takes place inside The Reserve.
- § St. Lucie West is capable of handling growth in its service area and planned to grow with the development.
- § Spanish Lakes Country Club Village is built out.
- § Spanish Lakes MHP is built out.
- § Port St. Lucie Utility Systems Department has adequate capacity for incoming flows and for growth.

The above analysis indicates in general a capacity for growth in the municipal service areas, newer planned developments in the unincorporated County (e.g., The Reserve), and some of the Hutchinson Island communities. Growth in all of the other unincorporated areas of the County will require additional wastewater transport and treatment facilities.

#### **A. SOUTH HUTCHINSON ISLAND**

South Hutchinson Island is serviced by St. Lucie County Utilities. The South Hutchinson Island District Wastewater Utility was created under Resolution 07-208. In 1995, St. Lucie County constructed a 1.6 MGD wastewater and reclaimed water facility. This facility is designed to accommodate build out of South Hutchinson Island (approximately 15,150 residents). Approximately 7,000 units of wastewater capacity exists, of which 280 units remain in the bank that can be transferred to properties

within the service area to accommodate development. The County has adopted a policy to transfer capacity through the County Utility Office.

Currently over 90 percent of the total wastewater flow from the South Hutchinson Island District Wastewater Utility service area is collected and treated. The only area not currently connected to the system includes five condominiums in the Island Dunes Complex. This condominium complex is serviced by a private WWTP that produces reclaimed water for irrigation of the golf course. As the overall system on South Hutchinson Island was designed to accommodate the maximum build out within the County's service area on the island, no additional expansions are required or planned within the 20-year planning cycle. FPUA serves all wastewater customers on South Hutchinson Island within their service area. SLCU serves the Island from FPUA's service boundary south to the Martin County line.

## **B. NORTH COUNTY AREA**

In 1999, St. Lucie County acquired the Holiday Pines WWTP. This acquired facility allowed the County to provide and plan future collection service of wastewater into the central county area. The St. Lucie County Water and Sewer District service area was created. In August 2005, the North Hutchinson Island Utility District, the Airport Utility District, the North County (Holiday Pines) Utility District, the Mid County District, the Indian River Estates MSBU District and the H.E.W. Utility District were consolidated into the St. Lucie County Water and Sewer District. The St. Lucie County Water and Sewer District area incorporates the land mass between the Indian River County Line south to St. Lucie Boulevard, east to the Indian River Lagoon and west to the Interstate 95 Interchange, as well as North Hutchinson Island. The current Holiday Pines facility is an extended aeration concrete package plant with a permitted capacity of 0.3 MGD. Effluent is disposed through two groups of percolation ponds. The first group is comprised of three ponds with a total area of 95,900 square feet. The second group is comprised of four ponds with a total area of 70,600 square feet. The combined ponds are also permitted to dispose up to 0.120 MGD of Reverse Osmosis brine from the Holiday Pines Water Treatment Plant. It is anticipated that the ponds will provide adequate effluent disposal capacity up to the permitted 0.3 MGD capacity of the existing facility.

Current wastewater flows at the Holiday Pines Wastewater Treatment Facility are nearing capacity. In order to accommodate the population growth needs and wastewater demands into the year 2025 and anticipated growth in the North County area, the following wastewater facility needs and improvements were identified:

- § Decommissioning of the Holiday Pines WWTP in FY 2010/2011
- § Construct and operate, by 2013, a new North County Regional WRF to be located south of Indrio Road and east of Taylor Dairy Road. This facility shall at construction contain:
  - a) Initial capacity of 2 MGD by 2013.
  - b) Increase capacity to 4 MGD by 2017, with provisions to expand to 6 MGD as needed.
  - c) Provide equipment capable of treating the wastewater product to unrestricted public access irrigation.
  - d) Potentially construct a deep injection well for wet weather disposal of reclaimed water, or implementation of identified alternative beneficial reuse project for disposal of reclaimed water.
  - e) Construct a biosolids dewatering facility at the North County Regional WRF.
- § Provide service to the existing developments within the St. Lucie County Water and Sewer District Service Area.

**D. NORTH HUTCHINSON ISLAND**

SLCU owns and operates a wastewater collection system that serves the majority of North Hutchinson Island (with the exception of approximately 383 single-family homes and the Ft. Pierce Inlet State Park. The County is currently evaluating the potential for a future expansion of the facility to increase capacity from 0.5 MGD to 0.8 MGD.

The projected connected wastewater flow approaches the design capacity of the existing North Hutchinson Island WWTP around 2012. In order to maintain sufficient wastewater capacity at the North Hutchinson Island WWTP to maintain quality service at the build out of North Hutchinson Island, the following required improvements have been identified:

- § Possible expansion of the existing facility from 0.5 MGD capacity to 0.8 MGD, if needed.
- § Replace the 6-inch force main north of the Hibiscus Lift Station with an 8-inch force main by 2009.
- § Design and construct the Queens Cove wastewater collection system including lift station and force main by 2012.
- § Design and construct the Bimini Drive, Bermuda Drive and Marina Drive wastewater collection system including lift station and force main by 2012.
- § Design and construct the Ft. Pierce Shores wastewater collection system including lift station and force main by 2012.
- § At build out of North Hutchinson Island expand the existing facility to 1.0 MGD, if needed.

**E. GENERAL PERFORMANCE OF EXISTING FACILITIES**

As can be seen in the preceding data, with the exception of FPUA, Port St. Lucie Utilities and SLCU, all other treatment facilities in the County are project specific. Information was not readily available with which to analyze the general performance of these facilities that serve the unincorporated County, evaluate the adequacy of the current level of service provided by the facilities, the general condition and expected life of the facilities, and the impact of the facilities upon adjacent natural resources.

In 1992, St. Lucie County adopted the Water and Wastewater Master Plan. In 1999, the St. Lucie County Water and Wastewater Master Plan was updated and adopted by the Board of County Commissioners in August 2000. A subsequent update to the Master Plan is currently being updated (completion is anticipated in 2008) and will include changes to the information provided herein. The Comprehensive Plan will be updated via the amendment process upon completion of the Master Plan, was completed in October 2008.

**F. SANITARY SEWER MASTER PLAN FOR THE UNINCORPORATED COUNTY**

Because of the importance that the provision of sanitary sewer service will play in the development of the County and also significant pressures for the County to enter into the provision of such services, St. Lucie County Utilities adopted a Water and Wastewater Master Plan for the unincorporated County in 1992. The Master Plan was last updated in October 2008, is currently being updated (completion is anticipated in 2008), and will include changes to the information provided herein. The Comprehensive Plan will be updated via the amendment process upon completion of the Master Plan.

**G. SANITARY SEWER FACILITY REPLACEMENT, EXPANSION AND NEW FACILITY SITING**

SLCU has been relying on the 2004 Water and Sewer Master Plan as a planning tool and the Comprehensive Plan for planning purposes. The 2004 Water and Sewer Master Plan is currently undergoing an update (completion is anticipated in 2008). The 2004 Master Plan identified the need for expansions, upgrades and new facilities needed to maintain a functioning and adequate wastewater system. The 2008 Water and Wastewater Master Plan Update is used in conjunction with the Comprehensive Plan as a planning tool. These plans address the need for renewal, replacement, facility expansions and siting of new and proposed facilities, will further address these needs for the next 5-year planning period. Upon completion of this Master Plan, pertinent information will be incorporated into this sub-element through the plan amendment process.

**GOALS, OBJECTIVES AND POLICIES**

The following Comprehensive Plan Goals, Objectives, and Policies are modifications of the portions of the Element as adopted in 1990.

**SANITARY SEWER SUB-ELEMENT  
GOALS, OBJECTIVES AND POLICIES**

**GOAL 6D.1**

**THE COUNTY SHALL PROVIDE NEEDED PUBLIC UTILITIES IN A MANNER WHICH PROVIDES THE MOST EFFECTIVE, ENVIRONMENTALLY SOUND, SAFE AND ECONOMIC WASTE WATER TREATMENT SYSTEM AND PROMOTES ORDERLY, COMPACT URBAN GROWTH.**

**Objective  
6D.1.1**

**Sanitary sewer facilities shall be provided by the County in a manner that shall not promote urban sprawl.**

**Policy  
6D.1.1.1**

The utility service areas, as delineated in the Water and Wastewater Master Plan, will be determined on the basis of economy and efficient operation but will not promote linear or leapfrog development. The utility service areas shall be reviewed and updated every 5 years (beginning 2008).

**Policy  
6D.1.1.1b**

The County will determine the most cost effective and efficient means of providing sanitary sewer service to all areas of the urban service area as depicted in Policy 1.1.5.1 of the Future Land Use Element and in a manner that will not promote linear or leapfrog development consistent with Policy 1.1.5.2 of the Future Land Use Element. The County utility department will publish on an annual basis a Service Availability Report setting forth the availability of sanitary sewer service from the various potential suppliers of such service to the unincorporated areas of the County that meets the requirements of Goal 6D.1 and this Policy.

**Policy  
6D.1.1.2**

Provision of centralized (not including package treatment plants) sanitary sewer service shall be limited to the utility service availability options set forth in the annual Service Availability Report described in Policy 6D.1.1.1b.

**Policy  
6D.1.1.3**

The County shall investigate alternate methods of waste disposal other than septic tanks.

**Objective  
6D.1.2**

**The County shall implement procedures for ensuring that when a development permit is issued, pursuant to then current Service Availability Report, adequate facility capacity is available or will be available when needed to serve the development, concurrent with the impacts, in order to meet adopted level-of-service standards.**

**Policy  
6D.1.2.1**

Levels of service for on-site improvements, including sewer connection lines, shall be as required of the developer in the land development regulations.

**Policy  
6D.1.2.3**

The standards for level of service for sanitary sewer systems other than those owned and operated by FPUA shall be Permanent & Seasonal Residents - 100 gpcd; Employee - 100 gpcd and school student - 17 gpcd.

**Policy  
6D.1.2.4**

The County shall include in the annual Service Availability Report an update of all improvements, expansions, or increases in the capacities of facilities, of the various potential suppliers of service to the unincorporated areas of the County to ensure compatibility with the established level of service standards for such facilities.

## **SANITARY SEWER SUB-ELEMENT GOALS, OBJECTIVES AND POLICIES**

Policy  
6D.1.2.5

The County shall prepare annual summaries of capacity and demand information for each facility of the various potential suppliers of service to the unincorporated areas of the County.

Policy  
6D.1.2.6

Development within the unincorporated areas of the County will only be permitted when such development ties into or makes provision for tying into a regional or sub-regional system that is available as set forth in the annual Service Availability Report.

Policy  
6D.1.2.7

The County shall condition development orders to provide that when a regional sanitary sewer system is available, the development will be required to tie into it. Issuance of development orders or permits will be further conditioned on demonstration of compliance with applicable federal, state and local permit requirements for on-site wastewater treatment systems.

**Objective  
6D.1.3**

**The County will establish and maintain a five-year and twenty-year schedule of capital improvement needs for sanitary sewer facilities in recognized County service areas.**

Policy  
6D.1.3.1

The following public facility improvements within a facility type are to be considered in the following order or priority, as determined by the Board of County Commissioners:

- A. Replacement of obsolete or worn out facilities, including repair, remodeling and renovation of facilities that contribute to achieving and/or maintaining levels of service.
- B. New facilities that reduce or eliminate existing deficiencies in levels of service.
- C. New facilities that provide the adopted levels of service for new growth during the next five fiscal years, as updated by the annual review of the Capital Improvements Element.
- D. Improvements to existing facilities, and new facilities that significantly reduce the operating cost of achieving and/or maintaining levels of service.
- E. New facilities that exceed the adopted levels of service for new growth during the next five fiscal years by either:
  - 1) providing excess public facility capacity that may be needed by future growth beyond the next five fiscal years, or
  - 2) providing higher quality public facilities that are contemplated in the County's normal design criteria for such facilities.

F. All facilities scheduled for construction or improvement in accordance with this Policy shall be evaluated to identify any plans of State agencies or the South Florida Water Management District that affect, or will be affected by, the proposed capital improvement.

G. Project evaluation may also involve additional criteria that are unique to each type of public facility, as described in other elements of this Comprehensive Plan.

Policy 6D.1.3.2  
In the event that the planned capacity of public facilities is insufficient to serve all applicants for development orders, the Board of County Commissioners will schedule capital improvements to serve developments in the following order of priority:

- A. previously approved orders permitting new development,
- B. new orders permitting redevelopment, and
- C. new orders permitting new development.

**Objective 6D.1.4**  
**The County will enforce the mandatory requirements for design, operation, and maintenance of on-site wastewater treatment systems.**

Policy 6D.1.4.1  
The County shall develop and implement guidelines for on-site disposal systems. These guidelines will include: establishing general requirements for the construction, use, and abandonment of on-site sewage disposal systems; providing for permits with conditions and approvals; providing for standards for the approval of applications for an on-site sewage disposal system; providing for conditions under which on-site sewage disposal systems shall not be used; providing for system size determination; providing for soil classification data; providing for percolation tests; providing for alternative systems; and, providing for permit fees.

Policy 6D.1.4.2  
The County shall, in conjunction with the Public Health Department, limit use of on-site wastewater treatment systems to the following conditions:

Existing septic tank and package treatment plants may remain in service until such time as centralized service is made available;

Use of septic tank systems concurrent with on-site potable water wells for new single family detached residential development shall be limited, depending on soil and water table conditions, and shall be in compliance with State regulations;

Use of small package treatment plants shall be limited to use where central facilities are not available in the rural County area and shall be limited to use in order to provide pre-treatment of sewage where required for particular industries or commercial uses prior to discharge into regional systems in the sanitary sewer areas if such a system is available; and

Interim wastewater plants may be used for residential developments until central sewer service is available; in compliance with Section 381.272(1), Florida Statute,

all applicable guidelines shall be followed and all subdivisions must provide sewer utility easements and rights-of-way and the developer should give advance notice to purchasers of lots.

Policy  
6D.1.4.3

The County shall require that construction of new residential development at densities greater than two units per acre only be permitted when central water (including package treatment plants) and central sewer (including package treatment plants) systems are available or will be provided concurrent with the impacts of development.

Policy  
6D.1.4.4

The County shall coordinate with appropriate federal and State agencies, and amend local ordinances to require that issuance of permits for replacement or expansion of existing on-site wastewater treatment systems is conditioned upon compliance with current regulatory requirements and water quality standards.

**Objective  
6D.1.5**

**The County shall provide for the coordination of the extension or increase in the capacity of existing facilities as well as the provision of new facilities to meet future needs through development and adoption of a Sanitary Sewer Master Plan. Prior to the completion of the Master Plan, residential development in excess of two units per acre and all other development shall not be permitted if it is intended to be served by on-site septic systems.**

Policy  
6D.1.5.1

The County shall require that all building permit applicants prior to permit issuance verify that sewer service can be provided in conformance with the policies in this plan and that adequate system capacity is available if a central system is to be utilized.

**GOAL 6D.2**

**ST. LUCIE COUNTY WILL ENSURE WASTEWATER SERVICE FOR SUB-REGIONAL OR REGIONAL AREAS TO MEET EXISTING AND PROJECTED DEMANDS IN THOSE AREAS.**

**Objective  
6D.2.1**

**Every 5-years beginning in 2008, the County will evaluate the County-wide master plan for wastewater in the unincorporated County areas.**

Policy  
6D.2.1.1

The County shall implement the master plan update for wastewater by 2008. Every 5-years the county shall review and update the master plan to include the following:

- A. An inventory of the existing package plants and wastewater treatment facilities in the unincorporated area of St. Lucie County. This inventory is to assess their current flow, committed flow, condition, useful life, ability to expand, and general need to connect to a regional system.
- B. Redefine the potential service areas.
- C. Provide population projections for the service areas based on the population projections used in the development of this Comprehensive Plan.
- D. Estimate the size of necessary treatment facilities.
- E. Suggest general locations for any new treatment facilities.
- F. Identify any remaining potential utility acquisitions.

- G. Provide budget estimates for the necessary capital improvements associated with the development of the County utility system, or components thereof.
- H. Estimate operating costs for the facilities.
- I. Provide an outline of financing options and implementation guidelines.

Policy  
6D.2.1.2

In order to provide maximum coverage of wastewater service within the South Hutchinson Island District Wastewater Utility service area for the 5-year planning period and through build out of the area, the County shall implement the Water and Wastewater Master Plan, by maintaining the current operation of the South Hutchinson Island Wastewater Treatment facility.

Policy  
6D.2.1.3

By December 31, 2008, in order to provide maximum coverage of wastewater collection within the St. Lucie County Water and Sewer District Service Area, for the 5-year planning period and through build out of the area, the County shall implement the Water and Wastewater Master Plan, by determining if the following identified facility needs and/or improvements will be required:

- A. Decommissioning of the Holiday Pines WWTP.
- B. Construct and operate by 2013, a new regional WRF to be located south of Indrio Road and east of Taylor Dairy Road. This facility shall at construction contain:
  - 1. Initial capacity of 2 MGD by 2013.
  - 2. Increase capacity to 4 MGD by 2017 with provisions to expand to 6 MGD if needed.
  - 3. Provide equipment capable of treating the wastewater product to unrestricted public access irrigation.
  - 4. Potentially construct a deep injection well for wet weather disposal of reclaimed water or implementation of identified alternative beneficial reuse project.
  - 5. Construct a biosolids dewatering facility at the North County Regional WRF.
- C. Provide service to the existing developments within the St. Lucie County Water and Sewer District Area.

Policy  
6D.2.1.4

By December 31, 2008, in order to provide maximum coverage of water and wastewater service within the North Hutchinson Island Service Area, for the 5-year planning period and through build out of the area, the County shall implement the Water and Wastewater Master Plan, by determining if the following facility needs and/or improvements will be required:

- A. Potential expansion of the existing facility from 0.5 MGD capacity to 0.8 MGD, if needed.
- B. Replace the 6-inch force main north of the Hibiscus Lift Station with an 8-inch force main by 2009.
- C. Design and construct the Queens Cove wastewater collection system including lift station and force main by 2012.
- D. Design and construct the Bimini Drive, Bermuda Drive and Marina Drive wastewater collection system including lift station and force main by 2012.
- E. Design and construct the Ft. Pierce Shores wastewater collection system including lift station and force main by 2012.
- F. At build out of North Hutchinson Island expand the existing facility to 1.0 MGD, if needed.

Objective

The following locations are targeted for higher intensity development or are currently experiencing problems with existing sewer systems and shall have central

6D.2.2

sanitary sewer service provided:

- A. That area surrounding the I-95-Indrio Road Interchange.
- B. That area surrounding the I-95-White City Road Interchange, west of I-95.
- C. That area along U.S. 1 in the Savannahs area.
- D. That area along County Road 707 between the Savannahs State Reserve and the Indian River Lagoon.

The date by which service will be provided will be determined in the various utility providers' Sanitary Sewer Master Plans, as amended from time to time. All amendments to the dates by which service will be provided will be incorporated into this sub-element through the comprehensive plan amendment process.

The County shall study the development areas listed in **Objective 2.2**, to establish growth projections, required facility sizes, and a schedule of capital improvements.

Policy  
6D.2.2.1

The County shall undertake projects which shall be in accordance with the schedule of capital improvements.

Policy  
6D.2.2.2

The County shall give priority to projects needed to correct existing deficiencies in the formulation and implementation of the annual work programs.

Policy  
6D.2.2.3

The County shall consider initiating negotiations with other sanitary sewer service providers to serve those County areas that could be reasonably and cost effectively served by the other sanitary sewer service providers, either existing or proposed.

Policy  
6D.2.2.4

The recipients of service shall be responsible for its cost.

Policy  
6D.2.2.5

**Upon completion of the update to the County's Water and Wastewater Master Plan (anticipated in 2008), initiate programs to acquire private utilities serving the unincorporated area that are capable of expansion and of sustaining themselves with revenues.**

**Objective  
6D.2.3**

The County shall study those existing private utilities of appreciable service area size to determine their value and revenue-producing potential. In addition, needed capital improvements and service area expansion potential should be considered.

Policy  
6D.2.3.1

The County shall consider for acquisition those private utilities which would benefit the public welfare through acquisition by the County.

Policy  
6D.2.3.2

Policy 6D.2.3.4 When areas previously served by package treatment plants are connected to a central system, it shall not be the responsibility of the central system to purchase these package treatment plants or incur the cost associated with removal.



EXHIBIT 5

Chapter 8, Conversation Element



No additional modifications have been made to the Conservation Element since the initial submittal to the Department of Community Affairs in July 2008.



## **CHAPTER 8**

### **ST. LUCIE COUNTY COMPREHENSIVE PLAN**

### **CONSERVATION ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 5, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - May 6, 2008 (Pending Board Approval)

**ST. LUCIE COUNTY  
CONSERVATION ELEMENT**

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effectively remove the water.

The North Fork of the St. Lucie River contains an extensive floodplain, with a significant portion of its floodplain completely or partially isolated from the river's main branch. (Dames and Moore, USACOE Section 1135 Project Feasibility Study: North Fork of the St. Lucie River, 1996). Approximately 1,600 acres of the floodplain and adjacent uplands along the North Fork and its major tributaries, Ten Mile and Five Mile Creeks, are in public ownership. An additional 1,500 acres along the North Fork of the St. Lucie River are targeted for acquisition by state and local environmental land acquisition programs. Preservation and restoration of the river's natural floodplain will enhance the flood protection functions of the river.

#### **4. Groundwaters**

The County's water needs are met by both the Surficial Aquifer System and the Floridan Aquifer System. The Surficial Aquifer system is the major source of potable water in St. Lucie County. Yields from the Surficial Aquifer are low and water quality is fair. Problems with water quality are usually associated with excess iron, and hardness, but high chloride content can also be a problem where abandoned Floridan wells have contaminated the Surficial Aquifer (SFWMD, District-wide Water Supply Assessment, 1998).

There is an increasing trend in the County to move towards use of the Floridan aquifer to reduce impacts on surface waters and wetlands, as well as provide a less drought sensitive supply. The Floridan Aquifer system has historically been used as a backup source of agriculture irrigation water when rainfall is low and surface water from the major canals is not available (SFWMD, District-wide Water Supply Assessment, 1998). As agricultural areas are slowly converted into residential and commercial areas, the reliance on the Floridan aquifer for agricultural purposes decreases. Its quality is considered low with high concentrations of dissolved salts but can be utilized for public supply when treated with one of various membrane treatment processes, such as reverse osmosis. Grove managers and ranchers tend to mix the water from the Floridan wells with surface water and ground water from the better quality Surficial Aquifer System (SFWMD, Upper East Coast Water Supply Plan, 1998). This dilutes the brackish Floridan water to a level acceptable for citrus irrigation, allowing growers to augment their surface water supplies when the canals are low.

#### **5. Demand for Water**

St. Lucie County is a major agricultural area with citrus being the dominant crop with significant water demands. Due to recent troubles with canker and greening disease, significant citrus acreage within the County is no longer active, but much still retains the land use designation of agricultural. According to the Indian River Citrus League (as of February 2008), an estimated 20,000 acres of active citrus groves exist within the County. The average water consumption per acre of citrus, assuming micro-irrigation, is 0.64 million gallons per year. The 2005-2006 update to the Upper East Coast (UEC) Water Supply Plan (SFWMD) estimates that agricultural water use will decrease by 7 percent over the 20-year planning horizon, while public supply demands will increase by 65 percent during the same period. Agriculture, however, is still anticipated to be the single largest user within the UEC planning area. In recent years, the coastal area of St. Lucie County has experienced rapid urban development, which has given rise to increasing public utility and self-supplied water demand. The following table depicts water supply demands projected for domestic, industrial/commercial and recreational uses.

**Table 8-1**  
**St. Lucie County**  
**Water Use Projected Demands**

Urban and Agricultural Demands	2000	2025
Public Supply	17.7	61.8
Domestic Self-Supply	8.4	1
Commercial/Industrial	0.1	0.2
Recreational Self-Supply <sup>1</sup>	6.5	12
Landscape	3.2	5
Golf Course	3.3	7

<sup>1</sup>Recreational Self-Supply equals Landscape plus Golf Course  
Source: 2006 Amendment to the SFWMD Upper East Coast Water Supply Plan

The Upper East Coast Water Supply Plan concludes that the surficial aquifer system in the coastal portion of the region is not sufficient to meet projected water demands. The plan states that the Floridan Aquifer is the most promising source for future urban potable water needs, and has sufficient supplies to meet future urban and agricultural demands (SFWMD, Districtwide Water Supply Assessment, 1998). Aquifer Storage and Recovery technology is a potential means of storing water in aquifers for future use. Water quality, particularly regarding untreated surface water limits the ability to currently use Aquifer Storage and Recovery (Comprehensive Everglades Restoration Plan (CERP), Appendix D, 1999). Water recovered from the Aquifer Storage and Recovery system may not have the appropriate quality for its intended use. A pilot study for large-scale Aquifer Storage and Recovery system is being implemented through the Comprehensive Everglades study. Several issues are to be addressed including environmental and health concerns regarding water quality (CERP, Appendix D, 1999).

#### 6. Groundwater Quality Concerns

The Surficial Aquifer System is easily contaminated by activities occurring at the lands surface (SFWMD, Upper East Coast Water Supply Plan, 1998). Improper disposal or accidental spills of even small amounts of hazardous substances can contaminate large quantities of groundwater in a relatively short time.

The St. Lucie County Health Department Environmental Health section permits and monitors various projects with environmental risk to underground water supplies. Potential groundwater contaminants sources include landfills, petroleum storage tanks, on-site sewage disposal systems, hazardous material storage tanks, and industrial waste sites (SFWMD, Upper East Coast Water Supply Plan, 1998).

St. Lucie County is designated as part of the South Florida Water Management District's Critical Water Supply Problem area, with some areas designated as a Reduced Threshold Area, and a Restricted Allocation Area. These designations are given to geographic areas where water resource supply problems are critical, or are expected to become critical.

St. Lucie County should continue its participation in programs striving to improve the quality and quantity of the County's water resources. Some of these programs and projects include: the Indian River Lagoon National Estuary program, Surface Water Management Improvement program, the South Florida Ecosystem Restoration and the Central and South Florida Restudy. The County should also continue to coordinate with state and regional agencies to implement programs and capital projects to improve the quality of urban and agriculture stormwater runoff entering the County's surface waters.

## 2. Groundwater

As previously seen in this Element, the County's water needs are met by the Surficial Aquifer System and the Floridan Aquifer System. Known pollution problems with the shallow aquifer come from groundwater contamination by hazardous substances, salt water intrusion, and poor quality recharge. The South Florida Water Management District, St. Lucie County, Ft. Pierce, Port St. Lucie, and St. Lucie Village have initiated public wellfield programs which should effectively reduce the potential threat of groundwater contamination, as will the continuation of the abandoned artesian well plugging program by the County and the South Florida Water Management District.

The Water Resources Act of 1972 mandated each water management district to "promote the conservation, replenishment, recapture, enhancement, development, and proper utilization of surface and groundwater" (Section 373.013 F.S.). St. Lucie County continues to support the South Florida Water Management District's water conservation program which helps to prevent loss of water resources and potential contamination of the Surficial Aquifer. Another water conservation measure the District and the County are proposing is a series of reservoirs and water preserve areas in the western portion of the County that will allow the storage of water that is currently lost to tide.

Water conservation refers to water use practices and technologies that provide the services desired by the users while using less water. Water conservation measures achieve long-term permanent reductions in water use. St. Lucie County continues its support and participation in State and Federal programs to improve surface water quality, and consider adoption of a water conservation ordinance which helps to prevent loss of water resources and potential contamination of the Surficial Aquifer.

The South Florida Water Management District requires individual permit applicants for public water supply permits to submit a water conservation plan as a condition of issuance. The conservation plan must include the following: adoption of an irrigation ordinance; adoption of a native vegetation landscape ordinance; adoption of a rain sensor device ordinance; adoption of a water conservation-based rate structure; implementation of a leak detection and repair program; implementation of a water conservation public education program; and an analysis of reclaimed water feasibility.

St. Lucie County has adopted several water conservation ordinances including: water conservation based rate structure, a rain sensor device ordinance, and a native vegetation ordinance. Additionally, in November 2007, the County adopted an ordinance restricting the hours of irrigation to those times of day when evapotranspiration are minimized and irrigation is most efficient. This ordinance also allows the Board of County Commissioners to impose water restrictions, as needed, during times when the SFWMD restrictions are not in effect (SFWMD supersedes County restrictions when in effect). The County should consider adopting additional water conservation measures and promote the implementation of the district's water conservation measures in all public water supply facilities.

## B. COMMERCIALLY VALUABLE MINERALS

The value of the sand, shell, and other fill materials on a local basis varies depending on need and location. Sand mines are required to have a plan of reclamation prior to excavating reclaimed mines may be used for urban development, recreation, or stormwater treatment, however; additional measures are needed to reduce the impacts of mining activities on wildlife habitats and adjacent properties.

EXHIBIT 6

Chapter 10, Intergovernmental Coordination Element



**CHAPTER 10**

**ST. LUCIE COUNTY  
COMPREHENSIVE PLAN**

**INTERGOVERNMENTAL COORDINATION ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 5, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - December , 2008

**ST. LUCIE COUNTY  
INTERGOVERNMENTAL COORDINATION ELEMENT**

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**INTERGOVERNMENTAL COORDINATION ELEMENT  
GOALS, OBJECTIVES AND POLICIES**

**10.1.3** municipalities, St. Lucie County, the adjacent counties, and other units of local government such as the School Board providing services but not having regulatory authority over the use of land.

Policy 10.1.3.1 Continue to receive and review copies of all proposed plan or rezoning amendments for areas adjacent to St. Lucie County boundaries.

Policy 10.1.3.2 Continue to request liaisons regarding proposed plan or rezoning amendments with the St. Lucie County School Board, St. Lucie County Fire District, South Florida Water Management District, Treasure Coast Regional Planning Council, Ft. Pierce Utilities Authority, Florida Power and Light, and adjacent local governments.

Policy 10.1.3.3 In conjunction with other affected parties, including interested public groups, continue to evaluate existing interlocal agreements when the Capital Improvements Element is undergoing annual review to determine if current funding is proportional to services rendered.

Policy 10.1.3.4 Continue to coordinate closely with the School Board on the location of future school locations in relation to the projected population and land use.

Policy 10.1.3.5 Continue to support joint use agreements between the County and the School District.

Policy 10.1.3.6 Continue to coordinate closely with neighboring utilities on a continual basis with regards to water supply issues, including updating bulk sales projections (Ft. Pierce Utilities Authority), the implementation of alternative water supply projects, and coordinating levels of service in accordance with each parties' master plan.

**Objective 10.1.4** By August, 1990, the County, through the County Administrator, shall establish an intergovernmental coordination process to ensure full consideration is given to the impacts of developments proposed in the County Comprehensive Plan on other governmental entities and vice versa.

Policy 10.1.4.1 Support the development and adoption of interlocal agreements with the affected municipalities to coordinate the management of the St. Lucie River, Indian River Lagoon (including the Intracoastal Waterway), and Savannas.

Policy 10.1.4.2 Continue to work with the Treasure Coast Regional Planning Council to identify regional issues and to assist in the periodic updating of the Comprehensive Regional Policy Plan.



**EXHIBIT 7**

**Chapter 11, Capital Improvements Element**



## **CHAPTER 11**

# **ST. LUCIE COUNTY COMPREHENSIVE PLAN UPDATE CAPITAL IMPROVEMENTS ELEMENT**

Prepared by:

St. Lucie County  
Board of County Commissioners

St. Lucie County  
Department of Growth Management

ADOPTED - January 9, 1990  
REVISED - March 4, 2002 (Ord. 02-008)  
REVISED - January 6, 2004 (Compliance Agreement)  
REVISED - May 6, 2008 (Pending Board Approval)

# CAPITAL IMPROVEMENTS ELEMENT

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Table 11-1

**A Summary of Repair/Replacement, Existing Deficiency and Future Need Cost, by Public Facility**

	repair/ replacement	existing deficiency	future needs	other
<b>Aviation</b>	\$2,540,000	\$305,000	\$1,875,000	\$2,351,000
<b>Corrections</b>				\$65,000
<b>Drainage</b>				\$2,815,156
<b>Govt. Buildings</b>	\$955,000			\$386,000
<b>Libraries</b>				\$10,000
<b>Mosquito Control</b>				\$28,000
<b>Parks &amp; Recreation</b>	\$497,000		\$10,000	\$1,320,000
<b>Ports</b>	t/b/d	t/b/d	t/b/d	t/b/d
<b>Roads</b>				
los related			\$15,000,000	
non-los related	\$16,847,299		\$1,372,000	
<b>Utilities*</b>	\$500,000		<u>\$93,333,968</u> <del>\$73,373,000</del>	
<b>Erosion control</b>	\$961,937		\$200,000	\$1,111,493
<b>Totals</b>	\$22,301,736	\$305,000	\$91,830,000	\$8,086,649

\*A detailed breakdown of the 5-Year capital projects fiscal analysis is provided in the 10-Year Water Supply Facilities Work Plan, as well as in the annual updates to this CIE.

As of the development of this Comprehensive Plan (June 2001), the Board of County Commissioners for St. Lucie County is the process of redeveloping a Comprehensive Capital Improvement Program for the County Parks and Recreation System. Upon the completion of that program, the capital improvement element will be amended to reflect the approved plans and programs for the community.

#### POTABLE WATER

The standard for level of service for Category A Public Facilities, County Potable Water Systems, shall be:

110 gallons per capita per day.

As detailed in the Potable Water Sub-element, the County currently provides only limited potable water facilities. The County is in the process of implementing a Regional North County Water Treatment Plant (WTP) located south of Indrio Road on Taylor Dairy Road. Additional regional WTPs are planned at later dates in the northwestern area of the County, central County and potentially in the south County area. The Water and Sewer Master Plan Update, October 2008. A master plan study has been programmed was prepared to enable the County to meet the ongoing needs of comprehensive planning and to provide guidance in the acquisition and/or construction of potable water facilities. An update is underway to the 2004 Master Plan and is anticipated to be completed in the first quarter of 2008. Future Plan amendments are expected as a result of the study, but the County will provide potable water capital facilities only to the extent that offsetting user fees can be imposed.

#### SANITARY SEWER

The level of service standards for sanitary sewer systems other than those owned and operated by Ft. Pierce Utilities Authority, in the unincorporated area of the County shall be 100 gallons per capita. The Holiday Pines Utility operates at a level of service for sanitary sewer at 280 gallons per each equivalent residential connection. Upon completion of the Sanitary Sewer Master Plan, any necessary change in the level of service standard will be made through a Comprehensive Plan Amendment.

As explained in detail in the Sanitary Sewer Sub-element of this plan, the County provides only limited sanitary sewer facilities. The Water and Sewer Master Plan Update, October 2008, was prepared to enable the County A master plan study has been programmed to meet the need for comprehensive planning and to provide information needed for making decisions about acquiring and/or constructing sewer systems. Based on the study, plan amendments will be proposed. Like potable water facilities, sanitary sewer facilities will be provided by the County only to the extent that user charges support those facilities. The net effect of the addition of County-owned water and sewer facilities on the financial feasibility of the Capital Improvements Element should be zero.

#### SOLID WASTE

The level of service standard for Category A Public Facilities, Solid Waste, shall be:

- A. 5.39 pounds of Class I solid waste per capita County-wide per day at the landfill;
- B. Maintain at least two (2) years of landfill lined cell disposal capacity at current fill rates;





STATE OF FLORIDA

Received By

SEP 16 2008

Growth Management

# DEPARTMENT OF COMMUNITY AFFAIRS

*"Dedicated to making Florida a better place to call home"*

CHARLIE CRIST  
Governor

THOMAS G. PELHAM  
Secretary

September 12, 2008

The Honorable Joseph E. Smith, Chairperson  
St. Lucie County Board of County Commissioners  
2300 Virginia Avenue  
Fort Pierce, Florida 34982-5652

Dear Commissioner Smith:

The Department has completed its review of the St. Lucie County proposed Comprehensive Plan Amendment (DCA No. 08RWSP-1), which was received on July 14, 2008. Copies of the proposed amendment have been distributed to appropriate state, regional, and local agencies for their review and their comments are enclosed.

The Department has reviewed the comprehensive plan amendment for consistency with Rule 9J-5, Florida Administrative Code and Chapter 163, Part II, Florida Statutes (F.S.) and has prepared the attached Objections, Recommendations, and Comments (ORC) Report which outlines our findings concerning the comprehensive plan amendment.

The Department has identified five objections based on the inconsistencies in population projections, lack of a water supply concurrency policy, lack of water supply intergovernmental coordination policies, and lack of a financially feasible Five-Year schedule of Capital Improvements that incorporates identified water supply projects. My staff and I are available to assist the City in addressing the issues identified in our report. If you have any questions, please contact Laura Regalado, Planner, at (850) 921-3762.

Sincerely,

Mike McDaniel, Chief  
Office of Comprehensive Planning

MM/lmr

Enclosures: Objections, Recommendations and Comments Report  
Review Agency Comments

cc: Mr. Peter W. Jones, Planning Manager, St. Lucie County  
Mr. Michael J. Busha Executive Director, Treasure Coast Regional Planning Council

**DEPARTMENT OF COMMUNITY AFFAIRS**  
**OBJECTIONS, RECOMMENDATIONS AND COMMENTS**  
**FOR**  
**ST. LUCIE COUNTY**  
**PROPOSED AMENDMENT 08RWSP1**

September 12, 2008  
Division of Community Planning

This report is prepared pursuant to Rule 9J-11.010, F.A.C.

## INTRODUCTION

The following objections, recommendations and comments are based upon the Department's review of the St. Lucie County 08RWSP1 proposed amendment to its Comprehensive Plan pursuant to s. 163.3184, Florida Statutes (F.S.).

The objections relate to specific requirements of relevant portions of Chapter 9J-5, Florida Administrative Code (F.A.C.), and Chapter 163, Part II, F.S. Each objection includes a recommendation of one approach that might be taken to address the cited objection. Other approaches may be more suitable in specific situations. Some of these objections may have initially been raised by one or more of the other external review agencies. If there is a difference between the Department's objection and the external agency advisory objection or comment, the Department's objection would take precedence.

Each of these objections must be addressed by the County and corrected when the amendment is resubmitted for our compliance review. Objections that are not addressed may result in a determination that the amendment is not in compliance. The Department may have raised an objection regarding missing data and analysis items, which the local government considers not applicable to its amendment. If that is the case, a statement justifying its non-applicability pursuant to Rule 9J-5.002(2), F.A.C., must be submitted. The Department will make a determination on the non-applicability of the requirement, and if the justification is sufficient, the objection will be considered addressed.

The comments that follow the objections and recommendations section are advisory in nature. Comments will not form bases of a determination of non-compliance. They are included to call attention to items raised by our reviewers. The comments can be substantive, concerning planning principles, methodology or logic, as well as editorial in nature dealing with grammar, organization, mapping, and reader comprehension.

Appended at the end of the Department's ORC Report are the comment letters from the other state review agencies and other agencies, organizations and individuals. These comments are advisory to the Department and may not form bases of Departmental objections unless they appear under the "Objections" heading in this report.

## TRANSMITTAL PROCEDURES

Upon receipt of this letter, St. Lucie County has 60 days in which to adopt, adopt with changes, or determine that the County will not adopt the proposed amendment. The process for adoption of local government comprehensive plan amendments is outlined in s. 163.3184, F. S., and Rule 9J-11.011, F.A.C. The County must ensure that all ordinances adopting comprehensive plan amendments are consistent with the provisions of Chapter 163.3189(2)(a), F.S.

Within ten working days of the date of adoption, the County must submit the following to the Department:

- Three copies of the adopted comprehensive plan amendments;
- A listing of additional changes not previously reviewed;
- A listing of findings by the local governing body, if any, which were not included in the ordinance; and
- A statement indicating the relationship of the additional changes to the Department's Objections, Recommendations and Comments Report.

The above amendment and documentation are required for the Department to conduct a compliance review, make a compliance determination and issue the appropriate notice of intent.

In order to expedite the regional planning council's review of the amendments, and pursuant to Rule 9J-11.011(5), F.A.C., please provide a copy of the adopted amendment directly to the Executive Director of the Treasure Coast Regional Planning Council.

Please be advised that Section 163.3184(8)(c), F.S., requires the Department to provide a courtesy information statement regarding the Department's Notice of Intent to citizens who furnish their names and addresses at the local government's plan amendment transmittal (proposed) or adoption hearings. In order to provide this courtesy information statement, local governments are required by law to furnish the names and addresses of the citizens requesting this information to the Department. **Please provide these required names and addresses to the Department when you transmit your adopted amendment package for compliance review. In the event there are no citizens requesting this information, please inform us of this as well.** For efficiency, we encourage that the information sheet be provided in electronic format.

**OBJECTIONS, RECOMMENDATIONS AND COMMENTS REPORT**

**ST. LUCIE COUNTY**

**PROPOSED COMPREHENSIVE PLAN AMENDMENT 08RWSP1**

**I. Consistency with Chapter 163, F.S., and Rule 9J-5, F.A.C.**

The St. Lucie County proposed comprehensive plan amendment consists of the Ten-Year Water Supply Facilities Work Plan and revisions to the Future Land Use, Conservation, and Capital Improvement Elements and the Potable Water Sanitary Sewer Sub-Elements of the County's Comprehensive Plan. The Department has identified the following objections to the proposed comprehensive plan amendment:

**Objection 1:** As identified in the South Florida Water Management District's letter dated August 26, 2008 (attached), the population projections for the County presented in Tables 1-2, 1-3, and 4-1 of the Work Plan are internally inconsistent. The population projections are also inconsistent with the County's Comprehensive Plan, Future Land Use Element, the County's Consumptive Use Permit, and the District's *Lower East Coast Regional Water Supply Plan*.

**Authority:** Sections 163.3167(13); 163.3177(3), (4)(a), (6)(c), (d) and (h); and 163.3177(8), F.S.; Rules 9J-5.005(2), (3), (5), and (6); 9J-5.011(1) and (2); 9J-5.013(1), (2) and (3); 9J-5.015(1), (2), and (3); and 9J-5.016(1), (2), (3), and (4), F.A.C.

**Recommendation:** Revise population projections in the Work Plan to be internally consistent as well consistent with the County's Comprehensive Plan, Future Land Use Element, the County's Consumptive Use Permit, and the District's *Lower East Coast Regional Water Supply Plan*. Revise the County's Work Plan, as necessary, based on any revisions made to the population projections.

**Objection 2:** The proposed amendment does not address the requirements of Section 163.3180(2)(a), F.S. pertaining to water supply concurrency.

**Authority:** Sections 163.3167(13); and 163.3180(2)(a), F.S., Rules 9J-5.0055(1); and 9J-5.016(3)(c), (5) and (6), F.A.C.

**Recommendation:** Include a policy to state that prior to approving a building permit or its functional equivalent, the County will consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the new development no later than the anticipated date of issuance of a certificate of occupancy or its functional equivalent by the County.

**Objection 3:** The proposed amendment does not include a policy that requires coordination with the South Florida Water Management District related to updating the County's Water Supply

Facilities Work Plan within 18 months after the South Florida Water Management District updates the *Lower East Coast Regional Water Supply Plan*.

**Authority:** Sections 163.3177(6)(c), (h)(1); and 163.3177(9)(h), F.S.; Rules 9J-5.005(2)(g); and 9J-5.015(3)(b)2, (c)1, 3 and 11, F.A.C.

**Recommendation:** Revise the amendment to include a policy in the Intergovernmental Coordination Element to update the County's Work Plan within 18 months after the South Florida Water Management District updates the *Lower East Coast Regional Water Supply Plan*.

**Objection 4:** The County's Work Plan provides a list of water system improvement projects. However, the potable water projects have not been incorporated into the Five-Year Schedule of Capital Improvements.

**Authority:** Sections 163.3161(32); 163.3167(13); 163.3177 (3) and 163.3177 (6)(c), F.S.; Rules 9J-5.005(5); 9J-5.011(2)(b)2, (12)(c)1; and 9J-5.016(1), (2), (3)(b)1, 3, 4, 5, (c)6, 8, 9, and (4), F.A.C.

**Recommendation:** Revise the amendment to include the Capital Improvement Projects necessary within the next five years in a financially feasible Five-Year Schedule of Capital Improvements. To be financially feasible, any capital improvements projects listed in the first three years of the Five-Year Schedule of Capital Improvements that are necessary to achieve and maintain adopted level of service standards must be funded by committed funding sources. Projects listed in years four and five can be funded by committed or planned revenue sources. Include projections for the revenue source or sources and expenditures for the funds that will be used for the water system improvement projects to demonstrate that sufficient revenue from the funding source or sources will be available on a yearly basis to fund construction of these projects.

**Objection 5:** The proposed amendment does not include policies with specific programs and activities to ensure ongoing coordination with the Fort Pierce Utility Authority on water supply issues.

**Authority:** Sections 163.3167(13); 163.3177(4) and (6)(h), F.S., Rules 9J-5.005(6); 9J-5.015(3)(b)1, 2, 3, (c)1, 3 and 11, F.A.C.

**Recommendation:** The County should revise the Intergovernmental Coordination Element of the Comprehensive Plan to include an objective and policies to ensure a meaningful process for collaborative planning and intergovernmental coordination on a continuing and ongoing basis on water supply issues between the County and Fort Pierce Utility Authority. Coordination could include sharing of information regarding water supply needs, updating bulk sales projections, implementing alternative water supply projects (including reuse and other conservation measures), and establishing level of service standards.

## **II. Consistency with Chapter 187, F.S.**

The proposed amendment is inconsistent with the following provisions of Chapter 187, F.S., the State Comprehensive Plan:

Section 187.201(7), Water Resources, Policy (b) 3, 5, 9, 11, 13, and 14: Ensure that new development is compatible with existing local and regional water supplies, protect aquifers, and promote water conservation;

Section 187.201(17), Public Facilities, Policies (b) 3, 4, 5, 6, 7, and 9: Encourage the development, use, and coordination of capital improvements plans by all levels of governments and to ensure the availability of public facilities;

Section 187.201(20), Governmental Efficiency, Policies (b) 1: Encourage greater cooperation between, among, and within all levels of Florida government.

Section 187.201(25), Plan Implementation, Policies (b) 1, 3 and 5: Ensure that local plans implement and accurately reflect State goals and policies.

By addressing the concerns noted in Section I., these inconsistencies with Chapter 187, Florida Statutes, can be addressed.



## SOUTH FLORIDA WATER MANAGEMENT DISTRICT

August 26, 2008

Mr. Ray Eubanks, Administrator  
Plan Review and Processing  
Department of Community Affairs  
2555 Shumard Oak Boulevard  
Tallahassee, FL 32399-2100

Dear Mr. Eubanks:

**Subject: St. Lucie County, DCA #08-RWSP1  
SFWMD Comments on Proposed Comprehensive Plan Amendment  
Package**

The South Florida Water Management District (District) has completed its review of the proposed amendment package submitted by St. Lucie County (County). The proposed amendment adopts the Water Supply Facilities Work Plan (Work Plan) and related amendments into the Future Land Use Element, Potable Water Sub-Element, Sanitary Sewer Sub-Element, Conservation Element, and Capital Improvement Element.

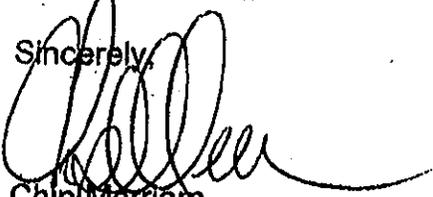
The District offers the following recommendations to assist the County in revising the Work Plan prior to adoption to fully meet the statutory requirements for water supply and related capital improvements planning:

- Revise the Work Plan and Capital Improvement Element, prior to adoption, to include a financially feasible Capital Improvements Schedule.
- Resolve differences in population projections and provide data on the number of residences and estimated persons per household, including a breakout of the number of residential units and population expected to remain self-served.
- Revise the Intergovernmental Coordination Element to include a policy requiring coordination with the District's *Upper East Coast Water Supply Plan Amendment*.
- Revise the Potable Water Sub-Element to include a policy requiring the County to adopt a Potable Water Supply Facilities Work Plan for at least a ten-year planning period that reflects coordination with the District's *Upper East Coast Water Supply Plan* within 18 months after updates or amendments to it are approved by the District.
- Revise the Potable Water Sub-Element to include a policy reflecting the changes of Section 163.3180(2)(a), F.S. that require consultation with the water supplier prior to issuing a building permit to verify adequate water supplies will be available.

Mr. Ray Eubanks, Administrator  
August 26, 2008  
Page 2

These and other recommendations are captured in the attached report which we request you incorporate into your comments to the County. We look forward to collaborating with the Department of Community Affairs and the County in developing sound, sustainable solutions to meet the County's future water needs. For assistance or additional information, please contact John Mulliken at (561) 682-6649 or [jmulls@sfwmd.gov](mailto:jmulls@sfwmd.gov).

Sincerely,



Chip Merriam  
Deputy Executive Director  
Water Resources  
South Florida Water Management District

Attachment

c: Michael Busha, TCRPC  
Laurie Case, St. Lucie County  
Bob Dennis, DCA  
Peter W. Jones, St. Lucie County  
John Mulliken, SFWMD  
Jim Quirin, DEP

Name of Agency:  
Review Coordinator:  
Local Government:  
SFWMD Response Date:

South Florida Water Management District  
Jim Golden (561) 682-686  
St. Lucie County  
August 22, 2008

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## **Background**

St. Lucie County is proposing amendments to the Future Land Use Element, Potable Water Sub-Element, Sanitary Sewer Sub-Element, Conservation Element, and Capital Improvement Element of its comprehensive plan to adopt the required Water Supply Facilities Work Plan. The County's proposed Work Plan is for a ten-year duration (2008-2018).

Potable water service for unincorporated St. Lucie County is provided by the County. The Ft. Pierce Utilities Authority provides a portion of the County's water, for its mainland customers, through a bulk sales agreement. Three private utilities (Harbour Ridge, Panther Woods and Spanish Lakes), located within unincorporated St. Lucie County, provide potable water to their respective service areas. In March of this year, the District approved renewal of the County's Consumptive Use Permit.

## **Summary of Comments**

The District has major comments related to the Capital Improvements Element/Schedule, population projections, and statutory requirements for water supply planning. The District has additional comments related to water conservation/reuse and potable water levels of service for non-residential land uses.

## **Major Comments**

**1. Comment:** A financially feasible Capital Improvements Schedule, consistent with Chapter 163, F.S., was not included in the Work Plan. A Capital Improvements Schedule with supporting data is required to demonstrate that sufficient revenues are currently available or will be available from "committed funding sources" for projects included in the first three years of the schedule (see Chapter 163, F.S., and "A Guide to the Annual Update of the Capital Improvements Element", Florida Department of Community Affairs, August 16, 2007)

## **Recommendation:**

- Revise the Work Plan, prior to adoption, to include a financially feasible Capital Improvements Schedule in the comprehensive plan.

**2. Comment:** The Work Plan population projections, Table 4-1, do not appear to be consistent with the County's Comprehensive Plan, Future Land Use Element, and Table 1-2 (St. Lucie County Population Projections). The population projections in Table 1-2 (St. Lucie County Population Projections) are consistent with those used by the District for renewal of the County's Consumptive Use Permit. However, the projections in Table 4-1 (Population and Demand Projections) are higher than those used in Table 1-2 for 2008 and 2018. The projections in Table 1-3 (Connected Water and Wastewater Population Projections, 2007-2027) are inconsistent with Tables 1-2 and 4-1. The population projections for the other small utilities in Table 4-1 are inconsistent with those used by the District in the *Upper East Coast Water Supply Plan Amendment*. The text above Table 4-1 mentions permanent resident population; however, the data used is considerably larger than that used in the *Upper East Coast Water Supply Plan Amendment* and may reflect a seasonal population concept.

**Recommendations:**

- Revise population projections in the Work Plan to be consistent. If the County is seeking to modify their previously approved population projections, then DCA approval will be required.
- Provide data on residences and expected persons per residence.
- Revise Table 4-1 to describe the number of residences and populations expected to remain self-supplied.

**3. Comment:** The proposed amendments do not appear to fully capture the statutory requirements for water supply planning made in 2005.

**Recommendations:**

- Revise the Intergovernmental Coordination Element to include a policy requiring coordination with the District's *Upper East Coast Water Supply Plan Amendment*.
- Revise the Potable Water Sub-Element to include a policy requiring the County to adopt a Potable Water Supply Facilities Work Plan for at least a ten-year planning period that reflects coordination with the District's *Upper East Coast Water Supply Plan* within 18 months after updates or amendments to it are approved by the District.
- Revise the Potable Water Sub-Element to include a policy reflecting the changes of Section 163.3180(2)(a), F.S. that require consultation with the water supplier prior to issuing a building permit to verify adequate water supplies will be available.

***The following additional recommendations are included to assist the County in strengthening its Work Plan and Comprehensive Plan***

**Additional Recommendations on Work Plan**

- Revise Section 3.3 (Conservation) to include specific measurable objectives for achieving both short and long-term goals for water conservation, as this will help the County expand its conservation and reuse programs. The County should consider using the Conserve Florida Goal Based Guidelines to create an effective long-range water conservation plan.

**Additional Recommendations on Comprehensive Plan Goals, Objectives, and Policies**

- Consider adopting potable water levels of service for non-residential land uses such as office, commercial, industrial, and mixed-use. Such actions will be helpful in assessing water supply needs for future site-specific non-residential land use amendments.



FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

August 1, 2008

Mr. Ray Eubanks  
Department of Community Affairs  
Bureau of State Planning  
2555 Shumard Oak Boulevard  
Tallahassee, Florida 32399-2100

Re: Historic Preservation Review of the St. Lucie County (08RWSP1) Comprehensive Plan Amendment

Dear Mr. Eubanks:

According to this agency's responsibilities under Sections 163.3177 and 163.3178, *Florida Statutes*, and Chapter 9J-5, *Florida Administrative Code*, we reviewed the above document to determine if data regarding historic resources have been given sufficient consideration in the request to amend the St. Lucie County Comprehensive Plan.

We reviewed one proposed amendment addressing the 10-Year Water Supply Facilities Work Plan modifying specific Elements of the St. Lucie County Comprehensive Plan to consider the potential effects of these actions on historic resources. While our cursory review suggests that the proposed changes may have no adverse effects on historic resources, it is the county's responsibility to ensure that the proposed revisions will not have an adverse effect on significant archaeological or historic resources in St. Lucie County.

If you have any questions regarding our comments, please feel free to contact Susan M. Harp of the Division's Compliance Review staff at (850) 245-6333.

Sincerely,

Frederick P. Gaske, Director

xc: Mr. Bob Dennis

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

Director's Office  
(850) 245-6300 • FAX: 245-6436

Archaeological Research  
(850) 245-6444 • FAX: 245-6452

Historic Preservation  
(850) 245-6333 • FAX: 245-6437



# Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

August 13, 2008

Mr. Ray Eubanks  
Plan Review and DRI Processing Team  
Florida Department of Community Affairs  
2555 Shumard Oak Boulevard  
Tallahassee, Florida 32399-2100

**RE: St. Lucie County 08WSP-1, Comprehensive Plan Amendment ORC  
Review**

Dear Mr. Eubanks:

The Office of Intergovernmental Programs of the Florida Department of Environmental Protection (DEP or Department) has reviewed the above-referenced amendment proposal under the procedures of Chapter 163, *Florida Statutes*, and Chapters 9J-5 and 9J-11, *Florida Administrative Code*. The Department provides the following comments and recommendations to assist your agency in developing the state's response to the proposed amendment.

The amendment package consists of the 10-Year Water Supply Facility Work Plan (Work Plan) and related text amendments to the Sanitary Sewer, Potable Water, Conservation, Capital Improvement, and Future Land Use Elements of the comprehensive plan.

### **Comments on the 10-year Work Plan**

Section 163.3177(6), F.S. requires local governments to prepare a 10-Year Water Supply Facilities Work Plan (Work Plan), and related text changes to the goals, objectives, and policies of the comprehensive plan to implement the Work Plan. The statute requires the County to project water demands for at least a 10-year period, and demonstrate that the current and planned water supply facilities and sources of water will meet the projected demand. All local governments must also revise their comprehensive plans to address water supply concurrency and ensure that their 5-year schedules of capital improvements are financially feasible. The Department will focus its attention on the County's effectiveness in analyzing its ability to supply water to future growth over the

next ten years and the efficacy of the strategies that the County has chosen to meet future water supply demands.

### Potable Water Supply and Demand Analysis

The St. Lucie County Work Plan contains a ten-year potable water supply and demand analysis for its service areas, including the anticipated water supply deficits and surpluses. The data indicates that public utilities of the City of Port St. Lucie, the Fort Pierce Utilities Authority (FPUA) and the St. Lucie West (SLW) are located within the St. Lucie County. The Work Plans of these utilities are included in the appendices. Other water providers include one County-owned facility and five privately owned facilities. To meet its projected water demand through the next ten years, the County is building four new water treatment facilities. The data indicates that the South Florida Water Management District (SFWMD) issued the Water Use Permit (WUP) for the facilities in March of 2008. The data and analysis indicates that facility capacity, as well current WUPs, will allow the County to meet its water demand for the next ten years. The Department notes that the population and water projection chart on page 4-2 of the Work Plan, is lacking units on the water demand quantities.

While the Work Plan does include a list of capital improvement projects required over the next ten years to meet the City's water supply demands, it does not provide any details about its source of funding to complete the projects.

### Water Supply Policies

Section 163.3177(6), F.S. requires County consultation with the appropriate water supplier during permit review to determine if adequate water will be available to serve the development. In addition, the County's concurrency management system must ensure that adequate water supplies and water and wastewater facilities will be available to serve new development no later than the date on which the County anticipates issuing a certificate of occupancy. Concurrency requirements found in policies 6A.1.2.1 and 1.5.1 of the Potable Water Element do not meet this requirement. The policies address the availability of public facility capacity, but do not address the availability of raw water supply. The policies should be changed to state that all development orders, permits and agreements are subject to the adopted concurrency management system and that the County will ensure the availability of both public facility capacity and water supply capacity. The concurrency management system should also include policies that formalize the consultation between the County and its water suppliers.

Mr. Ray Eubanks  
August 13, 2008  
Page 3 of 3

Conservation Policies

Another requirement of the Work Plan is to indicate the extent to which conservation and reuse will reduce the projected potable water demand. Potable Water Objective 6A.2.2 and associated policies, require "water saving devices in new construction," and encourage reuse for irrigation. The Work Plan does not appear to include data showing the decrease in potable water that reuse and conservation practices will provide. The Department recommends that the County implement policies that promote and encourage the use of low impact development techniques, such as incentives for water-efficient developments that implement the Florida Water Star program (<http://www.floridawaterstar.com>). The program encourages water efficiency in household appliances, plumbing fixtures, irrigation systems and landscapes. These promote the economic and environmental benefits of efficiency in new home construction.

Thank you for the opportunity to comment on the proposed amendment package. Should you have any questions or require further assistance, please call me at (850) 245-2172.

Yours sincerely,

*Suzanne E. Ray*

Suzanne E. Ray, AICP  
Office of Intergovernmental Programs

/ser

**DRAFT**  
Subject to Modifications

TREASURE COAST REGIONAL PLANNING COUNCIL

MEMORANDUM

To: Council Members AGENDA ITEM \_\_\_\_

From: Staff

Date: September 19, 2008 Council Meeting

Subject: Local Government Comprehensive Plan Review  
Draft Amendments to the St. Lucie County Comprehensive Plan  
DCA Reference No. 08RWSP-1

Introduction

The Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, *Florida Statutes*, requires that Council review local government comprehensive plan amendments prior to their adoption. Under the provisions of this law, the Department of Community Affairs (DCA) prepares an Objections, Recommendations, and Comments (ORC) Report on a proposed amendment only if requested to do so by the local government, the regional planning council, an affected person, or if an ORC Report is otherwise deemed necessary by the DCA. If an ORC Report is to be prepared, then Council must provide DCA with its findings of consistency or inconsistency with the Strategic Regional Policy Plan (SRPP), and provide any comments and recommendations for modification on the proposed amendments within 30 days of its receipt.

Background

The County has proposed text amendments to the following elements and sub-elements of the County Comprehensive Plan: Future Land Use, Potable Water, Sanitary Sewer, Conservation and Capital Improvements. The proposed amendments are exempt from the twice per year limitation on plan amendments because they are to incorporate the County Water Supply Work Plan (Rule 9J-11.006(1)(a)7.u. Florida Administrative Code). The County has requested a formal review of the amendments by the DCA.

Evaluation

The purpose of the text amendments is to address the requirements of Chapter 163.3177(6)(c) of the Florida Statutes. This requires that all local governments subject to a regional water supply plan must adopt a 10-Year Water Supply Facility Work Plan (WSFWP) in their comprehensive plan.

**DRAFT**  
Subject to Modifications

The majority of the new provisions are in the Potable Water and Sanitary Sewer Sub-Elements. The most significant amendments are summarized on an element basis in the following:

1. Future Land Use Element

- Revised narrative and new tables address revised population projections for water and sewer planning purposes.

2. Potable Water Sub-Element

Extensive revisions have been made to the narrative and tables in the background section of the sub-element. Some of the noteworthy revisions to goals, objections and policies are as follows:

- Revised Policy 6A.1.3.1 lists general categories of public facility improvements to be made as prioritized by the Board of County Commissioners.
- New Policy 6A.2.1.3 indicates the County will identify land uses that may not be compatible with public potable water supply wells.
- Revised Goal 6A.3 commits the County to institute a program to identify the availability of public potable water supplies necessary to provide for new growth.
- Revised Policy 6A.3.2.4 addresses the implementation of the County Water and Wastewater Master Plan.
- Revised Policy 6A.3.2.5 specifically addresses improvements in the North Hutchinson Island Service Area.

3. Sanitary Sewer Sub-Element

Again, extensive revisions have been made to the narrative and tables in the background section of this sub-element. Significant changes in goals, objectives and policies include:

- New Policy 6D.1.1.1 indicates that utility service areas will not promote linear or leapfrog development.
- Revised Objective 6D.1.2 is to ensure that adequate facility capacity is available concurrent with need.
- Revised Policy 6D.1.2.6 indicates that development will be permitted only when tying into a regional or sub regional system.
- New Policy 6D.1.4.2 addresses the use of on-site wastewater treatment systems.
- Regional Goal 6D.2 and its accompanying objectives and policies commit the County to provide facilities to meet existing and projected needs.

**DRAFT****Subject to Modifications**

- New Objective 6D.2.2 is to provide central sanitary sewer facilities to areas which are planned for high intensity development or where there are existing problems.

**4. Conservation Element**

- To address the recent conversion of agricultural lands to residential uses, text is added to note the increasing trend toward use of the Floridan aquifer to reduce surface water and wetland impacts.
- Text is added to show that although Agricultural is anticipated to be the largest use within the Upper East Coast planning area, there is a decrease of seven percent agricultural use and an increase of 65 percent public supply demand anticipated over the 20-year planning period.
- Text addressing the restriction of irrigation hours and an ordinance allowing the Board of County Commissioners to impose watering restrictions when there are no South Florida Water Management District restrictions in effect.

**5. Capital Improvements Element**

- Updates are made to Table 11-1 "A Summary of Repair/Replacement, Existing Deficiency and Future Need Cost, by Public Facility".

**Extrajurisdictional Impacts**

Under the informal agreement coordinated by the Treasure Coast Regional Planning Council, local governments in the northern three counties of the region are to provide copies of amendment materials to other local governments that have expressed an interest in receiving such materials. The County provided copies of the proposed amendments to Indian River County, Martin County, the Cities of Fort Pierce and Port St. Lucie and the Town of St. Lucie Village. In correspondence dated July 15, 2008, Council requested comments from those jurisdictions/agencies regarding the proposed amendments. As of the date of the preparation of this report, no comments had been received.

**Effects on Significant Regional Resources or Facilities**

Analysis of the proposed amendments indicates that they would not have adverse effects on significant regional resources or facilities.

**Analysis of Consistency with Strategic Regional Policy Plan**

Council has no recommendations for modification to the proposed amendments. The amendments are considered to be consistent with the SRPP.

**DRAFT**  
**Subject to Modifications**

Consistency with Strategic Regional Policy Plan

The contract agreement between the DCA and the Treasure Coast Regional Planning Council requires Council to include a determination of consistency with the SRPP as part of the written report to be submitted to the DCA. Council finds the proposed amendments to be CONSISTENT with the SRPP.

Recommendation

Council should adopt the above comments and instruct staff to transmit the report to the Department of Community Affairs.

Attachments

## Comprehensive Plan Citizen Courtesy Information List

Local

Government: St. Lucie County BOC

Hearing Date: 12-16-08

Type Hearing: Transmittal (Proposed) Adoption DCA# 08RWS P-1

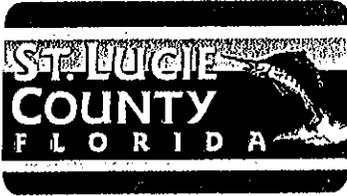
DCA Amendment Number: \_\_\_\_\_ (DCA Official Use)

### Please Print Clearly

By providing your name and address you will receive information concerning the date of publication of the Notice of Intent by the Department of Community Affairs.

Citizen Name	Address, City, State, Zip Code	<input type="checkbox"/> Check Appropriate Response(s)		Identify Amendment which is of Interest
		Written Comment	Spoken Comment	

*10-Year Water Supply Facilities Work Plan*



ITEM NO. VII - A

DATE: December 16, 2008

**AGENDA REQUEST**

REGULAR: ( )  
PUBLIC HEARING: (X)  
CONSENT: ( )

TO: BOARD OF COUNTY COMMISSIONERS

PRESENTED BY:

SUBMITTED BY (DEPT): UTILITIES DEPARTMENT

Laurie Case  
Laurie Case  
Utility Director

**SUBJECT:** Ordinance No. 08-013 of the Board Of County Commissioners, amending the St. Lucie County Comprehensive Plan by amending the Future Land Use Element; amending the Potable Water Sub-Element; amending the Sanitary Sewer Sub-Element; amending the Conservation Element; amending the Intergovernmental Coordination Element; amending the Capital Improvements Element; adopting the 10-Year Water Supply Facilities Work Plan; and providing for filing with the Florida Department Of State; and for transmittal to the Florida Department of Community Affairs pursuant to Section 163.3184, Florida Statutes.

**FUNDS AVAILABLE:** N/A

**PREVIOUS ACTION:** The Elements were revised January 6, 2004. At the March 20, 2008 meeting, the Planning & Zoning Commission voted to forward a recommendation of approval to the Board of County Commissioners. At the May 6, 2008 Board of County Commission meeting, it was voted to transmit the amended Plan to DCA. September 16, 2008, the County received an Objections, Recommendations & Comments Report from DCA.

**RECOMMENDATION:** Staff recommends the Board approve the adoption of Ordinance No. 08-013 amending the St. Lucie County Comprehensive Plan by amending the Future Land Use Element; amending the Potable Water Sub-Element; amending the Sanitary Sewer Sub-Element; amending the Conservation Element; amending the Intergovernmental Coordination Element; amending the Capital Improvements Element; adopting the 10-Year Water Supply Facilities Work Plan; and providing for filing with the Florida Department Of State; and for transmittal to the Florida Department of Community Affairs pursuant to Section 163.3184, Florida Statutes.

**COMMISSION ACTION:**

**CONCURRENCE:**

- APPROVED  DENIED
- OTHER:

\_\_\_\_\_  
Douglas Anderson  
County Administrator

**Review, Coordination and Approvals**

- County Attorney: As for 2009
- Management and Budget: \_\_\_\_\_
- Purchasing: \_\_\_\_\_
- Originating Dept: Laurie Case
- Growth Mgmt: mark Satterlee
- Other: \_\_\_\_\_
- Finance: (Check for copy only, if applicable): \_\_\_\_\_

**ST. LUCIE COUNTY BOARD OF  
COUNTY COMMISSIONERS  
PUBLIC HEARING AGENDA  
December 16, 2008**

**NOTICE OF PROPOSED COMPREHENSIVE  
PLAN TEXT AMENDMENTS**

The St. Lucie County Board of County Commissioners proposes to adopt the following by Ordinance:

**ORDINANCE NO. 08-013**

AN ORDINANCE OF THE BOARD OF COUNTY COMMISSIONERS OF ST. LUCIE COUNTY, FLORIDA AMENDING THE ST. LUCIE COUNTY COMPREHENSIVE PLAN BY AMENDING THE FUTURE LAND USE ELEMENT; AMENDING THE POTABLE WATER SUB-ELEMENT; AMENDING THE SANITARY SEWER SUB-ELEMENT; AMENDING THE CONSERVATION ELEMENT; AMENDING THE INTERGOVERNMENTAL COORDINATION ELEMENT; AMENDING THE CAPITAL IMPROVEMENTS ELEMENT; ADOPTING THE 10-YEAR WATER SUPPLY FACILITIES WORK PLAN; PROVIDING FOR FILING WITH THE FLORIDA DEPARTMENT OF STATE; PROVIDING FOR TRANSMITTAL TO THE FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS PURSUANT TO SECTION 163.3184, FLORIDA STATUTES; PROVIDING FOR CONFLICT; PROVIDING FOR SEVERABILITY; PROVIDING AN EFFECTIVE DATE; AND PROVIDING FOR ADOPTION.

**APPLICANT: ST. LUCIE COUNTY  
FILE NUMBER: TCP-220081423**

**LOCATION OF AFFECTED PROPERTY:  
UNINCORPORATED ST. LUCIE COUNTY**

The PUBLIC HEARING on this item will be held in the Commission Chambers, Roger Poitras Annex, 3rd Floor, St. Lucie County Administration Building, 2300 Virginia Avenue, Fort Pierce, Florida on **Tuesday, December 16, 2008**, beginning at **6:00 P.M.** or as soon thereafter, as possible.

All interested persons will be given an opportunity to be heard. Written comments received in advance of the public hearing will also be considered. Written comments to the Board of County Commissioners should be received by the Growth Management Department - Planning Division at least 3 days prior to the scheduled hearing. The petition file is available for review at the Growth Management Department offices located at 2300 Virginia Avenue, 2nd Floor, Fort Pierce, Florida, during regular business hours. Please call 772/462-2822 or TDD 772/462-1428 if you have any questions or require additional information.

The St. Lucie County Board of County Commissioners has the power to review and grant any applications within their area of responsibility.

The proceedings of the Board of County Commissioners are electronically recorded. **PURSUANT TO Section 286.0105, Florida Statutes**, if a person decides to appeal any decision made by the Board of County Commissioners with respect to any matter considered at a meeting or hearing, he or she will need a record of the proceedings. For such purpose, he or she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. Upon the request of any party to the proceeding, individuals testifying during a hearing will be sworn in. Any party to the proceeding will be granted an opportunity to cross-examine any individual testifying during a hearing upon request. If it becomes necessary, a public hearing may be continued from time to time as may be necessary to a date certain.

Anyone with a disability requiring accommodation to attend this meeting should contact the St. Lucie County Community Services Director at least forty-eight (48) hours prior to the meeting at 772/462-1777 or T.D.D. 772/462-1428.

**BOARD OF COUNTY COMMISSIONERS  
ST. LUCIE COUNTY, FLORIDA  
/S/PAULA A. LEWIS, CHAIR  
PUBLISH DATE: DECEMBER 6, 2008**

**UNOFFICIAL**  
Subject To BOARD Approval

Clerk of Circuit Court

**BOARD OF COUNTY COMMISSIONERS  
ST. LUCIE COUNTY, FLORIDA**

**REGULAR MEETING**

**Date: December 16, 2008**

**Convened: 600 p.m.  
Adjourned: 8:35 p.m.**

**Commissioners Present: Chairperson, Paula A. Lewis, Charles Grande, Chris Dzadovsky, Doug Coward, Chris Craft absent ill.**

**Others Present: Doug Anderson, County Administrator, Faye Outlaw, Asst. County Administrator, Lee Ann Lowery, Asst. County Administrator, Dan McIntyre, County Attorney, Don West, Public Works Director, Laurie Case, Utilities Director, Roger Shinn, Central Services Director, Mark Satterlee, Growth Management Director, Peter Jones, Planning Manager, Kristen Tetsworth, Planning Manager, Millie Delgado-Felliciano, Deputy Clerk**

**I. INVOCATION**

**II. PLEDGE OF ALLEGIANCE**

**III. MINUTES**

Approve the minutes from the December 9, 2008 meeting.

It was moved by Com. Grande, seconded by Com. Dzadovsky, to approve the minutes of the meeting held December 9, 2008, and; upon roll call, motion carried unanimously.

**IV. PROCLAMATIONS/PRESENTATIONS**

- A. A Presentation was given by Chris Adams, Vice President of Community Impact United Way of St. Lucie County
- B. A Presentation was given by Chris Adams, President Heathcote Botanical Gardens Board of Trustees
- C. Annual Christmas Remembrance – Sue Munyan and the 4-H Clubs made their annual Christmas Remembrance Presentation to the Board.

**V. GENERAL PUBLIC COMMENT**

**Mr. John Arena, area resident, addressed the Board regarding his recommendation to consider a charter form of government.**

**VI. CONSENT AGENDA**

It was moved by Com. Dzadovsky, seconded by Com. Coward, to approve the Consent Agenda as amended, and; upon roll call, motion carried unanimously.

**A. WARRANTS**

Approve warrant list No. 11

The Board approved Warrant List No. 11.

**B. COUNTY ATTORNEY**

- 1. Revocable License Agreement – Dr. & Mrs. Marjleh – 2827 S. Indian River Drive – Water line in Indian River Drive right-of-way –The Board approved the Revocable License Agreement, authorized the Chair to sign

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WARRANT LIST #11- 06-DEC-2008 TO 12-DEC-2008  
FUND SUMMARY

ID	TITLE	EXPENSES	PAYROLL
	General Fund	632,853.02	608,069.98
.176	FTA Section 5303 F/Y06	55.06	737.62
.180	US Dept Housing HUD Shelter Plus Gr	20.06	266.21
.184	CDBG 07	111.16	1,541.60
.188	Section 112/MPO/Fhwa/Planning 2007	1,482.62	6,299.15
.190	FTA Sec 5307 - Buses 05/06	13.71	183.13
.193	FDCA SLC Buildings Wind Retrofit pr	8,031.02	0.00
404	05 CDBG Sup Disaster Recovery	54,640.00	0.00
419	FDCA-Construct County EOC	601.25	0.00
434	Fla Comm for the Disadvantaged Tran	248.25	1,019.82
436	INTACT Inspired Network to Achieve	92.70	0.00
500	FDEM Emergency Mgmt Performance	1,214.21	0.00
501	CSBG 2008-2009 Dept of Health and H	831.73	2,661.91
	Transportation Trust Fund	7,612.56	43,286.41
001	Transportation Trust Interlocals	82.60	1,079.79
002	Transportation Trust/80% Constitut	31,928.72	51,145.53
003	Transportation Trust/Local Option	19,154.21	31,224.13
004	Transportation Trust/County Fuel Tx	22,457.97	20,302.00
006	Transportation Trust/Impact Fees	11,477.38	0.00
	Unincorporated Services Fund	59,143.38	89,833.24
001	Drainage Maintenance MSTU	59,146.45	5,697.00
	Library Special Grants Fund	4,468.39	0.00
	Fine & Forfeiture Fund	49,672.86	175,784.83
001	Fine & Forfeiture Fund-Wireless Sur	92.01	1,150.72
002	Fine & Forfeiture Fund-E911 Surchar	92.03	1,150.72
003	Fine & Forfeiture Fund-800 Mhz Oper	28,347.18	0.00
006	F&F Fund-Court Related Technology	2,315.94	8,736.95
204	FL Dept Juvenile Justice-DMC Civil	403.02	1,507.10
205	Juvenile Justice & Delinquency Prev	661.58	2,076.00
	Drug Abuse Fund	35.00	0.00
	Sheraton Plaza Fund	649.91	0.00
	Paradise Park Fund	898.20	0.00
	SLC Public Transit MSTU	161.02	2,176.18
	Airport Fund	39,893.02	16,670.68
001	Port Fund	404.63	0.00
133	Construct Runway 9L/27R/Fence	603,471.13	0.00
135	FAA Security Fencing & Runway 9L/27	298,981.17	0.00
334	Const. Apron & Environmental Mitiga	5,351.66	0.00
335	Parallel Runway Design-9L/27R	47,497.48	0.00
352	Upgrade the Electrical Vault	580.28	0.00
	Impact Fee Collections	120.29	1,597.44
	Plan Maintenance RAD Fund	5,421.36	3,415.74
	Ct Administrator-19th Judicial Cir	3,461.83	3,009.49
001	Ct Administrator-Arbitration/Mediat	340.00	0.00
004	Ct Admin.- Teen Court	638.19	5,996.24
006	Guardian Ad Litem Fund	14,509.36	0.00
007	FHFA SHIP FY06/07	40,000.00	0.00
001	FHFC Hurricane Housing Recovery Pla	604,714.40	3,449.12

2/12/08

## ST. LUCIE COUNTY - BOARD

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WARRANT LIST #11- 06-DEC-2008 TO 12-DEC-2008  
FUND SUMMARY

UND	TITLE	EXPENSES	PAYROLL
89202	My Safe Florida Home		
10	Impact Fees I&S	35,059.04	2,975.20
10002	Impact Fees-Parks	19,782.25	0.00
16	County Capital	58,828.06	0.00
18	County Capital-Transportation Bond	11,800.00	0.00
32	Environmental Land Capital Fund	3,141.18	0.00
96	Lennard Road 1 - Roadway Capital	222.34	0.00
97	Lennard Road 2 - Water Capital	4,497.00	0.00
98	Lennard Road 3 - Sewer Capital	2,248.50	0.00
01	Sanitary Landfill Fund	2,248.50	0.00
08	Golf Course Fund	474,441.91	68,660.20
01	S. Hutchinson Utilities Fund	18,061.29	27,100.28
08	SH Util-Renewal & Replacement Fund	206.19	1,771.75
01	Sports Complex Fund	50.90	665.11
01	No County Utility District-Operatin	53,290.75	18,236.04
08	No Cty Util Dist-Renewal & Replace	1,442.51	11,063.94
09	No Cty Util Dist-Capital Facilities	111.50	1,452.52
01	Building Code Fund	71.52	928.31
05	Health Insurance Fund	6,020.79	37,374.56
01	Tourist Development Trust-Adv Fund	305,344.67	6,416.35
05	Impact Fees Fund	4,851.67	0.00
05	Law Library	6,366.72	0.00
00	Tax Deed Overbid Agency Fund	19,308.47	0.00
00	Agency Fund	12,457.83	0.00
01	Bank Fund	46.95	0.00
		309,035.69	0.00
	GRAND TOTAL:	4,013,316.23	1,266,712.99

the Revocable License Agreement and directed Dr. & Mrs. Marjleh to record the document in the public Records of St. Lucie County, Florida.

2. Environmentally Significant Lands – Airport Greenway – Contract for Sale and Purchase – Morning Star Evangelical Lutheran Church – Parcel I.D. No. 1428-602-0054-000-8 – The Board approved the Contract for Sale and Purchase of the Morning Star Evangelical Lutheran Church parcel for \$36,000.00, authorized the Chair to execute the Contract and directed staff to close the transaction and record the documents in the public Records of St. Lucie County, Florida.
3. Volo Holdings Fort Pierce, LLC – Consent to Sublease Agreement with Omniflight Helicopters, Inc. – The Board consented to the sublease agreement between Volo Holdings Fort Pierce, LLC and Omniflight Helicopters, Inc., and authorized the Chair to sign the document.

**B. COUNTY ATTORNEY CONTINUED**

4. Quit-Claim Deed – St. Lucie County Fire District – Parcel I.D. No. 1429-333-0000-000/3 – Resolution No. 08-387 – The Board accepted the Quit-Claim Deed, authorized the Chair to sign Resolution No. 08-387 and directed staff to record the Quit-Claim Deed in the Public Records of St. Lucie County, Florida.
5. St. Lucie County Logistics Center - Facilities Use Agreement with The Salvation Army for 2008 Angel Tree Program – The Board approved the proposed Facilities Use Agreement with The Salvation Army, and authorized the Chairman to sign the Agreement.

**C. PUBLIC SAFETY**

1. Request to approve the agreement with Intrado for the installation of a 911 Data Base Management Network Service in the amount of \$200,000 for the new Emergency Operations Center – The Board approved the agreement with Intrado for the 911 Data Base Management Network Service in the amount of \$200,000.00 and authorized the Chairman to sign.
2. Request to approve the agreement with AT&T/BellSouth for a Positron-Viper E911 phone system for the 911 Center at the new Emergency Operations Center in the amount \$1,026,486.89 – The Board approved the agreements with AT&T/BellSouth for the E911 phone system for the 911 Center in the amount of \$1,026,486.89 and authorized the Chairman to sign. Also, approved Budget Amendment # 09-006 and Equipment Request #09-023.

**D. ENVIRONMENTAL RESOURCES**

Authorize the extension of South Florida Water Management District/St. Lucie River Issues Team grant to May 2, 2009 for the design and construction of a "Living in a Watershed" exhibit at the Oxbow Eco-Center – The Board approved to extend the SFWMD/St. Lucie River Issues Team Grant to May 2, 2009 for the design and construction of a St. Lucie River "Living in a Watershed" exhibit at the Oxbow Eco-Center, and authorized for the Chairman to sign the amended contract.

**E. PARKS AND RECREATION**

1. Emerson Avenue Sidewalk; Change Order No. 1 to Contract No. C08-09-505: Sunshine Land Design- Emerson Avenue Sidewalk – The Board approved Change Order No. 1 to Contract No. C08-09-505 with Sunshine Land Design for the Emerson Avenue Sidewalk project in the amount of \$4,426 utilizing funding from the FDOT (LAP Agreement) Grant.
2. Piggyback City of Jacksonville's Contract with Gametime/Dominica Recreation Products, Inc. Playground Equipment, Purchase and Install Playground Equipment at Martin Luther King, Jr./Dreamland Park and approve Budget Amendment #09-007 – The Board approved the request to piggyback the City of Jacksonville's contract with Gametime/Dominica Recreation Products, Inc. to purchase and install playground equipment,

In the amount of \$65,307.95; approved Budget Amendment, #09-007 and authorized the Chair to sign the contract as drafted by the County Attorney.

F. PUBLIC WORKS

1. Engineering Division - S. 25<sup>th</sup> Street Roadway Widening Project (Midway Road to Edwards Road) – Amendment No. 14 to the Consultant Agreement with Inwood Consulting – The Board approved Amendment No. 14 to the Consultant Agreement with Inwood Consulting Engineers, in the amount not to exceed \$50,000, to provide consulting services for construction issues related to repair and reconstruction of the bridge for the S. 25<sup>th</sup> Street Roadway Widening Project, and authorized the Chair to sign.

F. PUBLIC WORKS CONTINUED

2. Engineering Division - Indian River Estates MSBU Third Amendment to Work Authorization No. 25 with Camp, Dresser, and McKee, Inc. – The Board approved and authorized the Chair to sign the Third Amendment to Work Authorization No. 25 to Contract C00-03-233 with Camp, Dresser, and McKee, Inc., for the reallocation of appropriated funds, to extend the project schedule until March 31, 2009, and to increase the project budget in the amount of \$28,166.00 for a total contract amount of \$976,644.00.

G. GRANTS/DISASTER RECOVERY

This agenda item is requesting the board to approve the attached interlocal agreement between St. Lucie County, the City of Port St. Lucie, the Sheriff's Office, the Fire District, and Indian River State College. The agreement is to have Indian River State College provide basic and advanced training to Citizen Emergency Response Team (CERT) volunteers and for St. Lucie County, Port St. Lucie, the Sheriff's Office, and the Fire District to contribute \$6,000 each to Indian River State College to coordinate the program. St. Lucie County has received a grant in the amount of \$10,000 from the Florida Division of Emergency Management that will also be used to coordinate the program – The Board approved the attached interlocal agreement.

H. COMMUNITY SERVICES

1. Request permission to advertise a Request for Qualifications (RFQ) for Architect services to develop and produce construction drawings for the Fort Pierce Intermodal Transfer Facility located at Avenue D and 8<sup>th</sup> Street – The Board authorized to advertise an RFQ for Architect services for construction design of the Fort Pierce Intermodal Transfer Facility.
2. Request permission to advertise a Request for Proposal for contractual services to purchase and install bus shelters and other related infrastructure – The Board authorized advertising a Request for Proposal (RFP) for procurement of contractual services.
3. Approval of Modification No. 3 to revise the program budget and the scope of work for the St. Lucie County 2005 Community Development Block Grant Disaster Recovery Initiative (CDBG DRI) – The Board approved the Modification No. 3 to revise the program budget and the scope of work for the St. Lucie County 2005 CDBG DRI Grant and authorized the Chair to sign necessary documents.
4. Approve Budget Resolution No. 08-385 to budget funds in the amount of \$50,000 from the U.S. Department of Health and Human Services for the Earned Income Tax Credit (EITC) and other Asset Formation grant – The Board approved Budget Resolution No. 08-385 to budget funds in the amount of \$50,000 from the U.S. Department of Health and Human Services for the Earned Income Tax Credit (EITC) and other Asset Formation grant.

I. CENTRAL SERVICES

Elimination of Project Manager position and create a new position: Logistic Center Operations and Record Management Liaison Officer. Approve Position Reclassification REQ#09-001 -- The Board approved eliminating the position of a Project Manager and create a new position of Logistic Center Operations and Record Management Liaison Officer. Staff further recommends the Board approve Position Reclassification REQ#09-001.

- J. Addition: Creation of an Ad Hock Committee for the St. Lucie County Grand Bahama Island Tourism and Economic Development Partnership- This item was pulled prior to the meeting.

## **END OF CONSENT AGENDA**

### **VII. PUBLIC HEARINGS**

#### **A. UTILITIES**

Ordinance No. 08-013 of the Board of County Commissioners, amending the St. Lucie County Comprehensive Plan by amending the Future Land Use Element; amending the Potable Water Sub-Element; amending the Sanitary Sewer Sub-Element; amending the Conservation Element; amending the Intergovernmental Coordination Element; amending the Capital Improvements Element; adopting the 10-Year Water Supply Facilities Work Plan; and providing for filing with the Florida Department of State; and for transmittal to the Florida Department of Community Affairs pursuant to Section 163.3184, Florida Statutes -- Consider staff recommendation to approve the adoption of Ordinance No. 08-013 amending the St. Lucie County Comprehensive Plan by amending the Future Land Use Element; amending the Potable Water Sub-Element; amending the Sanitary Sewer Sub-Element; amending the Conservation Element; amending the Intergovernmental Coordination Element; amending the Capital Improvements Element; adopting the 10-Year Water Supply Facilities Work Plan; and providing for filing with the Florida Department of State; and for transmittal to the Florida Department of Community Affairs pursuant to Section 163.3184, Florida Statutes.

Ms. Grimaldi, CDM Consultant for the project, addressed the Board and provided the Objections, recommendations and comments from the Department of Community Affairs and the response from St. Lucie County.

Objection 1 -- As identified in the South Florida Water Management District's letter dated August 26, 2008, the population projections for the County presented in Tables 1-2, 1-3 And 4-1 of Work Plan is internally inconsistent with the County's Comprehensive Plan, Future Land Use element, the County's Consumptive Use Permit, and the District's Lower East Coast Regional Water Supply Plan.

Response 1- The referenced tables have been revised to more closely match the County's Consumptive Use Permit and the SFWMD's Upper East Coast Water Supply Plan, rather than the applicable Upper East Coast Water Supply Plan. It should be noted that the projections included in the consumptive use permit differ slightly from those published in the Upper East Coast Water Supply Plan, but have been approved by SFWMD based on assumptions provided by the County in the permitting process.

Tables 1-2 and 1-3 in the Future Land Use Element differed from one another intentionally, as explained in the Element. Table 1-2 is intended to summarize the entire unincorporated County population including all residents, regardless of which water supply system they are connected to or if they are self-served. Table 1-3 was intended to summarize the projected county's public water supply system customers only, and therefore would not be equal to the projections provided in Table 1-2. Upon review, however, the projections included in Table 1-3 were discovered to be erroneous and have since been corrected. The information previously provided in Table 1-3 is better suited to be presented in the Water and Sanitary Sewer Sub-elements, rather than in the Future Land Use Element. The information has been inserted in the appropriate Sub-elements. The revised Water and Sanitary sewer Sub-elements are presented in Exhibits 3 and 4 to the 10-Year Water Supply Facilities Work Plan has also been corrected to match these revised projections and those in the consumptive use Permit. A revised version of Table 4-1 is also provided in the enclosed updated Work Plan.

Objection 2- The proposed amendment does not address the requirements of Section 163.3180(2) (a), [Florida Statutes ] F.S, pertaining to water supply concurrency.

Response 2- The County's developer agreement requires the applicant to request a capacity review for water and/or wastewater service prior to issuance of a building permit. This is further enforced through Objective 6.A.1.2 of the Potable Water Sub-element, and the associated policies.

The St. Lucie County Development Review Committee (DRC) will review all proposed Developments planned for UnIncorporated St. Lucie County. The DRC Chair is to verify in which utility service area the proposed development is planned and verify the water and wastewater concurrency in conjunction with the appropriate Utility prior to recommending issuance of a Development Order.

Upon notification that the proposed development is located within the St. Lucie County Utilities service area, the developer is to deliver a set of the proposed utility plans to St Lucie County Utilities for review. Upon completion and approval of the proposed utility plans St. Lucie County Utilities will prepare a "Standard Potable Water and Wastewater Development Agreement" to be signed by the developer and returned to the Utility.

Objection 3- The proposed amendment does not include a policy that requires coordination with the SFWMD related to updating the County's Water Supply Facilities Work Plan within 18 months after the SFWMD updates the [Upper] East Coast Regional Water Supply Plan.

Response 3- The requested policy has been added to the Potable Water Sub-Element as Objective 6A.3.3, Policy 6A.3.3.1. The revised Potable Water Sub-Element is provided As Exhibit 3 to the 10 Year Water Supply Facilities Work Plan.

Objection 4- The County's Work Plan provides a list of water system improvement projects. However, the potable water projects have not been incorporated into the Five Year Schedule of Capital Improvements.

Response 4- A five-year fiscal analysis of estimated water and wastewater capital improvement projects has been added to Section 2 of the enclosed 10 Year Water Supply Facilities Work Plan (Exhibit 1). The Capital Improvement Element is also updated annually and the most recent update was submitted to DCA November 2008.

Objection 5- The proposed amendment does not include policies with specific programs and activities to ensure ongoing coordination with the Fort Pierce Utility Authority [FPUA] on water supply issues.

Response 5- The County participates in quarterly meetings with the Treasure Coast Regional Utilities Organization, which provides for intergovernmental coordination between utilities including FPUA. Additionally, the County conducts a minimum of at least two annual coordination meetings with FPUA (typically more) to discuss the bulk water agreement status which includes on-going capital projects. The County revised

the

five year projections annually and provides the update to FPUA at the end of each October.

These meetings achieve the recommended actions provided in the ORC report, with the exception of implementing alternative water supply projects and establishing level of service. FPUA does not provide reclaimed water to or purchase reclaimed water from the County. Both utilities have established conservation measures. The level of service for each utility is adopted through their respective Master Plans.

A policy formalizing these actions has been incorporated into the Intergovernmental Coordination Element of the Comprehensive Plan as Policy 10.1.3.6. The modified pages of the Intergovernmental Coordination Element of the Comprehensive Plan are provided in Exhibit 6 attached to the 10-Year Water Supply Facilities Work Plan.

Mr. Craig Mundt, North Beach Association, addressed the Board and expressed his concerns with the possible expansion of the North Hutchinson Island Plant. He challenges the report and stated the study misses by several hundred the number of hook-ups. They were hoping to move the waste off of the island. In taking a poll there are very few residents who wish to go on to having sewer. They have hired an independent engineering firm with different ideas regarding the utility authority,

Ms. Andrews North Beach resident, addressed the Board and stated the Coastal Management Element of the Comp Plan seems to be inconsistent with the element in Chapter 6.

Ms. Andrews asked if the plant cost would be funded by public funds.

The County Attorney stated the policy she referenced has been in the plan since 1989. An executive order was issued by Governor Graham in 1981.

He believes there are conflicting policies in the plan and proceeded to advise those present of how they normally fund utility expansions. He stated normally they get developer contributions however they can use special assessments. They normally bond the project and then it is secured by pledge of development revenues. With regards to grants this could be problematic if these were direct grants. He believes the policy should be clarified moving forward. He has asked the Growth Management Director and the Planning Manager to contact the Department of Community Affairs this afternoon.

Com. Grande stated he felt they are getting to the point where they should consider whether or not to use the projected growth number. The conclusion is that they will continue to grow at an amazing rate for a long time. He recommended thinking whether they wish to face the state with the concept that as a county would like to grow to the capacity they designated for themselves.

Com. Coward stated he believed they still had some inconsistencies on what is in this document and discussions the Board has had on road projects and utilities. Some of these pending projects in the documents, the Board has not made any final decisions on.

Com. Dzadovsky stated they still had other issues relating to funding and it was going to be difficult to find however they still need to protect the lagoon. He also wanted to confirm that he was encouraging the Board to look towards regionalization.

Com. Coward asked what projections were being used.

Ms. Grimaldi advised the Board they were using the medium projections.

The Planning Manager stated they had been using high projections.

It was moved by Com. Grande, seconded by Com. Dzadovsky to approve Ordinance No. 08-013, and; upon roll call, motion carried unanimously.

#### **B. GROWTH MANAGEMENT**

Ordinance No. 08-014 of the St. Lucie County Board of County Commissioners adopting the Public School Facility Element as part of the St. Lucie County Comprehensive Plan – Consider staff recommendation to adopt Ordinance No. 08-014.

The Planning Manager addressed the Board on this item and advised the Board they have addressed all comments received from the DCA.

It was moved by Com. Coward, seconded by Com. Grande to approve Ordinance No. 08-014, and; upon roll call, motion carried unanimously.

### **END OF PUBLIC HEARINGS**

#### **VIII. COMMUNITY SERVICES**

Adoption of the St. Lucie County Affordable Housing Advisory Committee 2008 Incentive & Recommendation Report compiled by the Affordable Housing Advisory Committee - Consider staff recommendation to approve Resolution No. 08-388 adopting the St. Lucie County Affordable Housing Advisory Committee's 2008 Incentive & Recommendation Report.

The Housing Coordinator addressed the Board on this item.

Com. Grande stated he would have difficulty supporting this item (A). He felt it was not to anyone's advantage to accelerate the process and there should be some level of scrutiny maintained.

The Planning Manager stated he believes there was no intent of reducing the scrutiny.

Com. Dzadoovsky asked if there was any indication that they would be given additional density. He has some concerns about this and believes they may be seeing multiple plans come forward with increased density requirements.

The Planning Manager stated this would require further research, review and language and these are ideas and recommendations of means to move forward. This would not constitute immediate consideration in density.

Com. Dzadoovsky stated he wished to have the record state he would not support increases in density other than what would already be provided.

Com. Coward stated he interpreted it as the density would be allowed to be increased but only within the realm of the land use category that would permit it.

Com. Grande stated he believes there would still be impacts and cannot see how impact fees would be deferred or waived. He recommended coming up with other alternatives.

The Housing Coordinator stated they discussed the idea of the deferrals of fees and alternatives due to the fact that after speaking with the Asst. County Attorney they were informed they could not waive the fees.

Com. Dzadoovsky addressed possible giving credits for green technology.

Com. Coward stated he is not excited about waiving impact fees and would support looking for alternatives. However he does support utilizing green technology. He believes they need to eliminate the language on impact fees and believes growth should pay for itself.

The Coordinator addressed the flexibility for affordable housing.

Com. Grande stated he would like to see the recommendation extended and possibly add inclusionary zoning.

Com. Coward stated he would like to see the aspect of Growth Management somewhere in the document.

Com. Lewis stated she was going to reverse her original determination and would prefer to see what action is to be taken on each item.

Com. Coward recommended giving consideration to Com. Craft who is not present tonight.

The Housing Coordinator stated she could contact the state and see if they can submit the report a week later due to the absence of one Commissioner at this meeting.

Com. Lewis stated if they are able to get an extension they would then take it from there.

The Housing Coordinator recommended taking time to speak with each Commissioner regarding each issue.

No action taken at this time.

## **IX. GROWTH MANAGEMENT**

Petition of Nick Bishop for a Major Adjustment to a Major Site Plan, known as Treasure Coast Lexus, to add 0.802 acres of additional land area for inventory parking for an existing 87,287 sq. ft. car dealership on 11.57 acres, known as Treasure Coast Lexus. Draft Resolution No. 08-231. (File No.: SPMJ 620081487) – Consider staff recommendation to adopt Draft Resolution No. 08-231, granting a Major Adjustment to add 0.802 acres of land area for additional inventory parking, for a total of 12.37 acres of land, to the Major Site Plan for Treasure Coast Lexus subject to 5 limiting conditions, in addition to those contained in Resolution No. 07-131 which are still in full force and effect.

The applicant requested the condition regarding the sidewalk be removed due to the fact the FDOT has already constructed the sidewalk.

It was moved by Com. Coward, seconded by Com. Dzadoovsky to approve staff recommendation as amended, and; upon roll call, motion carried unanimously.

X. ADDITION TO AGENDA

FEDERAL ECONOMIC STIMULUS PACKAGE-

Consider staff recommendation to submit the Federal Economic Stimulus Package to the County's Federal Delegation and President Elect Obama's Transition Team.

The County Administrator reviewed the package to be presented.

It was moved by Com. Grande, seconded by Com. Coward, to approve the Federal Economic Stimulus Package as presented, and; upon roll call, motion carried unanimously.

There being no further business to be brought before the Board, the meeting was adjourned.

\_\_\_\_\_  
Chairman

\_\_\_\_\_  
Clerk of the Circuit Court

**UNOFFICIAL**  
Subject To BOARD Approval  
Clerk of Circuit Court

**12.03.00 LOCAL PLANNING AGENCY**

**12.03.01 DUTIES AND RESPONSIBILITIES**

The Local Planning Agency, in accordance with the Local Government Comprehensive Planning and Land Development Regulation Act, Section 163.3174, Florida Statutes, shall:

A. Be the agency responsible for the preparation of the comprehensive plan and shall make recommendations to the Board of County Commissioners regarding the adoption of such plan or element or portion thereof. During the preparation of the plan and prior to any recommendation to the Board of County Commissioners, the local planning agency shall hold at least one (1) public hearing, with due public notice, on the proposed plan or element or portion thereof. The Board of County Commissioners, in cooperation with the local planning agency, may designate any agency, committee, department, or person to prepare the comprehensive plan or any element thereof, but final recommendation of the adoption of such plan to the Board of County Commissioners shall be the responsibility of the Local Planning Agency.

B. Monitor and oversee the effectiveness and status of the comprehensive plan and recommend to the Board of County Commissioners such changes in the comprehensive plan as may be required from time to time, including preparation of the periodic reports required by Section 163.3191.

C. Review proposed land development regulations, land development codes, or amendments thereto, and make recommendations to the Board of County Commissioners as to the consistency of the proposal with the adopted comprehensive plan, or element or portion thereof.

D. Perform any other functions, duties, and responsibilities assigned to it by the Board of County Commissioners or by general or special law.

**12.03.02**

**DESIGNATION AND ESTABLISHMENT**

Pursuant to, and in accordance with Section 163.3174, Florida Statutes (Local Government Comprehensive Planning and Land Development Regulation Act) the County Planning and Zoning Commission is hereby designated and established as the Local Planning Agency for the unincorporated territory of the County.

**12.03.03**

**ORGANIZATION RULES AND PROCEDURES**

Members of the Local Planning Agency shall continue to be appointed and follow such rules of procedure, methods of choosing officers, setting of public meetings, providing of financial support, and accomplishing its duties as provided in Chapter 59-1805, Laws of Florida, 1959, as amended by County Ordinance No. 71-5.

**12.03.04**

**PUBLIC MEETINGS AND RECORDS**

All meetings of the Local Planning Agency shall be public meetings and all agency records shall be public records. The Local Planning Agency shall encourage public participation.

## CHAPTER XII DECISION MAKING AND ADMINISTRATIVE BODIES

### 12.00.00 BOARD OF COUNTY COMMISSIONERS

The Board of County Commissioners shall have the following powers and duties under this Code:

- A. The powers to initiate, review, and adopt amendments to the Official Zoning Atlas as provided in Section 11.06.00;
- B. The powers to initiate, review, and adopt amendments to the text of this Code as provided in Section 11.06.00;
- C. The powers to review and grant, grant with conditions, or deny Preliminary Site Plans and Final Site Plans, as provided in Section 11.02.00;
- D. The power to review and grant or deny plat applications, as provided in Section 11.03.00;
- E. The powers to review and determine whether a Class A Mobile Home can be defined as a detached single-family dwelling, as provided in Section 11.05.02;
- F. The powers to review and grant, grant with conditions, or deny conditional uses as provided in Section 11.07.00;
- G. The powers to review and grant or deny applications for development agreements, as provided in Section 11.08.00;
- H. The powers to interpret boundaries of the various zoning districts on the Official Zoning Atlas, as provided in Section 1.08.02.
- I. The power to establish a schedule of fees in order to cover the costs of technical and administrative activities required by this Code as provided in Section 11.12.00;
- J. The power to hear and decide appeals initiated by any person, officer, board, or bureau of St. Lucie County aggrieved by a decision by the County Administrator with respect to the Vested Rights and Adequate Public Facilities provisions of this Code as provided in Section 11.09.00 and Chapter V.
- K. When sitting as the Environmental Control Board, the power to hear and decide appeals initiated by any person, officer, board, or bureau of St. Lucie County aggrieved by any decision, order, determination or interpretation of any administrative official of the County with respect to the Vegetation Protection and Preservation, Mangrove Alteration and Selective Trimming, Sea Turtle Protection, Coastal Area Protection, Wellfield Protection, Wetland Protection, and Native Upland Habitat Protection provisions of this Code as provided in Section 11.11.00.