



Future of Hillsborough

Comprehensive Plan for Unincorporated Hillsborough County Florida

SANITARY SEWERAGE

As Amended by the Hillsborough County Board of County Commissioners June 5, 2008 (Ordinance 08-13)

Department of Community Affairs Notice of Intent to Find Comprehensive Plan Amendments in Compliance published August 4, 2008 {DCA PA No. 08-1ER-NOI-2901- (A)-(I) }

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Hillsborough County Sanitary Sewerage

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Sections IV, V, and VII have been adopted by the Board of County Commissioners as required by Part II, Chapter 163, Florida Statutes. The remainder of the Element contains background information.

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Hillsborough County Sanitary Sewerage

LIST OF COMPREHENSIVE PLAN AMENDMENTS

Comprehensive Plan Amendment No. and Element Amendment Description	BOCC Ordinance No., Adoption Date, DCA Notice of Intent Publication Date (if applicable), & Effective Date
<p>CPA 99-26 Sanitary Sewerage Element (Data Base Map) Description: Updated Master Plan Map for Sanitary Sewerage in the Northwest, Central, and South areas of Hillsborough County. (Evaluation and Appraisal Report Based Plan Amendment Third Group)</p>	<p>Ordinance No. 00-36 adopted by BOCC October 25, 2000. DCA Notice of Intent to find amendment in compliance published in the <i>Tampa Tribune</i> on December 19, 2000. Effective Date January 9, 2001</p>

EXECUTIVE SUMMARY

The purpose of the Sanitary Sewerage Element is to provide reliable, efficient, and environmentally safe collection, transmission, treatment, and disposal of all wastewater generated throughout the unincorporated Hillsborough County wastewater service area. The Sanitary Sewerage Element addresses and directs government activities, and provides guidance to the private sector on how the wastewater needs of all residents within the unincorporated Hillsborough County service area will be met. This is accomplished through planning for the long term wastewater needs of the County, and correcting any existing deficiencies in the system. Within this Element, Hillsborough County is addressing its responsibilities for wastewater service within the unincorporated County area. The goals, objectives, and policies of this Element have been developed to correct existing problems and avoid anticipated future wastewater system problems through the year 2025.

The Sanitary Sewerage Element is designed to meet the requirements of the Local Government Comprehensive Planning and Land Development Regulation Act, Chapter 163, Florida Statutes (FS) and has been prepared in accordance with "Minimum Criteria for Review of Local Government Comprehensive Plans and Determination of Compliance", Rule 9J-5.011, Florida Administrative Code (FAC). In addition to being consistent with the Tampa Bay Regional Policy Plan and The State Comprehensive Plan, the Sanitary Sewerage Element is consistent with all other Elements of the Comprehensive Plan.

The Sanitary Sewerage Element focuses on the facilities needed by existing residents and the anticipated needs of a growing population in unincorporated Hillsborough County. The Background Report, a separate historical document that was updated in 1998, contains an inventory of the unincorporated County's wastewater facilities and an analysis of current and future demands. This updating in 2006 will revise this information within the element.

I. INTRODUCTION

STATUTORY REQUIREMENT

In 1985, the Florida Legislature passed the Local Government Comprehensive Planning and Land Development Regulation Act (the Act), Chapter 163, Florida Statutes (FS). The Act strengthens the role of local governments in developing and implementing a comprehensive plan to guide and control future growth and development. Section 163.3177 6(c), FS, requires local governments to prepare an Element dealing with the wastewater system. Rule 9J-5.011, Florida Administrative Code (FAC), establishes the minimum criteria for preparing the Sanitary Sewerage Element.

Recent planning legislation has strengthened the legal status of local government comprehensive plans. The legislation also provides sanctions for communities that fail to adopt adequate comprehensive plans.

PURPOSE

The purpose of the Sanitary Sewerage Element is to provide reliable, efficient, and environmentally safe collection, transmission, treatment, and disposal of all wastewater generated throughout the Unincorporated Hillsborough County Wastewater Service Area.

The Sanitary Sewerage Element focuses on the existing systems and facilities and projected system needs based on population growth in unincorporated Hillsborough County. This is accomplished in this Element through an inventory of existing data, analysis of that data, identification of present and potential future problems and their solutions, and projection of future wastewater needs for specific planning periods. To achieve this end, the goals, objectives and policies of this Element have been developed to 1) upgrade and expand wastewater facilities, 2) produce sufficiently high quality effluent to meet or exceed all regulatory standards, 3) protect and conserve potable water resources, 4) provide for orderly operation and expansion of existing facilities and introduction of new facilities, and 5) minimize existing and future sources of wastewater pollution from impacting the environment.

ORGANIZATION

The Sanitary Sewerage Element consists of eight parts: (1) Executive Summary; (2) Introduction; (3) Inventory and Analysis; (4) Future Needs and Alternatives; (5) Goals, Objectives, and Policies; (6) Plan Implementation and Monitoring; (7) Consistency with State and Regional Plans; and (8) Definitions.

II. INVENTORY AND ANALYSIS

The purpose of an Inventory and Analysis was to identify existing wastewater facilities and based on an estimate of the existing needs, determine the deficit and/or excess capacities within the existing facilities. A general summary of major system components and their capacities versus demands is included in this section. Detailed information on this inventory and the analyses conducted is available through the County's GIS system maintained by Water Resource Services.

In developing a plan for and conducting an analysis of wastewater facilities needs, numerous constraints and opportunities existed. Some of the key assumptions used and factors considered in developing this Sanitary Sewerage Element follow:

All public and private wastewater treatment plants will provide advanced wastewater treatment (AWT) where technically feasible.

- Wastewater facilities will be designed and constructed based on a need to maintain the established level of service of 90 gallons/day/person.
- Usage of existing serviceable facilities will be maximized.
- Existing treatment facilities will be expanded to their optimal sizes based on cost-effectiveness and site restrictions. The new conveyances and expansions will be constructed in phases, to provide treatment capacity as the demand occurs.
- Existing conveyance facilities will be expanded and/or new conveyance facilities will be constructed to their optimal sizes based on cost-effectiveness and site restrictions. The expansions will be constructed by development as a condition of development in order to accommodate its wastewater demands.

CURRENT STATUS

Unincorporated Hillsborough County is divided into three wastewater service sectors for planning purposes. The three sectors where the County provides wastewater service are the Northwest Service Area, the Central Service Area, and the South Service Area. The City of Tampa provides wastewater service to the third sector which is outside the City limits but within their service area boundary as determined by an Interlocal Governmental Agreement. The Wastewater Treatment Plants Map (Figure 1) identifies these areas and their wastewater treatment plants.

The County's wastewater system is divided into two service areas encompassing approximately 245 square miles: the Northwest Service Area, which is that portion of the County lying north and west of the area served by

the City of Tampa wastewater system; the South-Central Service Area, which is that portion of the County lying east of the areas served by the City of Tampa. Both service areas are bounded by the Urban Service Area (USA). The wastewater system currently services more than 125,000 customer accounts for a total 181,750 dwelling units served as shown in Table 1 below. In terms of volumetric flows (based upon 1 Equivalent Residential Connection (ERC) equal to 200 GPD for Wastewater) the County served approximately 192,710 ERCs in 2005.

TABLE 1 2005 WASTEWATER CUSTOMER ACCOUNTS BY CLASS

Customer Accounts	Number	Percent
Single family units	122,425	67.36%
Master Metered Residential	59,325	32.64%
Total	181,750	100.0%

Source: Hillsborough County Public Works Department, 2005

The County is currently involved in a construction program aimed at meeting existing commitments within its service areas and providing capacity capable of accommodating growth. As wastewater service becomes available and feasible to private wastewater treatment plants, located within the service area boundaries, they will be phased out on a voluntary basis. Construction of new treatment facilities will be phased to meet future demands based on population trends and projected needs. Construction of new conveyance facilities will be accomplished by the County and developers as a condition of development.

In the summary, the current permitted capacities of the various wastewater treatment facilities were obtained from regulatory agency sources. Estimations and calculations based on generally accepted technical standards provided the maximum capacities used for the conveyance facilities. The current demands on the wastewater facilities were obtained from the Monthly Operating Report information provided to FDEP during calendar year 2005.

FIGURE 1 WASTEWATER TREATMENT PLANTS

Table 2 provides a summary of this information by treatment plant within the general service areas within the County.

TABLE 2 2005 TREATMENT PLANT AND CONVEYANCE SYSTEM CAPACITIES

Service Areas	Treatment Plant:			Conveyance System		
	Permitted Capacity (MGD)	Existing Flow (MGD)	Additional Capacity (MGD)	Maximum Capacity (MGD)	Existing Flow (MGD)	Additional Capacity (MGD)
NORTHWEST						
Dale Mabry	6.00	4.10	1.90	27.90	4.10	23.80
NWRWRF	5.00	4.33	0.67	29.26	4.33	24.93
River Oaks	10.00	7.81	2.19	35.19	7.81	27.38
Van Dyke	1.70	0.97	0.73	9.00	0.97	8.03
Subtotal	22.70	17.21	5.49	101.35	17.21	84.14
CENTRAL						
Falkenburg	9.00	8.25	0.75	13.05	8.25	4.80
Valrico	6.00	4.63	1.37	20.28	4.63	15.65
Subtotal	15.00	12.88	2.12	33.33	12.88	20.45
SOUTH						
South County	4.50	3.48	1.02	20.28	3.48	16.80
Subtotal	4.50	3.48	1.02	20.28	3.48	16.80
UNINCORPORATED HILLSBOROUGH COUNTY						
Total	42.20	33.57	8.63	154.96	33.57	121.39

Source: Hillsborough County Public Works Department, 2005

LEVEL OF SERVICE

Florida growth management legislation requires that the LOS must be based on quantifiable, objective measures of service that indicate the capacity per unit of demand for each public facility. The so-called "concurrency" mandate requires that the public facilities necessary to provide the adopted LOS standard be available at, or before, the time of development impact. The LOS for new development in the County for sanitary sewerage service is guided by policy 1.C.1.d of the Capital Improvements Element.

In order to provide the LOS, the sanitary sewerage system must have permitted wastewater treatment capacity and conveyance system capacity to collect, treat, and discharge wastewater that meets public health and safety standards.

The Concurrency Management System for Hillsborough County is administered by the Planning and Growth Management Department. Certificates of Capacity are issued for new development upon the finding that sufficient capacity is available. Conveyance system capacity is determined through hydraulic performance analyses by Water Resource Services Planning staff. The results of the sanitary sewerage system treatment capacity determinations are published in quarterly concurrency reports.

III. FUTURE NEEDS AND ALTERNATIVES

The background report for the updated Hillsborough County Comprehensive Plan consists of the data, analysis, and specific needs of the wastewater system. It is useful as a basis for addressing the future needs of unincorporated Hillsborough County. The projected future needs are generally discussed in this section for the purpose of laying the foundation upon which the goals, objectives, and policies of this Element are based. The assumptions used in developing future needs and alternatives for the Sanitary Sewerage Element are the same as those listed in Chapter II: Inventory and Analysis.

Projection of future needs was done using professionally-accepted planning methods. A summary of the projected capacities and demands are shown in Table 3. The background report provides a detailed description of the methodologies and any further assumptions used within each methodology. A summary of that methodology is as follows:

Wastewater flows are projected for Traffic Analysis Zones (TAZs) within regional or local service areas in selected planning years. The flows are estimated based on projected served population and historical flow per capita. The total population in each TAZ is estimated by the Hillsborough County City-County Planning Commission (HCCCPC). The TAZ projections are disaggregations of the University of Florida Bureau of Economic and Business Research medium range projections for Hillsborough County. The initial served population is estimated from Water Resource Services billing system residential unit count data by unit type and persons per household factors from Census data. The flow per capita is then calculated based on the billed consumption and estimated served population. Wastewater flows are calculated for each TAZ for each planning year and each TAZ is assigned to a plant service area. The plant service areas are based upon current and future wastewater collection and transmission infrastructure. Finally, TAZ flows for each planning year are aggregated by treatment plant service area.

The Sanitary Sewerage Element provides for a cost-effective, environmentally sound, and operationally viable solution to the wastewater service needs in unincorporated Hillsborough County through regionalization of wastewater treatment and sewage sludge management facilities. The guidelines established provide for facilities for wastewater conveyance, treatment, sewage sludge management, and reclaimed water use. These needs are addressed in a manner which allows for flexibility in all areas. Flexibility in the treatment process, sewage sludge management, reclaimed water use will allow the County to act on, rather than react to, changes in legislation.

Within the existing service areas, the County will preserve and expand existing facilities to their optimal sizes. Existing private wastewater treatment plants

that are located within the service area boundaries will be phased out on a voluntary basis. Construction of new treatment facilities will be phased to meet future demands based on population trends and projected needs. Construction of new conveyance facilities will be accomplished by development as a condition of development. Table 3 indicates the Projected Wastewater Capacities and Demand by Service Areas.

The key to providing timely and adequate wastewater treatment service to a growing county is based on the Capacity Analysis Reports as required by state statute. That information is generated periodically and the comprehensive plan is updated accordingly, every five years. This Sanitary Sewerage Element provides the framework within which the County will operate for the planning of wastewater facilities.

FIGURE 2 NORTHWEST MASTER PLAN
FIGURE 3 SOUTH-CENTRAL MASTER PLAN

TABLE 3 2005-2025 SERVICE AREAS PROJECTED WASTEWATER CAPACITIES VS. DEMANDS (MGD)

	2005	2015	2025
NORTHWEST			
DALE MABRY			
Capacity:	6.00	6.00	6.00
Demand:	4.10	6.0	6.00
Difference:	1.90	0.00	0.00
NWR WRF			
Capacity:	5.0	10.00	10.00
Demand:	8.31	7.40	9.10
Difference:	1.69	2.60	0.90
RIVER OAKS			
Capacity:	10.00	10.00	10.00
Demand:	8.31	8.60	9.30
Difference:	1.69	1.40	0.60
VAN DYKE			
Capacity:	1.70	Off-line	Off-line
Demand:	0.97		
Difference:	0.73		
TOTAL CAPACITY:	2.700	30.00	30.00
TOTAL DEMAND:	17.21	22.00	24.40
TOTAL DIFFERENCE:	5.49	8.00	5.60
CENTRAL			
FALKENBURG			
Capacity:	9.00	12.00	15.00
Demand:	8.25	10.90	13.80
Difference:	0.75	1.10	1.20
VALRICO			
Capacity:	6.00	12.00	12.00
Demand:	4.63	9.60	11.80
Difference:	1.37	2.40	0.20
TOTAL CAPACITY: ¹	17.48	26.48	29.48
TOTAL DEMAND:	12.88	20.50	25.60
TOTAL DIFFERENCE:	4.60	5.98	3.88
SOUTH			
SOUTH COUNTY			
Capacity:	4.50	4.50	4.50
Demand:	3.48	4.23	4.50
Difference:	1.02	0.27	0.00
TOTAL CAPACITY:	4.50	4.50	4.50
TOTAL DEMAND:	3.48	4.23	4.50
TOTAL DIFFERENCE:	1.02	0.27	0.00

¹ Includes 2.48 mgd Interconnect Capacity.

IV. GOALS, OBJECTIVES AND POLICIES

The goals, objectives, and policies of the Sanitary Sewerage Element were developed from ongoing analysis, review of state statutes and plans, regulatory agencies guidelines, the Regional Planning Council's policies, and Hillsborough County plans. This was done so that the goals, objectives, and policies would be consistent with the various agencies' goals, plans, and guidelines. Further refinement was made as a result of input from the Hillsborough County Citizen's Advisory Committee, Hillsborough County Planning Commissioners, and professional planning staffs of the County and The Planning Commission.

All goals, objectives, and policies of this chapter shall be the responsibility of the County to carry out unless specifically stated otherwise.

GOAL: Protect the health, safety, and welfare of the citizens of Hillsborough County and protect and conserve the natural resources and environment of Hillsborough.

ISSUE - Regulatory Environment: There are many federal, state, regional, and local agencies that have responsibilities for regulating wastewater system development and operation. These agencies typically have very specific concerns; however in some instances there are areas of overlapping regulations.

The State of Florida Department of Environmental Protection is responsible for the permitting and monitoring of wastewater treatment plants and effluent disposal systems. They are also responsible for the permitting and enforcement of regulations which defines treatment criteria and discharge quality.

The Environmental Protection Commission of Hillsborough County has local responsibility for protecting the environment from wastewater, pollution through monitoring and investigation of complaints regarding pollution. They may issue citations to violators for non-conformance with existing water quality standards.

The Hillsborough County Public Health Unit has local responsibility for protecting the public health through the enforcement of environmental health regulations. This is done through permitting, inspecting, and complaint investigations. Epidemiological investigations are conducted to determine environmental causation.

OBJECTIVE 1: All public wastewater treatment facilities shall produce reclaimed water of sufficiently high quality to meet or exceed all regulatory requirements.

Policy 1.1:

Wastewater treatment facilities, prior to discharge to surface waters or wetlands, shall meet at a minimum Advanced Wastewater Treatment (AWT) standards and established regulatory standards.

Policy 1.2:

Existing wastewater treatment facilities, prior to discharging to any reclaimed water system, shall meet or exceed Advanced Secondary Treatment (AST) standards and established regulatory standards.

Policy 1.3:

The County shall pursue the phasing out, or upgrading of, all public and private wastewater treatment plants to Advanced Wastewater Treatment (AWT), where feasible.

ISSUE - Adequate Capacity: The County has planned and executed an ambitious capital improvements program to provide wastewater facilities equal to existing and anticipated demands into the future.

OBJECTIVE 2.: Existing and currently programmed facilities will be utilized before service area extension is undertaken.

Policy 2.1:

The timing and staging of wastewater facilities is addressed by the Urban Service Area policies in the Future Land Use Element but is controlled by the results of the Capacity Analysis Reports and development demand.

Policy 2.2:

Eliminate private wastewater treatment plants and non-compliant On-site Sewage Treatment Disposal Systems (OSTDS) as conveyance, permitted treatment, and reclaimed water capacity become available and connection to the County system is determined to be warranted and feasible.

(Administrative)

Policy 2.3:

Continue to require development to connect to wastewater conveyance facilities at a location and in a manner determined through engineering analysis and standards so as to cause no adverse impacts to the facilities.

OBJECTIVE 3: Provide wastewater conveyance and treatment capacity to meet projected wastewater demands based on meeting or exceeding adopted Levels of Service in each service area.

Policy 3.1:

Continue the planning and scheduling of design and construction of new wastewater treatment facilities and/or expansion of existing treatment facilities based on the results of Wastewater Capacity Analysis Reports.

Policy 3.2:

Continue the monitoring and modeling of current wastewater flows and future population projections to predict service area demands.

Policy 3.3:

Continue the planning and scheduling of wastewater conveyance system design and construction projects to meet identified service area needs.

Policy 3.4:

The level of service to be maintained by all facilities shall be as stated in the Capital Improvements Element.

Policy 3.5:

Any area in the unincorporated County which by interlocal agreement is part of the area for which a city has the responsibility for providing wastewater service, but, in which the city does not provide that service to retail customers, shall be periodically reviewed by County staff for recommendation to the BOCC regarding the most cost effective and efficient provision of wastewater service.

ISSUE - High Hazard Protection: The physical integrity of the wastewater system must also be protected. Development of facilities in the coastal high hazard area subjects them to the greatest vulnerability from natural causes. Public funds should not normally be expended for facilities that are subject to the damages associated with the Coastal High Hazard Area. In addition, the vulnerability of private facilities and the associated populations should be held to a minimum in these areas.

OBJECTIVE 4: Allow no increase in the effect of the Coastal High Hazard Area on existing public wastewater systems. Reduce the effect of the Coastal High Hazard Area on existing and proposed public and private wastewater systems.

Policy 4.1:

New County, Community, and franchise wastewater treatment plants shall be prohibited in the Coastal High Hazard Area.

ISSUE - Sewage Sludge: Wastewater treatment produces water of a sufficiently high quality that it is acceptable for re-entry into the natural environmental system. By-products of this process are solids separated from the liquids during processing. These solids are called sewage sludge and must be treated, disposed of, or reused according to regulatory requirements.

Hillsborough County plans to construct regional sewage sludge treatment facilities in the Northwest and South-Central Service Areas of the County.

OBJECTIVE 5: Provide adequate sewage sludge treatment and handling facilities capable of processing all sewage sludge generated at all County wastewater treatment plants.

Policy 5.1:

Continue to monitor and model current sewage sludge volumes and future population projections to predict service area demands.

Policy 5.2:

Continue to plan and schedule design and construction projects and/or contract operations for sewage sludge management facilities to meet identified service area needs.

Policy 5.3:

The County should evaluate the impact of septage disposal in the County and consider alternatives for disposal of septage wastes in the most environmentally safe and cost efficient manner including the treatment of septage by the County Advanced Wastewater Treatment Plants.

Policy 5.5:

Continue to implement alternative sewage sludge recycling technology in order to propose recommendations for a long range plan for handling of the County's sewage sludge.

ISSUE - Operation and Maintenance: The efficiency of the wastewater system is directly affected by the condition of the various parts of the system. A degradation in any one of the parts may reduce the capacity of the system to effectively treat wastewater or to maintain the quality of treatment required by existing regulations. Proper repair and maintenance of equipment is of key importance in ensuring that the level of service desired can be maintained and that expensive replacement of facilities will not be required prematurely.

An aggressive repair and maintenance program and enforcement will insure highest efficiency, quality, reliability, and life expectancy from the wastewater system.

OBJECTIVE 6: Maintain existing facilities to comply with all operating permits.

Policy 6.1:

Develop, evaluate, and maintain an inventory of all County facilities and franchises which identifies their location, physical characteristics, age, service condition, and structural condition.

Policy 6.2:

The County shall continue to develop, update, and make available an up-to-date computerized Geographic Information System (GIS) Atlas and its backup data of all County and franchise wastewater facilities.

Policy 6.3:

Continue to utilize a Preventative Maintenance Program and implement an Asset Management Program to optimize performance and maximize service life of County wastewater facilities.

ISSUE - Pretreatment of Wastewater: The quality of the wastewater entering the wastewater system can also greatly influence the capacity and reliability of the system. Ordinances and regulations currently existing concerning pretreatment of certain wastewater and the introduction of certain harmful substances to the system need to be maintained and updated periodically.

OBJECTIVE 7: Prevent the introduction of harmful materials and/or chemicals into the wastewater systems.

Policy 7.1:

Maintain and enforce a Pretreatment Ordinance to protect existing County facilities from adverse impacts due to the introduction of harmful waste into wastewater facilities.

ISSUE - Water Resources Protection:

As urbanization of previously rural areas occurs, the possibility of On Site Treatment and Disposal System contamination of water resources increases.

OBJECTIVE 8: Minimize the possibility of existing and future On Site Treatment and Disposal System adversely impacting groundwater and surface waters.

Policy 8.1:

Continue to require that non-compliant On Site Treatment and Disposal Systems connect to County wastewater facilities where available and feasible under defined criteria in the County's Public Utility Connections Regulations Ordinance.

Policy 8.2:

Cooperate with the Hillsborough County Health Department by ensuring that on site treatment and disposal systems, determined by the Health Department to be non-viable, are required to connect to a County-designated point in the County wastewater conveyance system, when capacity is available pursuant to state law (62-6. F.A.C.).

V. PLAN IMPLEMENTATION AND MONITORING

Implementing a plan means to carry the plan to action. Implementation occurs when the programs, activities, incentives and regulations stated in the goals, objectives and policies are established and carried out. The goals, objectives and policies in the Sanitary Sewerage Element suggest a number of programs, activities, and regulations to be developed and maintained for the purpose of addressing the wastewater problems and needs for the residents of unincorporated Hillsborough County.

The County is responsible for the implementation and maintenance of the programs, activities, and regulations listed in the goals objectives and policies. Further clarification of the responsible department or agency is provided in a majority of the goals, objectives and policies. Where no specific responsibility is assigned, the Office of the County Administrator will ensure that the County is addressing implementation and maintenance of the program, activity, and/or regulations listed in the goals, objectives and policies.

A monitoring and evaluation process is being developed in-house, to be followed in the preparation of the required five-year evaluation and appraisal reports, that will be consistent for all Elements of the comprehensive plan. The monitoring and evaluation procedure will address:

- a. Citizen participation in the process;
- b. Accomplishments in the first five-year period, describing the degree to which the goals, objectives and policies have been successfully reached;
- c. Obstacles or problems which resulted in under achievement of goals, objectives or policies;
- d. New or modified goals, objectives or policies needed to correct discovered problems; and
- e. A means of ensuring continuous monitoring and evaluation of the Plan during the five-year period.

The resultant monitoring and evaluation process will serve as a reporting mechanism to keep the County apprised on a regular basis as to how the Plan is being implemented and updated.

VI. CONSISTENCY

This Sanitary Sewerage Element is one of fifteen Elements comprising the Future of Hillsborough - A Comprehensive Plan for Unincorporated Hillsborough County. Each Element is internally consistent in that a set format was used for all Elements, the same population projections were used for all Elements and the same 5 and 20 year planning time frames were utilized in projecting future needs for all Elements.

Chapter 9J5-5, FAC, requires the Comprehensive Plan's goals, objectives and policies be compatible with the State Comprehensive Plan and Tampa Bay Comprehensive Regional Policy Plan. This Sanitary Sewerage Element was also developed to be consistent with the Southwest Florida Water Management District Guidelines for Comprehensive Planning and the State Water Use Plan.

VII. DEFINITIONS

Advanced Secondary Treatment - Secondary waste treatment plus deep-bed dual media filtration.

Advanced Waste Treatment - Wastewater treatment as defined in Chapter 403.086, Florida Statutes, or as amended in the future, which will provide a effluent product that

a) Contains not more than the following concentrations:

Biochemical Oxygen Demand (CBOD5)	5 mg/l
Suspended Solids	5 mg/l
Total Nitrogen, expressed as N	3 mg/l
Total Phosphorus, expressed as P	1 mg/l

b) Has received high level disinfection, as defined by rule of the Department of Environmental Protection.

BOD⁵ - Five-day biochemical oxygen demand is a test performed to determine the amount of oxygen microorganisms would use during decomposition of organic matter.

Composting - Present-day composting is the aerobic, thermophilic decomposition of organic wastes to a relatively stable humus. The resulting humus may contain up to 25 percent dead or living organisms and is subject to further, slower decay but should be sufficiently stable not to reheat or cause odor or fly problems. In composting, mixing and aeration are provided to maintain aerobic conditions and permit adequate heat development. The decomposition is done by aerobic organisms, primarily bacteria, actinomycetes and fungi.

Conveyance Facilities - All facilities required for the collection, transmission and pumping of wastewater.

Deep Bed-Dual Media Filtration - Filtration process that uses a deep bed (4' or greater) composed of two distinctly different granular substances (such as anthracite coal and sand), as opposed to single media filtration.

Effluent - Water, after some degree of treatment, flowing out of any treatment device or facility.

Force Main - A pressurized transmission pipe which carries wastewater from a pump station to the point of discharge.

Gravity Main - A pipe in which wastewater flows by gravity along descending gradients from source to outlet.

Industrial Reuse - Consumption of reclaimed water by industrial users for various purposes, such as process, make-up, and feed water.

Influent - Wastewater (raw or partially treated) flowing into a treatment process or treatment plant.

Land Application - Treated wastewater, sewage sludge, or other products of wastewater treatment applied to land as a method of treatment and/or disposal.

Limited Access Irrigation - Irrigation of sod farms, forest, fodder crops, pasture land, and other agricultural uses with limited public access with reclaimed water.

Master Pump Station - A major pumping facility which pumps 600,000 gallons per day or more.

On-site Sewage Treatment Disposal System (Septic Tank System) - A small localized wastewater treatment system which treats wastewater and disposes of the treated wastewater by subsurface soil absorption or evaporation on the site at which the wastewater is generated. These are typically individual or multi-family septic tank systems and do not include conventional community-oriented wastewater treatment facilities.

Permitted Capacity - A facility's operating capacity allowed by the FDEP Operating Permit issued for the facility.

Potable Water - Water satisfactory for drinking, culinary, human consumption, and other domestic purposes.

Public Access Reuse - Irrigation of lands open to public use, such as golf courses, cemeteries, public parks, landscaped areas, and other areas intended for public access, with reclaimed water.

Pump Station - A pumping facility which discharges flow through a force main.

Reclaimed Water - A high-quality effluent which has received additional treatment and is of suitable quality for use in wetland systems, turf irrigation, and industrial facilities.

Sanitary Sewerage (Wastewater) Facilities - All facilities required for the collection, transmission, treatment, and disposal of wastewater.

Secondary Wastewater Treatment - Wastewater treatment that consists of biological conversion of dissolved and suspended organisms into biomass (biological cells) that can subsequently be removed by sedimentation. Effective secondary treatment removes almost all the floating and settleable solids and approximately 90 percent of the suspended solids and organics (as measured by BOD⁵). Normally, treated effluent from a secondary wastewater treatment facility is disinfected by chlorination prior to final disposal.

Septic Tank System (On-site Sewage Treatment Disposal System) - An on-site sewage treatment disposal system for individual homes, multifamily residences, and commercial property where municipal wastewater service is unavailable. The system consists of two major components, a septic tank and a subsurface wastewater exfiltration system (SWES). The septic tank is an underground tank that provides primary wastewater treatment that consists of the removal of settleable and floatable solids. The clarified effluent from the septic tank flows to the SWES where it receives physical, chemical, and biological treatment as it percolates through the unsaturated soil to the groundwater.

Sewage Sludge - The accumulated solids separated from liquids during wastewater treatment processing.

Wastewater, Domestic or Sanitary - A combination of the liquid and water-carried wastes from dwellings, commercial buildings, industries, institutions, and the like together with any groundwater, surface water, and storm water from inflow and/or infiltration; originating as wastes from kitchens, water closets, lavatories, bathrooms, and showers; the strength of which normally fall below the following parameters: biochemical oxygen demand (BOD⁵) (300 mg/l); total suspended solids (TSS) (300 mg/l); total nitrogen (TN) (40 mg/l), and total phosphates (TP) (12 mg/l).





