
Infrastructure Element

March 21, 2016

[This page intentionally left blank.]

Table of Contents

I. Purpose.....	INF-1
II. Potable Water Subelement.....	INF-1
Background.....	INF-1
Regulatory Framework.....	INF-1
Existing Conditions	INF-3
Level of Service Standard.....	INF-3
Potable Water Demand and Needs Analysis.....	INF-3
Plan to Meet Needs	INF-3
III. Sanitary Sewer Subelement.....	INF-4
Background.....	INF-4
Regulatory Framework.....	INF-5
Existing Conditions	INF-6
Level of Service Standard.....	INF-8
Sanitary Sewer Demand and Needs Analysis	INF-8
Plan to Meet Needs	INF-8
IV. Solid Waste Subelement	INF-9
Background.....	INF-9
Regulatory Framework.....	INF-10
Existing Conditions	INF-11
Level of Service Standard.....	INF-12
Solid Waste Demand and Needs Analysis	INF-12
Plan to Meet Needs	INF-13
V. Stormwater Drainage Subelement	INF-14
Background.....	INF-14
Regulatory Framework.....	INF-16
Existing Conditions	INF-18
Level of Service Standard.....	INF-20
Stormwater Drainage Demand and Needs Analysis	INF-20
Plan to Meet Needs	INF-20
VI. Goals, Objectives and Policies.....	INF-22
Introduction	INF-22
Implementation	INF-22
Potable Water Subelement.....	INF-22
Adequate Water Supply and Treatment.....	INF-22
Adequate and Efficient Distribution Facilities.....	INF-23
Water Conservation	INF-23
Equitable Financing of System Improvements and Operations.....	INF-24
Elimination of Existing Deficiencies	INF-24
Sanitary Sewer Subelement	INF-24
Adequate Facilities.....	INF-25
System Efficiency.....	INF-25
Equitable Financing of System Improvements and Operations.....	INF-26
Existing Deficiencies	INF-26
Solid Waste Subelement.....	INF-26
Level of Service.....	INF-27

Stormwater Drainage Subelement.....	INF-27
Level of Service.....	INF-27
Natural Drainage Features.....	INF-28
Facilities Design and Maintenance	INF-28
Master Drainage Plan	INF-28
Stormwater Utility	INF-28

List of Tables

Table INF-1 Capacity Analysis for Wastewater System Facilities, 2005	INF-7
Table INF-2 Wastewater Treatment Plan Demand.....	INF-8
Table INF-3 Capacity Analysis for Solid Waste Facilities, 2005	INF-12
Table INF-4 Countywide Solid Waste Demand.....	INF-13

List of Exhibits

Exhibit INF-1 City of New Port Richey Water Supply Facilities Work Plan 2013-2025	
Exhibit INF-2 Tampa Bay Water Special District Public Facilities Report, March 1, 2011	

List of Maps

Map INF-1 Water Service Area	Appendix D
Map INF-2 Sanitary Sewer Service Area	Appendix D
Map INF-3 Soil Survey	Appendix D
Map INF-4 Drainage System.....	Appendix D
Map INF-5 FEMA Flood Zones	Appendix D
Map INF-6 Reclaimed Water System.....	Appendix D

I. Purpose

The purpose of the Infrastructure Element is to provide for necessary public facilities and services as correlated to future land use and population projections. The element addresses the existing and future service requirements and delivery capabilities for potable water, sanitary sewer, solid waste and stormwater drainage. The element also addresses natural groundwater recharge.

II. Potable Water Subelement

Background

Typically, a potable water supply system is composed of a source which supplies raw (untreated) water, a treatment component to render water that is safe and palatable for human consumption, storage facilities to balance available supply with varying demand and a distribution system to transport water between production components and consumers throughout a service area.

Water sources commonly consist of surface water bodies and impoundments, groundwater or some combination of the two. The quality of the source water determines the treatment required prior to human consumption. Treatment removes impurities from raw water, thereby improving water quality as related to public health or aesthetic concerns. Although the treatment process adds to the cost of supplying water, it expands the range of raw water sources that can be used for public consumption—an important consideration in the Tampa Bay region where limited additional fresh groundwater supplies will be available to meet projected demand.

Potable water is conveyed to consumers via a network of pipes and storage tanks that form the water distribution system. Large-scale transmission lines (water mains) carry water to the largest divisions of the service area that are interconnected with a network of smaller lines connected to individual customer service connections. The interconnection of these components into nested flow loops provides multiple routes by which water can circulate within the system in response to locational shifts in demand.

Water in the distribution system is delivered under pressure to ensure adequate flows in response to fluctuations in demand, such as morning and evening peaks from high residential use. Peaks in demand also occur when the system conveys water for firefighting. Storage tanks are linked with the distribution system at strategic locations to help ensure adequate flows during peak demand. In periods of low demand, storage tanks are filled as water is pumped into the system. In peak demand periods, stored water returns to the system to augment flows and maintain pressure. A combination of ground-level and elevated storage tanks are commonly used. Elevated tanks (water towers), which use gravity to move water, are the most economical. Many systems use auxiliary pumps for use during demand peaks.

Regulatory Framework

Federal Regulation

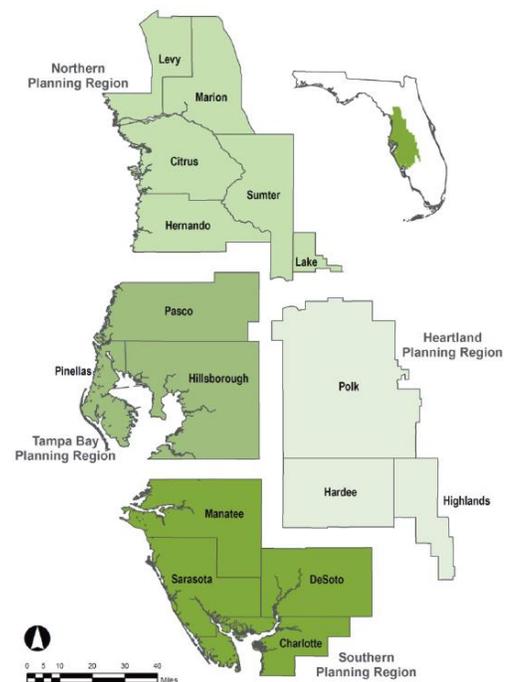
The federal government has established quality standards for public water supply systems, including operations standards and quality controls. The Safe Drinking Water Act, Public Law 93-523, directs the U.S. Environmental Protection Agency (EPA) to establish minimum drinking

water standards. EPA standards fall under two categories, primary—those required for public health—and secondary—those recommended for aesthetic quality.

State Regulation

In accordance with federal requirements, the Florida Legislature has adopted the Florida Safe Drinking Water Act, Section 403.850 through 403.864, Florida Statutes (FS). The Florida Department of Environmental Protection (FDEP) is the state agency responsible for implementing the act. FDEP promulgated rules classifying and regulating public water systems under Chapter 62-22, Florida Administrative Code (FAC). The primary and secondary standards of the Federal Safe Drinking Water Act are mandatory in Florida. Also, any plans for significant water line extension, well or tank modification or water facilities for new development are subject to FDEP permitting. The City of New Port Richey submits potable water system operating and laboratory analysis reports to FDEP on a monthly basis.

The Southwest Florida Water Management District (SWFWMD) is the agency responsible for managing water supplies to meet existing and future regional water demand. In compliance with the requirements of Section 373.709, FS, the agency is responsible for developing a *Regional Water Supply Plan (RWSP)*, an assessment of projected water demands and potential water sources to meet demand through 2030. The RWSP, updated in July 2011, provides the framework for future water management decisions in the region where the hydrologic system is stressed due to groundwater withdrawals. The RWSP addresses four planning regions, shown at right. The City is located in the Tampa Bay Planning Region, which is also referred to as North Tampa Bay Water Use Caution Area (NTBWUCA).



SWFWMD Water Supply Planning Regions

The RWSP indicates sufficient alternative water sources for the Tampa Bay Planning Region (i.e., sources other than fresh groundwater from the Upper Floridan aquifer) exist to meet future demands and replace some of the current withdrawals causing hydrologic stress.

Section 163.3177(4)(a), FS, requires the City to coordinate appropriate aspects of the comprehensive plan with the RWSP and ensure that the Future Land Use Map is based on the availability of adequate water supplies and supply facilities. A need assessment must address at least a ten-year planning period (see Exhibit INF-1 *New Port Richey Water Supply Facilities Work Plan, 2013-2025*).

Also pertinent to the City are SWFWMD rules governing water use permits (Chapter 40D-2, FAC) and the agency's water shortage plans and water conservation programs.

Local Regulation

Section 24-19 of the New Port Richey Code of Ordinances requires users of the City's sanitary sewer system to connect to the City water system, with exceptions.

Existing Conditions

Potable Water Service Area

The New Port Richey Water Service Area includes the New Port Richey incorporated area and parts unincorporated Pasco County (see Map INF-1). The area serves a *functional* population of approximately 100 persons (2012), which includes residential, commercial and institutional users.

As depicted in the Land Use Map series (see Appendix A), land uses within the incorporated area of the City's water service area are predominantly low- to moderate-density residential uses, commercial uses and institutional (public/semi-public) uses. Within the unincorporated county portion of the Water Service Area, land use types and density generally resemble those in the incorporated area. Industrial uses represent a small portion of the land uses in the Water Service Area, and there are no agricultural uses.

The City and surrounding unincorporated area are largely built-out. The scant, remaining developable land is comprised of infill parcels. As such, urban sprawl, as it relates to public infrastructure expansion, is not an issue in the Water Service Area.

Water Supply System

Details on the City's water supply system are provided in Exhibit INF-1 New Port Richey Water Supply Facilities Work Plan, 2013-2025.

Level of Service Standard

The City's adopted potable water level of service (LOS) standard is 100 gallons per day (GPD) per capita. The standard is used to project potable water demand as a function of population and future water supply facility needs.

A concurrency management procedure is implemented via Chapter 4 of the New Port Richey Land Development Code to ensure that potable water supplies and facilities will be available to serve new development at the time of issuance of a certificate of occupancy. During the development review process, the availability of potable water (and reclaimed water) for new development must be determined through consultation with the City Public Works Department staff and Tampa Bay Water.

Potable Water Demand and Needs Analysis

The potable water demand and needs analysis for the Water Service Area is presented in Exhibit INF-1 New Port Richey Water Supply Facilities Work Plan, 2013-2025. The analysis indicates that the City's potable water supplies and facilities are adequate through the plan's 2013 planning period.

Plan to Meet Needs

The City's potable water supplies and facilities are adequate to serve the needs of the Water Service Area through the WSFWP's 2025 planning period. Practices and procedures to ensure the City's continued high-quality service to water customers and consistency with the Comprehensive Plan and applicable State Statutes and Rules are identified in Exhibit INF-1 New Port Richey Water Supply Facilities Work Plan, 2013-2025.

III. Sanitary Sewer Subelement

Background

Regional Facilities

Regional facilities are large-scale sanitary sewer systems that generally provide service to densely populated areas. These facilities are comprised of three components that perform the basic functions of collection, treatment and disposal of sewage.

The collection system is composed of a network of sewer pipes that collect sewage (also called wastewater) from individual establishments and convey it to a central location for treatment. The collection network is generally laid out in a pattern roughly analogous to the branching pattern of a tree. This classification scheme identifies sewers according to their location within the network and not according to their size. Since sewer flow within the network is from the periphery toward the treatment plant, this scheme allows for easy identification of downstream components that will be affected by sewage flows from a peripheral area.

Although New Port Richey has a relatively flat terrain, patchwork development of the sewer system in the past requires a pumping system in conjunction with the major components of the regional collection system. This allows sewage to be conveyed under pressure against the force of gravity and for long distances at varying slopes. In conjunction with this type of system, the term force main is often applied to pressurized sewers without regard to their location within the network.

The treatment plant is the component of the regional sanitary sewer facility that functions to remove solid and organic materials from sewage. There are a large number of processes that can accomplish this but they are generally grouped into one of the following three categories depending on the proportion of materials removed.

Primary Treatment. Primary treatment refers to the removal of 30 to 35 percent of organic materials and up to 50 percent of solids from sewage. This is also commonly referred to as physical treatment because screens and settling tanks are the most common methods used to remove solids.

Secondary Treatment. Secondary treatment process removes between 80 and 90 percent of total organic materials and suspended solids from sewage. This level of treatment generally requires multiple steps involving one biological process and one or more process for removal of suspended solids.

Tertiary Treatment. Sewage may also contain large quantities of synthetic organic compounds or inorganic chemicals that may create pollution problems if not removed. Tertiary, or advanced treatment, adds steps to primary and secondary processes to remove these pollutants. The most common tertiary process removes compounds of phosphorous and nitrogen. The effluent of advanced treatment processes often approaches potable water purity.

Effluent and sludge are the waste products of the treatment process. Effluent is the treated wastewater that flows out of the treatment plant. Effluent disposal alternatives include discharge to a water body, irrigation reuse, or injection into deep aquifers. Sludge refers to the accumulated solid residues of the treatment process. Prior to final disposal, sludge is usually subjected to an additional biological treatment process to remove pathogens and physical

dewatering process to facilitate transport and disposal. Common disposal methods include burial in solid waste landfills and land application as a soil conditioner for agricultural purposes.

Package Treatment Plants

Package treatment plants are essentially small treatment systems that have a collection network, treatment plant and disposal system. Package plants may be designed to provide any level of treatment, but plants providing secondary treatment are most commonly used. Package plants are available in a range of capacities up to one million gallons per day. These plants are generally used to serve isolated developments and are usually partially or completely preassembled by the manufacturer prior to shipment to the site of use. There are no package treatment plants operating in the City.

Septic Tanks

Septic tank systems are usually used to serve single dwelling units or small commercial uses. The system consists of two components, the septic tank and the drain field. The tank receives wastewater from the dwelling and temporarily contains the wastewater allowing a significant portion of suspended solids to settle. Bacteria in the tank gradually decompose settled solids. Remaining liquids are discharged through underground drainage pipes into the drain field where it percolates into the soil. Once in the soil, microorganisms and filtration processes purify the liquids.

Regulatory Frameworks

Federal Regulation

The Federal Water Pollution Control Act (PL92-500) of 1972 is the controlling national legislation relating to the provision of sanitary sewer service. The goal of this act is the restoration and/or maintenance of the chemical, physical and biological integrity of the Nation's waters. The act established the national policy of implementing area-wide waste treatment and management programs to ensure adequate control of source pollutants. Under Section 201 of PL92-500, grants were made available to local governments to construct facilities to treat "point sources" of pollution, which include effluent from sewage treatment processes. The US Environmental Protection Agency (EPA) is responsible for implementing the act.

The EPA (Region IV in Atlanta) regulates the City through National Pollutant Discharge Elimination System (NPDES) Permit No. FL0020273.

State Regulation

The Florida Department of Environmental Protection (FDEP) is responsible for ensuring that the State carries out responsibilities assigned to it under PL92-500. FDEP regulations under chapters 62-600, FAC (Domestic Wastewater Facilities), and 62-610, FAC (Reuse of Reclaimed Water and Land Application), establish rules for wastewater collection and treatment facilities and effluent disposal.

The Florida Department of Health and Rehabilitative Services (HRS) regulates, permits and inspects installation of septic tank and drain field systems. These requirements have been adopted by rule in Chapter 10D-6, FAC. According Chapter 10D-6, FAC, the treatment and disposal of the sewage flow from a building or establishment shall be in compliance with FDEP regulations when:

- The volume of domestic sewage from an establishment exceeds 5,000 gallons per day;
- Sewage or wastewater contains industrial or toxic or hazardous chemical waste;
- An area is zoned for industrial or manufacturing use and where the system use may be for disposing of other than domestic waste; and
- Total food service establishment wastewater flow exceeds 3,000 gallons per day.

Local Regulation

Section 24-19 of the New Port Richey Land Code of Ordinances requires users of the City water system to connect to the City sanitary sewer system, with exceptions.

Existing Conditions

Sanitary Sewer Service Area

The City is the sole operating entity responsible for providing sanitary sewer service within the New Port Richey sanitary sewer service area. As depicted in Map INF-2, the sanitary sewer service area encompasses the entire City (approximately 4.5 square miles) as well as portions of unincorporated Pasco County. In total, the City collects wastewater from an approximately 13 square mile service area. The existing collection system serves a functional population of approximately 52,241. All areas of the City are served by the wastewater collection system. Therefore, no areas of the City must rely on septic tanks. There are no private wastewater providers in New Port Richey.

As depicted in the land use map series in Appendix A, land uses within the New Port Richey sanitary sewer service area within the City are predominantly low- to moderate-density residential uses, commercial uses and institutional (public/semi-public) uses. Within the unincorporated county portion of the City's sanitary sewer service area, the land use types and intensities generally resemble those in the City. Only a small number of industrial and no agricultural uses exist in the City's sanitary sewer service area.

The City of New Port Richey and surrounding lands in west Pasco County are largely built-out. The scant, remaining developable land is comprised of infill parcels. As such, urban sprawl, as it relates to public infrastructure expansion, is not an issue in this area of the county.

Sanitary Sewer System

The New Port Richey City's sanitary sewer system is shown in Map INF-2. The system consists of approximately 84.05 miles of sewer collection lines, approximately 28.12 miles of force mains and 65 lift stations. The City uses an advanced secondary treatment plant that removes 98 to 99.5 percent of organic and solid materials from wastewater by a series of biological and settling tanks. All sewage is treated at the New Port Richey Wastewater Treatment Plant (WWTP) located on the west side of the City. The City has a 30-year interlocal agreement with Pasco County for the operation and maintenance of the jointly-owned WWTP. Pasco County is allocated 3.0 MGD of the WWTP capacity.

A capacity analysis for the WWTP is demonstrated in Table INF-4. The current capacity of the WWTP is 7.5 MGD. In 2005, the plant treated an average of 6.16 MGD of wastewater.

**Table INF-1
Capacity Analysis for Wastewater Treatment Facilities, 2005
City of New Port Richey**

Wastewater Treatment Plant Parameter	
Plant Design Capacity	7.5 MGD
Current Demand	
Service Area Population	50,241
Service Connections	8,083
Average Daily Flow (ADF)	6.16 MGD
Percent of Total Design Capacity	82.1%
Committed Unused Capacity	
Committed Unused Capacity	None
Percent of Total Design Capacity	0.0%
Total Demand	
ADF + Committed Unused Capacity	6.16 MGD
Percent of Total Design Capacity	82.1%
Excess Capacity	
Excess Capacity	1.34 MGD
Percent of Excess Capacity	17.9%

Source: Utilities Department, City of New Port Richey, 2006.

The New Port Richey Reclaimed Water Production Plant (RWPP) was completed in 1996. Treated effluent from the WWTP is further treated at the RWPP and distributed to locations in the City and unincorporated area. In 2004, the RWPP produced approximately 5.0 MGD of reclaimed water. Currently, only three City neighborhoods have reclaimed water service (East Grand, Woodridge and Jasmine Hills).

The City offers reclaimed water service to areas where a majority of homeowners commit to using the service. Infrastructure extensions are funded with a Southwest Florida Water Management District 50 percent matching grant. The RWPP and reclaimed water distribution system has eliminated the need to discharge treated wastewater into the Gulf of Mexico. Reclaimed water use is intended to offset demand for potable water for the purposes of irrigation, thereby addressing the need to reduce demands on drinking water resources.

Soil Survey

As identified by the US Department of Agriculture Soil Conservation Service (SCS), the majority of the soils found in the City of New Port Richey have been classified as Tavares-Urban land complex, Udalfa Arents-Urban land complex and Urban land (see Map INF-3). The Tavares-Urban land complex is the predominant soil type. The remaining soils found within the City were identified by the SCS as containing severe constraints for the establishment of septic tank absorption fields due to wetness, ponding, or poor filter characteristics.

There are no areas within the City that are served by septic tanks. Other areas within the City's sewer service area but not within the municipal boundaries and not connected to the system include Lakewood Villas and Treasure Island. The City is currently planning to extend its sewer system into those areas.

Level of Service Standard

The City’s adopted sanitary sewer level of service (LOS) standard is 114 gallons per day (GPD) per capita. This standard is used to project sanitary sewer demand as a function of population growth.

Sanitary Sewer Demand and Needs Analysis

The purpose of the potable water demand and needs analysis is to identify needed improvements to the City’s potable water system in order to maintain the City’s adopted potable water LOS standard. As indicated in Table INF-4, the WWTP’s current per capita demand is 123 GPD. Using this level of service and the projected sewer service area population, the WWTP’s present capacity of 7.5 MGD will be adequate, but nearing capacity, during the planning period. In response to this, the City is in the process of re-rating the WWTP to 9.0 MGD through the Florida Department of Environmental Protection permitting process. The additional 1.5 MGD of capacity achieved through this process is reflected in the analysis in Table INF-5 for years 2015 and 2020. The average daily flow will not exceed 80 percent of the WWTP threshold during the planning timeframe. Regulatory guidelines call for expansion planning when facilities reach 80 percent of their design capacity.

**Table INF-2
Wastewater Treatment Plant Demand
City of New Port Richey**

Year	Service Area Population	Per Capita Demand	Average Daily Flow	% of WWTP Design Capacity³
2005	50,241	123 GPD ¹	6.16 MGD	82.1%
2015	52,651	123 GPD ²	6.46 MGD	71.7%
2020	53,856	123 GPD ²	6.60 MGD	73.3%

Notes:

- 1. Actual per capita demand in 2005.
 - 2. Projected demand based on 2005 per capita demand.
 - 3. Based on WWTP design capacity of 7.5 MGD in year 2005 and 9.0 MGD in years 2015 and 2020.
- Source: Utilities Department, City of New Port Richey and URS, 2006.

During fiscal years 2006/2011, the City has programmed funding for Sewer System improvements including: lift station rehabilitations, force main improvements and new sludge handling facilities at the WWTP.

Plan to Meet Needs

The City plans to update its Utilities Master Plan in 2007/2008 in order to incorporate any required infrastructure improvements and maintain current levels of service.

IV. Solid Waste Subelement

Background

The infrastructure addressed in this subelement falls under category of solid waste, defined in §9J-5.003(125), FAC, as “sludge from a wastewater treatment works, water supply treatment plant, or air pollution control facility, or garbage, rubbish, refuse, or other discarded material, including solid, liquid, semi-solid, or contained gaseous material resulting from domestic, industrial, commercial, mining, agricultural, or governmental operations. For the purpose of this subelement, the term solid waste excludes hazardous waste.

The following solid waste classifications indicate the general characteristics and sources of solid waste materials:

- Residential Waste** Residential waste is mixed household waste, including yard waste, generated by the public.
- Commercial Waste** Commercial waste is generated by the commercial and institutional sectors. Physical characteristics of these wastes are similar to those residential wastes, in that they consists largely of combustible materials in the form of paper and food waste from offices, restaurants, retail establishments, schools, hospitals, motels and churches.
- Industrial Waste** Industrial waste includes waste generated by industrial processes and manufacturing operations excluding hazardous waste. This waste also includes general industrial housekeeping and support activity waste.
- Special Waste** Special waste includes waste having special characteristics or requiring special handling. This waste includes oversize bulky waste and materials generated in demolition and construction projects.

Solid waste facilities include:

- Transfer Station** A facility for the temporary storage of solid waste or hazardous waste prior to transport to a processing plant or to a final disposal site. For the purposes of this subelement only permanent facilities which would require attendance by trained operators will be addressed.
- Processing Plant** A facility designed for incineration, resource recovery, or recycling of solid waste prior to its final destination. The Solid Waste Subelement will address only such facilities as would serve the needs of Pasco County as a whole. The purpose of these facilities may include any or all objectives of reduction of the volume of waste disposed, energy recovery from wastes or recovery of reusable materials.
- Landfill** The final disposal site of solid waste. As the name implies, the facility involves the burial of waste. A landfill consists of several individual cells that are specifically constructed (according to Chapter 62-701, FAC) to contain solid wastes. Landfills are classified for regulatory purposes according to the characteristics of the waste they are permitted to receive.

Regulatory Framework

Proper solid waste management is essential for adequate protection of natural resources and public health, safety and welfare. Potential environmental and health related impacts of solid facilities and their management have led to a regulatory framework that extends from federal government to local government.

Federal Regulation

The potential environmental impacts of solid waste facilities have led to the development of an extensive network of permitting requirements at the federal and state levels. Impacts on air and water quality are reviewed by the US Environmental Protection Agency (EPA) and, where dredging and filling may occur, by the US Army Corps of Engineers (ACOE). For processing plants which will generate electrical power or require tall emission stacks, Florida Department of Environmental Protection (FDEP) and Federal Aviation Administration review may be required.

In 1991, the EPA promulgated revisions to the Criteria for Classification of Solid Waste Disposal Facilities and Practices as set forth in 40 CFR parts 257 and 258. These rules set forth revised minimum criteria for municipal solid waste landfills as well as regulations governing the use and disposal of sewage sludge.

State Regulation

FDEP and SWFWMD conduct development review to determine potential impacts on water quality and quantity. Construction and operation of solid waste facilities require further permitting and review by FDEP. Chapter 62-700, FAC, governs the disposal facilities. Closed landfills also fall under the regulatory jurisdiction of FDEP. The Resource Recovery and Management Act (Sec. 403.701, FS), passed in 1980, contains provisions allowing administrative rules regarding disposal of solid waste. The rules (Chapter 62-701, FAC) include stringent requirements for the construction, maintenance, closure and post-closure monitoring of solid waste landfills.

During the 1988 Florida legislative session, the Florida Resource Recovery and Management Act (FRRMA) was amended. The purpose of the amendment is to improve solid waste management throughout the state. The major components of this legislation include County responsibility for solid waste management and reduction in the amount of solid waste disposed of in landfills through mandatory recycling. Specifically, the legislation stipulates that counties must reduce the quantity of specified waste disposed of in landfills. All used tires and white goods are restricted from landfill disposal after July 1, 1989, and January 1, 1990, respectively, as these wastes can be recycled. Furthermore, disposal of used oil and lead-acid batteries in landfills was restricted on October 1, 1988, and January 1, 1992, respectively. Legislation also stipulates that yard trash is restricted from landfill disposal after January 1, 1992. Provisions contained in the amendment require local governments to reduce their waste stream by 30 percent by December 31, 1994. No more than one-half of this reduction may be met with a reduction in yard trash, white goods, construction and demolitions debris and tires.

Florida counties must report the status of their recycling program to FDEP annually. The report must include: 1) a description of the public education program on recycling; 2) the amount of solid waste disposed of at solid waste disposal facilities by type of waste such as yard trash, white goods, clean debris, tires and unseparated solid waste; 3) the amount and type of materials from the solid waste stream that were recycled; 4) the percentage of the population participating in various types of recycling activities instituted; 5) the percent reduction each year

in solid waste disposed of at solid waste disposal facilities; and 6) a description of recycling activities attempted, success rates, perceived reasons for failure or success and recycling activities which are ongoing and most successful.

Local Regulation

None.

Existing Conditions

Solid Waste Collection

Solid waste collection in the City is performed by private haulers through one-year franchise agreements with the City. No territorial boundaries are established for these haulers, but days of operation are limited the same two days each week. Residents may contract with any hauler and service is not mandatory. Private haulers are required to dispose of all solid waste at the Pasco County Resource Recovery Facility under a 1998 interlocal agreement between the City and the County. The City provides pick-up service and storage for yard waste generated by residents and businesses in the City.

Solid Waste Disposal Facilities

On April 12, 1988, the City entered into an interlocal agreement with Pasco County for solid waste disposal and resource recovery. The agreement defines the terms and conditions of the County's provision of solid waste disposal services to the City and the terms and conditions under which the City shall participate in the program. The agreement allows the County control over the flow of all processable waste generated within the City so it can be directed to the Pasco County solid waste resource recovery facility. Under the agreement, the City may continue to utilize Class III landfills for that type of solid waste generated in the City.

Pasco County is responsible for meeting the solid waste service requirements of residents countywide. The completion of the Resource Recovery Facility in 1991 gave the County the ability to handle solid waste generated throughout the County, as well as imported municipal solid waste. As shown in Table INF-6, the resource Recovery Facility has a total design capacity of 1,050 tons per day. The current average throughput of municipal solid waste processed at the facility is approximately 936 tons per day. This demand is generated by Pasco County, combined with imported flow from Hernando County, Citrus County and Plant City. The resource recovery facility is the primary disposal site for municipal solid waste generated in the county.

Approximately 150 tons of municipal solid waste is imported from surrounding counties. By importing municipal solid waste, the needs of the surrounding counties are accommodated while allowing the resource recovery facility to be operated at optimum capacity. Operating costs do not increase significantly as the resource recovery facility is operated beyond 60 percent; however, increases in tipping fees and energy produced at the facility generate greater revenues. This contributes to an overall increased efficiency in operations whereby revenue is maximized against the capital investment of the resource recovery facility. Contracting for the import of municipal solid waste when countywide demand is moderate constitutes sound planning for this type of facility. As countywide solid waste stream increases, projected needs can be met through the gradual cancellation of the imported municipal solid waste contracts.

**Table INF-3
Capacity Analysis for Solid Waste Facilities, 2005
City of New Port Richey**

Pasco County Resource Recovery Facility	
Design Capacity	1,050 tons/day
Countywide Disposal Demand	936 tons/day
Percent of Total Design Capacity	89.1%
Imported Municipal Solid Waste	150 tons/day
Countywide + Imported Solid Waste	956 tons/day
Percent of Total Design Capacity	103%

Source: Pasco County Utilities FY05 Budget (2004), Florida Department of Environmental Protection, 2002, and URS, 2006.

The City closed the Class III (yard waste) Indiana Avenue Landfill and is preparing to close the Class III Hillendale Landfill. Once closed, the Hillendale Landfill will be the site of the new Public Works Building, fleet maintenance and warehousing. The City processes all collected yard waste into mulch and makes it available to the public at no cost. Mulch is stored at the City's Yard Debris Storage Facility on Pinehill Road.

Recycling

In accordance with solid waste legislation, Pasco County has implemented curbside and centralized recycling programs. Additionally, the City reduces the amount of solid waste generated in the City through a yard waste-to-mulch program.

Level of Service Standard

The City's LOS standard for solid waste is based on the County's per capita solid waste level of service standard of 7.0 pounds per day. This LOS standard is used by the County to determine solid waste facility needs.

Solid Waste Demand and Needs Assessment

Pasco County does not allocate a specific proportion of the resource recovery facility capacity to the City. Furthermore, according to the Pasco County Solid Waste Department, records are not kept on the amount of solid waste generated in the City since collections are through private haulers that may collect solid waste from other jurisdictions during the same haul.

In the Pasco County 2025 Comprehensive Plan, base data from 1995 is used to calculate projections for solid waste demand. Dividing the base municipal solid waste demand by the base population results in an approximately 4.0 pound per person per day (PPD) loading rate. This rate, along with a County target rate of 3.0 PPD resulting from increased recycling efforts throughout the planning period, was utilized in projecting the solid waste demands through the year 2015. Table INF-7 illustrates the corresponding increase in solid waste disposal demand as the countywide population increases throughout the planning period.

**Table INF-4
Countywide Solid Waste Demand
Pasco County**

Year	Service Area Population¹	Solid Waste Rate (PPD)	Solid Waste Demand (TPD)	Solid Waste Reduced Rate²	Solid Waste Demand (TPD)
1995	370,960	3.87 ³	718	-	-
2000	409,148	3.87	791	3.6	737
2005	447,337	3.87	866	3.4	761
2010	485,525	3.87	940	3.2	777
2015	523,714	3.87	1,014	3.0	786

Notes:

1. Population projections entire Pasco County, including seasonal population.
2. Gradual reduction in demand is evaluated to identify impact of increased recycling efforts.
3. Actual rate calculated from current municipal solid waste demand and base population.

PPD-Per person per day.

TPD-Tons per day.

Source: Pasco County Comprehensive Plan, 2006.

Review of the data from the table using a reduced rate of solid waste generation indicates that the threshold of 812 tons per day is not reached by 2015. In fact, if recycling efforts are successful enough to reduce the current rate of 3.87 PPD to a rate of 3.1 PPD, it will take until 2015 to generate a municipal solid waste demand equaling 812 tons per day. This would allow continued importation of municipal solid waste at the current volumes throughout the planning period.

Plan to Meet Needs

Resource Recovery Facility Expansion

Pasco County is in the process of permitting the expansion of the Resource Recovery Facility.

Recycling

The ongoing development of curbside and community recycling efforts will further efforts to accommodate demand for municipal solid waste disposal. The recycling efforts not only reduce the volume of materials to be handled at the resource recover facility, but the low heat value and British Thermal Unit (BTU) content of glass, metals and aluminum cans impose a drain on the overall energy production of the facility. The capability of the resource recovery facility to produce electricity to sell to the power grid is actually enhanced by the removal of these recyclable products. The City has included policies in the Comprehensive Plan to promote recycling within the City.

V. Stormwater Drainage Subelement

The purpose of this subelement is to describe the City's stormwater management system and to assess the system's ability to provide necessary protection to residents, structures and the environment. Groundwater resources are also discussed in this subelement.

Background

Drainage Systems

Water flowing overland during and immediately following a storm event is called stormwater runoff. Under the effect of gravity, the drainage flows toward sea level through depressions and channels which comprise the drainage system of an area. The drainage system may consist of natural features, manmade features, or a combination of both.

Natural drainage systems are defined by the topography of an area. The largest feature of a natural drainage system is the drainage basin, or watershed. The boundary of the basin is called the basin divide. This is a line where the natural land elevation directs runoff from the basin toward a common major drainage feature, such as a river, lake, or bay. The major drainage feature is often called the receiving body and the smaller features are its tributaries.

Manmade drainage facilities are artificial structures designed to store or convey stormwater runoff. Swales, ditches, canals and storm sewers are typical conveyance structures, collecting stormwater runoff and directing toward downstream receiving waters. Stormwater storage structures are generally classified as either detention or retention facilities. Detention facilities are designed to temporarily impound runoff and release it gradually to downstream portions of the drainage system through an outlet structure. Detention facilities are impoundments which release stormwater by evaporation and by percolation into the ground, with no direct discharge to surface waters.

Drainage and Stormwater Management

The occurrence of stormwater runoff is highly variable, dependent on the amount of rainfall with each storm event and on conditions within the drainage basin. Since most storm events are relatively moderate, natural drainage features typically evolve to accommodate moderate quantities of stormwater runoff.

Occasionally, severe storm events create runoff volumes in excess of what these features can handle, resulting in temporary flooding of adjacent land. This periodic flooding is part of the natural cycle of events and often has beneficial effects on the basin ecosystem. Flooding is generally not perceived as a problem until development occurs in flood prone areas.

Historically, the typical strategy adopted in response to stormwater flooding of developed areas was to modify the drainage system to convey runoff away from developed sites more rapidly. Initially, this response may result in limited success in reducing nuisance effects and property damage. However, as urbanization of a drainage basin increase, storm events produce proportionately more and faster runoff, primarily due to the increase in impervious surfaces in the basin. As a result, the capacities of natural drainage features and previously constructed drainage facilities are exceeded more frequently and stormwater flooding problems increase, as do expenditures for further drainage improvements.

In addition to exacerbating flood problems, this strategy for coping with stormwater runoff has detrimental effects on water quality. Soil eroding from development sites and materials such as oil, grease, pesticides and fertilizers from urban land uses are washed off by runoff, increasing pollutant loading in receiving waters. The increased velocity of runoff also disrupts natural drainage features by destabilizing channels, leading to further sediment loading and debris accumulation.

The term *stormwater management* refers to comprehensive strategies for dealing with stormwater quantity and quality issues. The central tenant of these strategies is to ensure that the volume, rate, timing and pollutant load of runoff after development is similar to that which occurred prior to development. To accomplish this, a combination of structural and nonstructural techniques is utilized.

Structural techniques emphasize detention and retention of stormwater to reduce runoff rates and provide settling and filtration of pollutants. Nonstructural techniques emphasize preservation or simulation of natural drainage features to promote infiltration, filtering and slowing of runoff. The objective of stormwater management is to utilize the combination of techniques which provides adequate pollutant removal and flood protection in the most economical manner.

One of the key principles of stormwater management is recognition of the need for basin-wide planning. The stormwater management system must be designed beginning with the final outlet point to ensure adequate capacity to handle all discharge from the upstream portion of the basin under conditions present at the time of design. It is then necessary to ensure that subsequent development upstream utilizes stormwater management techniques and systems which maintain redevelopment runoff conditions so that all development within the basin is based on and supportive of a plan for the entire basin, the functions and useful life of both natural and manmade components of the system will be protected and extended.

There are two basic factors involved in establishing a successful stormwater management program: 1) establishing and applying uniform design standards and procedures and 2) ensuring adequate maintenance of system components once constructed. The design standard of primary importance is the *design storm event*. This standard specifies the intensity (rate of rainfall) and duration of the rainfall event to be used in the design of facilities.

Data on rainfall intensity and duration have been summarized for various regions of the state by the Florida Department of Transportation. The frequency of rainfall events at various intensities and durations (intervals of two, three, five, 10, 25, 50 and 100-years) are recorded for the region to specify design storm events. The conventional method is to indicate the required frequency and duration of the event which allows the intensity and total rainfall amount to be interpreted from the appropriate hydrograph for the region. Thus, for the region in which the study applies, a 10-year frequency/five hour duration storm event would produce rainfall at an intensity of one inch per hour, a total of five inches for the event.

Standard procedures for sizing and designing facilities should be part of the stormwater management program to ensure that systems are structurally and functionally compatible. The program should also provide for routine inspection and maintenance of facilities to ensure proper performance during the facility life.

Regulatory Framework

Federal Regulation

Section 208 of the Federal Water Pollution Control Act (PL92-500, 1972) is the directing federal law with respect to water pollution abatement. In implementing the act, the EPA identified pollutants carried in stormwater runoff as a major source of water contamination. To achieve the pollution abatement goals of the act, EPA provided assistance to state and local governments to develop Areawide Water Quality Management Plans, or "208 Plans" as they are commonly known. These 208 Plans studied a broad range of potential water pollution sources, including stormwater, and focused on identifying pollutant sources and abatement needs as well as development of regulatory programs to ensure implementation. At present, there are no federal regulations for stormwater management concerning the quantity of stormwater runoff.

National Pollutant Discharge Elimination System (NPDES). The US Environmental Protection Agency (EPA) oversees stormwater discharge through the National Pollutant Discharge Elimination System (NPDES) regulations for stormwater discharges which were issued in November 1990. These regulations cover stormwater discharges of specific industries, as well as of medium and large Municipal Separate Storm Sewer Systems (MS4s). MS4s include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels and storm drains.

Medium MS4s are defined by EPA as those serving populations of 100,000 to 250,000 while large MS4s serve populations larger than 250,000. The EPA, in conjunction with the state, can designate a municipality as a medium MS4 if warranted by water quality issues. MS4s can include more than one municipality if the collection system is interconnected.

Under the NPDES stormwater regulations, operators of medium MS4s are required to submit Municipal Application (Part 1 and Part 2) to EPA. The City was a joint applicant with Pasco County for an NPDES permit.

Construction projects that will disturb five acres or more over the life of the project are required to obtain an NPDES permit to discharge stormwater from construction activities. This permit is available through a General Permit which requires that a Notice of Intent form be filed with EPA. Additionally, a Stormwater Pollution Prevention Plan must be prepared for the project. The plan must include information on erosion control methods and the handling of solid waste generated on-site.

The US Army Corp of Engineers (ACOE) does not regulate stormwater management directly, but it does regulate dredge and fill as well as navigation and flood control projects. Many of the early flood studies in Florida were conducted by the ACOE.

State Regulation

The regulatory basis for stormwater management in Florida is contained in five statutes:

- Chapter 373, Florida Water Resources Act (1972);
- Chapter 403, Air and Water Pollution Control Act (1972);
- Chapter 163, Local Government Comprehensive Planning and Land Development Act (1986);
- Surface Water Improvement and Management Act (1987); and
- Stormwater Management Act (Chapters 373 and 403; 1989).

These statutes are implemented by Chapter 62, FAC, mainly in chapters 62-25 (Stormwater) and 62-40 (State Water Policy). Additionally, the FDEP has regulated dredge and fill and stormwater discharge quality through Chapters 62-3 (Water Quality), 62-4 (Permits), 62-312 (Dredge and Fill), 62-550 (Drinking Water) and 62-302 (Surface Water Quality Standards).

FDEP has authority to regulate activities which might impact waters of the State through Chapter 403, FS. From this authority, FDEP has developed water quality standards and design criteria for surface water and stormwater runoff management systems. These standards are outlined in Chapters 62-300 and 62-25, FAC.

Chapter 62-3, FAC, defines the State Comprehensive Program for control, abatement and prevention of water pollution. The chapter states that water quality standards apply equally, to and shall be uniformly enforced in, both the public and private sectors.

Chapter 62-302, FAC, outlines water quality standards for waters of the State. The State has devised a system of classifying each water body based on its current or intended use. The classification system is:

- Class I Waters Potable Water Supplies
- Class II Waters Shellfish Propagation or Harvesting
- Class III Waters Recreation and Propagation/Maintenance of a Healthy, Well-balanced Population of Fish and Wildlife
- Class IV Waters Agricultural Water Supplies
- Class V Waters Navigation, Utility and Industrial Use

Chapter 62-25, FAC, serves to fulfill part of the state's responsibilities under Section 208 of the Federal Water Pollution Control Act. The rule's basic objective is to achieve 80 to 95 percent removal of stormwater pollutants before discharge to receiving waters. This rule requires treatment of the first inch of runoff for sites less than 100-acres in size and the first one-half inch of runoff for sites 100-acres or greater in size.

Treatment is generally accomplished through retention or through detention with filtration. Retention requires the diversion of the required volume of runoff to an impoundment area with no subsequent direct discharge to surface waters. Pollutant removal by settling and by percolation of the stormwater through the soil is almost total. Detention facilities are typically within the line of flow of the drainage system. Stormwater from a site passes through the detention facility and is filtered prior to discharge to remove pollutants.

Implementation of the stormwater rule is achieved through a permitting process. FDEP has delegated permitting responsibility to the SWFWMD with jurisdiction over the west Pasco area.

Local Regulation

The City defers to SWFWMD for stormwater facilities standards. SWFWMD regulates drainage through the provisions of Chapters 17-25, 40D-4 and 40D-40, FAC. Additionally, the City regulates stormwater quality through the Chapter 11, Article IV, New Port Richey Land Development Code. The responsible agency for implementation of stormwater drainage plans and facilities maintenance is the New Port Richey Public Works Department.

Existing Conditions

Service Area

The service area for City's stormwater management system is the municipal boundaries of the City of New Port Richey.

Natural Drainage Features

The City of New Port Richey lies in a flat coastal area which is largely urbanized. The City falls within three major drainage basins: the Lower Coastal Basin on the north side of the City; the Pithlachascotee Basin in the vicinity of the Pithlachascotee River; and the Pinellas-Anclote Basin on the south side of the City. The natural drainage system is part of the much larger Pithlachascotee River basin. This system includes overland flow into receiving waters of the system which are Orange Lake, the Pithlachascotee River and the Gulf of Mexico.

The relatively low, flat topography of the City helps to control stormwater velocities. Most of the drainage basins in the New Port Richey slope toward the Pithlachascotee River. Negative features of the natural characteristics consist of a relatively high water table, a low-lying coastal area and stormwater pollution. Soils are generally poorly drained and urbanization has eliminated much of the natural vegetation.

Much of the City's existing development is located within the 100-year floodplain and took place prior to the implementation of the State's stormwater regulations. Thus, the combination of increased impermeable surfaces and decrease in vacant land and open areas has resulted in drainage problems. These problems include diminished drainage system capacities, decreased water recharge, increased stormwater pollution and an increase in flood prone areas.

Stormwater Drainage System

The City does not own any major structural controls, drainage channels, swales or and catch basins. A major stormwater piping system exists along US 19, which is maintained by FDOT.

New impervious surfaces (e.g., structures, roads, driveways) in floodways or in the 100-year floodplain limit the soil's capacity to absorb stormwater and flood waters and, thus, increase the propensity for flooding downstream.

The major drainage problem facing the City is the flooding of some roadway intersections during heavy storms.

Flood Hazard Areas

The City's flood hazard areas are areas identified by Federal Emergency Management Area Flood Insurance Rate Maps, as depicted on Map INF-X. The flood prone areas are shown for the 100-year frequency storm event. It is critical that the City continues to enforce its Flood Damage Prevention Ordinance (§8.03.00, New Port Richey Land Development Code) to restrict development in flood prone areas so as to protect human life and property. Furthermore, the City minimizes expenditure of public funds for costly flood control projects and strives to protect natural floodplains and stream channels. Map

Protection of Wetlands from Stormwater Runoff

SWFWMD defines *wetlands* as lands that are "transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered with shallow water. "Wetland functions are by definition interconnected with the hydrology of the

area. This connection determines the presence, extent, movement and quality of the water in the wetlands

Wetlands are important to environmental health of a community since they serve as a purifying buffer between uplands and surface water bodies. Wetlands provide areas for settling of suspended solids and physical filtration of particles and provide added volume during events which increase water levels in surface water bodies. Wetland vegetation reduces erosion on shorelines.

Surface waters are of the most valuable natural resources in the region. The Pithlachascotee River and the Gulf of Mexico are valuable aesthetic assets of the area. Maintaining water quality and aesthetic appeal are major responsibilities of the local governments in west Pasco County. The City must enforce regulations governing development and construction within wetlands to preserve and protect the water quality of surface waters. Pollutants include oils, pesticides, organic matter and fertilizers. Some of the pollutants can be easily restricted from entering surface waters by using appropriate drainage handling processes.

Environmental Impacts

The Pithlachascotee River and Orange Lake have been disturbed through urbanization, loss of habitat as a result of hardened shorelines and water quality degradation from stormwater runoff. Water quality degradation of the river can be traced to stormwater runoff from agriculture and urban areas far upstream. The reduction in water quality or a change in water quantity in the river would have direct effects on the productivity of the nearby saltwater wetlands. The situation with Orange Lake is similar to that of the river as it is also directly affected by urban runoff. The City should remain diligent in employing protective measures for these valued water resources.

Groundwater Recharge

Pasco County is underlain by two aquifers, the Surficial and the Upper Floridan. The Upper Floridan Aquifer serves as the principal source of water for domestic, agricultural and industrial supplies for the County and most of west central Florida. The Surficial Aquifer, which occurs within sand overlying the Upper Floridan Aquifer, is used primarily for lawn irrigation. Generally, the confining units which separate the two aquifers are thin and discontinuous in some parts of the County.

The Floridan Aquifer is relatively close to the surface in the New Port Richey area. Within about three miles of the coast, the Aquifer is essentially under watertable (non-artesian) conditions. Because of close proximity to the Gulf of Mexico, a delicate balance exists between the saltwater and the freshwater systems. The most damaging effect to this balance is the over pumping of freshwater from the Floridan Aquifer. Because it is denser, saltwater forms a wedge that penetrates the freshwater, causing freshwater wells to become salty and unusable. At present, saltwater intrudes into wells up to six miles inland.

A study conducted by the U.S. Geological Survey (Water-Resources Investigations Report 90-4195) for Pasco County and other counties indicated that areas of the City west of U.S. 19 and along the Pithlachascotee River had recharge rates ranging from zero to 10-inches per year to the surficial aquifer and had no recharge to the Upper Floridan Aquifer. The remaining areas of the City, east of U.S. 19 had recharge rates ranging from zero to 10-inches to the surficial aquifer and zero to 10-inches to the Upper Floridan Aquifer. The study noted that recharge is commonly near zero in stream valleys and low-lying wetlands.

There are currently no areas within Pasco County which have been adopted by SWFWMD as *prime* groundwater recharge areas. In a document entitled *Recharge Areas of the Floridan Aquifer* (November 7, 1985), the West Coast Regional Water Supply Authority identified the area around the City of New Port Richey as having very low to no recharge to the Floridan Aquifer. In the published report entitled *Ground-Water Resource Availability Inventory: Pasco County, Florida* (March 1988), SWFWMD cited the central, north central and the northeast central areas of the County as being the most suitable for groundwater protection.

Level of Service Standard

The City's adopted stormwater LOS standard is performance-based. The application of the LOS standard is based on permitting systems of SWFWMD, which along with the City's land development regulations, ensure that development orders are not issued unless the necessary drainage facilities are in place. The City applies drainage standards through the development review process. In accordance with the City's adopted LOS standard for stormwater drainage, new development must provide adequate facilities to accommodate stormwater for the 25-year/24-hour storm event.

Stormwater Drainage Demand and Needs Analysis

The City's Master Drainage Plan was updated in 2002. The document addressed flood prone areas and a multi-year capital improvements program to resolve flooding or water quality issues. All of the projects identified in the Master Drainage Plan were completed.

Plan to Meet Needs

The City endeavors to improve stormwater management through the implementation and enforcement of land development regulations and stormwater quality and quantity monitoring.

National Pollution Discharge Elimination System

The City holds a National Pollution Discharge Elimination System (NPDES) permit from the Department of Environmental Protection. Under this permit, the City is responsible for identifying major outfalls and pollutant loadings, detecting and eliminating non-stormwater discharges to the system, reducing pollutants in runoff from industrial, commercial and residential areas, controlling stormwater discharges from new development and redevelopment areas and implementing a monitoring program.

Stormwater Utility Program

Pursuant to §408.0893, FS, a Stormwater Utility Program was created by ordinance in 2001 to fund stormwater management services in the City of New Port Richey. This utility provides a dedicated funding source for both operational and capital costs related to stormwater management. Fees are charged based on the amount of impervious surface on a property. Non-residential properties are granted an on-site retention facility stormwater utility fee credit if retention facilities are included in their site design. The fee applies to all public and private lands within the City which use or discharge into the City's stormwater system. The City assesses an annual fee of \$40.32 per equivalent residential unit (ERU). The fee generates approximately \$0.5 million per year. The stormwater utility is wholly owned by the City and is only operative within the municipality.

Infrastructure Element: Stormwater Drainage Subelement

March 21, 2016

All revenues generated by the utility are used for stormwater management purposes. Currently, revenues are primarily spent on system maintenance and repairs. The need for additional funding and associated long-term planning will be identified in the Five-Year Stormwater Improvement Plan for the utility.

Capital Improvements Program

Projects are programmed in the City's Five-Year Capital Program, as needed.

VI. Goals, Objectives and Policies

Introduction

Pursuant to Section 163.3177(6), Florida Statutes, the following represents the Goals, Objectives and Policies of the Infrastructure Element.

In addition to statutory requirements, the Goals, Objectives and Policies were developed in keeping with the character, conditions, both environmental and social, and desires of the community. These Goals, Objectives and Policies are intended to provide guidance for maintaining and extending potable water, wastewater, stormwater drainage and solid waste collection and disposal systems to serve the City and its service areas.

Implementation

Unless otherwise stated, the implementation of objectives and associated policies contained in this section shall be through the development, adoption and application of regulations in the Land Development Code.

Potable Water Subelement

GOAL INF 1

To maintain adequate potable water supply, treatment, storage and distribution facilities; maintain or reduce per capita demand and maintain sufficient and equitable financial measures to provide services to the City's potable water customers.

Adequate Water Supply and Treatment

Objective INF 1.1

Secure sufficient raw water supplies and treatment capabilities to meet demands for existing and future potable water customers.

Policies

- INF 1.1.1 The City shall maintain an infrastructure level of service standard of 100 gallons per day per capita of water treatment capacity (annual average daily flow).
- INF 1.1.2 The level of service provided by the City shall be deemed adequate in the Concurrency Management System if total operational water treatment capacity is equal to or greater than the level of service standard multiplied by the estimate of the City's water customers which shall be (prepared annually by the New Port Richey Utilities Department, and multiplied by the maximum day peaking factor).
- INF 1.1.3 To serve the needs of City water customers through the Water Supply Facilities Work Plan planning timeframe, the City shall maintain adequate raw water sources through agreements with Tampa Bay Water.
- INF 1.1.4 The City shall develop and maintain water treatment facilities that produce potable water of sufficient quality to meet all applicable federal and state regulatory requirements.

- INF 1.1.5 Provision of potable water service shall be contingent on the concurrent availability of a long-term supply of water adequate to maintain both the natural systems and the increased population associated with the development.
- INF 1.1.6 Development approval shall be contingent on the availability of adequate potable water facilities, In accordance with the Concurrency Management System in the Land Development Code.
- INF 1.1.7 The City shall update the data and analysis, and policies of the Comprehensive Plan to ensure ongoing consistency with the Southwest Florida Water Management District Regional Water Supply Plan.
- INF 1.1.8 The City shall maintain the New Port Richey Water Supply Facilities Work Plan pursuant to Section 163.3177(6)(c), FS. The Work Plan shall incorporate traditional and alternative water supply projects and conservation and reuse programs deemed necessary to meet the City's water supply needs over the comprehensive planning period.

Adequate and Efficient Distribution Facilities

Objective INF 1.2

Adequate and efficient distribution of potable water to water customers in the City's Water Service Area.

Policies

- INF 1.2.1 The City shall annually designate a portion of its operational and capital improvements budgets for the identification and correction of existing deficiencies in the water treatment and transmission system as determined by the application of the level of service standard and regular inspections.
- INF 1.2.2 The City shall update the New Port Richey Utilities Master Plan for facility evaluation and expansion at least every 10 years.
- INF 1.2.3 New development shall be required to install water lines according to City specifications as a condition for development approval.

Water Conservation and Reuse

Objective INF 1.3

Reduce the need for water system expansion and protect the State's water resources by promoting water conservation to reduce per capita water demand.

Policies

- INF 1.3.1 Water users in the City shall be advised to reduce potable water demand during dry periods through the use of inserts in utility bill mailings and/or media releases.
- INF 1.3.2 The City shall publicize the City's Reclaimed Water Program to encourage use of reclaimed water for landscape irrigation and other nonpotable water use.

- INF 1.3.3 The City shall revise the existing landscape ordinance, which requires landscaped and irrigated open space areas and gives incentives for retaining existing vegetation, to require the use of native vegetation in new development including xeriscaping.
- INF 1.3.4 The City shall continue to promote water conservation through the enforcement of the adopted Florida Building Code which requires such items as low-volume commodes, water flow restrictions for showers and spigots and similar devices in all new construction and renovations, and shall comply with the Southwest Florida Water Management District water use restrictions.

Equitable Financing of System Improvements and Operations

Objective INF 1.4

Fund potable water system capital improvements, replacement, rehabilitation, operation and maintenance costs such that system customers bear the costs on a cost-of-service basis.

Policies

- INF 1.4.1 The potable water system shall be operated as an independent enterprise, such that water utility customers shall bear all costs, and revenues shall be used for the benefit of those customers. The rate schedule for water services shall be based on public utility cost-of-service principles.
- INF 1.4.2 Costs for the extension of service to new customers shall be borne to the maximum extent possible by those new customers through an impact fee system.
- INF 1.4.3 The City shall encourage any land or development receiving potable water service from the City to annex into the City if or when it becomes contiguous to the municipal boundary.

Elimination of Existing Deficiencies

Objective 1.5

Eliminate potable water system deficiencies through the scheduling of capital projects in the Capital Improvements Program.

Policies

- INF 1.5.1 Potable water system capital improvements shall be implemented each year in order of priority. Improvements required for public health shall receive the highest priority; improvements related to providing the level of service standard shall receive the second highest priority; and operational, convenience, and other improvements shall receive the third highest priority.
- INF 1.5.2 The City shall annually update the Potable Water Capital Improvements Program and incorporate the update into the Capital Improvements Element of the Comprehensive Plan.

SANITARY SEWER SUBELEMENT

Goal INF 2

To provide adequate capacity for wastewater treatment, install and maintain adequate wastewater collection and transmission facilities, implement strategies to conserve water, and maintain sufficient and equitable financing to meet existing and future demand for sanitary sewer service.

Adequate Facilities

Objective INF 2.1

Eliminate existing deficiencies and provide facilities and services to serve the future needs of the City's sanitary sewer customers.

Policies

- INF 2.1.1 The City shall maintain an infrastructure level of service standard of 114 gallons per day per capita of wastewater treatment capacity and disposal per day (annual average daily flow).
- INF 2.1.1 The City shall require wastewater treatment facilities to provide adequate capacity for peak hydraulic flows.
- INF 2.1.3 Development approval shall be contingent on the availability of adequate wastewater treatment capacity in accordance with the adopted level of service standard.
- INF 2.1.4 The City shall plan for wastewater facilities expansion, including design, permitting and construction, in compliance with capacity planning requirements as set forth in 62-600.405, Florida Administrative Code.
- INF 2.1.5 The City shall annually designate a portion of its operational and capital improvements budgets for the identification and correction of existing deficiencies in the sewage collection, treatment and transmission system as determined by the application of the level of service standard and regular inspections.
- INF 2.1.6 The City shall update the New Port Richey Utilities Master Plan for facility evaluation and expansion at least every five years.
- INF 2.1.7 The City shall coordinate with Pasco County to reach an agreement as to proportionate funding for future expansion of the jointly-owned wastewater treatment plant in the City.
- INF 2.1.8 The City shall develop cost estimates and an assessment program for connecting the few remaining properties served by septic tanks in the sanitary sewer service area to the sanitary sewer system. These areas are located in the unincorporated area.

System Efficiency

Objective INF 2.2

Improve the efficiency of the wastewater treatment system by minimizing wastewater flow resulting from infiltration and inflow.

Policies

INF 2.2.1 The City shall continue to regularly monitor infiltration and inflow to determine rates and locations of occurrences. When economically feasible, system improvements shall be made to reduce infiltration and inflow.

INF 2.2.2 The City shall promote reclaimed water system connections to residential users and other potential users for landscape irrigation and nonpotable use.

Equitable Financing of System Improvements and Operations

Objective INF 2.3

Program wastewater treatment capacity expansion necessary to accommodate projected future, wastewater flows through 2020.

Policies

INF 2.3.1 The sanitary sewer system shall be operated as an independent enterprise, such that utility customers shall bear all costs, and revenues shall be used for the benefit of those customers. The rate schedule for sanitary sewer services shall be based on public utility cost-of-service principles.

INF 2.3.2 Costs for the extension of service to new customers shall continue to be borne to the maximum extent possible by these new customers through an impact fee.

INF 2.3.4 City shall encourage that any land or development receiving sanitary sewer services from the City to annex into the City if or when it becomes contiguous to the City.

Existing Deficiencies

Objective INF 2.4

Eliminate sanitary sewer system deficiencies through the scheduling of capital projects in the Capital Improvements Program.

Policies

INF 2.4.1 Sanitary sewer system capital improvements shall be implemented each year in order of priority. Improvements required for public health shall receive the highest priority; improvements related to providing the level of service standard shall receive the second highest priority; and operational, convenience, and other improvements shall receive the third highest priority.

INF 2.4.2 The City shall annually update the Utilities Capital Improvements Program and incorporate the update into the Capital Improvements Program in the Capital Improvements Element.

SOLID WASTE SUBELEMENT

Goal INF 3

To dispose of solid waste in a manner which is environmentally safe and economically efficient.

Level of Service

Objective INF 3.1

Maximize the use of solid waste facility capacity by reducing the volume of solid waste generated in the City.

Policies

- INF 3.1.1 The City's level of service standard for solid waste generation shall be consistent with Pasco County's standard of 7.0 pounds per day per capita.
- INF 3.1.2 The City shall assist Pasco County in maintaining a recycling rate in accordance with state policies and goals by encouraging City residents and businesses to participate in the following recycling programs:
 - a. Governmental office paper recycling;
 - b. Waste tire recycling;
 - c. Recovered materials (white goods)
 - d. Lead-acid and household batteries recycling;
 - e. Recycling of yard debris;
 - f. Curbside separation and collection of recyclables; and
 - g. Other materials which may become recyclable in the future.
- INF 3.1.3 Through contract negotiations, the City shall encourage franchise solid waste haulers to implement programs that encourage solid waste customers to separate recyclables from non-recyclable solid waste.
- INF 3.1.4 The City shall consider a corresponding reduction in the residential and commercial customer billing rate for those customers participating in the recycling program.

STORMWATER DRAINAGE SUBELEMENT

Goal INF 4

To reduce the risk of flood hazard to life, health and property and the adverse effects of stormwater runoff on the natural environment.

Level of Service

Objective INF4.1

Establish stormwater drainage quantity and quality level of service standards for planning capital improvements and reviewing applications for development approval.

Policies

- INF 4.1.1 The City shall limit the *rate* of stormwater discharge from new developments and redevelopment activities to amounts which are equal to, or less than, the rate of discharge which existed prior to development in accordance with the rules of Chapters 40D-4 and 40D-40, Florida Administrative Code.
- INF 4.1.2 The City shall regulate the *volume* of stormwater discharge in accordance with Chapters 40 D-4 and 40 D-40, Florida Administrative Code, and local regulations, whichever is more restrictive.

- INF 4.1.3 The City shall require the application of Class III water quality standards as provided in Chapter 62-302, Florida Administrative Code, to maintain water bodies for recreation and the propagation and maintenance of a healthy, well-balanced population of fish and wildlife.
- INF 4.1.4 All stormwater systems for new development and redevelopment shall include features to minimize pollution from oil, suspended solids and other pollutants. Such features shall be designed to treat the runoff resulting from the first one inch of rainfall. Stormwater systems shall include additional measures designed to reduce floating and suspended solids.
- INF 4.1.5 In accordance with the provisions of the National Pollution Discharge Elimination System Permit issued to the City by the Department of Environmental Protection, the City shall develop water quality specific level of service criteria, as required.
- INF 4.1.6 The City shall regulate the use of floodplains in accordance with the New Port Richey Land Development Code and to comply with Federal requirements under the National Flood Insurance Program.
- INF 4.1.7 The City shall require that all proposed buildings within the 100-year flood plain shall be constructed so that finished floor elevations shall be at the base floor elevation of the 100-year flood, as indicated by the Federal Insurance Rate Map in effect at the time of building permit application or as established by site survey.

Natural Drainage Features

Objective INF 4.2

Protect natural-drainage features, such as rivers, lakes, wetlands and estuaries, and the natural function of these features for conveyance, storage and treatment of stormwater runoff.

Policies

- INF 4.2.1 The land development regulations shall contain, at minimum, the following provisions to protect the functions of natural drainage features: and natural groundwater recharge areas:
- a. Minimization of impervious surface areas;
 - b. Maintenance of the flood-carrying and flood storage capacity of the 100-year floodplain;
 - c. To the maximum extent legally possible, prohibition of new development in river floodways, the area of highest velocity during flow;
 - d. Requirement that new development permitted in the flood fringe,(the area of the floodplain outside the floodway) meet flood hazard construction requirements;
 - e. Requirement that development within the Pithlachascotee River floodplain be low density residential with adequate setbacks to maintain any existing areas of natural habitat;
 - f. Prevention of erosion, retardation of runoff and protection of natural functions and values of the floodplain in conjunction with public usage; and

- INF 4.2.2 The City shall promote the Florida-Friendly Yards Program which employs best management practices concerning stormwater runoff and living on a waterfront. A properly maintained Florida-Friendly Yard can help conserve potable water and reduce pollution of water resources.

Facilities Design and Maintenance

Objective INF4.3

Maintain, and where necessary improve, the stormwater drainage system located within the municipal boundaries.

Policies

- INF 4.3.1 The extent of impervious surface areas for new development and redevelopment shall be regulated in the Land Development Code.
- INF 4.3.2 Where the shoreline of the Pithlachascotee River is not sea-walled, native vegetation shall be used for shoreline stabilization.
- INF 4.3.3 The City shall require all new drainageways to use swaled, rather than steep-sided cross-sections, where possible.
- INF 4.3.4 The City shall require the use of erosion and runoff control devices during development construction.
- INF 4.3.5 The City shall require dedication of drainage easements by developers in order for the City to have access for maintenance.
- INF 4.3.6 The City shall expand, as necessary, and regularly maintain retention swales adjacent to City streets.

Master Drainage Plan

Objective INF 4.4

Correct deficiencies within the primary drainage system as identified in the New Port Richey Stormwater Management Master Plan.

Policies

- INF 4.4.1 Consistent with budget allocations, the City shall establish a program for retrofitting (i.e., rehabilitation during road repairs and improvements) of the system's existing deficiencies to conform to the Stormwater Management Master Plan.
- INF 4.4.2 Where cost effective, the City shall rehabilitate drainage facilities in conjunction with street modifications.

Stormwater Utility

Objective INF 4.5

Maintain a financially sound Stormwater Management Capital Improvements Program through matching annual expenditures with annual Stormwater Management Utility revenues.

Policies

- INF 4.5.1 Within the legal authorizations provided by City's existing Stormwater Management Utility Ordinance, the City shall establish rates, which will adequately fund the deficiencies in the existing system and the future priority needs of the Stormwater Management Utility Program.
- INF 4.5.2 Existing stormwater facility deficiencies (as identified in the Stormwater Management Subelement) shall be corrected based on the priority in the Capital Improvements Program in the Capital Improvements Element.
- INF 4.5.3 The City shall allocate funds for public drainage projects in areas that have had a detailed, stormwater study prepared. Drainage studies shall define flooding and water quality issues, provide a prioritized list of solutions, and estimate the cost of improvements.

**Exhibit INF-1
City of New Port Richey Water Supply Facilities Work Plan 2013-2025**

**Exhibit INF-2
Tampa Bay Water Special District Public Facilities Report, March 1, 2011**

The data and analysis in the Tampa Bay Water Special District Public Facilities Report is incorporated herein by reference and may be viewed in the City of New Port Richey Development Department during regular business hours.