

**EVALUATION AND APPRAISAL REPORT
OF THE
INDIAN RIVER COUNTY
COMPREHENSIVE PLAN**

DRAFT

SANITARY SEWER SUB-ELEMENT

2008

INDIAN RIVER COUNTY
COMMUNITY DEVELOPMENT DEPARTMENT
1801 27TH STREET
VERO BEACH, FLORIDA 32960
(772) 226-1237

Revised: October 23, 2008

TABLE OF CONTENTS

	<u>PAGE</u>
INTRODUCTION	2
BASELINE DATA	2
EXISTING CONDITIONS	4
ANALYSIS	5
EVALUATION OF OBJECTIVES	10
FUTURE ACTIONS	24
ANTICIPATED AMENDMENTS	24

List of Attachments

1. Indian River County 1995 Sanitary Sewer Service Areas
2. Indian River County 2008 Sanitary Sewer Service Areas
3. Goal, Objectives and Policies of the Sanitary Sewer Sub-Element
4. Five Year Capital Improvements Plan

-APPENDIX "A", Conditions at the Time of Last Major Plan Update (1998) and Existing Conditions (2006)

INTRODUCTION

The purpose of this section of the Evaluation and Appraisal Report is to assess the success or failure of the Sanitary Sewer Sub-Element of the Comprehensive Plan. This assessment must examine changes in sanitary sewer conditions within the county, evaluate achievement of objectives, and identify changes in state requirements affecting the Sanitary Sewer Sub-Element. Based on this evaluation and appraisal, the Sanitary Sewer Sub-Element may need to be updated and revised. This assessment contains the following:

- Sanitary sewer conditions at the time of the last major plan update (1998)
- Existing sanitary sewer conditions (2006/2007)
- Analysis of sanitary sewer conditions within the county
- Identification of problems related to the provision of sanitary sewer services
- Evaluation of Sanitary Sewer Sub-element objective achievement
- Assessment of Sanitary Sewer Sub-element policy implementation
- Identification of future actions
- Identification of anticipated amendments

BASELINE DATA

The summary of sanitary sewer conditions within the county is provided in appendix A. These data will enable the county to compare changes in conditions within the county and make appropriate revisions to the Sanitary Sewer Sub-Element as needed.

When the Indian River County Comprehensive Plan was updated in 1998, the Sanitary Sewer Sub-Element described conditions and facilities that existed in 1995. That information was provided by the Indian River County and the City of Vero Beach Utilities Departments. These data, shown in Appendix A, must be compared to more recent data to assess changes in conditions regarding the provision of sanitary sewer service within the county.

In 1995, there were ten publicly operated wastewater treatment plants operating in the county. Nine of those plants were operated by the Indian River County Utilities Department, while the other plant was operated by the City of Vero Beach. The county operated plants provided a level of service of 250 gallons/ residential unit/day, while the city operated plant provided a level of

service of 197 gallons/residential unit/day. The combined design capacity of those ten plants was 11,330,000 gallons/day, an amount sufficient to accommodate their combined average daily demand of 6,052,000 gallons/day. Design capacity of the county plants was 6,830,000 gallons/day, and the demand for county plants was 2,852,000 gallons/day.

The nine county operated plants generally used the contact stabilization and/or extended aeration methods to treat wastewater. These methods resulted in an advanced secondary to tertiary level of treatment. That level of treatment was sufficient to produce effluent that was acceptable for reuse irrigation for agriculture and for golf courses. Additionally, the level of treatment provided by county operated wastewater treatment plants produced effluent that was acceptable for use in man-made wetlands and in mosquito impoundments along the Indian River Lagoon. In 1995, the county operated plants at Vista Gardens and Vista Royale disposed of effluent in nearby mosquito impoundments.

The attached map of the 1995 service area (attachment 1) shows the sanitary sewer service area at the time of the last major plan update. At that time, centralized wastewater systems were available to most areas on the barrier island, the entire City of Vero Beach, a portion of the City of Sebastian, the southeast mainland, the SR 60 Corridor, and the Gifford area. Even where centralized wastewater service was available in 1995, many structures were not connected to the centralized wastewater treatment system, and new development was not always required to connect.

At the time of the last major Comprehensive Plan update, there were six (6) private wastewater treatment plants in the county. Most of these package treatment plants served only small areas such as a single residential subdivision.

With respect to septic tanks, the Indian River County Public Health Unit, Division of Environmental Health estimated that, in 1995, there were approximately 28,800 septic tanks in use in Indian River County, and that approximately 700 new septic tanks were being installed annually in the county.

Package wastewater treatment plants and septic tanks have two main problems when compared to large regional plants. Those problems are lower levels of treatment and an increased risk of groundwater contamination.

In 1995, a related problem involved the size of residential lots. Although the state had minimum size criteria for lots relying on well and septic systems, existing lots were exempt from those minimum lot size requirements. In 1995, there were 111 residential subdivisions with "undersized" lots that were not served by a centralized water and/or wastewater system.

In 1995, the county had 18,044 sanitary sewer service customers. At that time, there were 33,365 residential units in the unincorporated county.

EXISTING CONDITIONS

In Appendix A, the most recent sanitary sewer system conditions are identified under the existing conditions section of the corresponding matrix. The information for existing sanitary sewer system conditions will be compared to the data provided in the adopted Sanitary Sewer Sub-Element (conditions at the time of last major plan update) to assess changes in conditions from the time that the comprehensive plan was adopted to the present.

Presently, there are six (6) publicly operated wastewater treatment plants operating in the county. Five (5) of those plants are operated by the Indian River County Utilities Department, while the other plant is operated by the City of Vero Beach. There are also three (3) privately operated package treatment plants in the county. In the past several years, there have been no recorded instances of package treatment plant failures within the county.

Currently, the county operated plants provide a level of service of 250 gallons/residential unit/day, while the city operated plant provides a level of service of 197 gallons/residential unit/day. The combined design capacity of the six regional plants is 13,370,000 gallons/day, an amount sufficient to accommodate their combined average daily demand of 8,274,000 gallons/day. In 2006, design capacity for the county plants was 9,020,000 gallons/day, an amount sufficient to accommodate their combined average daily demand of 4,774,000 gallons/day.

The service area of the regional system now includes substantial portions of the urban service area of the county. As indicated in the attached map of the 2006 service area (attachment #2), wastewater lines currently extend to much of the urban area of the county, including all three of the commercial/industrial nodes along I-95.

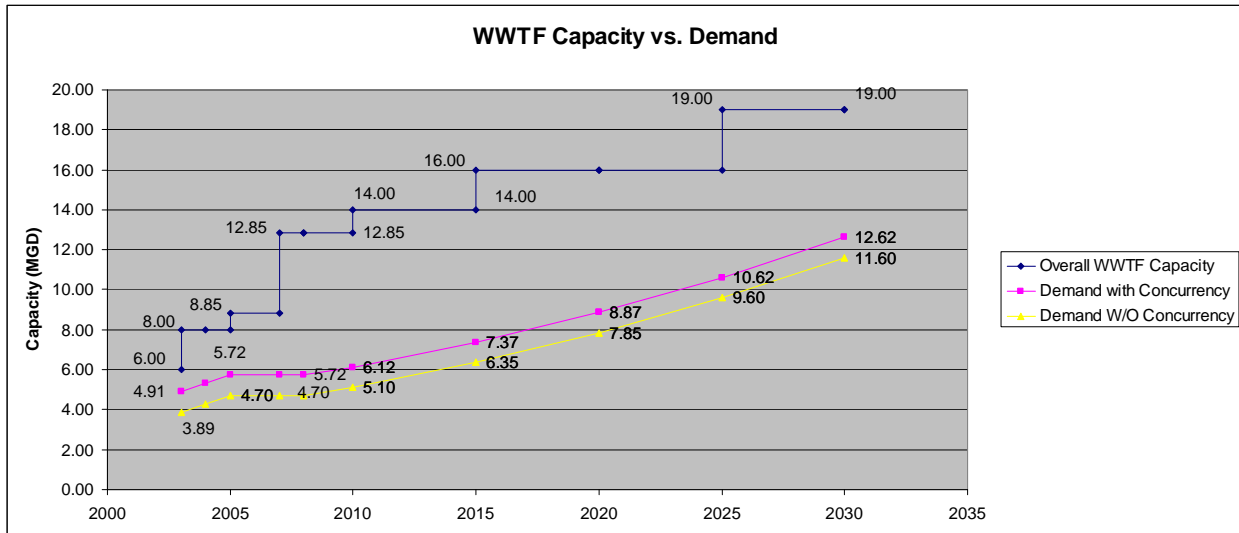
With respect to septic tanks, the Indian River County Public Health Unit, Division of Environmental Health currently estimates that there are approximately 36,039 septic tanks in use in Indian River County. While approximately 1,272 new septic tanks were installed in 2006 in the county, it is estimated that fewer than 500 new septic tanks will be constructed in 2007. In 2006, there were 89 undersized residential subdivisions in the county that were not served by a centralized water and/or wastewater system.

In 2006, the county utilities department had 24,250 sanitary sewer customers. At that time, there were 48,188 residential units in the unincorporated county. Since the last major update of the comprehensive plan, the county has implemented all capital improvement projects identified in the county sanitary sewer sub-element. In the recent past, there have been no recorded instances of county plants contaminating surface water or groundwater.

Currently, the county re-uses all effluent from its plants. The majority of effluent is used as spray irrigation for golf courses within the unincorporated county area. The remaining effluent is used for man-made wetlands at the county’s west regional plant.

ANALYSIS

According to the county sanitary sewer master plan, the total design capacity of the county sanitary sewer system in 2030 is projected to be 19 million gallons per day (MGD), while total demand is projected to be about 12.62 million gallons per day (MGD). To accommodate the needed capacity increase, either the north county regional plant and/or the west regional plant will be expanded in each of the following years: 2008, 2010, 2015, and 2025. The increases will be: 4 mgd in 2008; 2 mgd in 2010; 2 mgd in 2015; and 3 mgd in 2025. This information is shown in the graph below. Because all of the plants in the county system are interconnected, there is flexibility as to which plant or plants will be expanded to accommodate future demand.



Since the last major update of the comprehensive plan, the county sanitary sewer system service area has expanded, and sanitary sewer service is now available to most of the urbanized area of the unincorporated county, including major commercial and industrial nodes. In addition, the county provides sanitary sewer service to the City of Fellsmere, the Town of Orchid, and the City of Sebastian. Although not all of the master plan lines are in, the county’s sanitary sewer system has adequately met the sanitary sewer demand from new residential and nonresidential development.

There are, however, a number of existing residential developments that are not connected to the county sanitary sewer system. In many cases, septic systems are adequate to accommodate individual single family houses, and there is no need to retrofit existing subdivisions with

sanitary sewer lines. Where subdivisions are served by a centralized potable water system, there are seldom problems caused by lots having individual septic tanks. Given the high cost of retrofitting existing subdivisions with sanitary sewer lines and given the limited benefits of connecting, it is unlikely that many existing subdivisions will be retrofitted with sewers in the future.

There are, however, some circumstances where connecting existing subdivisions to the sanitary sewer system would be beneficial. Those circumstances mostly relate to a subdivision's proximity to a waterbody. Because septic tanks can leach pollutants and those pollutants can impact the ocean, the Indian River Lagoon, the St. Sebastian River, or other surface water bodies, the county has an interest in promoting the connection of waterfront subdivisions to the sanitary sewer system.

Overall, a regional wastewater treatment system has several advantages over the use of private treatment plants and septic tank systems. With respect to private treatment plants, the main advantage of a regional system is the higher level of treatment provided by large regional plants. That higher level of treatment allows effluent to be reused, rather than injected into the ground where the effluent could increase the risk of groundwater contamination.

Although 7,239 septic tanks (average of 658 per year) were permitted within the county between 1995 and 2006, there can be problems associated with septic tank systems. According to the County Public Health Unit, Division of Environmental Health, the problems with septic tanks can be summarized as follows:

Physical limitations existing in Indian River County:

- A high water table is found in almost all areas of the county, especially during the months of June through October.
- Ninety-three percent of the county's soil has an underlying sporadic horizon (a restrictive layer often comprised of sandy clay loam) and, therefore, is not suitable for septic tanks. This problem could be solved in areas with a low residential density by some modification of design and construction of septic tanks.

Health and safety:

- Septic tank effluent is of poor quality compared to wastewater treatment plant effluent.
- There is a high risk of groundwater contamination and spread of communicable disease from septic tanks
- Monitoring of septic tanks is costly and insufficient.
- Septage is often disposed of inappropriately.

Environmental Considerations:

- Septic tanks have the potential to cause groundwater contamination.
- Septic tanks may leach contaminants to surface water bodies.

Even in those low density areas with adequate soils where septic tanks are appropriate, there can be problems if septic tanks are not maintained. Generally, septic tanks need to be pumped on a regular basis. While there are private septic tank service companies which empty septic tanks and haul away septage, it is the septic tank owner who is responsible for initiating maintenance activities.

This system of maintenance is generally acceptable, particularly for newer septic tanks meeting current regulations. For older septic tanks, however, lack of maintenance can be a problem, and there is no program requiring regular maintenance of these septic tanks. According to the County Health Department, a required septic tank maintenance program could reduce septic tank failures and associated adverse impacts; however, such a program would be costly and difficult to implement.

Since the time of the last major update of the comprehensive plan, the focus of the County Utilities Department has been to increase the availability of centralized sanitary sewer service in the county. Even with an increase in service, the number of public wastewater treatment plants in the county has been reduced from 10 to 6. That has occurred mostly through the decommissioning of smaller treatment plants. As a result, customers that previously were served by small treatment plants that were closed are now served by regional facilities. Between 1995 and 2006, the number of private wastewater treatment plants decreased from 6 to 3.

Besides closing small, inefficient treatment plants and connecting those plants' customers to the regional system, the county has also increased the population served by regional wastewater plants in other ways. Between 1995 and 2006, the capacity of the county plants increased by 32%, from 6,830,000 gallons per day to 9,020,000 gallons per day, and total demand increased by 67%. Currently, the county has sufficient capacity to accommodate its 4,774,000 gallons/day demand. Each new subdivision within the Urban Service Area is now required to connect to the centralized wastewater service system if the proposed subdivision meets either of the following criteria.

- It is within one-quarter of a mile of existing wastewater lines; or
- It contains 25 or more lots.

As a result of those actions, expansion of the county's centralized sewer system was extensive during the 1995 to 2006 time period in terms of both the geographic area served and new customers. From 1995 to 2006, centralized sanitary sewer customers increased by 6,206 or 34% (from 18,044 to 24,250 customers).

Because virtually all new development projects are required to connect to the centralized sanitary sewer system, the number of new septic tanks installed in the county should decline over time. Given the county's sanitary sewer connection requirements, most new septic tanks are limited to older subdivisions, such as Vero Lake Estates, Pinetree Park, Oslo Park, Paradise Park, and others, that were platted decades ago prior to current regulations. In recent years, however, many lots in these older subdivisions were built-on because of their low cost as well as high housing demand. This explains why the annual number of septic tank installations in the county almost doubled between 1995 and 2006, even as the county required that new development projects connect to the centralized sanitary sewer system. Eventually, these older subdivisions will be built-out; new septic tank installations will decline; and all new units will be connected to the centralized sanitary sewer system.

The expansion of the regional wastewater treatment system serves commercial/industrial development as well as residential development. Since the last major plan update, the regional wastewater treatment system has been expanded to several commercial/industrial areas in the county, including most of the three I-95 commercial/industrial nodes. As a result of that expansion, the development potential of land within the Urban Service Area (USA) has greatly increased for both residential and commercial projects. Attachment 4 identifies the county's 5 year schedule of sanitary sewer capital improvements projects.

Currently, a major emphasis is to conserve the use of potable water. Therefore, the county utilities department is planning to modify the county's sanitary sewer system connection regulations to require all new subdivisions of 25 or more lots within one-quarter of a mile of an existing re-use line to connect to the re-use line for irrigation purposes.

Effects of Statutory and Rule Changes

Local government comprehensive plans must be consistent with state and regional growth management requirements such as Chapter 163, F.S., the State Comprehensive Plan, Rule 9J-5, F.A.C, and the applicable strategic regional policy plan. As stated in Subsection 163.3191(1), F.S., the EAR is the "principal process for updating local comprehensive plans to reflect changes in state policy and growth management." Therefore, this EAR includes an analysis of the effects of statutory and rule changes upon the Sanitary Sewer Sub-Element.

Consistency with Rule 9J-5, F.A.C

Section 9J-5.011, F.A.C., constitutes the minimum requirements for the Sanitary Sewer Sub-Element. Since the time of last major plan update, no revisions were made to Section 9J-5.011, F.A.C. The Sanitary Sewer Sub-Element remains consistent with Rule 9J-5, F.A.C.

Consistency with State Comprehensive Plan

The State Comprehensive Plan (Ch. 187, F.S.) has not been revised since Indian River County last updated its comprehensive plan. The Sanitary Sewer Sub-Element of the Indian River County comprehensive plan is consistent with the state plan.

Consistency with Strategic Regional Policy Plan

The Sanitary Sewer Sub-Element is consistent with the Treasure Coast Strategic Regional Policy Plan.

Consistency with Ch. 163, Part II, F.S.

The Sanitary Sewer Sub-Element is consistent with Ch. 163, F.S..

EVALUATION OF OBJECTIVES

Following is an evaluation of the achievement of the Sanitary Sewer Sub-Element objectives. Attachment 3 lists the current Sanitary Sewer Sub-Element’s goal, objectives, and policies. With the exception of Objective 7, each of the objectives was achieved.

Under each objective, those policies associated with the objective have been assessed to identify those that have been implemented and those that have not been implemented. Also, each policy has been assessed to determine if it directly or indirectly contributed to meeting the corresponding objective. Then, each policy was assessed to determine if it needs to be maintained, revised, or deleted and the reason for revision or deletion.

OBJECTIVE 1 Service Concurrent with Development

Through 2020, there will be sufficient capacity in the regional sanitary sewer system to accommodate all new development within the urban service area.

MEASURE – DESIGN CAPACITY OF THE REGIONAL SANITARY SEWER PLANTS.

Although the target date for this policy is not until 2020, the county’s sanitary sewer master plan indicates that the 2020 design capacity of the county’s sanitary sewer system is projected to be 16 MGD, while demand is projected at 8.87 MGD. In 2006, the combined design capacity of all of the county regional sanitary sewer plants was 9,020,000 gallons per day, while total demand was 4,774,000. If the county makes its scheduled plant expansions, this objective will be achieved. As part of the sanitary sewer sub-element, specific criteria have been established to guide timing of design, permitting, and construction for expansion of the facilities to ensure that there is sufficient capacity in the county’s regional sanitary sewer system to serve current and anticipated customers.

Objective 1’s target date is not due until 2020.

Because the provision of sanitary sewer service is necessary to maintain the community's quality of life, this is an important objective and should be retained. The objective’s target date, however, should be changed to correspond to the time horizon of the plan.

EAR Sanitary Sewer Sub-Element

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
1.1) New development in the unincorporated portion of the county shall be approved only when capacity is available to provide needed sanitary sewer service.	Sanitary Sewer capacity monitored through the concurrency management system	X		X		X		Maintain
1.2) The county utilities department, on an annual basis, shall inspect all private wastewater treatment plants in Indian River County.	Inspections are done by Utilities Department	X		X		X		Maintain
1.3) The county adopts 250 GPD/ERU as the county's minimum Level Of Service standard, and a peak monthly flow factor of 1.25, for the county's sanitary sewer facilities.	Minimum level of service standards adopted	X		X		X		Maintain
1.4) The county shall utilize the concurrency management system to update facility demand and capacity information as development orders and permits are issued.	Computerized permit tracking and concurrency management system updates demand and capacity information as dev. orders and permits issued	X		X		X		Maintain
1.5) The Planning Division shall prepare summaries of capacity and demand	Summaries provided through the automated concurrency management system	X		X		X		Maintain

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
information for each facility within the county service area as needed								
1.6) The county shall continue to allow the use of septic tanks in rural areas for single-family units and for small retail establishments utilizing tanks for domestic waste disposal only, where approved by regulatory agencies consistent with the attached water and waste-water connection matrix (Table 3.A.16).	Under limited circumstances, new development is served by septic tanks.	X		X		X		Maintain

Each of the policies under objective 1 was implemented, and each contributed to meeting the objective. All of the policies can be maintained as structured.

Overall Assessment of Policies

Through the implementation of these policies, objective 1 will continue to be achieved. No other new policies are necessary.

OBJECTIVE 2 Correction of Deficiencies

By 2002, residential units in the county that are connected to a regional sanitary sewer system will represent at least 40% of all existing residential units in the unincorporated county. This will be an increase from 34% in 1995.

MEASURE - THE PERCENT OF RESIDENTIAL UNITS CONNECTED TO THE REGIONAL SANITARY SEWER SYSTEM.

In 2006, 21,349 residential units, or approximately 44.3% of the unincorporated county's 48,188 residential units, were connected to the regional sanitary sewer system.

Objective 2 was achieved

Since the objective is appropriate, it should be retained, but the objective's target and target date should be revised.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
2.1) The county shall continue to offer the utility assessment program to areas with septic service within the county utilities department service area.	Utility assessment program is offered	X		X		X		Maintain
2.2) The county shall offer up to 10 years financing for all utility assessments.	Up to 10 yr. financing available for all assessments	X		X		X		Maintain
2.3) The list of subdivisions requiring sanitary sewer due to public health threats shall be updated annually. These subdivisions shall be given priority for the provision of public sanitary sewer services.	The list of subdivisions requiring sanitary sewer service due to public health threats is not updated annually; however, connection priority is given where a public health threat had been identified.	Partially X		X		X		Delete, there is no need for a new list every year.
2.4) The county shall provide sanitary sewer service to areas determined to be public health threats. The county shall recover costs through those	Sanitary sewer service is provided to the areas determined to be public health threats	X		X		X		Maintain

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
connected to the system and directly benefiting from the improvement.								
2.5) The County Utilities Dept. shall provide sanitary sewer services to the City of Sebastian and Town of Orchid. City of Vero Beach will provide sanitary services to portions of the unincorporated county.	Sanitary sewer service is provided to municipalities and unincorporated county per interlocal agreements	X		X		X		Maintain

Each of the policies, except for policy 2.3, was implemented and contributed to meeting the objective. These policies can be maintained. As structured, policy 2.3 requires the list of subdivisions requiring sanitary sewer service due to public health threats be updated annually. Because there are virtually no changes to this list from year to year, there is no need to update this list on an annual basis. Consequently, this policy should be eliminated.

Overall Assessment of Policies

Through the implementation of these policies, objective 2 will continue to be achieved. No new policies are necessary.

OBJECTIVE 3 Surface Water and Groundwater Quality

Through 2020, the county will have no instances of sanitary sewer facilities contaminating surface water or groundwater resources.

MEASURE – NUMBER OF INSTANCES OF SANITARY SEWER FACILITIES CONTAMINATING SURFACE WATER OR GROUNDWATER RESOURCES.

There is no record of the county’s sanitary sewer facilities contaminating surface water or ground water resources. Land development regulations Chapters 918 and 931 contain regulations to ensure the safe discharge of sewer effluent to avoid surface and groundwater contamination.

Objective 3 was achieved.

This objective should be retained; however, the objective’s target date should be changed to correspond to the time horizon of the plan.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
3.1) The County Public Health Unit, Div. of Environmental Health (Env. Health) shall conduct annual inspections of septic tanks associated with commercial, industrial, and manufacturing uses. The results of these inspections shall be used for prioritization of further expansion of sanitary sewer service.	Env. Health does annual inspections of septic tanks for heavy com., industrial, and manufacturing uses	X		X		X		Maintain
3.2) The county shall regularly monitor all centralized sanitary sewer facilities to ensure no contamination of surface water or groundwater resources.	County utilities Dept. regularly monitors sanitary sewer facilities	X		X		X		Maintain
3.3) Env. Health shall conduct a random sampling of on site sewage systems for businesses which generate hazardous waste.	Random samplings conducted	X		X		X		Maintain

All policies under Objective 3 were implemented and contributed to meeting the objective. These policies can be maintained as structured.

Overall Assessment of Policies

Through the implementation of these policies, objective 3 will continue to be achieved. No new policies are necessary.

OBJECTIVE 4 Water Conservation

Through 2020, 100% of the wastewater effluent produced by the county centralized sanitary sewer facilities will be reused.

MEASURE - PERCENT OF WASTEWATER REUSED FOR SPRAY IRRIGATION.

The target date for this objective is not until 2020. The county, however, currently reuses all effluent produced. The majority of effluent is used as spray irrigation for golf courses and citrus groves. In addition, effluent is supplied to man-made wetlands.

Objective 4 was achieved.

As the county grows, the importance of water conservation will increase. For that reason, the objective should be retained; however, the objective’s target date should be changed to correspond to the time horizon of the plan.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
4.1) The county shall continue to reuse wastewater by spray irrigation with percolation ponds as back-up.	Reuse wastewater utilized for spray irrigation and man-made wetland	X		X		X		Maintain
4.2) The county shall require large volume	Implemented	X		X		X		Maintain

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
irrigation users, such as developments with golf courses, to use reuse water for spray irrigation.								
4.3) The county shall enforce LDRs that require developments which will use treated wastewater for spray irrigation to construct and dedicate to the county needed effluent transmission lines.	Land Development Regulations (Chapter 918) enforced	X		X		X		Maintain
4.4) By January 2001, a feasibility study will be completed for developing man-made wetlands for effluent disposal and reuse water transmission lines.	Wetlands created adjacent to the west regional plant	X		X		X		Delete

All policies under Objective 4 were implemented and contributed to meeting the objective. These policies can be maintained as structured. Policy 4.4 is not needed anymore and should be replaced with another policy that requires all new subdivisions of 25 or more lots within one-quarter of a mile of an existing re-use line to connect to the re-use line.

Overall Assessment of Policies

Through the implementation of these policies, objective 4 will continue to be achieved. Policy 4.4 should be replaced with another policy as stated above.

OBJECTIVE 5 Capital Improvements

By 2010, the county will have completed improvements to the sanitary sewer facilities as outlined in Table 3.A.10 of the sanitary sewer sub-element.

MEASURE - COMPLETION OF IMPROVEMENTS CONSISTENT WITH TABLE 3.A.12.
(see attachment 1)

The target date for this policy is not until 2010; however, all capital improvements projects identified in the sanitary sewer sub-element have been completed as scheduled.

Objective 5 was achieved.

Objective 5 should be revised to reflect a new timeframe, and to reference the latest capital improvements schedule which maximizes the use of existing facilities and discourages urban sprawl.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED OR REVISED?
		YES	NO	YES	NO	YES	NO	
5.1) The county shall maintain a 5-year schedule of capital improvements.	5-year schedule of capital improvements needs for public facilities maintained & properly updated	X		X		X		Maintain
5.2) Proposed capital improvement projects shall be ranked according to certain priority level guidelines.	Guidelines used to rank proposed projects	X		X		X		Maintain
5.3) To guarantee the provision of more than a minimum LOS, the county must follow certain steps for design, permitting and construction of facilities as identified in the policy.	Met specific guidelines for design and permitting of plant expansions	X		X		X		Maintain
5.4) The county shall treat sanitary sewer provision as an	Provision of sanitary sewer is self-supporting	X		X		X		Maintain

EAR Sanitary Sewer Sub-Element

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED OR REVISED?
		YES	NO	YES	NO	YES	NO	
enterprise system which is financially self-supporting.								
5.5) The county shall continue to secure funds through user fees, impact fees, and other appropriate fees for the orderly expansion of the sanitary sewer system.	Several types of fees charged and collected	X		X		X		Maintain
5.6) The county shall pursue state and federal sources of funding available for the improvement and expansion of utility services.	Funding sources pursued	X		X		X		Maintain
5.7) All improvements for replacement, expansion, or increase in capacity of facilities in the County Utilities Department service area shall be consistent with adopted level of service standards for facilities.	New and/or expanded facilities maintain level of service standards	X		X		X		Maintain
5.8) Provision of centralized sanitary sewer service shall be limited to specific areas.	Centralized sanitary sewer service limited to appropriate areas (generally the urban service area).	X			X	X		Maintain

All policies under Objective 5 were implemented and contributed to meeting the objective. These policies can be maintained as structured.

Overall Assessment of Policies

Through the implementation of these policies, objective 5 will continue to be achieved. No new policies are necessary.

OBJECTIVE 6 Package Treatment Plants and Septic Tank Systems

Through 2020, there shall be no instances of package treatment plant failures, or illegal or unsafe package treatment plant discharges.

MEASURE – NUMBER OF PACKAGE TREATMENT PLANT FAILURES AND NUMBER OF ILLEGAL OR UNSAFE PACKAGE TREATMENT PLANT DISCHARGES.

The county has adopted regulations governing inspections, operation and maintenance of on-site wastewater treatment systems. There have been no recorded instances of package treatment plants failures.

Objective 6 was achieved.

This objective should be maintained; however, the objective’s target date should be changed to correspond to the time horizon of the plan.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
6.1) Limits use of on-site wastewater treatment systems.	LDR Chapter 918	X		X		X		Maintain
6.2) Issuance of development orders or permits for on-site wastewater treatment	Land Development Regulations (Chapter 918) applied	X		X		X		Maintain

EAR Sanitary Sewer Sub-Element

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
systems where county facilities are not available, shall be conditioned upon compliance with federal, state and local permit requirements.								
6.3) The county shall require that issuance of permits for replacement or expansion of existing on-site wastewater treatment systems be conditioned upon compliance with DEP regulatory requirements and Federal and State water quality standards.	Land Development Regulations (Chapter 918) amended	X		X		X		Maintain
6.4) The Utilities Department shall inspect, operation and maintenance of package treatment plants on an annual basis.	Implemented	X		X		X		Maintain
6.5) All new package wastewater treatment plants shall be built according to federal, state and local requirements.	Land Development Regulations (Chapter 918) applied	X		X		X		Maintain
6.6) The county shall require all new package treatment plants to be dedicated to the county.	Land Development Regulations (Chapter 918) applied	X		X		X		Maintain
6.7) The county shall enforce existing ordinances requiring pre-treatment of commercial	Ordinance adopted and implemented	X		X		X		Maintain

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
and industrial waste before discharge into the county system.								
6.8) Connection to regional sanitary sewer systems shall be consistent with wastewater connection matrix.	Implemented	X		X		X		Maintain

All of Objective 6's policies were implemented and contributed to meeting the objective. These policies should be maintained as structured.

Overall Assessment of Policies

Through the implementation of these policies, objective 6 will continue to be achieved. No new policies are necessary.

OBJECTIVE 7 Septic Tank Systems

By 2010, the number of new septic tank systems permitted annually will not exceed 450.

MEASURE – NUMBER OF SEPTIC TANKS PERMITTED ANNUALLY

In 2006, 1,272 Septic tank permits were issued. Between 1995 and 2006, an average 658 septic tank permits were issued per year.

Objective 7 was not achieved. The objective should be maintained, but the objective's target date and target should be revised. The revised objective should state that, by 2020, the number of new septic tank systems permitted (not including replacement permits) annually will not exceed 450. As lots in older subdivisions without centralized sanitary sewer service are built on and newer subdivisions connect to the regional sanitary sewer system, there will be fewer septic tank permits issued.

POLICY DESCRIPTION (refer to plan for actual policy)	ACTION/ ACCOMPLISHMENT	WAS POLICY IMPLEMENTED?		DID THIS POLICY CONTRIBUTE TO MEETING THE OBJECTIVE?		WAS THE ORIGINAL POLICY APPROPRIATE?		SHOULD THIS POLICY BE MAINTAINED, DELETED, OR REVISED?
		YES	NO	YES	NO	YES	NO	
7.1) Limit septic tanks to certain areas identified.	Septic tanks limited to the areas specified in the policy	X		X		X		Maintain
7.2) The county shall ensure before development orders are issued that the project complies with Florida Department of Health and permit requirements for septic tank systems.	Implemented	X		X		X		Maintain
7.3) The county shall require permits for replacement of septic tank systems.	Implemented	X		X		X		Maintain
7.4) The county shall establish public education programs on the proper use, inspection requirement, maintenance and abandonment of septic tanks, based on current state and local regulations.	Public education program provided	X		X		X		Maintain

All policies under Objective 7 were implemented. These policies can be maintained as structured.

New Policy

A new policy should be added. That policy should indicate that the county should coordinate with the Health Department to initiate a study to determine the feasibility of establishing a regular septic tank maintenance program.

Overall Assessment of Policies

Through the implementation of these policies, and the addition of the recommended new policy, Objective 7 will be achieved.

OVERALL ASSESSMENT OF OBJECTIVES

The objectives of the Sanitary Sewer Sub-Element, with the proposed revisions, are sufficient to meet the overall intent of the element.

FUTURE ACTIONS

The county must adopt EAR based amendments which update the tables, figures, text, and Goals, Objectives and Policies of the Sanitary Sewer Sub-Element. Much of that update involves the inclusion of new data.

ANTICIPATED AMENDMENTS

The following are the anticipated amendments of the sanitary sewer sub-element.

TABLES AND FIGURES

Each of the Sanitary Sewer Sub-Element's tables and figures must be updated to reflect current conditions.

TEXT

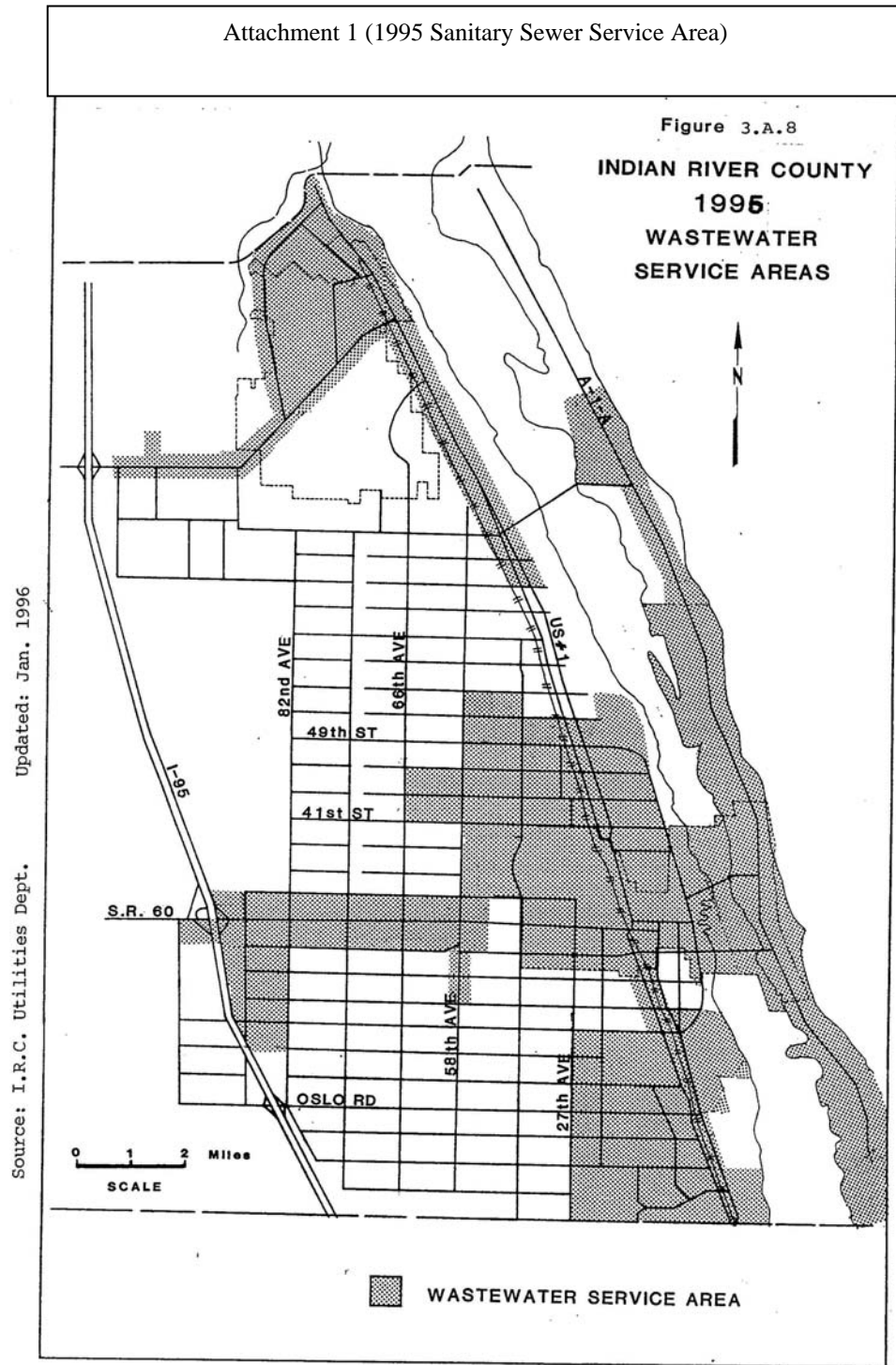
Major portions of the text of the Sanitary Sewer Sub-Element must be revised with new data including existing conditions and projections.

OBJECTIVES AND POLICIES

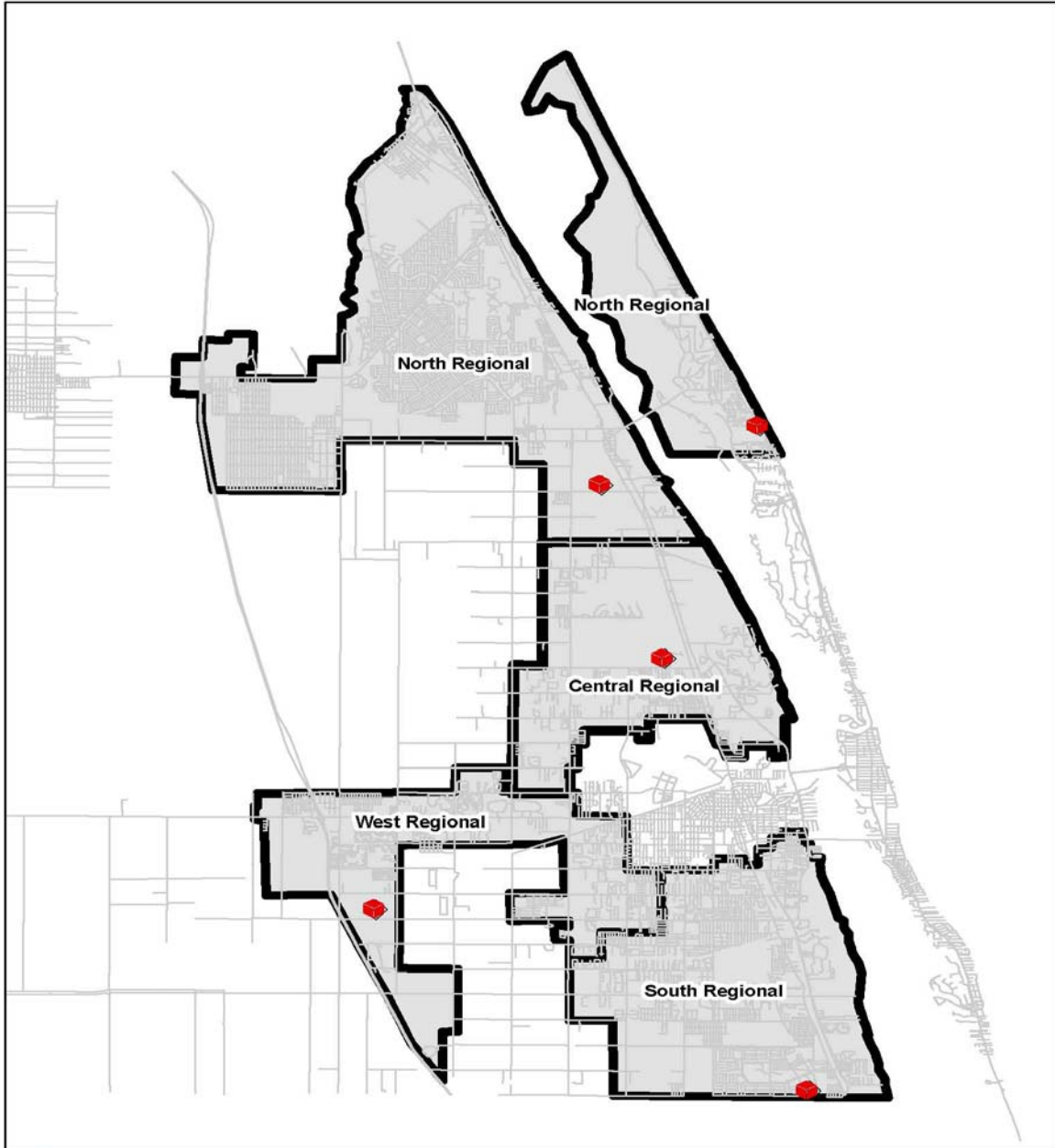
Anticipated amendments to the objectives and policies of the Sanitary Sewer Sub-Element are summarized below.

OBJECTIVE	POLICY	REVISION
1		Revise objective's target date
2		Revise objective's target and target date
2	2.3	Delete policy 2.3
3		Revise objective's target date
4	4.4	Delete Policy 4.4, Replace with a policy RE: reuse line
5		Revise objective's target date and include revised CIP
6		Revised objective's target date
7		Revised the objective's target and target date
7	New	New policy for feasibility study for establishing a regular maintenance program for septic tanks

Attachment 1 (1995 Sanitary Sewer Service Area)



Attachment 2



**INDIAN RIVER COUNTY
DEPARTMENT OF UTILITY SERVICES
OVERALL WWTF SERVICE AREAS**



Attachment 3

GOAL, OBJECTIVES AND POLICIESGOAL

Indian River County shall have an efficient system of sanitary sewer disposal that prevents degradation of existing resources, promotes orderly growth and development, and meets existing and projected demands.

OBJECTIVE 1 Service Concurrent with Development

Through 2020, there will be sufficient capacity in the regional sanitary sewer system to accommodate all new development within the urban service area.

POLICY 1.1: New development within the unincorporated portion of Indian River County shall be approved only when capacity is available, either on-site or off-site, to provide needed sanitary sewer service.

POLICY 1.2: The county utilities department, on an annual basis, shall inspect all private wastewater treatment plants in Indian River County.

POLICY 1.3: The county hereby adopts a sanitary sewer level of service standard of 250 gallons per day per equivalent residential unit with a peak monthly flow factor of 1.25. That standard shall be utilized for determining the availability of facility capacity and the demand generated by a development.

POLICY 1.4: Through its computerized permit tracking and its concurrency management system, the county shall continue to implement procedures to update facility demand and capacity information as development orders and permits are issued.

POLICY 1.5: The Planning Division, on an as needed basis, shall provide summary reports containing capacity and demand information for each public wastewater treatment plant within the county service area.

POLICY 1.6: Consistent with Sanitary Sewer Sub-Element Table 3.A.13, the county's adopted water and wastewater connection matrix, the county shall continue to allow the use of septic tank systems in rural areas for single-family units and for small retail establishments utilizing septic tank systems for domestic waste disposal only. The use of septic tank systems must be approved by the Florida Department of Health, Environmental Health Unit and be consistent with Rule 64E-6, FAC.

OBJECTIVE 2 Regional System Expansion

By 2002, residential units in the county that are connected to a regional sanitary sewer system will represent at least 40% of all existing residential units in the county. This will be an increase from 34% in 1995.

POLICY 2.1: The county shall continue to offer the utility assessment program to areas with septic service within the County Utilities Department service area.

POLICY 2.2: The county shall continue to offer up to 10 year financing for all utility assessments.

POLICY 2.3: The list of subdivisions designated as requiring sanitary sewer service due to public health threats shall be updated through an annual review process. These subdivisions shall be given priority for the provision of public sanitary sewer services.

POLICY 2.4: The county shall provide sanitary sewer service to areas where the lack of such service is determined to be a public health threat. The county shall recover costs through those connecting to the system and directly benefiting from the improvement.

POLICY 2.5: Consistent with its interlocal agreements with the City of Sebastian (Interlocal Agreement Providing for the Transfer of the City of Sebastian Water and Wastewater System By and Between The City of Sebastian, Florida and Indian River County, Florida--September 20, 1995) and the Town of Orchid (Interlocal Agreement Between Indian River County, Florida and the Town of Orchid Regarding Provision of Water and Wastewater Services--September 12, 1989), the county shall provide sanitary sewer services to those municipalities. Consistent with the county's interlocal agreement with the City of Vero Beach (Agreement Between Indian River County and the City of Vero Beach Setting Service Areas for Water and Sewer Service; Memorializing Certain Water and Sewer Allocations; and Repealing Prior Agreements--August 18, 1989), the City of Vero Beach will provide sanitary sewer service to portions of the unincorporated county.

OBJECTIVE 3 Surface Water and Groundwater Quality

Through 2020, the county will have no instances of sanitary sewer facilities contaminating surface water or groundwater resources.

POLICY 3.1: The IRCHD shall conduct annual inspections of septic tanks that are associated with heavy commercial, industrial, and manufacturing uses. The results of

these inspections shall be used to prioritize sanitary sewer service expansion.

POLICY 3.2: The county shall regularly monitor all centralized sanitary sewer facilities to ensure that they do not contaminate surface water or groundwater resources.

POLICY 3.3: To ensure that hazardous waste is not discharged into ground or surface water, the IRCHD shall conduct random samplings of on-site sewage systems for businesses which have been identified as hazardous waste generators. Violators shall be prosecuted according to federal, state and/or local regulations.

OBJECTIVE 4 Water Conservation

Through 2020, 100% of the wastewater effluent produced by the county centralized sanitary sewer facilities will be reused.

POLICY 4.1: The county shall continue to reuse wastewater by spray irrigation, with percolation ponds as back-up.

POLICY 4.2: The county shall require large volume irrigation users, such as developments with golf courses, to use reuse water for spray irrigation.

POLICY 4.3: The county shall continue to enforce Land Development Regulations that require developments that use treated wastewater for spray irrigation to construct and dedicate to the county the effluent transmission lines needed to transport the effluent to the development.

POLICY 4.4: By January 2001, the county shall complete a study of the feasibility of developing man-made wetlands for effluent disposal near county wastewater treatment plants and/or reuse water transmission lines.

OBJECTIVE 5 Capital Improvements

By 2010, the county will have completed improvements to the sanitary sewer facilities as outlined in Table 3.A.10 of the sanitary sewer sub-element.

POLICY 5.1: In conformance with the review process for the Capital Improvements Element of this plan, the county shall maintain a five-year schedule of capital improvement needs for public facilities.

POLICY 5.2: Proposed capital improvement projects shall be evaluated and ranked according to the following three priority level guidelines:

- Level One - whether the project is needed to protect public health and safety, to fulfill the county's legal commitment to provide facilities and services, or to preserve or achieve full use of existing facilities.
- Level Two - whether the project increases efficiency of use of existing facilities, prevents or reduces future improvement costs, provides service to developed areas lacking full service or promotes in-fill development.
- Level Three - whether the project represents a logical extension of facilities and services within the urban service area.

POLICY 5.3: In order to guarantee provision of more than the minimum level of service, the county shall take the following steps:

- begin planning and preliminary design for expansion when a plant's Average Daily Demand is projected to equal or exceed its capacity within 5 years;
- prepare plans and specifications for expansion when a plant's Average Daily Demand is projected to equal or exceed its capacity within 4 years;
- submit a complete construction permit application to the Florida Department of Environmental Protection for expansion when a plant's Average Daily Demand is projected to equal or exceed its capacity within 3 years; and
- submit an application for an operation permit for the expanded facility to DEP when a plant's Average Daily Demand is projected to equal or exceed its capacity within 6 months.

POLICY 5.4: The county shall treat sanitary sewer provision as an enterprise system which is financially self-supporting.

POLICY 5.5: The County Utilities Department shall fund sanitary sewer capital improvements and expansions through user fees, impact fees, developer's agreements, assessments and other appropriate fees and funding mechanisms.

POLICY 5.6: The county shall pursue state and federal sources of funding available for the improvement and expansion of utility services.

POLICY 5.7: All improvements, replacement, expansion, or increase in capacity of county facilities shall be consistent with adopted level of service standards for facilities.

POLICY 5.8: Consistent with the policies of the Future Land Use Element of this plan, provision of centralized sanitary sewer service shall be limited to the following areas:

- Areas within the Urban Service Area;
- Areas where the county has legal commitments to provide facilities and services as of the date of adoption of this plan;
- Areas outside of the Urban Service Area where at least a portion of the site is contiguous to an Urban Service Area boundary as depicted on the Official Future Land Use Map. These areas are subject to the following provisions:
 - o The maximum density of such land shall be as shown on the Future Land Use Map, and the provision of centralized sanitary sewer service shall not be justification for an increase in maximum density;
 - o Sanitary sewer line extensions shall be limited to laterals and minor lines connecting land uses to main lines; and
 - o In no case shall centralized sanitary sewer lines be permitted to extend more than 500 feet from the centerline of a roadway which is an Urban Service Area boundary, or more than 500 feet from the Urban Service Area boundary when the boundary is not a roadway.
- Development projects located outside of the Urban Service Area that meet the criteria of the policies of the Future Land Use Element for:
 - o clustering of residential development within agricultural areas;
 - o clustering of residential development within privately owned upland conservation areas;
 - o clustering development within mixed use districts; or
 - o traditional neighborhood design communities;
 - o Public facilities such as public schools

- Areas where, consistent with Sanitary Sewer Sub-Element Policy 2.4, the lack of centralized sanitary sewer service is determined to be a public health threat.

OBJECTIVE 6 Package Treatment Plants

Through 2020, there shall be no instances of package treatment plant failures, or illegal or unsafe package treatment plant discharges.

POLICY 6.1: The county shall limit the use of package wastewater treatment systems to areas that meet the following criteria governing connection to the county sanitary sewer system:

- Development served by existing package treatment plants may continue to treat their sewage in that manner until centralized service becomes available. At that time, all development within ¼ mile of a county sewer line shall be connected to the county system. Developments whose sewage treatment systems cause a public health problem must connect to the regional system regardless of the distance to sewer lines.
- Package treatment plants shall be allowed in areas of development outside of the Urban Service Area when such development meets the criteria of policies of the Future Land Use Element for:
 - o clustering of residential development within agricultural areas;
 - o clustering of residential development within privately owned upland conservation areas;
 - o clustering development within mixed use districts; or
 - o traditional neighborhood design communities.

POLICY 6.2: The county shall ensure that, prior to the issuance of development orders or permits, the applicant has demonstrated that the project complies with applicable federal, state, and local permit requirements for package treatment plants.

POLICY 6.3: The county shall require that issuance of permits for replacement or expansion of existing package treatment plants be conditioned upon compliance with the most updated version of DEP regulatory requirements and Federal and State water quality standards as identified in the “Regulatory Framework” section of the sub-element.

POLICY 6.4: To ensure proper maintenance and operation, the Utilities Department shall inspect all package treatment plants on an annual basis.

POLICY 6.5: The county shall require all new package wastewater treatment plants to be built according to current federal, state, and county requirements. In addition to obtaining a county permit demonstrating compliance with county regulations, any developer building and operating a package wastewater treatment plant must obtain a state permit demonstrating compliance with state and federal regulations. Those regulations include but are not limited to the Federal Water Pollution Control Act of 1972 (PL 92-500) and its amendments through the Clean Water Acts of 1977 (PL 95-217) and 1981 (PL 97-117), Chapters 381 and 403 of the Florida Statutes, and Rules 17-3 and 17-6 of the Florida Administrative Code. Both state and county permits are required for the construction of a plant, and for any future expansion or modification of a plant.

POLICY 6.6: At the time the county approves any new package treatment plants, the county will require, that at the time deemed appropriate by the county, the package treatment plant shall be dedicated to the county for operation and maintenance.

POLICY 6.7: The county shall continue to enforce ordinances requiring pre-treatment of commercial and industrial waste before discharge into the county system.

POLICY 6.8: The county shall require all future connections to the regional sanitary sewer system to be consistent with the attached water and wastewater connection matrix.

OBJECTIVE 7 Septic Tank Systems

By 2010, the number of new septic tank systems permitted annually will not exceed 450.

POLICY 7.1: The county shall limit the use of septic tank systems to areas that meet the following criteria governing connection to the county sanitary sewer system:

- With the exception of those identified in Table 3.A.3, residential subdivisions served by existing septic tank systems may continue to treat their sewage in that manner.
- Commercial/industrial uses and residential subdivisions identified in Table 3.A.3 may continue to treat their sewage with existing septic tank systems until centralized sewer service lines are extended to within ¼ mile of the site. At that time, all residential units in those subdivisions and all commercial/industrial uses shall be connected to the county system. Developments whose sewage treatment systems cause a public health problem must connect to the regional system regardless of the distance to sewer lines.

- Use of septic tank systems for new development shall be prohibited unless:
 - o such development meets the criteria set on the water and wastewater connection matrix; or
 - o such development consists of clustered residential development within privately owned upland conservation (C-3) areas. Even under those circumstances, no individual septic tank systems may be associated with individual residential units. If located outside of any conservation designated areas or areas that are environmentally sensitive or significant, however, centralized community septic tank systems may be provided to each pod of clustered residential development.

- Septic tank systems shall be allowed in areas of development outside of the Urban Service Area when such development meets the criteria of policies of the Future Land Use Element for:
 - o clustering of residential development within agricultural areas;
 - o clustering of residential development within privately owned upland conservation areas;
 - o clustering development within mixed use districts; or
 - o traditional neighborhood design communities.

POLICY 7.2: The county shall ensure that, prior to the issuance of development orders or permits for projects to be served by septic tank systems, the applicant has demonstrated that the project complies with Florida Department of Health and Rule 64E-6, FAC, permit requirements for septic tank systems.

POLICY 7.3: The county shall require that issuance of permits for replacement of existing septic tank systems be conditioned upon compliance with the most updated version of DEP regulatory requirements and Federal and State water quality standards as identified in the “Regulatory Framework” section of the Sub-element.

POLICY 7.4: The county, in coordination with the IRCHD, shall establish public education programs on the proper use, inspection requirements, maintenance, and abandonment of septic tanks. The tank abandonment process shall be based on current state and local regulations.

**Attachment 4
Five Year Capital Improvements Plan**

Sanitary Sewer and Potable Water

Revenue	FY 2007/08	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12
Fund 472	\$ 58,065,833.00	\$ 32,472,133.00	\$ 11,401,828.00	\$ 6,935,828.00	\$ (1,734,172.00)
Total Revenue	\$ 58,065,833.00	\$ 32,472,133.00	\$ 11,401,828.00	\$ 6,935,828.00	\$ (1,734,172.00)

Expenditures	FY 07/08	FY 08/09	FY 09/10	FY 10/11	FY 11/12	Revenue Source
North RO Integrated Water Resource/Spoonbill Marsh Mosquito Impoundment	\$ 1,304,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Misc Water Improvements	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	\$ 250,000.00	Capacity Charges
Misc Sewer Improvements	\$ 175,000.00	\$ 175,000.00	\$ 175,000.00	\$ 175,000.00	\$ 175,000.00	Capacity Charges
North RO Plant Expansion to 14.3 MGD (Plant Only)	\$ 8,500,000.00	\$ 5,521,393.00	\$ -	\$ -	\$ -	Capacity Charges
West Reg WWTF Expansion 2.0 to 6.0 MGD	\$ 8,000,000.00	\$ 13,182,912.00	\$ -	\$ -	\$ -	Capacity Charges
6" FM 66th Av 33rd St to 41st St	\$ -	\$ -	\$ -	\$ 220,000.00	\$ -	Capacity Charges
Upgrade 8 " FM to 12" FM from 41st St to 45th along 58th Av	\$ -	\$ -	\$ 650,000.00	\$ -	\$ -	Capacity Charges
Convert Bent Pines LS to 58th Av FM	\$ 230,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
65th St E/o 58th Av & convert 8" FM to reuse main at Lat G canal(Crystal Falls)	\$ 119,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
West Wastewater Transmission System	\$ 1,300,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
12WM 27th Av to 43rd Av	\$ -	\$ 650,000.00	\$ -	\$ -	\$ -	Capacity Charges
77th West of Kings (Tuscanny Lakes)	\$ 425,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Reuse line from 43rd Ave from 25th St SW to 1st St SW	\$ 560,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Convert 8"FM to Reuse Lateral G Conversion	\$ 264,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
12WM & 6"FM on 65th St from Lat G to Old Dixie (High Pointe)	\$ 570,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
FM Wm and Reuse on 4th St from 82nd to 98th Ave and on 98th from 4th to 8th	\$ -	\$ -	\$ -	\$ 2,050,000.00	\$ -	Capacity Charges
8" WM and 6"FM 37th St West of 58th Av (Vero Village Developers Agreement)	\$ 72,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Master Plan LS 90th Avenue and 510	\$ 1,000,000.00	\$ 350,000.00	\$ -	\$ -	\$ -	Capacity Charges

Bent Pine LS Modifications to Add Vero Lago and generators	\$ 82,700.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
58th Av 58th Circle WM Loop-Sylvan Lakes	\$ 40,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
91st Av to 79th St & 104th Av (VLE)	\$ 750,000.00	\$ 1,241,000.00	\$ -	\$ -	\$ -	Capacity Charges
8" WM 58th ave & 13th St SW (Southlakes/Diamond Lakes)	\$ 45,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
WM Fm Reuse CR510 incl Bridge	\$ 500,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Alternative Surface Water Supply	\$ 62,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
CR510 at 61st St	\$ 720,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
Pelican Island Water Main and Hydrant	\$ 20,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
VLE Master planned WM Phase II 87th s of 99th Av w on 87th St and 104th Av	\$ 1,225,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
VLE Master planned WM on 79th St from 101st to 101 Av (pulled from #07516)	\$ 155,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
VLE Master planned WM Phase II 87th s of 99th Av w on 87th St and 104th Av	\$ 1,225,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
53rd St 58th Ave to 66th Av 12" WM	\$ -	\$ -	\$ 500,000.00	\$ 250,000.00	\$ -	Capacity Charges
16" Effluent Main NWWTF to N Beach River Crossing	\$ -	\$ 600,000.00	\$ -	\$ -	\$ -	Capacity Charges
16" Effluent Main, CR510 from A1A to Bridge	\$ 500,000.00	\$ -	\$ -	\$ -	\$ -	Capacity Charges
12" WM on 27th Av from 13th St SW to 17th SW (Madera Isles & Echo Lake)	\$ -	\$ -	\$ 341,000.00	\$ -	\$ -	Capacity Charges
12" Eff IR Blvd from 49th to City of VB	\$ -	\$ -	\$ -	\$ -	\$ 300,000.00	Capacity Charges
65th St E/O Kings Hwy 12" WM Highpoint	\$ -	\$ 100,000.00	\$ 200,000.00	\$ -	\$ -	Capacity Charges
16" WM 69th ST E/O Kings Highway	\$ -	\$ -	\$ -	\$ 300,000.00	\$ 600,000.00	Capacity Charges
Brine Disposal So RO	\$ -	\$ -	\$ 1,500,000.00	\$ 1,000,000.00	\$ -	Capacity Charges
24" reuse along 82nd WWTF to N WWTF	\$ -	\$ 500,000.00	\$ 1,300,000.00	\$ -	\$ -	Capacity Charges
58th Av 65th St to 69th St & along 61st and 69th St	\$ -	\$ -	\$ 50,000.00	\$ 500,000.00	\$ 450,000.00	Capacity Charges
Purchase Site & construct RIB for central Reg'l WWTF Effluent Disposal	\$ -	\$ -	\$ -	\$ 1,500,000.00	\$ 500,000.00	Capacity Charges
16th St 16" WM to ease peak hour flow & pressure requirements	\$ -	\$ -	\$ -	\$ 1,000,000.00	\$ 250,000.00	Capacity Charges
Misc non master plan Wm & FM extensions	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	Capacity Charges
N of Windsor & Polo Club Extension	\$ -	\$ -	\$ -	\$ -	\$ 225,000.00	Capacity Charges
Svce Transmission Lines Oslo Pk, Villages of VB Gardens	\$ -	\$ -	\$ -	\$ -	\$ 700,000.00	Capacity Charges
Parallel FM to Oslo Rd	\$ -	\$ -	\$ -	\$ 500,000.00	\$ 250,000.00	Capacity Charges
Vista Gardens Effluent Main Connection	\$ -	\$ -	\$ -	\$ 225,000.00	\$ 200,000.00	Capacity Charges

Vista Royale Effluent Main Connection	\$ -	\$ 250,000.00	\$ 200,000.00	\$ -	\$ -	Capacity Charges
24" Reuse 82nd Av from WWTF to NWWTF	\$ -	\$ -	\$ 500,000.00	\$ 500,000.00	\$ 500,000.00	Capacity Charges
Construct RIB for Central WWTF	\$ -	\$ -	\$ -	\$ 1,500,000.00	\$ 500,000.00	Capacity Charges
16" Effluent Main a A1A from CR510 to City of VB Interconnect	\$ -	\$ -	\$ 800,000.00	\$ 700,000.00	\$ -	Capacity Charges
Wetlands Expansion Effluent #15	\$ -	\$ 750,000.00	\$ -	\$ -	\$ -	Capacity Charges
Total Expenditures	\$ 28,593,700.00	\$ 24,070,305.00	\$ 6,966,000.00	\$ 11,170,000.00	\$ 5,400,000.00	

Comparison of Expenditures to Revenue	FY 2007/08	FY 2008/09	FY 2009/10	FY 2010/11	FY 2011/12	Total
Total Revenue	\$ 58,065,833.00	\$ 32,472,133.00	\$ 11,401,828.00	\$ 6,935,828.00	\$ (1,734,172.00)	\$107,141,450
Total Expenditures	\$ 28,593,700.00	\$ 24,070,305.00	\$ 6,966,000.00	\$ 11,170,000.00	\$ 5,400,000.00	\$76,200,005
Annual Balance	\$29,472,133	\$8,401,828	\$4,435,828	-\$4,234,172	-\$7,134,172	\$30,941,445

Appendix A
 Comprehensive Plan Evaluation and Appraisal Report
 Conditions at the time of last major plan update (1995) and Existing Conditions (2006)
 Sub-Element: Sanitary Sewer
 Indian River County

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
Vista Gardens Plant			
Public or private	Public	Decommissioned	
Operating entity	Indian River County		
Geographic service area	E. side of US 1, Vero Beach to Oslo Road		
Design capacity in GPD	150,000		
Current demand in GPD	137,000		
Level of service	250 GPD/ERU		
Projected facility needs (2010)	150,000 gallons/day		
Effluent Disposal Method	Polishing Pond/Mosquito Impoundment		
Effluent Disposal Site	Adjacent Impoundment		
Level of Treatment	Tertiary		
Treatment Method	Contact Stabilization/Extended Aeration		
Screenings/Grit Disposal Site	Landfill		
Sludge and Septage Disposal Site	Sludge Facility		
Vista Royale Plant			
Public or private	Public	Decommissioned	
Operating entity	Indian River County		
Geographic service area	E. side of US 1, Vero Beach to Oslo Road		
Design capacity in GPD	500,000		
Current demand in GPD	375,000		
Level of service	250 GPD/ERU		
Projected facility needs (2010)	500,000 gallons/day		
Effluent Disposal Method	Polishing Pond/Mosquito Impoundment		
Effluent Disposal Site	Adjacent Impoundment		
Level of Treatment	Tertiary		
Treatment Method	Contact Stabilization		
Screenings/Grit Disposal Site	Landfill		

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
Sludge and Septage Disposal Site	Sludge Facility		
West Regional Plant			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public Indian River County SR 60 corridor west of 58 th Avenue 2,000,000 800,000 250 GPD/ERU 2,980,313 gallons/day (2010) Spray Irrigation/On-site Infiltration On-Site Citrus and Sod Farm Advanced Secondary Contact Stabilization/Extended Aeration Landfill Sludge Facility	Public Indian River County SR 60 Corridor west of 58 th Avenue 2,000,000 1,291,000 250 GPD/ERU 8,780,000 (2030) Reuse Irrigation/Wetlands Treatment Golf Courses & West Reg. Wetlands Tertiary Filtration Biological Nutrient Removal Landfill Sludge Facility	4,000,000 (2020)
Central Regional Plan (Gifford)			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public Indian River County Vero Beach City Limits to 77 th Street 2,000,000 510,000 250 GPD/ERU 2,548,136 gallons/day (2010) Percolation Pond/Spray Irrigation Grand Harbor Golf Course Advanced Secondary Contact Stabilization/Extended Aeration Landfill Sludge Facility	Public Indian River County Vero Beach City Limits to 77 th St. 4,000,000 1,834,000 250 GPD/ERU 4,250,000 (2030) Reuse Irrigation/Rib Basin Various Golf Courses Tertiary Treatment Contact Stabilization/Extended Aeration Landfill Sludge Facility	

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
North Regional Plant (Hobart Park)			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public Indian River County 77 th Street to North County Line 1,000,000 400,000 250 GPD/ERU 2,316,154 gallons/day (2010) Percolation Pond/Spray Irrigation Sandridge Golf Course Advanced Secondary Oxidation Ditch/Extended Aeration Landfill Sludge Facility	Public Indian River County 77 th Street to North County Line 850,000 Flow Transferred to Central Regional Plant 250 GPD/ERU 4,010,000 gallons/day (2030) Percolation Pond/Spray Irrigation Golf Courses Tertiary Filtration Oxidation Ditch/Extended Aeration Landfill Sludge Facility	4,000,000 (2015)
City of Vero Beach Plant			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public City of Vero Beach City of Vero Beach; Town of Indian River Shores; South Barrier Island 4,500,000 3,200,000 250 GPD/ERU 3,500,000 (2010) Reuse Irrigation/Wet Weather Discharge Residential Landscapes/Golf Courses Secondary/High Level Disinfection Activated Sludge/Filtration Landfill Agricultural Land – No septage disposal	Public City of Vero Beach City of Vero Beach; Town of Indian River Shores; South Barrier Island 4,500,000 3,500,000 250 GPD/ERU 4,000,000 (2030) Reuse/Wet Weather Discharge Residential Landscapes/Golf Courses Secondary/High Level Disinfection Activated Sludge/Filtration Landfill Agricultural Land – No septage disposal	
North Beach Plant (Sea Oaks)			
Public or private	Public	Decommissioned	

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs (2010) Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Indian River County IR Shores limits to north county line 210,000 65,000 250 GPD/ERU 356,708 gallons/day Reuse Golf Course Tertiary Contact Stabilization Landfill Sludge Facility		
South Regional Plant			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public Indian River County South County 850,000 450,000 250 GPD/ERU 3,250,000 gallons/day (2010) Reuse Various Advanced Secondary Contact Stabilization/Extended Aeration Landfill Sludge Facility	Public Indian River County South County Area 2,000,000 1,634,0000 250 GPD/ERU 1,780,000 gallons/day (2030) Reuse Various Tertiary Filtration Biological Nutrient Removal Landfill Sludge Facility	South county flow will be kept consistent at the current level and additional flow will pump to west regional
Laurelwood			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of service Projected facility needs (2010)	Public Indian River County Laurelwood Subdivision 100,000 100,000 250 GPD/ERU 100,000 gallons/day (2010)	Decommissioned	

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Ponds Ponds Secondary Landfill Sludge Facility		
Blue Cypress			
Public or private Operating entity Geographic service area Design capacity in GPD Current demand in GPD Level of Service Projected facility needs Effluent Disposal Method Effluent Disposal Site Level of Treatment Treatment Method Screenings/Grit Disposal Site Sludge and Septage Disposal Site	Public Indian River County Blue Cypress Improvement District 20,000 15,000 250 GPD/ERU 20,000 gallons/day (2010) Wetland Wetland Tertiary Extended Aeration Landfill Sludge Plant	Public Indian River County Blue Cypress Improvement District 20,000 15,000 250 GPD/ERU 20,000 gallons/day (2010) Wetland Wetland Tertiary Extended Aeration Landfill Sludge Plant	
Total Design Capacity of all plants Total Demand	11,330,000 gallons/day 6,052,000 gallons/day	13,370,000 gallons/day 8,274,000 gallons/day	
Design capacity of county plants County plants demand	6,830,000 gallons/day 2,852,000 gallons/day	9,020,000 gallons/day 4,774,000 gallons/day	14 MGD (2020) 12 MGD (2020)
Private Wastewater Treatment Plants Number of Plants Level of Treatment	6 Secondary	3 active, 1 standby Tertiary Filtration	
Number of 'undersized' residential subdivisions in the county service area Number of 'undersized' residential subdivisions served by county utilities	183 72	183 94	
# of IRC Sanitary sewer customers	18,044	24,250 (21, 349 in unincorporated county)	
Number of residential units in unincorporated county	33,365	48,188	
Per capita wastewater discharge/gallons/day	100	100	
Average number of septic tank permits	700	1272 (2006), less than 500 (2007)	

Data Element	Conditions at the time of Adoption (1995)	Existing Conditions 2006	Comments
issued for domestic wastewater			
2030 Design Capacity (MGD)		19.00	
2030 Demand (MGD)		12.62	

F:\Community Development\Users\LONG RANGE\EAR\EAR 2006\Infrastructure Element\Sanitary Sewer Sub Element\EAR SS Sub Element.doc