Fort Pierce Utilities Authority

10-Year Water Supply Facilities Work Plan

2024-2034

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TABLE OF CONTENTS

1.0 INTRODUCTION

The purpose of the Fort Pierce Utilities Authority (FPUA) Water Supply Facilities Work Plan (Work Plan) is to identify and plan for the water supply sources and facilities needed to serve existing and new development within the local government's jurisdiction. Chapter 163, Part II, Florida Statutes (F.S.), requires local governments to prepare and adopt Work Plans into their comprehensive plans within 18 months after the South Florida Water Management District (District) approves a regional water supply plan or its update. The *Upper East Coast Water Supply Plan Update* was approved by the District's Governing Board on November 10, 2021. Therefore, the deadline for local governments within the *Upper East Coast Regional Water Supply Planning Region* to amend their comprehensive plans to update the Work Plan is May 10, 2023.

Residents of the City of Fort Pierce obtain their water from the FPUA which is responsible for ensuring enough capacity is available for existing and future customers.

The Work Plan will reference the initiatives already identified to ensure adequate water supply for the City of Fort Pierce. According to state guidelines, the Work Plan and the comprehensive plan must address the development of traditional and alternative water supplies, service delivery and conservation and reuse programs necessary to serve existing and new development for at least a 10-year planning period. The Work Plan will have a planning time schedule consistent with the comprehensive plan and the *Upper East Coast Water Supply Plan Update*.

The Work Plan is divided into five sections:

Section 1 – Introduction
Section 2 – Background Information
Section 3 – Water Supply and Facilities Information
Section 4 – Capital Improvement Plan
Section 5 – Goals, Objectives, and Policies

1.1 Statutory History

The Florida Legislature enacted bills in the 2002, 2004, 2005, and 2011 sessions to address the state's water supply needs. These bills, in particular Senate Bills 360 and 444 (2005 legislative session), significantly changed Chapters 163 and 373, F.S. by strengthening the statutory links between the regional water supply plans prepared by the water management districts and the comprehensive plans prepared by local governments. In addition, these bills established the basis for improving coordination between local land use planning and water supply planning.

1.2 Statutory Requirements

FPUA has considered the following statutory provisions when updating the Water Supply Facilities Work Plan (Work Plan):

1. Coordinate appropriate aspects of its comprehensive plan with the *Upper East Coast Regional Water Supply Plan* [163.3177(4) (a), F.S.].
2. Ensure the future land use plan is based upon availability of adequate water supplies and public facilities and services [s.163.3177 (6) (a), F.S.]. Data and analysis demonstrating that adequate water supplies and associated public facilities will be available to meet projected growth demands must accompany all proposed Future Land Use Map amendments submitted for review.
3. Ensure that adequate water supplies and potable water facilities are available to serve new development no later than the issuance by the local government of a certificate of occupancy or its functional equivalent and consult with the applicable water supplier to determine whether adequate water supplies will be available to serve the development by the anticipated issuance date of the certificate of occupancy [s.163.3180 (2), F.S.].
4. For local governments subject to a regional water supply plan, revise the General Sanitary Sewer, Solid Waste, Drainage, Potable Water, and Natural Groundwater Aquifer Recharge Element (the "Infrastructure Element"), within 18 months after the water management district approves an updated regional water supply plan, to:
    a. Identify and incorporate the alternative water supply project(s) selected by the local government from projects identified in the *Upper East Coast Regional Water Supply Plan*, or alternative project(s) proposed by the local government under s. 373.709(8)(b), F.S. [s. 163.3177(6)(c), F.S.];
    b. Identify the traditional and alternative water supply projects and the conservation and reuse programs necessary to meet water needs identified in the *Upper East Coast Regional Water Supply Plan* [s. 163.3177(6)(c)3, F.S.]; and
    c. Update the Work Plan for at least a 10-year planning period for constructing the public, private, and regional water supply facilities identified in the element as necessary to serve existing and new development [s. 163.3177(6) (c) 3, F.S.].
5. Revise the Five-Year Schedule of Capital Improvements to include water supply, reuse, and conservation projects and programs to be implemented during the five-year period [s. 163.3177(3) (a) 4, F.S.].
6. To the extent necessary to maintain internal consistency after making changes described in Paragraph 1 through 5 above, revise the Conservation Element to assess projected water needs and sources for at least a 10-year planning period, considering the *Upper East Coast Water Supply Plan*, as well as applicable consumptive use permit(s) [s.163.3177 (6) (d), F.S.]. The plan must address the water supply sources necessary to meet and achieve the existing and projected water use demand for the established planning period, considering the applicable regional water supply plan [s.163.3167(9), F.S.].
7. To the extent necessary to maintain internal consistency after making changes described in Paragraphs 1 through 5 above, revise the Intergovernmental Coordination Element to ensure coordination of the comprehensive plan with the *Upper East Coast Regional Water Supply Plan* [s.163.3177 (6) (h) 1., F.S.].
8. While an Evaluation and Appraisal Report is not required, local governments are encouraged to comprehensively evaluate, and as necessary, update comprehensive plans to reflect changes in local conditions. The evaluation could address the extent to which the local government has implemented the need to update their Work Plan, including the

development of alternative water supplies, and determine whether the identified alternative water supply projects, traditional water supply projects, and conservation and reuse programs are meeting local water use demands [s.163.3191 (3), F.S.].

2.0 BACKGROUND INFORMATION

This section will provide a brief overview of the City of Fort Pierce and a description of the regional water planning issues that impact FPUA and the City of Fort Pierce.

2.1 Overview

Fort Pierce, often called the Sunrise City, has been the hub of St. Lucie County, Florida for over 100 years. Situated on the "Treasure Coast", named after the famed sinking of a Spanish treasure fleet in 1715, Fort Pierce is one of the oldest communities on the east coast of Florida. Incorporated in 1901 and today encompasses approximately 29 square miles.

The FPUA provides potable water to the incorporated section for the City of Fort Pierce (City) and the surrounding areas of unincorporated St Lucie County, including South Hutchinson Island to the Martin County line. The FPUA also provides bulk water to North Hutchinson Island, northern St. Lucie County, and western St. Lucie County. The FPUA currently serves approximately 22,000 water accounts within the FPUA's service area (excluding bulk customers).

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

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

2.2 Relevant Regional Issues

This section is a brief description or narrative discussing the overarching regional issues impacting water supply planning at the local level, such as the Regional Availability Water Rule or the Central Florida Water Initiative (CFWI) planning effort. The issues(s) are listed below.

The regional issues identified for the 2045 in the *Upper East Coast Planning Region* are:

1. New uses of surface water from the C-23, C-24, and C-25 canals are limited in accordance with RAA criteria.
    - This is not applicable to FPUA.
2. Surface water allocations from Lake Okeechobee and the C-44 Canal are limited in accordance with the Lake Okeechobee Service Area RAA criteria.
    - This is not applicable to FPUA.
3. If the region experiences change in crop types and irrigated acreage, construction of additional surface water storage systems may be required to increase water availability.
4. The Restricted Allocation Area (RAA) for Floridan Aquifer System (FAS) wells in Martin and St. Lucie Counties places restrictions on pump capacity for new pumps and FAS wells.
    - Per the Applicant's Handbook: RAA for FAS: Floridian Aquifer Wells in Martin and St. Lucie Counties: Prohibits pumps on flowing FAS wells in Martin and St. Lucie Counties unless: 1) the pump was in place before March 2, 1974; 2) the proposed pump is installed to increase pressure in attached piping, not to increase the flow above the natural flow from the well; 3) an analysis shows the withdrawals will not interfere with existing legal uses; 4) the pump is installed temporarily for freeze protection; or 5) the pump is installed temporarily during a declared water shortage.
    - Noted
5. Expansion of surficial aquifer system withdrawals is limited due to potential impacts to wetlands as well as the increased potential for saltwater intrusion. New or increased allocations of water from the surficial aquifer system in coastal areas beyond those currently permitted require detailed evaluation.
    - Noted, Additionally, the City will work to conserve water consumption by implementing Comprehensive Plan policies detailed later in this Plan, which support conservation of potable water.
6. Existing freshwater flows affect the health of the St. Lucie River and Estuary and southern Indian River Lagoon.
    - Noted

    Withdrawals from the FAS are expected to increase to meet future demands. The East Coast Floridian Model projects notable decreases in water levels and increases in total dissolved solids in the northeastern portion of the planning area. Monitoring water levels and water quality in the FAS and wellfield design with operational plans will be needed to ensure long-term sustainability of the resource.

3.0 WATER SUPPLY AND FACILITIES INFORMATION

3.1 Water Supply Facility

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

Treated water from the lime softening and RO WTP's is pumped to three on-site ground storage tanks (GST's). The storage tanks feed four high service pumps (HSP's) that supply the distribution system. There are three re-pump stations located within the distribution system. The three ground storage tanks (GST's) at the Henry A. Gahn WTF have capacities of 1.0, 1.5, and 3.0 million gallons (MG) and were constructed in 1959, 1983, and 2000 respectively. The GST's provide water to the main high service pumps as well as the on-site pump station on 25th Street. The 1.5 MG GST is reportedly in good condition. The 1.0 MG GST was rehabilitated in 2016, and the 3.0 MG GST in 2022. In addition to the 2016 and 2022 rehabilitations, all of the tanks are routinely inspected at 5-year intervals. The last inspection for all of the GST's was in 2023.

There are three additional storage tanks at the Jaycee Park, South Hutchinson Island, and Savannah Road re-pump stations. These tanks have capacities of 1.0, 1.0, and 1.5 MG respectively. The January 2007 Capacity Analysis Report (CAR) prepared by Global Tech for FPUA's Henry A. Gahn Water Treatment Facility indicates that no additional expansion plans for the treatment facilities are currently required. In May 2018, FPUA rerated the permitted capacity of the Henry A. Gahn Water Treatment Facility from 18.99 MGD to 23.32 MGD under Permit Number 0081062-398-WC. This sets the permitted capacity of the Lime Softening Water Treatment Process to 12.99 MGD that is to remain the same and the Reverse Osmosis Water Treatment Plant Process firm maximum capacity increases from 6.0 MGD to 10.33 MGD. The current FDEP permitted capacity is more than adequate to meet the demand growth projected over the next 10 years.

3.2 Raw Water Wells

FPUA currently owns and operates a total of 43 groundwater wells, including 32 wells that draw water from the surficial aquifer and 11 wells (FB1-FB11) that draw water from the Floridan Aquifer. 32 surficial wells are dedicated to the lime softening WTP along with 1 Floridan Aquifer well. 8 of the Floridan Aquifer wells normally provide water to the RO WTP; 2 of the Floridian wells could also be routed to the lime softening WTP if needed. FPUA has a continuing program to rehabilitate and improve its existing aquifer wells.

3.3 Water Use Permit

The South Florida Water Management District (SFWMD) issued Water Use Permit 56-00085W to the FPUA on July 11, 2007. The permit grants the FPUA an annual allocation of 7713 MG of which up to 2920 MG can come from the Surficial Aquifer with the remaining 4,793 MG to be supplied from the Floridan aquifer. Monthly restrictions on the surficial and Floridan aquifer systems are 243.20 MG and 467.98 MG, respectively. This permit expires in 2027.

3.4 Projected Water Demands

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

In addition to the provision of water supply to its own service area FPUA provides water to the St. Lucie County Utilities Department (SLCUD) distribution network. Based on SLCUD's current plan it is anticipated that water will be provided to its North Hutchinson Island and Indian River Estates indefinitely. Demand growth in other areas of the County which receive bulk service from FPUA will be served through existing and new master meters serving the Northern District and the Western District.

** Please note that the Interlocal Agreement for bulk water expires in 2028, and SLCUD has indicated (to SFWMD) they plan to develop supplies to provide water and discontinue the bulk water purchases from FPUA. If this were to happen, it would be more likely than not that some areas of SLCUD service territory would still be served by FPUA bulk water. When SLCUD formally notifies FPUA of the meter/s they plan to discontinue, FPUA will then adjust the SLCUD no growth service population constant accordingly.*

Table 1

Fort Pierce Utilities Authority Historical Water Demands

Year	Annual Average Day Flow (mgd)
2014	7.49
2015	7.54
2016	7.85
2017	8.27
2018	8.79
2019	8.39
2020	9.14
2021	9.16
2022	9.14
2023	9.15

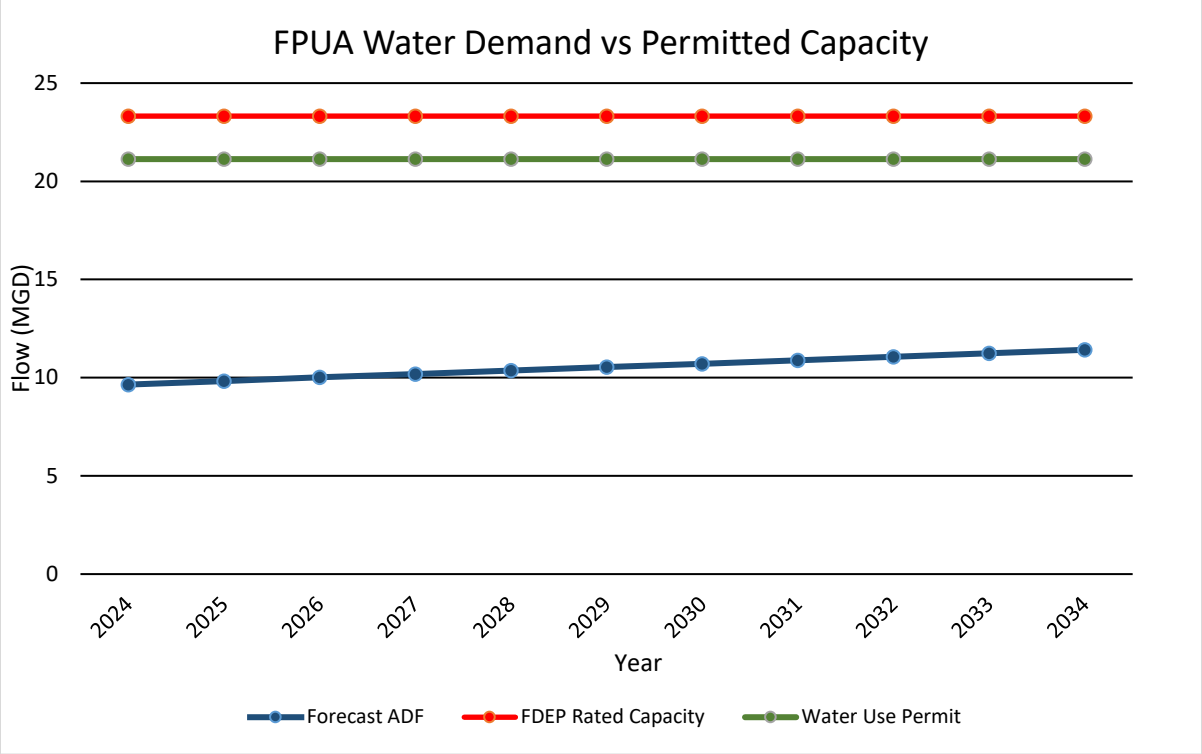
Table 2

Fort Pierce Utilities Authority Forecast Water Demands From SFWMD Water Use Permit (151 gpcd)

Year	Service Population	Demand (mgd)
2024	63,867	9.64
2025	65,049	9.82
2026	66,231	10.00
2027	67,413	10.18
2028	68,595	10.36
2029	69,777	10.54
2030	70,959	10.71
2031	72,141	10.89
2032	73,323	11.07
2033	74,505	11.25
2034	75,687	11.42

1. Bulk water customers *are* included in the "Service Population" total with an assumed no growth constant of 8,782.
2. FPUA population growth extrapolated at 1,182 people per year.
3. The 151 gpcd utilized in the above projections were based on actual average daily flows and service population provided by SFWMD in 2017 and adjusted pursuant to recent census numbers.

Figure 1



3.5 Level of Service Standards

FPUA has established a water use level of service of 300 gallons per day (GPD) per typical dwelling unit with a water distribution system having a minimum system pressure requirement of 20 PSI with the average system pressure of 60 PSI.

3.6 Conservation

FPUA has been promoting water conservation for decades. Conservation is a proven strategy for delaying implementation of expensive alternative water supply technologies. In addition, the City of Fort Pierce has addressed water conservations measures through a series of ordinances within the City's Municipal Code.

3.6.1 Conservation Rate Structure

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

Water Usage	**Charge per 1,000 gallons**
1 to 3,000 gallons	$15.03 flat rate up to 3,000 gals.
3,001 to 10,000 gallons	$5.01
10,001 to 15,000 gallons	$6.27
Over 15,000 gallons	$7.52

As an enhanced conservation measure irrigation customer using in excess of 15,000 gallons per month will be charged $10.58 per 1000 gallons.

3.6.2 FPUA Resolution NO. UA 89-18

FPUA Resolution NO. UA 89-18 establishes a water meter policy for the water system of Fort Pierce, Florida effective May 2, 1989. It is the policy of FPUA to require individual water meters for each separate unit (customer) within a structure when it is economically feasible, physically practical and the end use of individual meters will promote conservation of our limited water supply.

3.6.3 City of Fort Pierce Comprehensive Plan – Water Conservation Element

Objective: Conserve, appropriately use and protect the quality and quantity of current and projected water sources and waters that flow into estuarine waters or oceanic waters.

Policy #1: The City shall cooperate with St. Lucie County and the South Florida Water Management District for the implementation of water demand management policies and programs, including mandating xeriscape principles for all development.

Policy #2: The City shall ensure that existing and new development shall be serviced with an adequate supply of potable water at the adopted levels of service that, at a minimum, meets the state water quality standards.

Policy #3: The City shall cooperate with the South Florida Water Management District (SFWMD) and St. Lucie County to conserve water resources in emergencies and during declared water shortages. The City shall continue and expand efforts to publicize and encourage water conservation.

Policy #4: Activities and land uses known to adversely affect the quality and quantity of identified water sources and within natural groundwater recharge areas shall be restricted to

protect the quality and quantity of this water source. Parking spaces that exceed minimum requirements and excessive amounts of imperious surface coverages for new development shall be discouraged.

Policy #5: The City shall achieve compatibility with other related regional water resource planning efforts. These include the Indian River Lagoon (IRL) Surface Water Improvement and Management (SWIM) Plan, Comprehensive Everglades Restoration Plan (CERP), CERP IRL—South Project, CERP North Palm Beach County Project Part 1, Lake Okeechobee SWIM Plan, Lower East Coast and Kissimmee Basin Water Supply Plans, IRL National Estuary Program Comprehensive Conservation and Management Plan, St. Johns River Water Management District (SJRWMD) District wide Water Supply Assessment and Northern Palm Beach County Comprehensive Water Management Plan.

Policy #6: The City will continue to implement recommendations as proposed in the Water Supply Plan.

3.6.4 City Code Section 123-37 – General Landscape Requirements

The following standards apply to all landscaping and plant materials identified on all landscape plans shall meet or exceed the following general landscaping requirements which shall be considered complimentary to the landscaping provisions of any other city ordinance.

1. All plant material shall be Florida Grade No. 1 or better in quality as established by the Florida Department of Agriculture and Consumer Services and shall be free from all disease, insects, and other pests. The "Florida-friendly Plant Database" published by the University of Florida at http://www.floridayards.org is hereby adopted and shall provide the standards for acceptable native, drought tolerant, and salt tolerant tree, palm, shrub, and other plant species.
2. At least 50 percent of required plant material shall be drought-tolerant species.
3. At least 50 percent of required plant material shall be native Florida species.
4. At least 50 percent of required plant material on the barrier Island shall be high salt-tolerant species.
5. All required landscaping shall be installed in a sound and workmanlike manner according to accepted good planting procedures.
6. An automated irrigation system shall be provided for all required landscape areas for irrigation during establishment and selectively during times of drought. Irrigation system design and installation shall employ the most current water saving devices, including, but not limited to, moisture sensors and drip irrigation where appropriate to conserve water.
7. All plant material shall be compatible with the local climate, proposed physical site improvements, existing and proposed public and private improvements, and the proposed stormwater management plan for the site.
8. All landscape areas shall be protected from vehicular encroachment.

9. All synthetic, non-degradable root ball wrappings shall be removed prior to planting. Only paper or cotton burlap wrappings and cotton rope or twine may remain around the root ball of trees or palms after planting.

3.6.5 City Code Section 123-47 – Landscape Irrigation Conservation Measures

The City of Fort Pierce maintains a year-round landscape irrigation conservation measures that adopts the rules of the South Florida Water Management District, listed in Subsection 40E-24.201 (1)-(6), F.A.C., including subsequent additions or corrections which are set out as follows:

1. The year-round landscape irrigation conservation measures contained in this Section are applicable to all users including permitted and exempt users under Chapter 40E-2, F.A.C., unless otherwise indicated. These conservation measures apply to all water resources, unless otherwise indicated. In addition to the requirements of this Section, all permitted users under Chapter 40E-2, F.A.C., are required to maintain compliance with all CUP conditions and terms, including requirements to implement water conservation practices.
2. It shall be the duty of each user to keep informed as to the landscape irrigation conservation measures within this Article which affect each particular water use.
3. In addition to the specific conservation measures, all wasteful and unnecessary water use, as defined in Section 123-45(16), is prohibited.
4. The following requirements shall apply to all users, unless specified in Section 123-46 or Section.123-48.
    (a) Landscape irrigation shall be prohibited between the hours of 10:00 a.m. and 4:00 p.m., except as otherwise provided.
    (b) Irrigation of existing landscaping shall comply with the following provisions:
        i. Even addresses, as defined in Section 123-45(5), installations with irrigation systems that irrigate both even and odd addresses within the same zones, such as multi-family units and homeowners' associations, and rights-of-way or other locations with no address shall have the opportunity to accomplish necessary landscape irrigation two (2) days a week, only on Thursday and/or Sunday.
        ii. Odd addresses, as defined in Section 123-45(13), shall have the opportunity to accomplish necessary landscape irrigation two (2) days a week, only on Wednesday and/or Saturday.
    (c) Irrigation of new landscaping shall comply with the following provisions:
        i. New landscaping may be irrigated once on the day it is installed without regard to the listed watering days and times. Irrigation of the soil immediately prior to the installation of the new landscaping is allowed without regard to the normal watering days and times.
        ii. A ninety (90) day establishment period begins on the day the new landscaping is installed. The new landscaping shall be installed within a reasonable time from the date of purchase, which may be demonstrated with a dated receipt or invoice.

iii. Irrigation of new landscaping which has been in place for thirty (30) days or less may be accomplished on Monday, Tuesday, Wednesday, Thursday, Saturday, and/or Sunday.

iv. Irrigation of new landscaping which has been in place for thirty-one (31) to ninety (90) days may be accomplished on Monday, Wednesday, Thursday, and/or Saturday.

v. Irrigation of new landscaping is limited to areas only containing the new landscaping. An entire zone of an irrigation system shall only be utilized for landscape irrigation under this Subsection if the zone contains at least 50% new landscaping. If a zone contains less than 50% new landscaping, or if the new landscaping is in an area that will not typically be irrigated by an irrigation system, only the individual new plantings are eligible for additional irrigation. Targeted watering may be accomplished by low volume hand watering, as defined in Section 20.305(10), or any appropriate method which isolates and waters only the new landscaping.

5. Any water shortage, as defined in Section 20.305(18), restrictions or other measures declared pursuant to Chapter 40E-21, F.A.C., or related District Governing Board or Executive Director Orders which are more restrictive than a measure contained within this Ordinance, shall supersede this Ordinance for the duration of the applicable water shortage declaration.

3.7 Reclaimed Water

FPUA has no existing Reclaimed Water. Reclaimed water will be available when the Mainland Water Reclamation Facility (MWRF) is constructed. FPUA anticipates that the MWRF will be completed and commissioned in December 2025. The MWRF is projected to cost $133,978,500.00 with a reclaimed water capacity of 8 MGD.

FPUA has entered into an agreement with Florida Municipal Power Agency (FMPA) to provide reclaimed water for use in their cooling towers at their Treasure Coast Energy Center (TCEC). This agreement was executed in October 2005 between FMPA and FPUA. It binds FPUA to guarantee to reserve reclaimed water in the amount of 2.9 mgd for TCEC Unit 1. Under the agreement FMPA will periodically evaluate its reclaimed water needs and notify FPUA of changes in the required quantity of reclaimed water it will need to operate TCEC Unit 1.

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

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

4.0 CAPITAL IMPROVEMENT PLAN

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

Major plant capital projects include the ongoing replacement and upgrading of existing surficial wells.

Table 3

FPUA Five Year Water Capital Improvement Program FY 2025 to FY 2029

Project Title	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	Total5 YearsFY 2025-29
Surficial Well Replacements	1,200,000.00	162,750.00	460,250.00	166,250.00	460,500.00	2,449,750.00
Fire Hydrants	15,188.00	16,099.00	17,099.00	18,099.00	19,099.00	85,584.00
City Roadway Projects	250,000.00	250,000.00	300,000.00	300,000.00	350,000.00	1,450,000.00
Miscellaneous MSBU	140,000.00	350,000.00	350,000.00	350,000.00	350,000.00	1,540,000.00
New Construction Mains	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	250,000.00
New Construction Customer Fund	50,000.00	50,000.00	50,000.00	50,000.00	50,000.00	250,000.00
SLC Roadway Projects	100,000.00	100,000.00	100,000.00	100,000.00	100,000.00	500,000.00
Customer Base Expansion	5,055,681.56	0.00	0.00	0.00	0.00	5,055,681.56
Water Main Looping	110,000.00	110,000.00	110,000.00	110,000.00	110,000.00	550,000.00
Water Mains Misc R&R	500,000.00	600,000.00	750,000.00	800,000.00	850,000.00	3,500,000.00
Government & Other Required	50,000.00	110,000.00	110,000.00	110,000.00	110,000.00	490,000.00
FPL Water Main Replacement	460,000.00	400,000.00	0.00	0.00	0.00	860,000.00
N. US Highway 1 WM Expansion	432,500.00	0.00	0.00	0.00	0.00	432,500.00
North Causeway Bridge Replace	400,000.00	0.00	0.00	0.00	0.00	400,000.00
Orange Avenue	47,000.00	0.00	0.00	0.00	0.00	47,000.00
Ohio Ave W/WW Replacement	30,000.00	0.00	0.00	0.00	0.00	30,000.00
Ave B-Water Main Looping	20,000.00	0.00	0.00	0.00	0.00	20,000.00
S 25th St-Edwards to Virginia	4,000.00	0.00	0.00	0.00	0.00	4,000.00
Midway Rd WM & FM Adjustments	217,000.00	0.00	0.00	0.00	0.00	217,000.00
Mainland Water Reclamation Facility	66,556,031.51	0.00	0.00	0.00	0.00	66,556,031.51

*The total cost of the Mainland Water Reclamation Facility is $139,476,933.39

5.0 GOALS, OBJECTIVES AND POLICIES

The following comprehensive plan goals, objective and policies (GOPs) have been reviewed for consistency with the Work Plan.

Future Land Use Element:

1.6.2 Policy:
If a public facility or facility capacity is not available prior to the issuance of a building permit or functional equivalent, the City may issue development orders and permits conditioned upon the provision of the facilities and services necessary to serve the proposed development prior to the certification of occupancy.

1.6.3 Policy:
The City shall assess new development and redevelopment a proportionate fair-share of the public facility costs to accommodate the impacts of the development in order to maintain the adopted LOS standards through the enforcement of existing public facility funding mechanisms and impact fees. Public facilities include potable water, sanitary sewer, solid waste, drainage, parks and roadways.

1.11.2 Policy:
The City shall develop a phased annexation program based upon the ability of the City to provide public facilities. The program shall establish phasing and timing guidelines prioritizing the annexation of enclaves, pocket, and infill areas.

1.11.3 Policy:
Annexations Plan shall include fiscal impact analyses and plans for maintaining LOS standards consistent with the Comprehensive Plan.

1.11.5 Policy:
Properties annexed shall receive a land use designation compatible with the County land use designation, unless otherwise approved by the City Commission.

1.11.6 Policy:
The proposed Future Land Use Map (GOP Map 1-2) shall be used as a guide for land use designation assignments for annexed properties.

1.11.7 Policy:
Existing structures on properties newly annexed properties shall be assessed for historic value according to the City historic preservation ordinance and, if found to have such value, be incorporated into the City list of designated structures.

1.11.8 Policy:
Population projections reflecting annexations shall be prepared as part of the annual update of the 5-Year Schedule of Capital Improvements.

1.16 Objective:
The City shall ensure that natural resources are protected in accordance with the Conservation and Coastal Management Elements and the enforcement of the land development code, especially in the review of all new development and redevelopment.

1.16.3 Policy:
The City shall require the prevention of the unnecessary destruction or inappropriate use of existing natural resources and natural sites during the site plan review process of all proposed development or redevelopment.

1.16.6 Policy:
The City shall require all development applications to minimize tree removal as a part of land development action. The City shall require a tree survey to be provided which identifies trees for removal, relocation, and protection.

1.17 Objective:
Develop and implement land use controls and programs to preserve and enhance the important natural functions, and aesthetic and recreational values of the Indian River Lagoon and other surface waters.

1.17.3 Policy:
The City shall require open space as a part of the requirements for all development and redevelopment in order to promote shallow water aquifer recharge and stormwater filtration.

1.18 Objective:
Protect the quality and quantity of the City potable water supply as depicted on the Fort Pierce Future Land Use Maps.

1.18.1 Policy:
Amendments to the Future Land Use Map proposing land use categories that permit industrial uses shall be discouraged, to the greatest extent feasible, within wellfield protection zones of influence.

1.18.2 Policy:
All buildings must connect with the public wastewater collection system within the time frame required by Florida Statutes when new sewers are extended into an area currently using septic systems for wastewater disposal.

1.18.3 Policy:
New subdivisions shall provide sewerage and connections to the City sanitary sewer system for each lot in the development.

1.19 Objective:
Eliminate flooding occurrences in the City while preserving groundwater quality through the coordination of future land uses with topography and soil conditions, the provision of drainage and stormwater management systems, and the adoption of appropriate development codes and regulations.

1.19.2 Policy:
The Land Development Regulations shall require the design of public roads and parking lots to be consistent with the criteria of the SFWMD.

1.19.3 Policy:
New development encroaching into the 100-year floodplain shall incorporate elevation and flood protection measures that protect against the 100-year flood. The City shall maintain consistency with the program policies of the National Flood Insurance Program and shall monitor the availability of new cost-effective programs for minimizing flood damage; such programs may include modifications to construction setback requirements or other site design techniques, as well as upgraded building and construction techniques.

1.19.4 Policy:
New development shall provide stormwater retention equal to that which existed under predevelopment conditions that is consistent with the regulations and plans of the SFWMD, St. Lucie County Environmental Resources Department and independent drainage districts, as appropriate.

1.19.5 Policy:
Continue to implement regulations in the City's code to address stormwater management that may be attributed to local topography, flooding frequency, soil and other applicable environmental conditions, including minimum design criteria for stormwater management improvements such as performance standards for maximum lot coverage and on-site retention areas.

Infrastructure Element:
Goal 3.3
Maintain a stormwater management system in the City that reduces flooding, promotes aquifer recharge, minimizes degradation of water quality in surface and ground waters and protects the functions of wetlands.

3.7.4 Policy:
The City shall coordinate with the SFWMD and the independent drainage districts to implement applicable portions of the SFWMD regional water resource projects, the Upper East Coast Regional Water Supply Plan, and the Indian River Lagoon Stormwater Improvement and Management (SWIM) Plan that are intended to reduce losses of excess stormwater to tide, to recharge the surficial aquifer and water preserve areas and/or to provide additional storage for surface waters.

3.7.5 Policy:
The City shall work with FDEP to develop an action plan to meet the objectives and requirements of FDEP's Basin Management Action Plan for the St. Lucie Basin in order to address stormwater management issues on a watershed (basin) basis in accordance with SFWMD permits as a means of providing cost effective water quality and water quantity solutions to specific watershed problems.

3.7.6 Policy:
The City shall continue to implement a basin-wide water management protocol that optimizes flood protection, water quality, stormwater storage, wetlands sustainability and ground water recharge functions. A computer model of the existing surface water management system was developed as part of the 2010 Stormwater Master Plan that accounted for ground water levels, existing and projected stormwater flows, and canal stages. The City shall use this model as part of the land development review process to evaluate the impact of proposed connections to the City surface water management system and will update the model to include approved connections for new development.

3.8 Objective:
Maintain and protect ground water recharge of the surficial aquifer system in order to maintain all of the functions of the Floridan Aquifer.

3.8.1 Policy:
The City shall use Best Management Practices (BMPs) for stormwater management in accordance with City and SFWMD regulations.

3.8.2 Policy:
The City shall work cooperatively with the SFWMD and independent drainage districts to implement the Upper East Coast Regional Water Supply Plan, plans that provide for additional surface water storage such as water preserve areas, and any other plans and operating procedures that increase recharge water to the Surficial Aquifer.

3.8.3 Policy:
The City shall utilize, preserve, restore and enhance natural water bodies and functions by encouraging non-structural and structural erosion control devices and by discouraging the channelization, seawall installation or other alteration of natural rivers, streams and lakes.

3.8.4 Policy:
The City shall protect the water storage and water quality enhancement functions of wetlands, floodplains and aquifer recharge areas through land acquisition, the enforcement of regulations and the application of land and water management practices which provide for compatible uses.

3.9 Objective:
The City shall coordinate with FPUA to identify existing deficiencies in the potable water system and to correct any identified deficiencies in order to maintain the adopted LOS through the adopted planning horizon.

3.10.4 Policy:
The City, in coordination with the FPUA, shall maximize the use of existing potable water facilities by encouraging infill and redevelopment.

3.11.1 Policy:
The City shall work with FPUA to identify opportunities to increase the efficiency and to optimize the use of existing facilities as an alternative to constructing new potable water facilities. The FPUA will continue the planned and preventive maintenance program in order to maximize the useful life of existing infrastructure.

3.11.2 Policy:
The City shall work with FPUA to prioritize the provision of water service to infill, enclave, or redevelopment areas.

3.12 Objective:
Optimize the utilization of water resources through effective water management practices that conserve and protect potable water resources with primary focus on the Surficial Aquifer.

3.12.1 Policy:
The City shall develop a basin-wide water management protocol, in accordance with SFWMD permitting requirements, that optimizes flood protection, water quality, stormwater storage, wetlands sustainability and groundwater recharge functions while protecting the stormwater management system, wellfield characteristics, groundwater levels, saltwater intrusion limits, flows and canal stages to better utilize the water resource.

3.12.2 Policy:
FPUA shall continue to monitor water loss within the utility system, to identify strategies that minimize system loss and continue the preventive maintenance program for the distribution system.

3.12.7 Policy:
The City adopts by reference the current 2020 FPUA Ten-Year Water Supply Facilities Work Plan.

3.13.1 Policy:
The City shall coordinate with FPUA and SFWMD for the design, construction, operation and maintenance of new or expanded potable water facilities that will focus on the use of an alternative water source as defined in the Upper East Coast Water Supply Plan. These potential sources could include the Floridan aquifer, aquifer storage and recovery (ASR) wells,

desalinization, capture and storage of excess stormwater currently lost to tide, reuse and grey water where technically feasible and other technologies.

3.13.2 Policy:
The construction, operation and maintenance of new or expanded potable water facilities shall consider the short-term and long-term impacts to natural groundwater recharge areas, wetlands, surface and groundwater levels and the exacerbation of saltwater intrusion. The design shall also consider whether or not the construction, operation and maintenance will harm the aquifer system. Adverse impacts of construction, operation, and maintenance to the aquifer system shall be avoided or at least minimized.

3.14.3 Policy:
The City shall assist FPUA in identifying possible sources of financing for the water system improvements identified in the current and future Water and Sewer Master Plans.

3.14.4 Policy:
The City shall coordinate with FPUA in continuing the provision of potable water that meets the drinking water standards described in F.A.C 62-555 and the provision of an annual water quality report for FPUA customers as required by the EPA Safe Drinking Water Act.

3.15 Objective:
Continue to provide potable water use in the quantity and quality necessary to satisfy existing and projected growth in compliance with the latest standards acceptable to the City, the County, the State and the U. S. Environmental Protection Agency, and in accordance with the regulations implementing the "Safe Drinking Water Act" (1986).

3.15.2 Policy:
The City shall coordinate with the Fort Pierce Utilities Authority to establish potable water level of service standards for non-residential land uses, such as office, industrial and commercial.

3.16.1 Policy:
The City shall coordinate with the FPUA to address existing facility deficiencies and utilize the Capital Improvements Program and the Capital Improvements Element to provide for correction of the improvements Element to provide for correction of the existing water supply and replacement of facilities.

3.16.2 Policy:
The City shall implement the Ten-Year Water Supply Facilities Work Plan to ensure that water supply facilities necessary to serve existing and future development within the City are available and consistent with the FPUA consumptive use permit.

3.17 Objective:
Manage the natural ground water aquifer recharge conditions in a safe, effective and reliable manner as required by current design standards and codes.

3.17.1 Policy:
Improve groundwater recharge by requiring all construction projects to meet or exceed the City of Fort Pierce Site Development Technical Regulations and Stormwater Management Requirements, including:

- Requiring development and redevelopment to provide a minimum of 20% of pervious open and green space

- The City shall amend the Land Development Code to limit the stormwater runoff for new gravity connections to the volumetric equivalent of not more than 2.0 inches of depth over the area served for any 24-hour period from the ten-year frequency, 72-hour duration rainfall. The City shall amend the Land Development Code to limit the total pump capacity of new connections to surface waters (canals or bay) to not more than the volumetric equivalent of 2.0 inches of depth per day from the area to be served by the pump.

3.17.2 Policy:
The City will promote the use of reclaimed water through city-wide efforts to educate residents and business community on the merits of using reclaimed water to diminish groundwater withdrawals. The City shall coordinate with FPUA to assess the viability of providing reclaimed water to new developments and if feasible, will require new developments to utilize reclaimed water for irrigation once the MWRP is constructed and operating.

3.17.3 Policy:
The City shall continue to require that all development and redevelopment codes at a minimum comply with SFWMD environmental protection rules for stormwater disposal methods.

Conservation Element:
4.2.2 Policy:
The City shall ensure that existing and new development shall be serviced with an adequate supply of potable water at the adopted levels of service, that, at a minimum, meets the state water quality standards.

4.2.7 Policy:
The City shall monitor the activities of the Port Authority to ensure Best Management Practices (BMP) are implemented to avoid negative impacts to the lagoon and ocean water habitats.

4.5.1 Policy:
The City shall protect and conserve the natural functions of existing soils, fisheries, lakes and floodplains through the enforcement of existing local, and support of state and federal regulations designed to protect and conserve these functions.

4.5.2 Policy:
The City shall support the state and federal laws regarding the protection of endangered and threatened species and significant plant and animal habitat.

4.5.10 Policy:
The City shall work cooperatively with the U.S. Fish and Wildlife Service (FWS) and the Florida Fish and Wildlife Conservation Commission (FFWCC) to protect and promote the recovery of species designated by these agencies as threatened and endangered or of special concern. Related activities shall include:

A. Require notification to these agencies when development proposals are received for sites documented as having historic and/or current occurrences of listed species;
B. Technical assistance consultation with these agencies; or
C. Cooperation with these agencies in locating potential introduction sites for designated species.

4.6.6 Policy:
The City shall continue to implement the scheduled maintenance plan for the effective removal of invasive vegetation removal on City lands. This program shall include monitoring and plans for re-vegetation. The City shall coordinate these efforts with the City Urban Forester.

4.8.5 Policy:
This City shall support and coordinate with the ACOE, EPA, FWS, DEP, and FWCC and/or other agencies as appropriate to establish a list of priority wetland restoration sites. Priority wetland restoration sites shall include those disturbed wetlands having the greatest potential functional value after restoration.

Intergovernmental Coordination Element:
8.1 Objective:
The City shall maintain coordination with government agencies with planning and impact assessment duties that affect the City, as listed in Table 8A; with other units of local government that provide services but have no regulatory authority over the use of land; and with the comprehensive plans of adjacent municipalities, St. Lucie County, and adjacent counties.

8.1.5 Policy:
The City shall coordinate future annexations with St. Lucie County, the Town of St. Lucie Village, and the City of Port St. Lucie.

8.1.8 Policy:
The City shall continue participation in the St. Lucie County TPO technical advisory committee in order to improve coordination of transportation improvements with St. Lucie County, FDOT and USDOT.

8.1.9 Policy:
The City shall exchange information on all current development projects with St. Lucie County, the City of Port St. Lucie, and the Town of St. Lucie Village in order to anticipate impacts of development from other communities upon the City of Fort Pierce.

8.1.10 Policy
The City shall continue to coordinate with and participate in the proceedings of: the St. Lucie County TPO, the Treasure Coast Regional Planning Council (TCRPC), the South Florida Water Management District (SFWMD), adjacent service area jurisdictions, and other organizations to foster intergovernmental coordination, especially for planning and service delivery matters.

8.1.11 Policy:
The City will implement the FPUA Water Supply Facilities Work Plan that is coordinated with the SFWMD Upper East Coast Regional Water Supply Plan by updating the City work Plan within 18 months of an update to the regional water supply plan.

8.1.14 Policy:
The City shall pursue cooperative efforts with SFWMD, St. Lucie County and other local jurisdictions to provide cost-effective options to augment the current potable water system with alternative water sources.

8.1.16 Policy:
The City of Fort Pierce shall continue to coordinate with the TCRPC and FDOT to develop the potential rail passenger station within the City that will be capable of serving as a regional hub for the potential Amtrak/Sun Rail expansion.

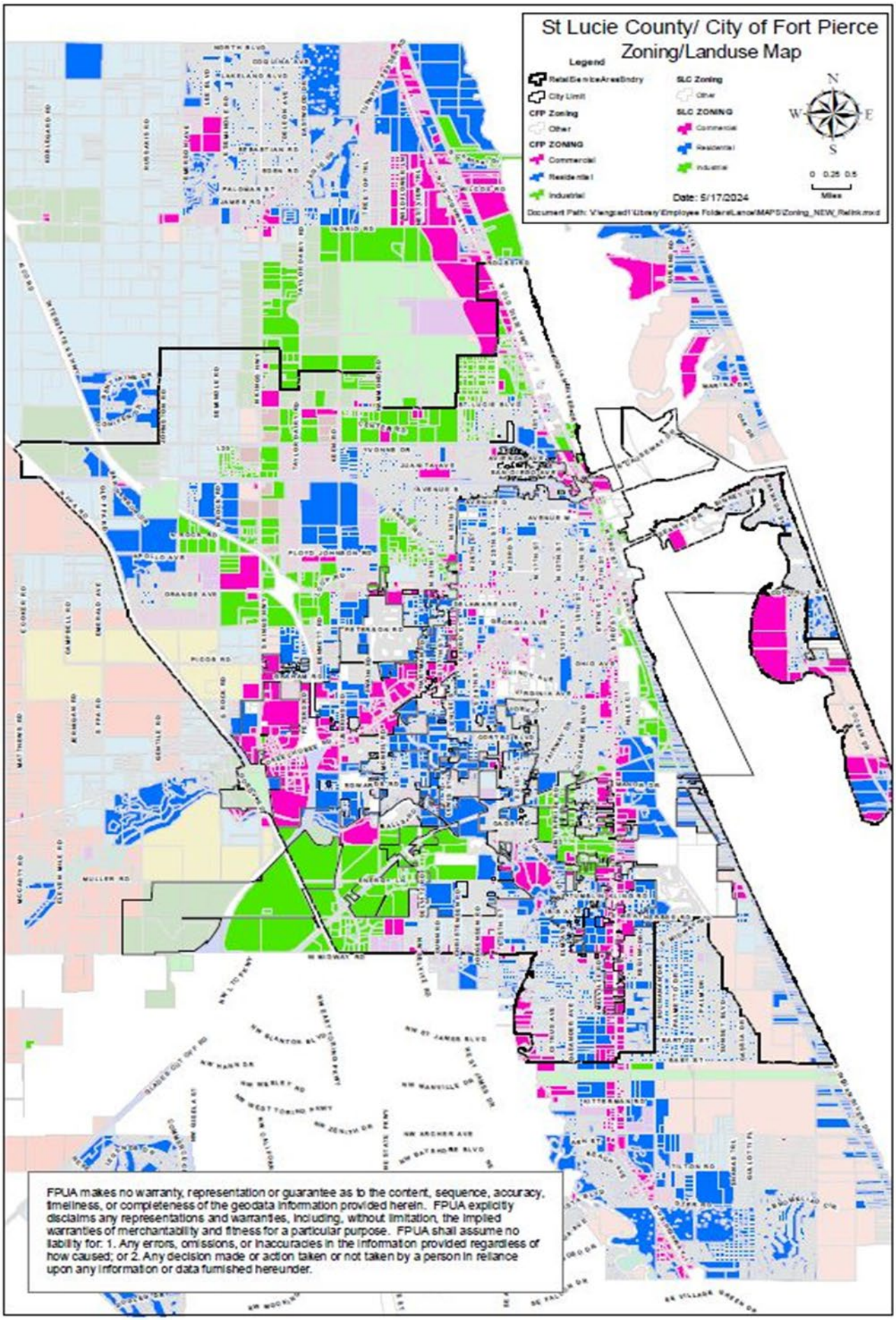
8.2 Objective:
Ensure that the impacts of development that are proposed in the City Comprehensive Plan, are addressed through coordination mechanisms with adjacent local governments, the TCRPC and the State.

8.3.3Policy:
When preparing the annual update to the Capital Improvement Element, the City shall consult with the South Florida Water Management District and the Fort Pierce Utility Authority to ensure coordination and consistency between the regional water supply plan, the FPUA Ten-Year Water Facilities Work Plan and the City Schedule of Capital Improvement.

8.4.1Policy:
The City of Fort Pierce shall coordinate with St. Lucie County, Florida Inland Navigational District, FDEP, and the U.S. Army Corps of Engineers to identify and regulate all existing and future spoil dredge sites within the City municipal boundary.

Appendix 1

Zoning Map


St Lucie County/ City of Fort Pierce
Zoning/Landuse Map
Legend
RetailServiceAreaBndry
City Limit
CFP Zoning
Other
CFP ZONING
Commercial
Residential
Industrial
SLC Zoning
Other
SLC ZONING
Commercial
Residential
Industrial
Date: 5/17/2024
Document Path: V:\engpad1\Library\Employee Folders\Lanow\MAPS\Zoning_NEW_Relnk.mxd
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Miles
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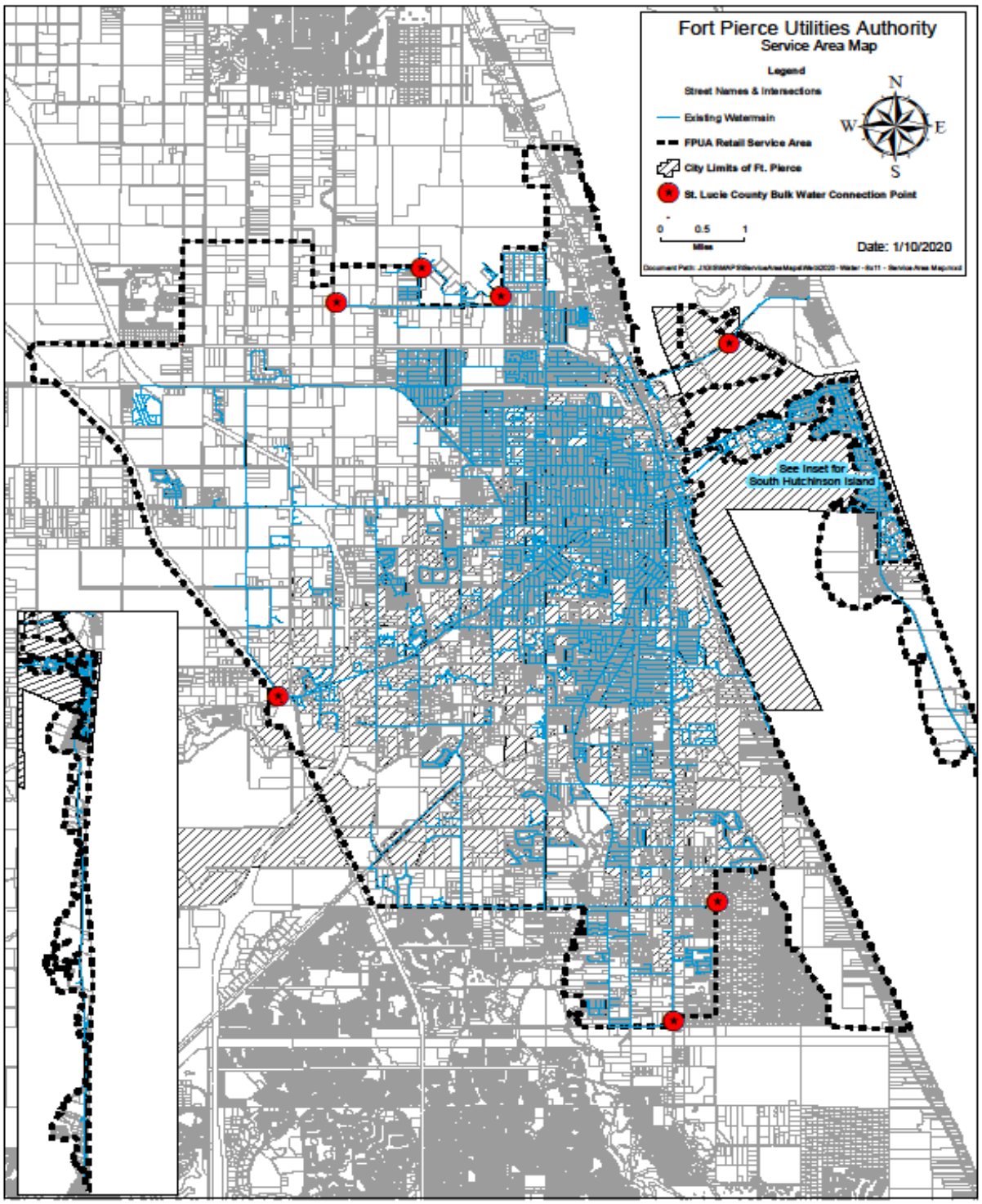
Appendix 2

Service Area and Water System Map


Fort Pierce Utilities Authority
Service Area Map
Legend
Street Names & Intersections
Existing Watermain
FPUA Retail Service Area
City Limits of Ft. Pierce
St. Lucie County Bulk Water Connection Point
N
W
E
S
0
0.5
1
Miles
Date: 1/10/2020
See Inset for South Hutchinson Island