

Table of Contents

Chapter 4 Sanitary Sewer Section	Page
Introduction.....	4-29
Legislation.....	4-29
Relationship to EAR.....	4-31
Utilities Master Planning.....	4-32
Regulatory Compliance.....	4-32
Inventory.....	4-33
Collection and Transmission Facilities.....	4-33
City of North Port Central Wastewater Treatment Plant.....	4-34
Deep Injection Well.....	4-34
Reclaimed Water System.....	4-35
Analysis of Sanitary Sewer Needs through 2025.....	4-36
Capital Improvements Program.....	4-36
Utility Expansion into Existing Neighborhoods.....	4-36
Developer Contributions.....	4-36
Future Needs.....	4-37
Wastewater Treatment and Disposal Facilities.....	4-37
Conclusion.....	4-40

List of Illustrations

TABLES

4-5	CWWTP Permit Requirements.....	4-32
4-6	Wastewater Flow Projections.....	4-35
4-7	Summary of Recommended Wastewater Treatment Plant Improvements.....	4-39
Goals, Objectives, & Policies.....		4-41

Maps follow GOP's

4-2 Sanitary Sewer Service Area

4-3 FEMA Flood Zone

SANITARY SEWER ELEMENT

Introduction

The City of North Port Public Utilities Department currently provides wastewater utility service to approximately 13,000 sanitary sewer connections. The City purchased the utility systems from the now defunct General Development Corporation through their subsidiary, General Development Utilities in 1992. The City has completed several system expansion and improvement projects since that time in an effort to better serve the customers of the City of North Port. The City of North Port has been experiencing rapid growth in recent years, and the City's Planning and Zoning Department projects that the City's population will grow to approximately 136,000 people by the year 2030. This incredible growth will be spurred by the proposed large scale developments in the former Taylor Ranch, then Thomas Ranch, now West Villages Improvement District (WVID), in the western part of the City and by the Panacea area in the northeastern part of the City, while the older platted lots of the City are continuing to be developed.

Most of the areas currently served by City of North Port utilities are located within or near the old City core area. Many residents/businesses outside of this core currently utilize private septic systems for wastewater disposal. The City of North Port's ultimate goal is to expand the wastewater system to service most areas of the City, but not including the Agricultural/Estates section.

Per the 1997 City of North Port Comprehensive Plan, the City of North Port Utilities Department has developed, and accepted, a utility master plans to formalize the expansion of the utilities in a uniform manner and not the haphazard way in which it was done previously. This Master Plan will be updated a minimum of once every five (5) years, and may be amended to include other criteria, such as the ability to put in water and sewer infrastructure along with other City infrastructure such as roadways and sidewalks.

To help realize this goal of overall city-wide wastewater service, the City is requiring all large scale developments to bear their share of the cost to engineer and construct the wastewater systems. This is done with the requirement that all developers will enter into a "Developer's Agreement" with the City of North Port. The developer will then bear the cost of engineering and developing the needed systems for their developments. For very large scale developments, such as WVID (Thomas Ranch), these agreements may include the design, permitting, and construction of a wastewater plant, a reuse storage and distribution system which will then be dedicated to the City of North Port for its use and maintenance, thereby eliminating the initial development cost to the City of North Port.

Legislation

Any entity processing more than 2,000 gallons of sewage per day must treat wastewater through a centralized wastewater treatment system. The following are the relevant laws which govern wastewater treatment, including a brief description of each.

U.S. Public Law 92 500, "Federal Water Pollution Control Act," relates to the provision of sanitary sewer service with the goal of restoring or maintaining the chemical, physical, and

biological integrity of the nation's waters. In the first years after the 1972 passage of this act, area wide wastewater treatment and management plans were developed to ensure adequate control of source polluters.

Section 201 grants were available to local governments for the construction of facilities that were "point sources" of pollution including sewage treatment facilities.

Sections 403.085 and 403.086, Florida Statutes, "Sewage Disposal Facilities: Advanced and Secondary Waste Treatment," as amended, in part, and chapters 62-4, "Permitting," and 62-200 "Wastewater Facilities," Florida Administrative Code, implement Public Law 92-500 at the State level. Chapters 62-4, 62-600, 62-601, 62-604, 62-610, 62-620, and 62-640, Florida Administrative Code, as amended, provide for the rules regarding the permitting, construction and operation of wastewater treatment facilities, including regulations establishing minimum water quality standards for the discharge of effluent and residuals from domestic wastewater facilities. Chapter 62-600, Florida Administrative Code, regulates industrial wastewater facilities and establishes minimum water quality standards for the discharge of the treated wastewater into the environment or into a domestic wastewater collection system.

Sections 403.085 and 403.086, Florida Statutes, establish requirements for the treatment and reuse or disposal of domestic wastewater. Prior to October 1, 1990, Section 403.086, Florida Statutes, required wastewater effluent to be treated to a minimum of secondary treatment, and to the extent necessary, required disinfection and pH control, as defined respectively in Sections 62-600.440, and 62-600.445, Florida Administrative Code, prior to discharge into holding ponds, disposal systems, or surface waters. A 1987 amendment to Section 403.086, Florida Statutes, the Grizzle Figg bill, mandated advanced waste treatment (AWT) by October 1, 1990 for wastewater treatment plants which employ surface water discharge. Surface waters included Sarasota Bay, Little Sarasota Bay, Roberts Bay, Lemon Bay, Charlotte Harbor, and any river, stream, channel, canal, bay, bayou, sound, or other water tributary thereto.

In 1994, the Florida Legislature enacted the "Florida APRICOT (A Prototype Realistically Innovative Community of Today) Act," which amended Sections 403.086 and 403.859, Florida Statutes, regarding the reuse of wastewater effluent. The legislation allows for backup discharges to surface waters not exceeding 30 percent of the permitted capacity during periods of reduced demand for reclaimed water when certain conditions are met.

Chapters 62-4 and 62-620 set forth procedures on how to obtain a permit from the State of Florida Department of Environmental Protection (FDEP) and provide requirements and procedures for the issuance, denial, renewal, extension, transfer, modification, suspension, and revocation of any permit required by the FDEP. Chapters 62-600 and 62-610 provide minimum standards for the design of domestic wastewater facilities and establish minimum treatment and disinfection requirements for the operation of domestic wastewater facilities. Chapter 62-601 ensures that owners and operators of domestic wastewater treatment facilities maintain accurate records and submit reports in a timely, accurate, and uniform manner. Chapters 62-602 and 62-699 provide for Operator Certification to assure that qualified and certified operations personnel operate wastewater treatment plants.

Chapter 62-604, Florida Administrative Code, provides minimum design, operation, and maintenance standards for domestic wastewater collection/transmission systems. The FDEP requires a general permit for the construction of wastewater collection and transmission facilities. The general permit is essentially a 30-day notice of construction, which is granted automatically. The FDEP also requires a specific “dryline” permit for the construction of proposed expansions to the collection or transmission system when wastewater treatment facilities lack an operating permit (expired permit) or are significantly non-compliant (no available capacity and other violations). Sarasota County Water Resources conducts the FDEP plan reviews for collection and transmission facilities and reviews and issues wastewater treatment plant permits.

Chapter 62-610, Florida Administrative Code, provides for the regulation of both the disposal and reuse of reclaimed water (treated effluent). Disposal can include deep well injection and off-site discharge to surface waters. The rule also contains specific reuse and land application requirements. Reuse generally includes the use of percolation ponds and spray irrigation. The City of North Port is continuing to examine other reuse alternatives including methods which could augment potable water supplies. The regulations require the operators of wastewater treatment plants to submit monthly discharge monitoring reports. The reports include information concerning effluent quality (for example, total suspended solids, bio-chemical oxygen demand, fecal coliform, and nitrates) and daily operating data (such as flow, chlorine residual, pH, and staffing time).

The FDEP also has regulations regarding sanitary sewer facilities that are near capacity. Section 62-600.405 of the Florida Administrative Code, “Planning for Wastewater Facilities Expansion,” requires permittees of facilities to monitor and compare actual flows with the permitted capacities, to submit capacity analysis reports on a scheduled basis and to provide for timely planning, design, and construction of wastewater facilities, as necessary, in accordance with the stated schedule in the rule. This rule was adopted in January 1991 and it is significant in that it greatly increased the accountability required of permittees of facilities with respect to monitoring the facilities’ capacity status.

The City of North Port has enacted Ordinance No. 03-14, which requires all residents, business establishments included, if they are currently on private septic systems to hook into the City of North Port sanitary sewer system within 365 days (one year) notice of the service becoming available to the neighborhood.

Relationship to 2005 Evaluation and Appraisal Report (EAR)

The City’s Evaluation and Appraisal Report, which was adopted in 2005, did list one specific item, and one related item, relating to sanitary sewer service in the list of major issues identified by the citizens of the City of North Port, City Staff, the Planning and Zoning Advisory Board, and the City Commission.

The first issue is that the City should be more aggressive in extending potable water and sanitary sewer service throughout the City. The concern is the proliferation of wells and septic systems that have followed the growth of this platted lands community, and their ultimate impact upon the environment and public health. The City’s utility master planning processes will be utilized

to accomplish these goals, as will be indicated in the revised goals, objectives, and policies in this Comprehensive Plan.

A second major issue is certainly related to the provision of, and protection of, a source of potable water – that is the continuation of the Myakkahatchee Creek initiative. As noted throughout this Comprehensive Plan, it is the City’s ultimate goal to assemble at least the first two tiers of property along each side of the creek north of U.S. 41 to create a linear park that would also serve to protect this valuable potable water resource and better maintain the function of the floodplain. This is especially important when pertaining to sewer service, as the specter of hundreds, if not thousands, of older septic tanks failing along the Myakkahatchee Creek is something the City must strive to keep from happening.

Utilities Master Planning

The 1997 Comprehensive Plan for the City of North Port mandated the development and acceptance of a Utility Master Plan to guide the expansion of the utility system. The City of North Port developed master planning tools that provided guidance for the expansion of the utility system as well as directed a capital improvement plan based on anticipated flows and anticipated population projections. The platted nature of the City of North Port necessitated such a guide.

One component of the Utility Master Plan was to formalize guidelines and rankings to direct the provision of service into neighborhoods as they begin to build-out. In addition to the Utility Master Plan, in 2006 the City began the wastewater master program which included master planning for the sanitary sewer system and design and expansion of the existing Central Wastewater Treatment Plant (CWWTP).

This Comprehensive Plan will add policy language requiring an assessment of overall neighborhood initiatives as another parameter for consideration when extending utility service to existing neighborhoods.

Regulatory Compliance

The City currently treats all of the wastewater flow at its CWWTP under a FDEP domestic wastewater facility permit. This permit allows the City to operate a Type I activated sludge domestic wastewater treatment plant which disposes treated effluent through a reclaimed water system and deep injection well. [Table 4-5](#) below summarizes the primary treatment requirements indicated in the permit.

Table 4-5

City of North Port CWWTP Permit Requirements	
WWTP Effluent Flow sent to DIW – Limitations	
<u>Parameter</u>	<u>Value</u>
Permitted Capacity (flow) (Annual Average Day)	4.4 mgd
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD5) (Maximum Month)	30.0 mg/L

Total Suspended Solids (TSS) (Maximum Month)	30.0 mg/L
pH (Minimum – Maximum)	6.0 – 8.5
WWTP Effluent Flow sent to Reclaimed Water System – Limitations	
<u>Parameter</u>	<u>Value</u>
Permitted Capacity (flow) (Maximum 3 Month Average Day)	1.88 mgd
5 Day Carbonaceous Biochemical Oxygen Demand (CBOD5) (Maximum Month)	30.0 mg/L
Total Suspended Solids (TSS) (Maximum Month)	5.0 mg/L
pH (Minimum – Maximum)	6.0 – 8.5
Turbidity (Maximum)	3.5 NTU

Source: City of North Port

The City of North Port’s reuse water system is primarily regulated under F.A.C. 62-610, Reuse of Reclaimed Water and Land Application. The City of North Port’s system is currently in compliance with these regulations.

In addition to remaining in compliance with the domestic wastewater facility operating permit, the City must also operate a deep injection well system under a FDEP Class I municipal injection well system permit. This permit sets forth operating, testing, and reporting requirements for the deep injection well system. The permit states that “the injection well shall be continuously monitored and controlled at all times to ensure that the maximum sustained pressure at the wellhead does not exceed 84 psi on the final casing and a maximum peak flow of 5.32 million gallons per day (3,700 gpm).”

Inventory

The City of North Port’s existing wastewater system serves a significantly smaller service area than the City’s potable water system. City sewer service is available primarily in the City core area, and in some new developments located along Toledo Blade and Sumter Boulevard. All wastewater collected in the City’s sewer system is delivered to the City Central Wastewater Treatment Plant (CWWTP). The treated wastewater is disposed of through the City’s reclaimed water system and a deep injection well.

The primary components of the City’s wastewater system are described in detail below:

- Wastewater collection and transmission system.
- City of North Port Central Wastewater Treatment Plant (CWWTP).
- Deep Injection Well (DIW).
- Public Access Reclaimed Water System.

A. Collection and Transmission Facilities

The City’s wastewater collection and transmission system consists of approximately 100 miles of sewer lines and over 85 sewage lift stations. The collection system is a conventional gravity system which transports wastewater flows by gravity from the customers’ connection

points to one of the City's lift stations. The lift stations collect wastewater flows and pump it through force mains to another gravity collection system, a primary lift station, or directly to the treatment plant. The City's wastewater transmission system consists of 4 to 24-inch forcemains.

B. City of North Port Central Wastewater Treatment Plant

The City of North Port CWWTP is located on the west side of Pan American Boulevard just north of US-41. The CWWTP is operated under a FDEP domestic wastewater facility permit. In 2007, the City and FDEP re-rated the CWWTP from 3.7 mgd to 4.4 mgd three month average daily flow (3MADF). Based on typical engineering planning guidelines, the 3.52 mgd (ADF) permitted treatment capacity at the City's CWWTP correlates to a maximum three month average daily flow of 4.4 mgd 3MADF. The design capacity of the plant is summarized as follows:

- Annual Average Daily Flow (ADF) = 3.52 mgd.
- Three Month Average Daily Flow (3MADF) = 4.4 mgd.
- Maximum Month Average Daily Flow (MMADF) = 5.9 mgd.
- Maximum Daily Flow (MDF) = 7.75 mgd.
- Maximum Hourly Flow (MHF) = 10.14 mgd.

Average daily flows currently range from approximately 1.5 to 2.0 mgd throughout the year, and the peak wet weather flows can approach 4.173 mgd MDF. A portion of the plant effluent is distributed in the City's reclaimed water distribution system, and the rest is disposed of through a deep injection well located off site.

The plant is classified as an extended aeration activated sludge facility with screening, grit removal, fine bubble aeration, and secondary clarification. Effluent to be distributed as reclaimed water undergoes additional treatment processes including filtration and high level disinfection.

The City's wastewater biosolids processing operations have recently changed. The City currently aerates the biosolids in the holding tank (with no lime stabilization) and contracts with a company that brings in a mobile centrifuge unit and dewateres the sludge. The dewatered cake (approximately 20% solids) is hauled by the contractor to the Okeechobee landfill, and the remaining water is returned to the plant. Previously, the wastewater biosolids were stabilized through the addition of lime in aerobic digestion tanks. The stabilized Class B biosolids were then removed from the plant in liquid form by a contract hauler, who disposed of it by land application. The wastewater treatment plant still has the facilities required to treat biosolids to Class B standards.

C. Deep Injection Well

Effluent from the City's CWWTP that is not distributed in the reclaimed water system is pumped approximately 3 miles through a 16-inch pipeline and disposed of through a deep injection well (DIW) located southwest of the City core area just west of the North Port – Charlotte County border and east of the Myakka River. This Class I deep injection well is regulated by the FDEP through a Class I municipal injection well system permit and the

Underground Injection Control Department under Florida Administrative Code Rules 62-4, 62-250, 62-522, 62-528, 62-600, and 62-610. The DIW has been in operation for approximately 20 years and is currently permitted for a maximum injection rate of 5.32 mgd, at a maximum pressure of 133 psi at the well head. The DIW system also includes two (2) groundwater monitoring wells. The DIW is approximately 3,200 feet deep with 1,105 feet of 14-inch diameter casing.

D. Reclaimed Water System

See Potable Water Element of this Comprehensive Plan.

Analysis of Sanitary Sewer Needs Thru 2025

A. Demand and Flow Projections

As a basis for system planning in the utility master plans projections of future wastewater flows were developed based on historical population, projected population, historical water use rates, and projected water use rates based on a changing City demography.

When the 2005 Utility Master Plan, (Black & Veatch, June 13, 2005) was accepted, the US Census Bureau Year 2000 Census data was used as the base, with a population of 22,797 persons. The population of the study area (which includes the Old Myakka Utilities service area) derived from a summation of the Year 2000 Census Blocks was 27,876 persons. The Year 2000 Census for the study area also shows the number of occupied housing units.

B. Projected Future Wastewater Usage Rates and Peaking Factors

Based on typical planning guidelines and recent CWWTP re-rated capacity, the projected average day dry-weather average daily flow (ADF) was calculated to be 3.52 mgd. Due to the occurrence of inflow and infiltration (I&I) of rainwater into wastewater collection systems during storm events, and based on typical engineering planning guidelines, the peaking factor of wastewater that enters the CWWTP is calculated at 2.6. This peaking factor was used to project future peak day flows for the City throughout the planning period.

The planning database was supplied by the City Utility Department to determine the projected wastewater flows for planning years 2008, 2013, 2018, and, 2030. The resulting projections are summarized in [Table 4-6](#) below:

Table 4-6

Wastewater Flow Projections		
Year	Average Daily Flow (MGD)	Peak Daily Flow (MGD)
2008	2.96	6.21
2013	4.33	9.09
2018	6.4875	12.97
2030	10.66	19.188

Source: City of North Port

Capital Improvement Program

Please refer to the Capital Improvements Element for a breakdown of the fiscal year funding for the five-year planning period. The City will update this schedule yearly and the projects contained therein will be financially feasible as required by Florida Statutes.

Utility Expansion into Existing Neighborhoods

1. Introduction

The City of North Port will also be expanding the sanitary sewer system to existing neighborhoods. Within the City, there are currently 60 designated neighborhoods ranging in size from approximately 20 acres to over 3,600 acres. The City currently provides sanitary sewer service to a portion of these neighborhoods. The neighborhoods that currently have sanitary sewer service are located primarily in the older City core area where the General Development Corporation first developed and built. The platted nature of North Port meant that the neighborhoods beyond the “core” developed in a haphazard fashion over time. However, in the past decade tremendous growth has caused neighborhoods to fill, and make it more amenable and cost-effective to extend water and sewer infrastructure.

The goal of the City is to eventually connect all residences within the City limits to the City’s utility system (with the exception of the North Port Estates and Lake Geraldine areas, as these areas are intended to be agricultural/estates). In general, these centralized utility systems are considered to offer increased environmental, health, and safety benefits over private wells because the centralized systems can be more closely monitored and controlled. In keeping with this goal, the City has implemented policies that require all newly developed neighborhoods to be constructed with infrastructure to connect into the City’s water systems. Again, this is for subdivided portions of larger tracts of land and does not apply to the old quarter acre platted lots.

The City will be completing a Neighborhood Improvements Master Plan in the near future to evaluate the areas not currently provided with utility service. This master plan will be used to prioritize the neighborhoods and the order of improvements including their financial feasibility. The City has policies in place in this Comprehensive Plan requiring residences of existing neighborhoods (the platted lots) to connect to the City of North Port utility system within one (1) year after the appropriate infrastructure is made available to the residences that currently lack the services.

Developer Contributions

In order for the City of North Port to realize its ultimate goal of City-wide sanitary sewer service, it must rely on the contributions of developers to help defray the costs of the needed infrastructure. This may come in the form of upgrades to existing facilities, construction of new facilities, reimbursements to the City for improvements made by the City or another form of contribution. The City requires all developers to enter into a Developer’s Agreement in order for the City to ascertain the needs that the development will require from the wastewater system and how those needs will be met by both the City and the developer. The City of North Port requires the developer to supply the City with hydraulic modeling detailing the development’s impacts to the existing infrastructure. The City of North Port will require the developer to supply hydraulic modeling detailing the developments’ impacts to the existing infrastructure. The City may

require developers to investigate possible wastewater facilities which may be located on their property in order to serve both the development and for the City, specifically in the WVID (Thomas Ranch) and Kelce Ranch areas.

Future Needs

A. Wastewater Treatment and Disposal Facilities

The City will be expanding capacity of the CWWTP to 7.0 mgd (3MADF) by 2010. The expansion includes components relating to the provision of reuse water. Additional capacity of approximately 6.3 mgd ADF is projected to be needed by 2025. At build-out, it is projected that the City of North Port's wastewater system will need to have a total wastewater treatment capacity of at least 23.5 mgd ADF. These dates are preliminary and subject to change due to the current economic downturn and slowdown of growth. The City will amend the CIP when these projects are scheduled into the five-year plan and will be financially feasible per Florida Statute.

As with potable water, future wastewater flows will be significantly influenced by customer growth in the large proposed new developments of WVID (Thomas Ranch), Kelce Ranch, and the Panacea DRI. The projected flow reflects the development schedule presented to the City by the developers, which the City has committed to meet. However, due to the current economic climate plaguing the State, current progress suggests that actual development of these areas may lag behind the developers' proposed schedule. Therefore, the short term expansion needs may be reduced if the current schedule trends persist. The City will monitor this closely and adjust the schedule for utility system improvements as necessary.

Options for increasing the system's wastewater treatment capacity to meet the projected increase in flows anticipated within the planning period include expansion of the City's existing WWTP and the construction of new WWTPs. Proposed locations of new WWTPs include sites in the WVID (Thomas Ranch) and Panacea development areas. Recommendations between available wastewater treatment capacity alternatives are made below in consideration of several criteria including:

- The time required for development.
- Geographic location of flows and associated cost and operational benefits.
- Known technical and regulatory feasibility.
- Known relative cost differences.

The wastewater treatment options discussed below are those considered to be the preferred options in consideration of the above criteria as well as the preferences of City Staff as determined through workshops, meetings, and discussions.

The set of wastewater treatment implementations recommended herein represent one potential solution, and it should be noted that the City may need to adjust the set of implementations and quantities depending on future events and the dynamic changing of the City of North Port.

1. Expansion of existing CWWTP.

Expanding the treatment capacity of the City's existing CWWTP represents the fastest way to increase the City's wastewater treatment capacity. As noted above, and in the

CIP, the City will be expanding capacity of the CWWTP to 7.0 mgd by 2010. The expansion includes components relating to the provision of reuse water.

2. New Wastewater Treatment Facilities

The City purchased a piece of land on the Panacea DRI property to use for siting future utility system facilities, including a proposed new NEWWTP. The developer for the WVID (Thomas Ranch) area has also agreed to dedicate a portion of their property for future siting of utility system facilities. Utilizing these sites for future WWTPs will place the treatment plants geographically close to areas of projected substantial growth in North Port, thus minimizing future pumping costs and minimizing the cost of new infrastructure to convey flows to the plant. In addition, hydraulic modeling performed as part of the utility master planning indicates that the resulting dispersed location of WWTPs significantly reduce the need to upgrade wastewater transmission piping and pumping facilities into the CWWTP as flows increase. Locating these plants in the vicinity of the proposed WVID (Thomas Ranch) and Panacea/Kelce Ranch developments also facilitates the supply of reuse water to those communities for non-potable irrigation.

The City has designed and permitted the construction of a second DIW that will be located on the same site as the existing DIW. The DIW has an approximate capacity of 13 mgd. It is anticipated that construction of this DIW will begin in 2008. Additional deep injection wells are likely to occur in the Kelce and WVID (Thomas Ranch) developments.

For the purpose of planning, the following WWTP projects are proposed for implementation prior to 2025:

- Southwest WWTP – Phase I:
This WWTP is projected to be needed by 2010, with an initial average daily flow treatment capacity of 3.0 mgd.
- Northeast WWTP – Phase I:
This WWTP is projected to be needed by 2015, with an initial average daily flow treatment capacity of 2.0 mgd. Following development of this WWTP, all of the flow in the Panacea DRI development will be transferred to this WWTP.
- Southwest WWTP – Phase II (Expansion):
This expansion is projected to be needed by 2018, and is envisioned to increase the average daily flow treatment capacity from 3.0 mgd to 6.0 mgd.
- Northeast WWTP – Phase II (Expansion):
This expansion is projected to be needed by 2021 and is envisioned to increase the average daily flow treatment capacity from 2.0 mgd to 5.0 mgd.

Table 4-7

Summary of Recommended Wastewater Treatment Plant Improvements		
Year of Implementation	Proposed WWTP Improvement	Projected Increase in Average Day Treatment Capacity (mgd)
2010	New SWWWTP	3.0
2015	New NEWWTP	2.0
2017	Expand SWWWTP	3.0
2021	Expand NEWWTP	3.0

Source: City of North Port

As stated previously, these dates, and/or capacities, may be changed due to fluctuating market conditions or changes in the City of North Port.

3. Regional Wastewater Treatment Capacity

Neighboring utilities have expressed an interest in purchasing WWTP capacity from the City at both the proposed SWWWTP and the NEWWTP. The City will look at implementing these proposed WWTP's with a greater capacity than that recommended by the utility master plans to accommodate additional regional flow. Due to economy of scale, economic benefits could potentially result from such an agreement. Although no agreements have been made, the City will entertain potential regional wastewater customers including Sarasota County, Desoto County, Charlotte County, and Englewood.

4. Wastewater Treatment Capacity Expansion Beyond 2030

As indicated previously, the build-out average daily wastewater flow for North Port is projected to be approximately 23.5 mgd. The recommended improvements through 2030 discussed above would provide the City with a total of approximately 16 mgd of average daily treatment capacity. In order to handle long-term future flows, implementation of additional wastewater treatment/disposal capacity is projected to be needed in the amount of approximately 7.0 mgd average day after 2030. To achieve this, the City may consider future expansion of the proposed Southwest and/or the Northeast WWTPs. Implementation of a new WWTP and disposal facilities in another location within the North Port City limits is also a possibility. The City will consider opportunities for future property acquisitions to accommodate the siting of a potential long-term wastewater treatment facility.

B. Collection and Transmission Facilities

The utility master planning process will require hydraulic modeling of the projected wastewater system. Necessary pumping and piping improvements will address the following needs:

- Expand the system to extend wastewater service to areas/residences which currently do not have service, including both existing neighborhoods and new developments.
- Provide piping to convey flows to new WWTPs.
- Add or upgrade pumps and pipes to accommodate higher system flow rates anticipated in the future.

The City will also address improvements to lower the amount of inflow and infiltration (I&I) experienced by the system, which would reduce the need to upgrade lift stations or piping in the future.

The following utility components will be needed to address the previous needs:

1. Lift Stations

In order to pump initial wastewater flows from the developments/residences to the existing and proposed WWTPs. These lift stations are used to convey the wastewater flows through the gravity feed transmission system. These lift stations will be located at strategic locations throughout the City of North Port, the specific locations will be determined through detailed analysis for the larger developments, and throughout the neighborhoods slated for expansion.

2. Force main and wastewater collection piping

This piping will be needed to convey wastewater flows from the proposed developments and residences through the lift stations and to the existing and proposed WWTPs. The sizes and locations of this piping will be determined through hydraulic modeling based on the proposed uses and densities of the developments.

Conclusion

In conclusion, the City of North Port is committed to providing its citizens with sanitary sewer service to all areas except the Agricultural/Estates. The City will continue its expansion into existing neighborhoods while requiring developers of large tracts of land to develop and implement their own infrastructure to both serve their developments and to help defray the costs to the City as a whole. The environmental advantages to City-wide sanitary sewer is the decrease, and eventual elimination of septic systems which can create environmental hazards upon failing in all areas of the City (with the exception of the Agricultural/Estates as noted above).