



STORMWATER & ENGINEERING DEPARTMENT

STORMWATER DIVISION PROGRAM UPDATE

Goals

- Ensure and enhance the quality of life for all residents by adding parks, facilities and transportation elements to meet the demands of a growing community.
- Collaborate with various departments to ensure stormwater, utility, transportation, parks & facilities are functioning efficiently and effectively per available funding.
- Develop projects & programs to provide all residents with a well maintained & functioning stormwater system.
- Ensure that our activities provide the best result and benefits for our customers through strict budgeting processes and fiscal responsibility.
- Provide accurate and timely information to residents through active citizen engagement activities.



PALM COAST Stormwater & Engineering



Stormwater

Rehab & Renewal
System Modeling
Drainage
Improvements
Capital Improvement
Projects
Maintenance

Utilities

Water & Wastewater
Capacity Analysis
System Modeling
Capital Improvement
Projects



Transportation

Streetlighting
Safety Improvements
Capital Improvement
Projects

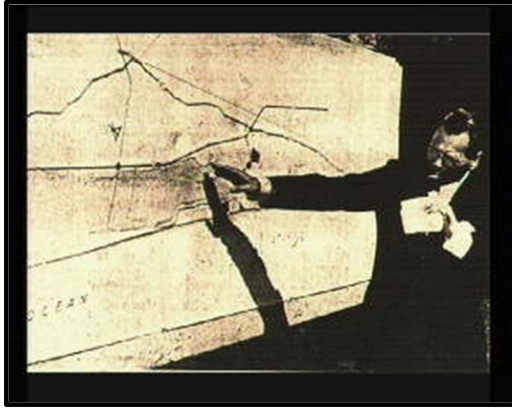
Parks & Facilities

Rehab & Renewal
Expansion
Capital Improvement
Projects



Ensure the protection of the environment, quality of life and public safety through maintenance, planning and improvement





1969-1991
ITT Community
Development



1991-2004
As-Needed
Maintenance



2004-2018
Increased
Maintenance
2018-2023
Enhanced
Program

To provide superior flood protection for our residents and their property through maintenance, improvement, and innovation



Deputy Director
Donald Schrager

Director
Carl Cote

**Stormwater Maintenance
Manager**
Andy Hyatt

**Stormwater
Operations Manager**
Conrad Troha

**Stormwater
Engineer III**
Carmelo Morales, P.E.

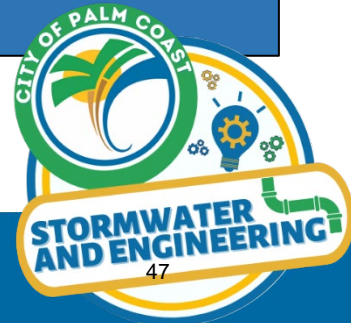
- 1 Asst. Maintenance Manager
- 1 SW Maintenance Coordinator
- 3 Maintenance Supervisors
- 2 Swale Crews
- 1 Ditch Crew
- 1 Pipe Crew
- 2 Vac Truck Crews

- 1 SW Operations Supervisor
- 1 Lead Project Specialist
- 3 Project Specialists
- 1 Survey Crew Supervisor
- 2 Survey Crews
- 1 Asset Supervisor
- 1 Engineering Technician

- 1 SW Engineer
- 1 Project Manager
- 1 Engineering Technician

**Chief Sustainability &
Resiliency Officer**

59 Staff Members





System Overview



Two Swale Crews

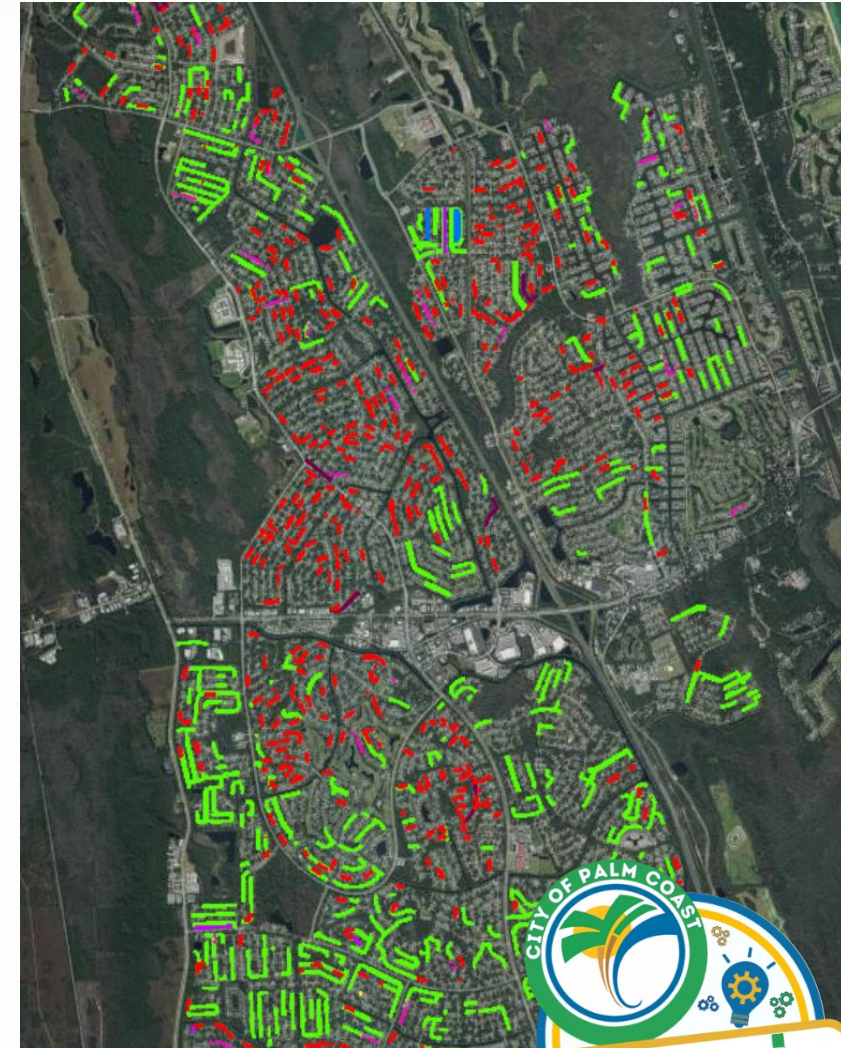
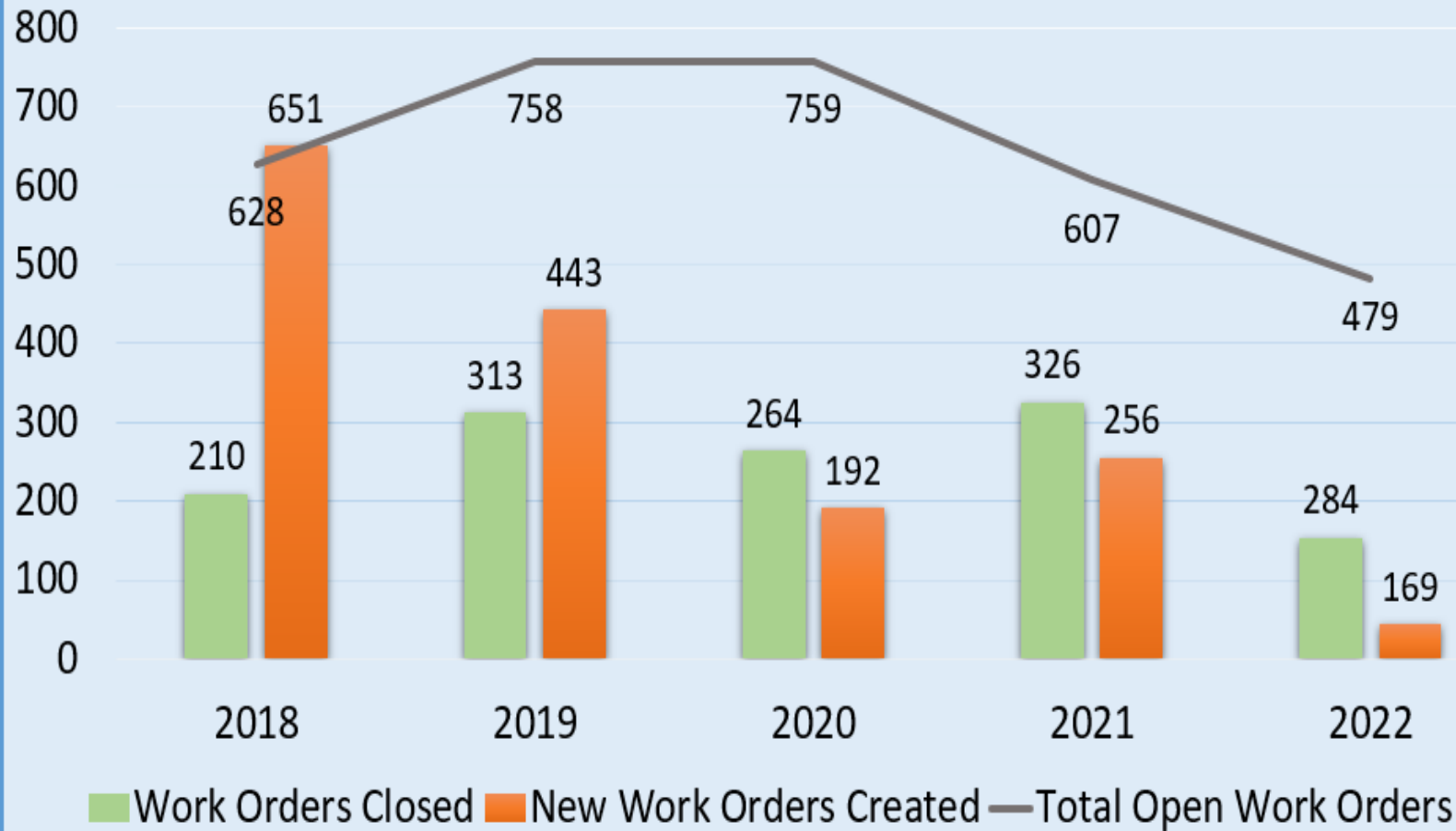


Two Swale Crews



Two Swale Crews

5yr - Total Swale Maintenance Work Orders (Individual)



Two Swale Crews

Level of Service

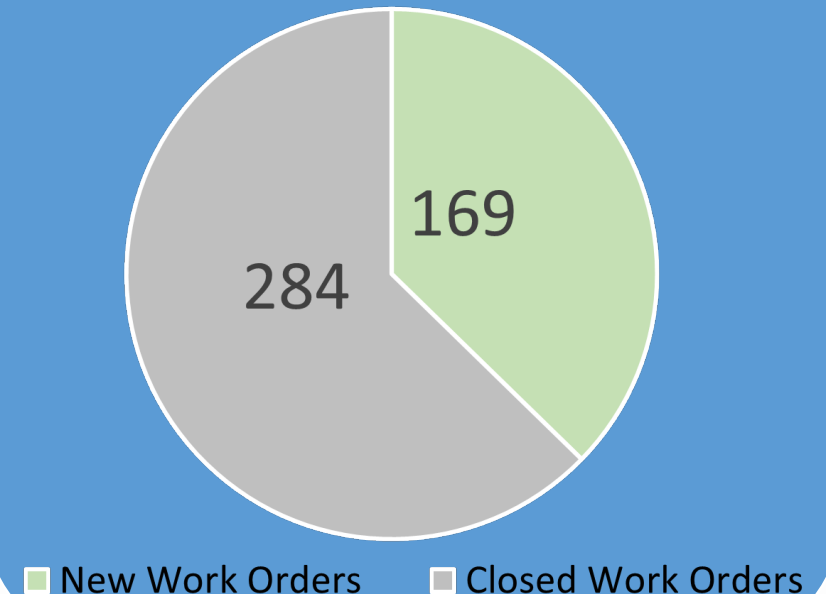
KPI:

Closed work orders will exceed the number of open work orders by 100 annually until the overall number of work orders is invariable (swale maintenance)

Goal:

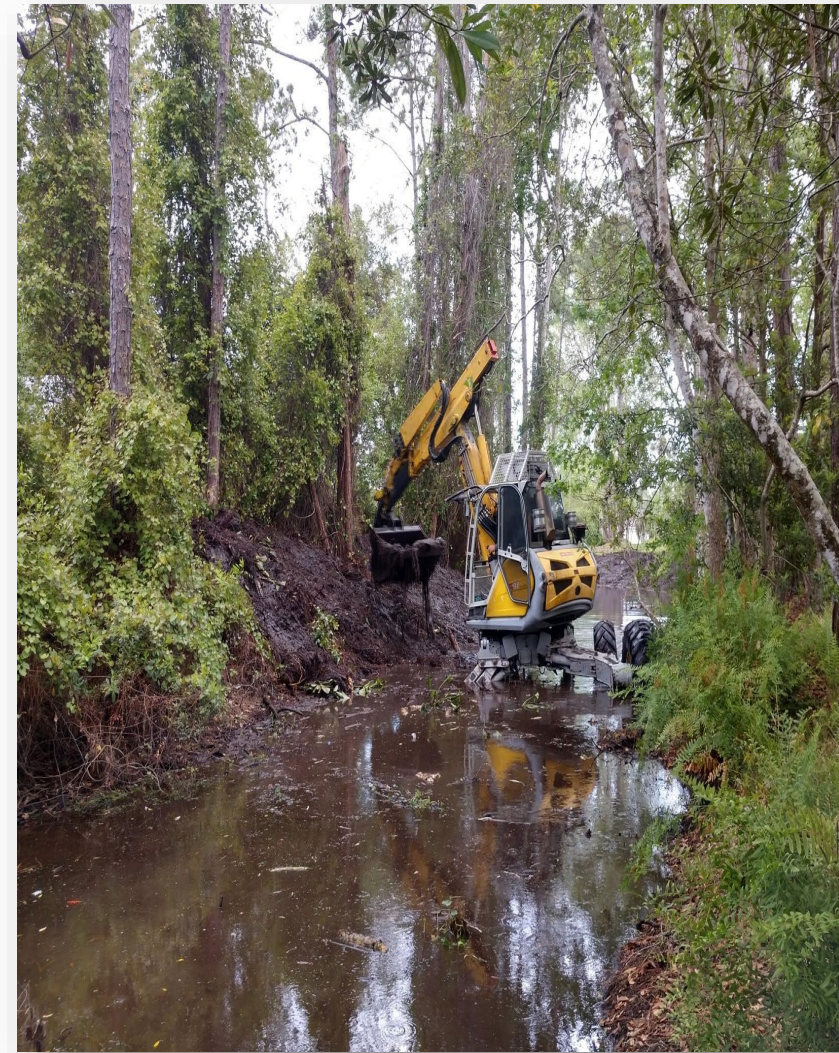
To reduce the amount of time it takes to complete swale maintenance requests

FY22 Summary:





One Ditch Crew



One Ditch Crew



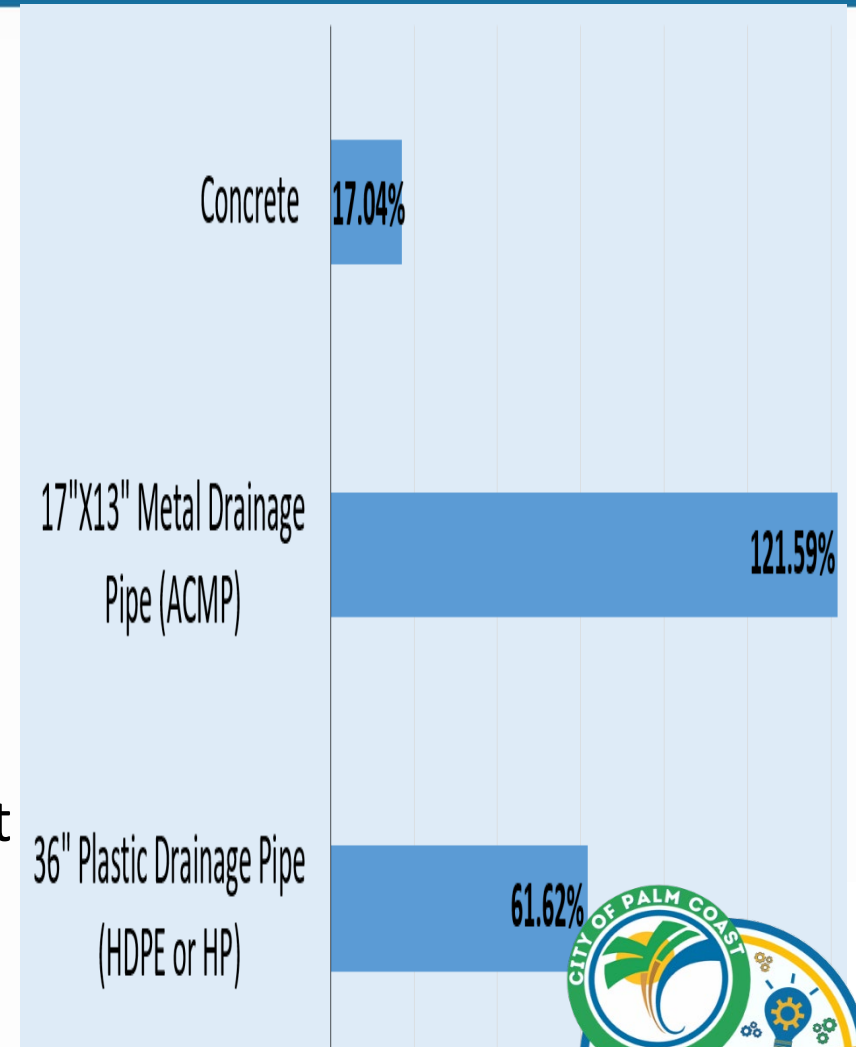
One Pipe Crew

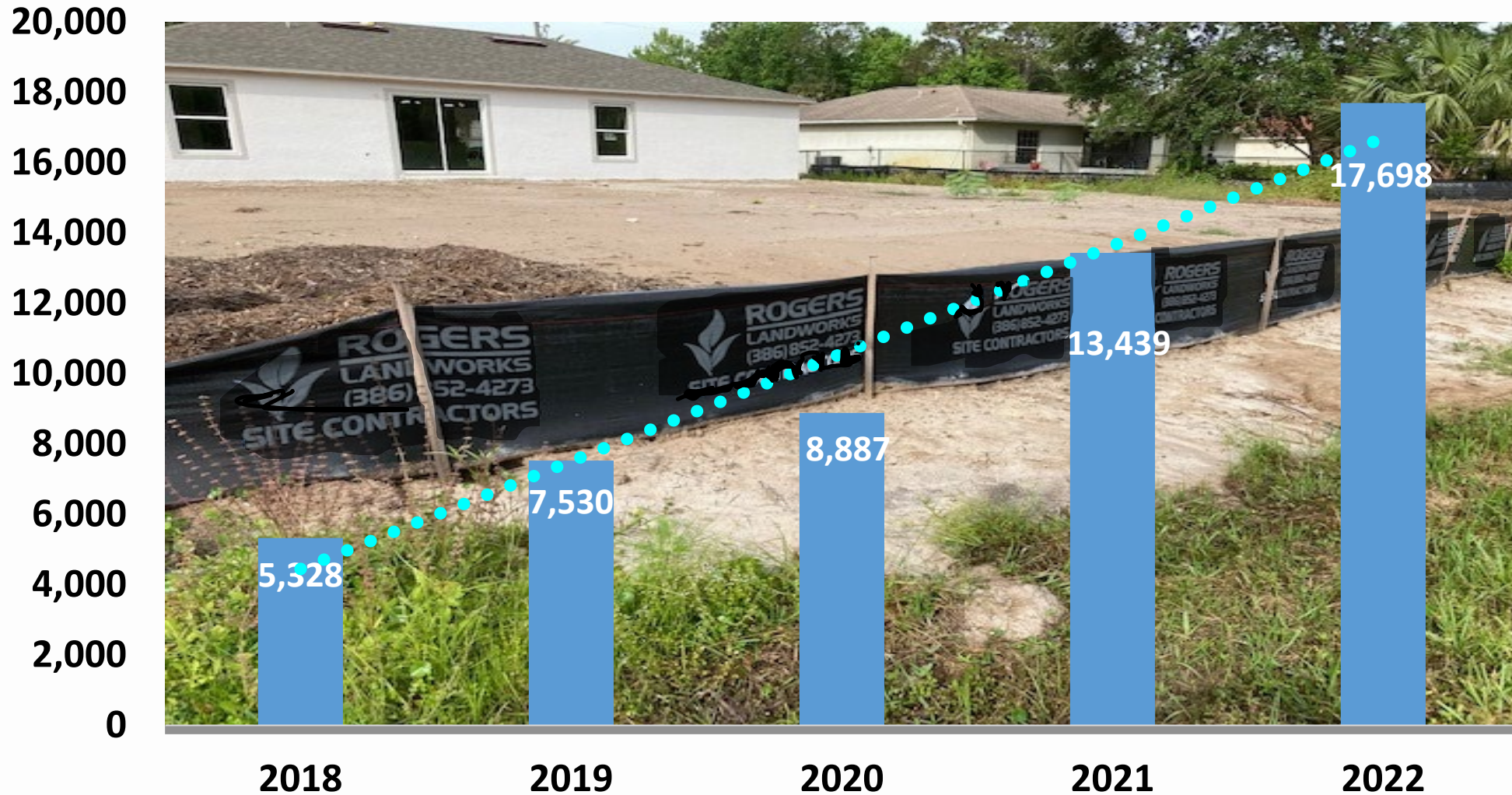


One Pipe Crew

Challenges

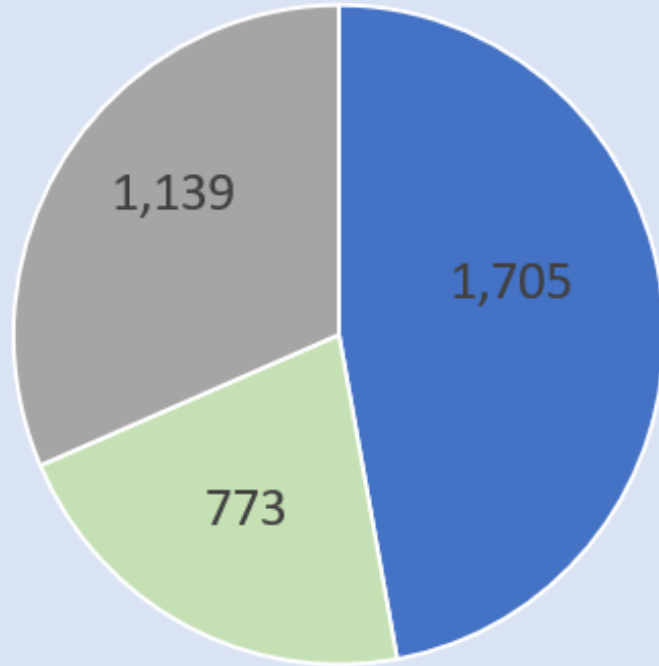
- Cost Increases
 - Materials (Pipe, Concrete, Sod, Chemicals, etc.)
 - Contract Services (Aquatic Weed Spraying, Concrete Work, Asphalt Repair)
 - Fuel Cost
- Staffing
 - High Turnover due to not being able to compete with salary/wages offered by private sector
- System Aging
 - System Components failing at a faster rate over current programmed replacement schedule





Number of Stormwater Permit Inspections

Stormwater Cases



■ New ■ Open ■ Cases Closed



Level of Service

KPI:

All PC Connect Cases for stormwater will be responded to within the appropriate timeframe

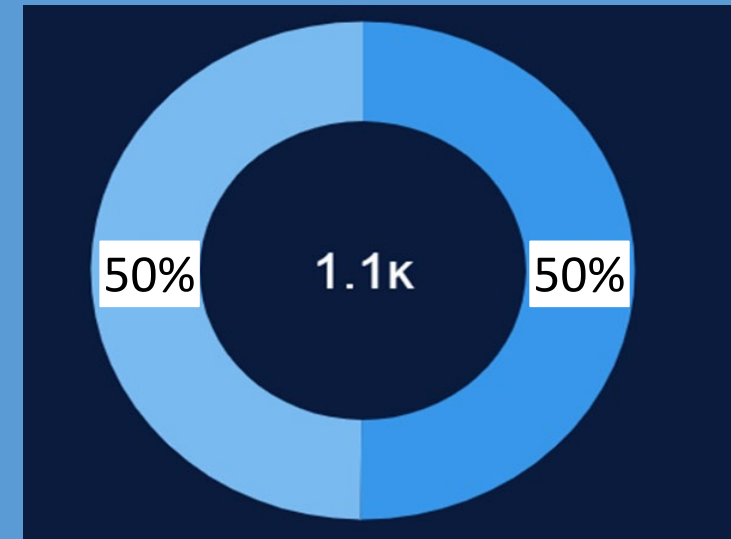
Goal:

Respond to PC Connect Cases within a three-week timeframe

YTD:

> 3 WEEKS

< 3 WEEKS



Stormwater Education 101 Vol. 2

STORMWATER EDUCATION 101



0.03 / 5.08 • STORMWATER EDUCATION 101 >

Scroll for details

Resident Outreach



Challenges

➤ Workload

- Increased permit reviews & inspections (new homes, driveway replacements, right-of-way)
- Increased citizen inquiries

➤ Infrastructure Needs

- Increase in growth requires additional funding and staff

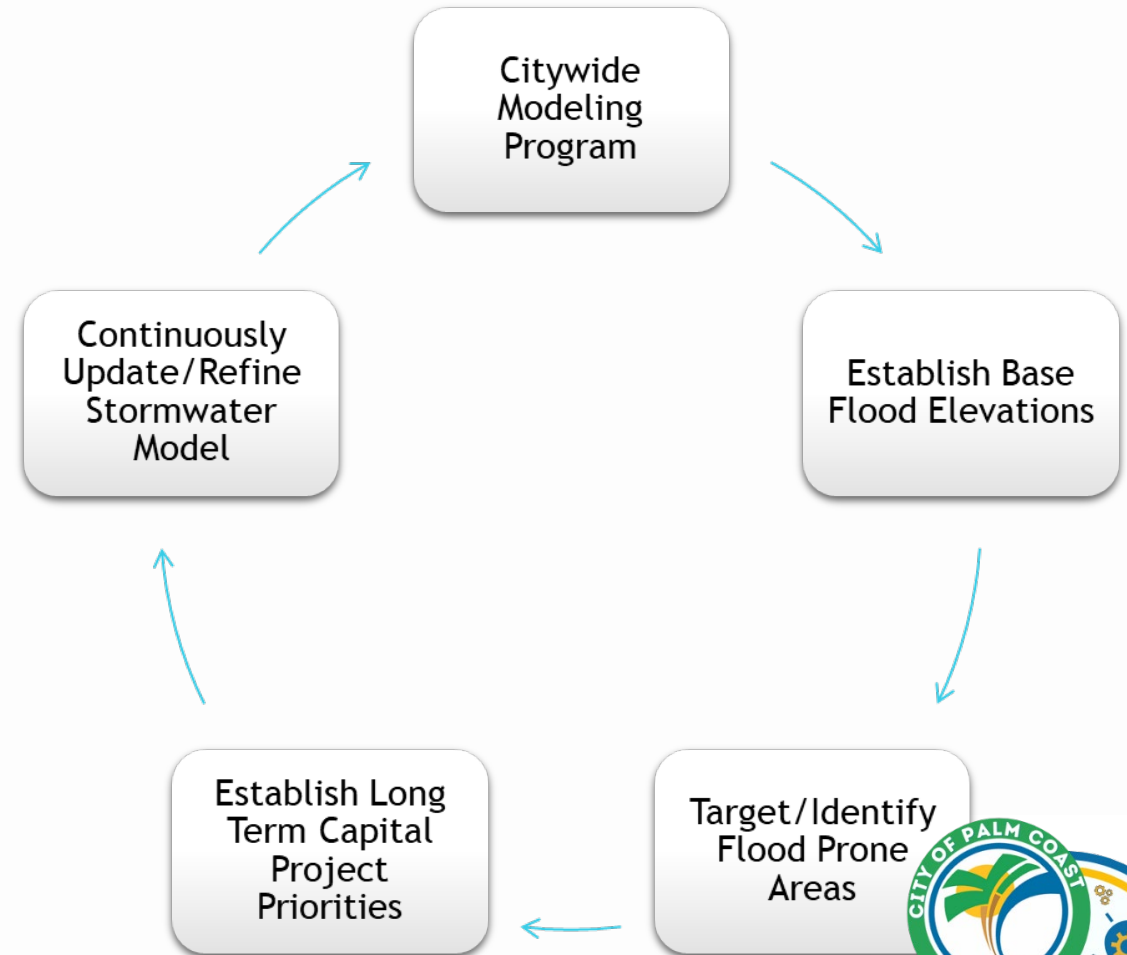
➤ Regulatory

- Additional tasks, data collection and reporting associated with City MS4 permit



Level of Service

- Capital Improvement Program
 - Project Management
 - In-House Design
 - Master Planning & Long-Range Planning
- Technical Reviews
 - New development & permits
- Operation Oversight
 - Stormwater Modeling
 - MS4 Permit



Challenges

- Workload
 - Increased Development Reviews
 - Consultant & Contractor Workload – Schedule Delays
- Infrastructure Needs
 - Increase in Growth Requires Additional Funding and Staff
 - Aging and Failing Infrastructure
- Regulatory
 - Additional Tasks, Data Collection and Reporting Associated With City MS4 Permit
- Cost Increases
 - Construction Cost for Projects Continues to Increase
 - Additional Loans Required to Complete Major Capital Projects and Capacity Improvement Projects

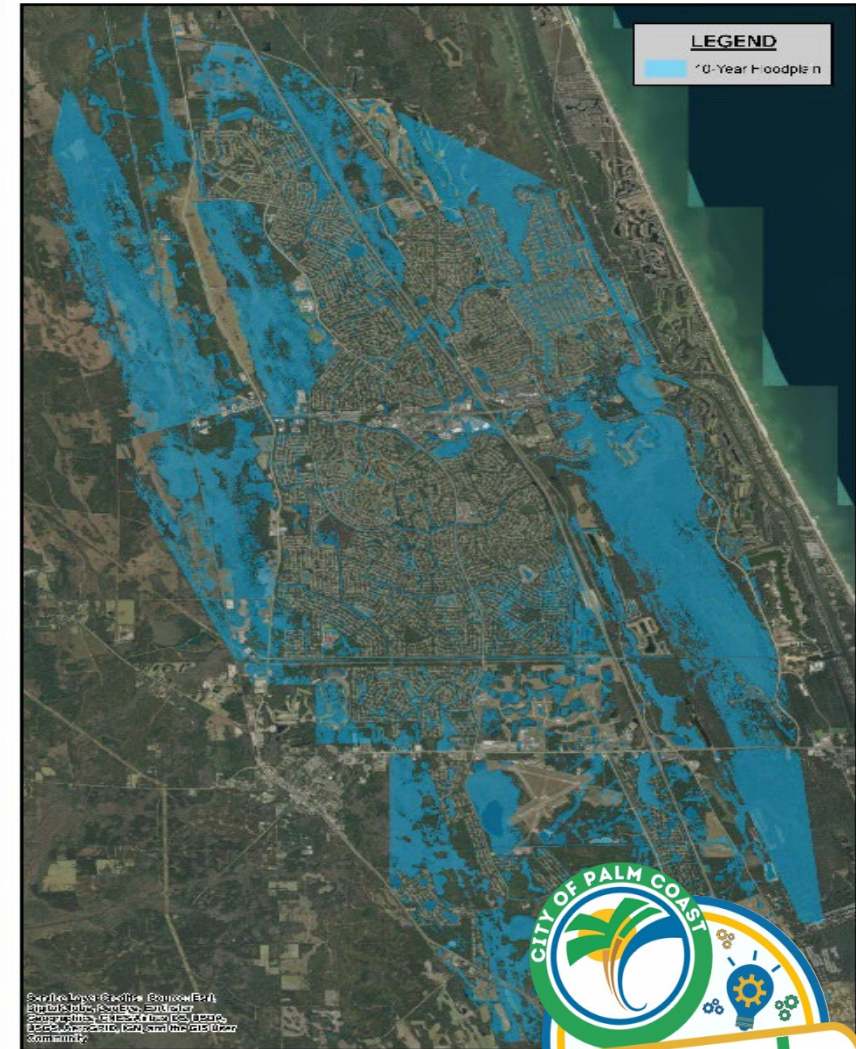
Program Highlights

- Implemented a 5-Year Stormwater Capital Improvement Plan
- Implemented a more Pro-Active Stormwater Maintenance Strategy
- Established Stormwater Infrastructure Priorities:
 - Street Valley Gutters
 - Pipe Replacement Program
 - Swales
 - Stormwater System Hydraulic Modeling
 - Replace Canal Control Structures (weirs)
1 Per Year



Program Highlights

- Began developing a Citywide Stormwater Modeling and Master Plan
- Developed applications to better manage and track Stormwater Assets, Maintenance Activities, Operations, Engineering, and Capital Projects
- Established a Ditch Rehabilitation & Maintenance Program
 - Created a Ditch Maintenance Crew
 - Began weed spray application (Contract Service)
- Accelerated Capital Improvement Program
 - Funded by loans
- Implemented Infrastructure Inspection Program
 - 106 Professional inspections

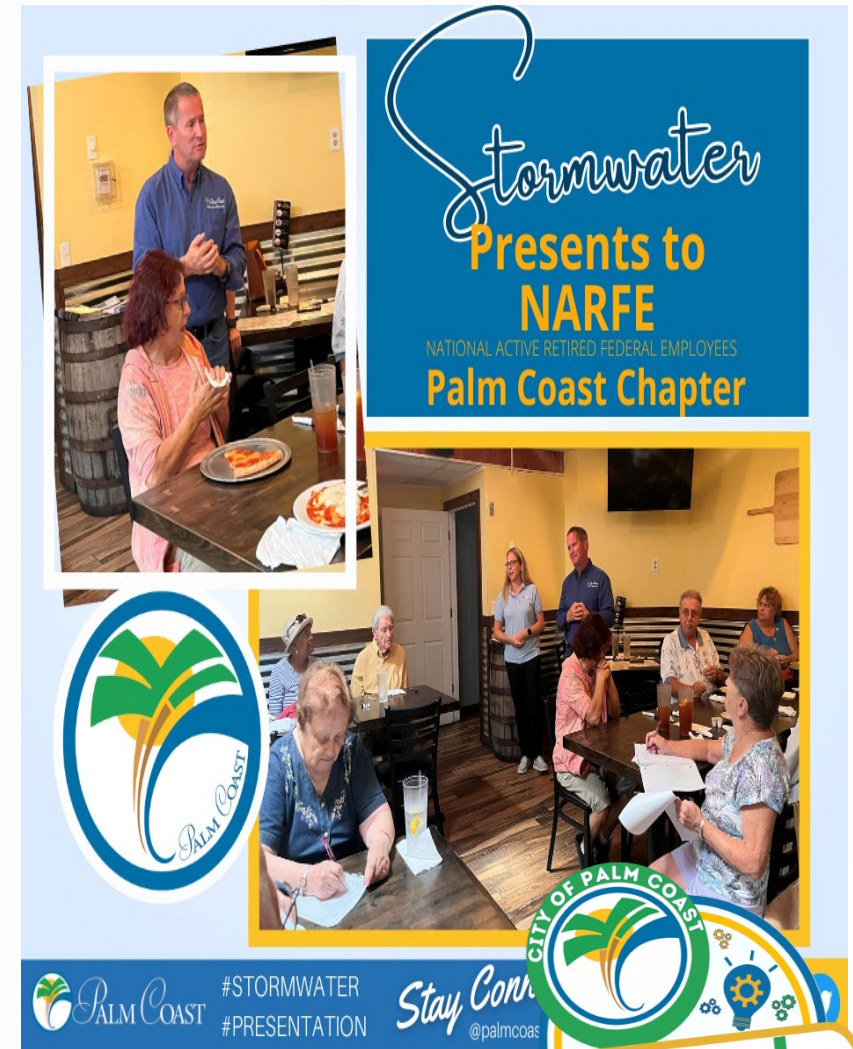


2018 – Enhanced Program

Program Highlights

➤ Enhancements

- Stormwater inspections & plan reviews for new home Construction
- Development Review (Commercial/Residential)
- Surveying (Swales, Ditches, CIP, & Interdepartmental support)
- MS4 Permit Oversight & Regulatory requirements
- Right-of-Way permit review
- Customer Generated Work Orders
- Dirt Screening Operations
- Public Outreach
- In-House Training Programs for staff to better understand and serve the public and builders



2018 – Enhanced Program

Program Highlights

➤ Added Equipment:

- Bobcat E50 Excavator
- Bobcat E85 Excavator (2)
- Menzi Muck M340
- Chipper Truck
- Vac Truck
- Mack 20-Yard Dump Truck
- Bobcat Skid Steer
- Pontoon Excavator
- Cat 926M Wheel Loader (2)
- Water Truck
- Lowboy Tractor Trailer
- Various Minor Equipment Items

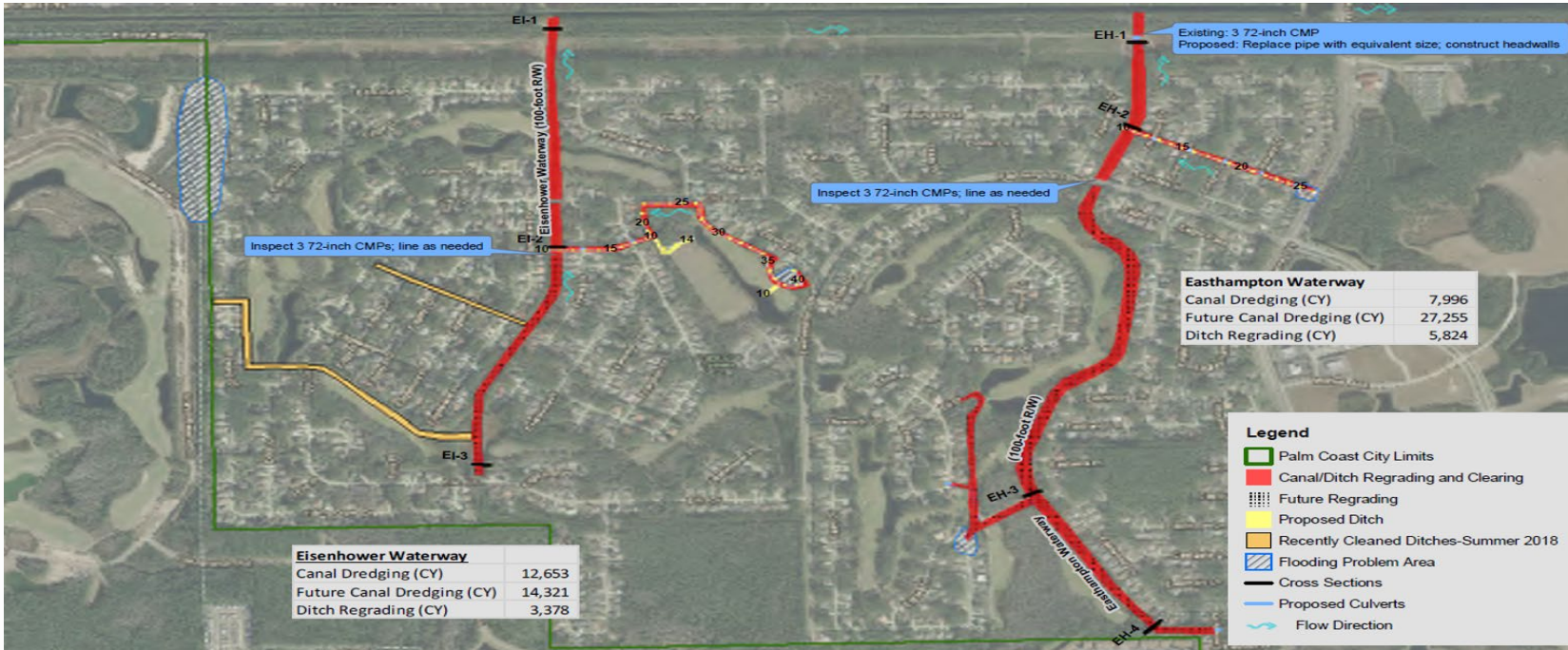
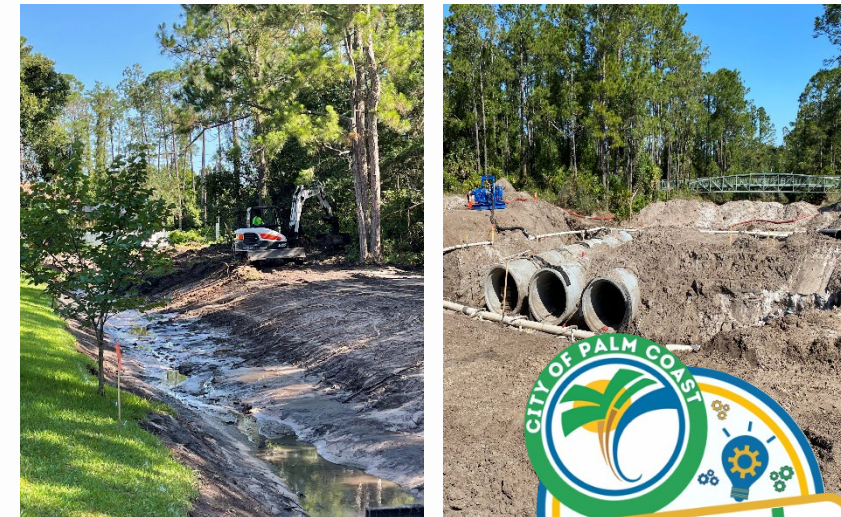


2018 – Enhanced Program



Program Highlights

- Major Rehabilitation and Capacity Projects:
 - E-Section Canal Dredging & Ditch Rehabilitation



**E-Section
Recommended Stormwater Improvements
for Ditches and Canals**
Flagler County FL



Figure 2

2018 – Enhanced Program



Program Highlights

- Major Rehabilitation and Capacity Projects:
 - London Waterway Expansion



2018 – Enhanced Program

Program Highlights

➤ Major Rehabilitation and Capacity Projects:

- Major Ditch Rehabilitation
 - Ditch I-95 East
 - F-Section (FPL)
- Minor Ditch Rehabilitation
 - W-Section
 - L-Section
 - S-Section
 - F-Section
 - K-Section



Program Highlights

- Major Rehabilitation and Capacity Projects:
 - Control Structure Replacements (Weirs)
 - K-6 (Smith Trail)
 - L-4 (Royal Palms @ Town Center)



2018 – Enhanced Program

Program Highlights

- Major Rehabilitation and Capacity Projects:
 - Major Pipe Crossing Replacements & Lining
 - Smith Trail
 - Belle Terre
 - Royal Palms
 - Whiteview
 - East Hampton
 - Sesame
 - Seminole Woods



Program Highlights

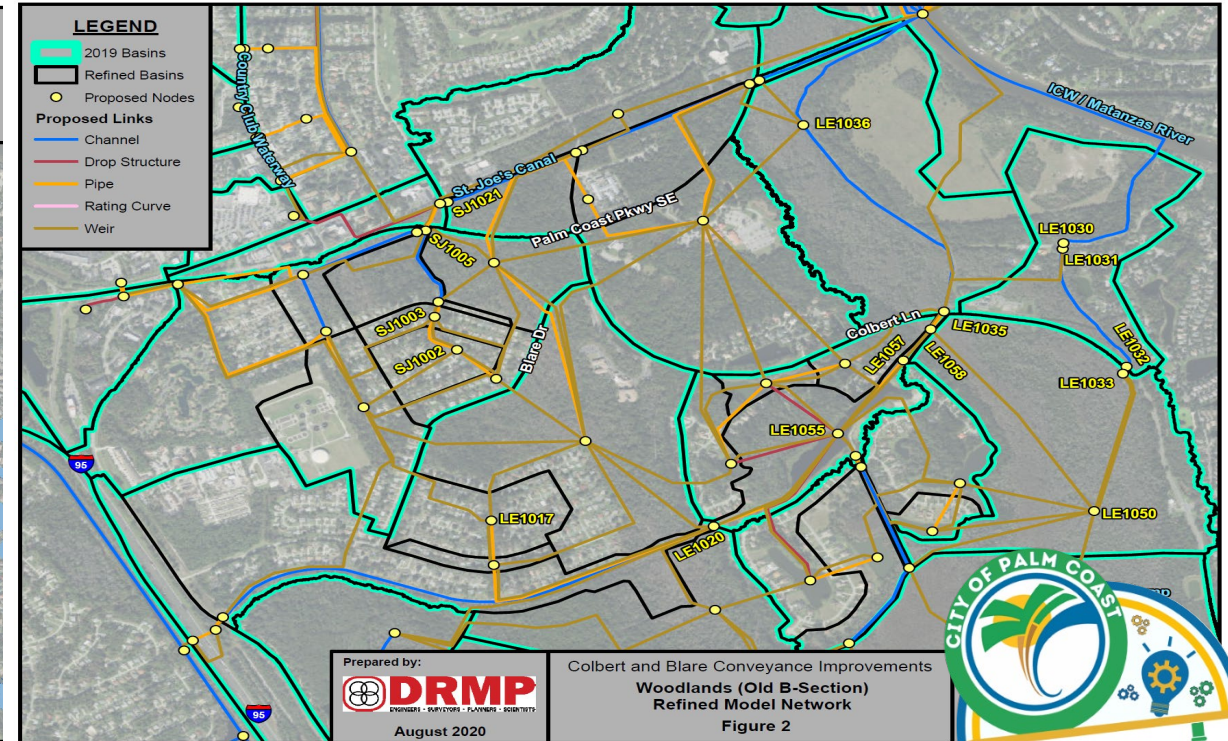
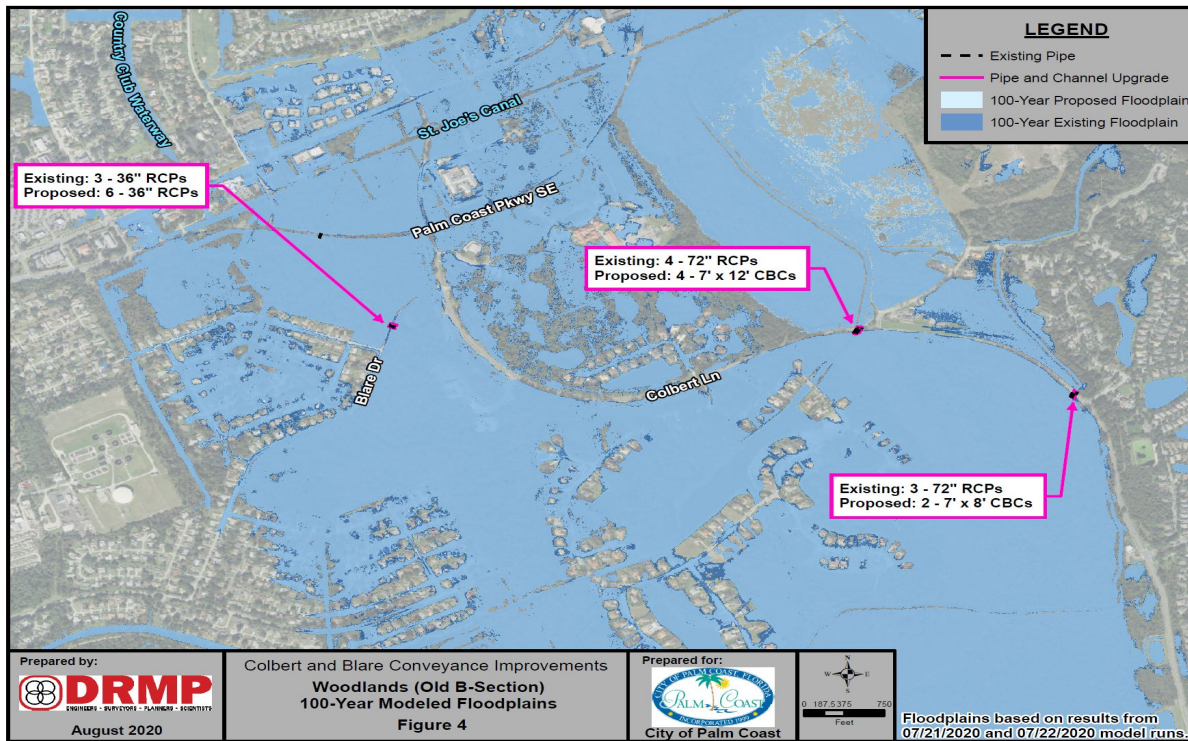
- Major Rehabilitation and Capacity Projects:
 - W-1 Major Pipe Crossing / Headwall / Drainage Rehabilitation



2018 – Enhanced Program

Program Highlights

- Major Rehabilitation and Capacity Projects:
 - Blare Castle & Colbert Culvert Replacement (upsize)



2018 – Enhanced Program



Program Highlights

➤ Northeast Florida Regional Council
2020 Award of Excellence in Resilience



- To Recognize the Floodplain and Stormwater Management Program. Award entries were judged based upon the criteria of background, innovativeness, effectiveness, implementation, comprehensiveness, and clarity.

➤ Florida Stormwater Association (FSA)
2020 Outstanding Achievement Award



- To Recognize Outstanding Stormwater Programs and Projects in the Profession of Stormwater Management, and the Benefit They Provide to the Environment and Local Citizenry.

➤ 2021 Annual Conference

- Presentation Showcasing the Development of the City's Monitoring Program to Assess Water Quality.





Stormwater Rate Study Assessment & Update

Budget Implications

- Current rate increases have not kept up with cost increases (inflation rate)
- Add 2nd Ditch Maintenance Crew
- Pipe Rehabilitation (Replacements & Lining) failures exceed available funding
- Allocations have been analyzed and updated
- Various staffing needs and level of service items
- MS4 regulatory requirements
- Vacant lot R/W mowing
- Maintenance Operations Complex

Major Projects

- P-1 Weir Replacement
- K-Section Drainage Improvements
- Lehigh Canal Culvert Capacity (I-95)
- London Waterway Capacity Projects
- Dry-Lake Associated Improvements
- Trenchless Pipe Rehabilitation
- Major Pipe Crossings
- Freshwater Canal Dredging
- Blare & Colbert Culvert Replacements



QUESTIONS?

City of Palm Coast, Florida Agenda Item

Agenda Date : February 14, 2023

Department	CONSTRUCTION MANAGEMENT & ENGINEERING	Amount
Division		Account
Subject	PRESENTATION - STORMWATER RATE STUDY	
Presenter: Donald Schragger, Deputy Director of Stormwater & Engineering		
Background :		
<p>In 2018 the City completed, and City Council adopted, a comprehensive rate study. This study was to evaluate the adequacy of stormwater rates necessary to pay for system operations, enhanced levels of maintenance, critical capital repairs and upgrades, and ongoing replacement of fleet and equipment. The rate study findings resulted in a recommended rate increase based on enhanced operations and a capital plan. The plan accelerated capital repairs and improvements, as well as maintenance activities for the citywide stormwater system.</p> <p>The adopted rate was phased in incrementally through FY24. Adopted rate increases include 8.2% for FY23 which was implemented on October 1, 2022, and an additional 7.5% scheduled for implementation in FY24. An annual indexing provision was also adopted to increase rates beyond FY24 based on the change in the consumer price index (CPI), but not less than 2% annually. Currently, the CPI has increased by 8.2% from October 2021 through September 2022.</p> <p>In May of 2022, Raftelis Financial Consultants, Inc., was contracted to perform a review of the Stormwater Enterprise Fund and provide a new rate study analysis to support the future needs and level of service of the Stormwater Utility.</p>		
Recommended Action :		
FOR PRESENTATION AND DIRECTION		

City of Palm Coast

Stormwater Rate Study

Prepared on February 8, 2023



Background

- The City completed a comprehensive rate study in 2018 to evaluate the adequacy of stormwater rates necessary to pay for system operations, enhanced levels of maintenance, critical capital repairs & upgrades, and ongoing replacement of fleet & equipment
- The City Council adopted the rate study recommendations based on an enhanced operating and capital plan that accelerated capital repairs and improvements and maintenance activities for the utility system while phasing in rates through FY24

Background (cont.)

- Adopted rate increases include 8.2% for FY23 that was implemented October 1, 2022 and an additional 7.5% for FY24
 - › An annual indexing provision was adopted to increase rates beyond FY24 based on the change in the consumer price index (CPI), but not less than 2% annually

Changing Conditions

- As the adopted stormwater rates were implemented through FY22, the factors affecting the original planning assumptions have changed
 - › Total (net) operating revenues for FY22 are estimated to be \$0.7 million under plan
 - Revenues based on the adopted FY22 rates are estimated to be \$1.2 million more than plan, while operating expenses and required transfers have exceeded plan by \$1.9 million
 - Also during the year, CPI increased approximately 8%
- Since the adopted rate plan was approved based on the City's plans to issue additional debt to fund capital projects, and to enhance the City's capital maintenance efforts, a portion of those proposed investments by the City are now left unfunded

Changing Conditions (cont.)

- To develop the FY23 operating budget, City staff accounted for additional increases in operating expenses due to anticipated inflation for the year, and added additional staff to achieve stormwater program goals and objectives
 - › The adopted FY23 operating budget is approximately \$0.7 million greater than FY22 or 10% more
- The City's General Fund currently supports the costs to maintain right-of-way (ROW) mowing
 - › City staff propose to establish stormwater funding for a transfer to the Public Works Department for ROW mowing of vacant properties
 - › Currently vacant properties exceed 10,000 parcels
 - › The annual average cost is approximately \$800,000 per year

Changing Conditions (cont.)

- City staff updated the program maintenance and capital improvements program to reflect increasing maintenance expenses, construction costs and equipment needs
 - › Annual rate funded maintenance expenses and capital improvements estimated to increase from approximately \$5.1 million in FY23 to an annual average need of \$8.0 million per year from FY24 through FY27
 - › An additional annual transfer of approximately \$2.5 million per year is planned to accrue funds for the proposed Maintenance Operations Center
 - The Maintenance Operations Center is currently under design / total funding from stormwater rates estimated at \$11.1 million by FY27
- City staff have summarized the plan changes under three service level priorities shown on the next slide

Summary of Service Level Priorities (FY23-27)

Priority 1: Fund Maintenance Needs

- Funds \$55.6 million in program maintenance and capital projects
 - Includes \$3.4 million in loans for new equipment
- Increases new personnel costs over time by \$3.1 million per year (FY27)
 - 2 ditch crews (1 new)
 - 1 concrete & asphalt crew (new: currently contracted)
 - 1 freshwater canal & weir crew (new: currently contracted)
 - 1 freshwater canal dredging crew (new)
- Adds a new transfer for ROW mowing that averages \$0.8 million per year
- Adds \$2.5 million per year in funding for the Maintenance Operations Center; \$11.1 million by FY27

Priority 2: Add Strategic Capital Improvements

- No additional staffing needs above the positions included in Priority 1
- Funds an additional \$40.7 million in major capital improvement needs:
 - Little Canal & Seven Oaks Waterway Expansion
 - Lehigh Canal Capacity Improvement
 - Future (Unfunded) Expansion of London Waterway
 - Bellaire Waterway Pop Offs
 - Section K Drainage Improvements
 - Other Major Pipe Inspection & Lining and Drainage Improvements
 - Freshwater Canal Dredging and Weir Replacements (Pine Grove Waterway West)
- Assumes new loans of \$38.1 million

Priority 3: Add Enhanced Swale Maintenance / Staffing

- Includes all funding associated with Priorities 1 & 2
- Adds an additional \$3.5 million in loans for new equipment when compared to Priorities 1 & 2 or \$6.9 million in total
- Adds new personnel costs over time by an additional \$2.0 million per year (FY27) when compared to Priorities 1 & 2 or \$5.1 million by FY27
 - 2 swale crews (new)
 - 1 vac con crew (new)
 - 1 water truck crew (new)
 - 1 dirt screening crew (new)

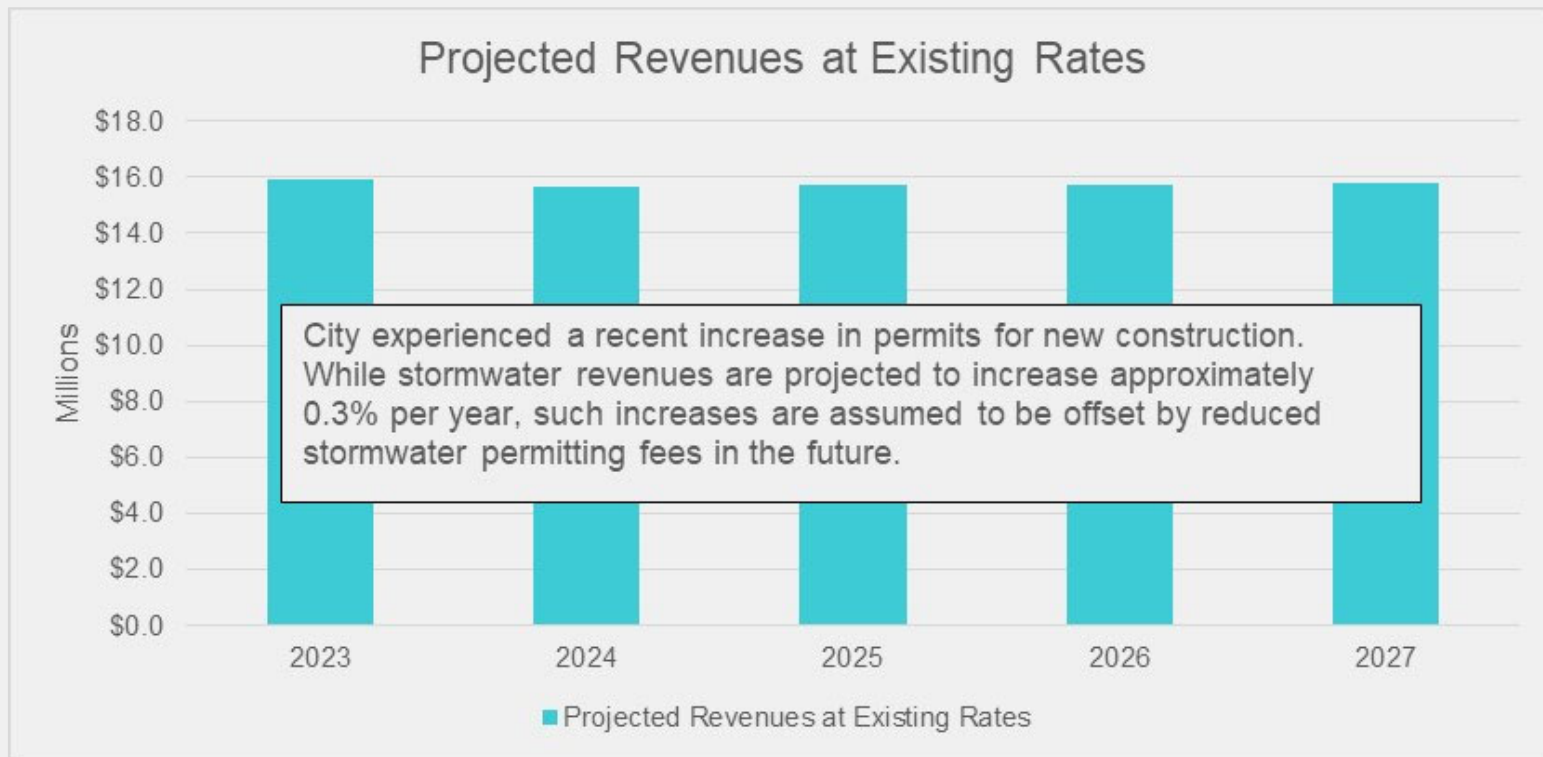
Study Objectives and Tasks

- The service level priorities were identified based on community feedback and master planning criteria as established by the City
- To evaluate the service level priorities, Raftelis updated the financial forecast for the next five years
 - › Primary study tasks:
 - Develop a financial forecast through FY27, including a projection of:
 - Revenues
 - Operations, regulatory and required transfers
 - Program maintenance and capital improvements
 - Existing and future debt service payments
 - Estimate the revenue requirements to be recovered from monthly service rates
 - Identify the need for rate adjustments during the study period based on selected priorities

Major Study Assumptions



Projected Revenues at Existing Rates



Program Maintenance & Capital Costs (FY23-27)

Priority 1: Fund Maintenance Needs

- Proposed Funding Sources
 - Grants \$5.9 million
 - Rate Revenues & Reserves \$40.0 million
 - Existing Series 2022 Southstate Note \$6.3 million
 - Debt Proceeds \$3.4 million

Total Funding
\$55.6 million

Priority 2: Add Strategic Capital Improvements

- Proposed Funding Sources
 - Grants \$5.9 million
 - Rate Revenues & Reserves \$42.4 million
 - Existing Series 2022 Southstate Note \$6.3 million
 - Debt Proceeds \$40.2 million

Total Funding
\$96.3 million

Priority 3: Add Enhanced Swale Maintenance / Staffing

- Proposed Funding Sources
 - Grants \$5.9 million
 - Rate Revenues & Reserves \$47.1 million
 - Existing Series 2022 Southstate Note \$6.3 million
 - Debt Proceeds \$43.6 million

Total Funding
\$102.9 million

Estimated: Actual Financing Terms May Vary

Projected New Loan Assumptions

Priority 1: Fund Maintenance Needs

- Series 2023 (Major Equipment)
 - \$1.0 million principal
 - 10 years at 5.25%
 - \$130,000 payment (FY23)
- Series 2026 (Major Equipment)
 - \$2.4 million principal
 - 10 years at 6.00%
 - \$325,000 payment (FY26)

Annual Payments by FY27
\$0.5 million / yr.

Priority 2: Add Strategic Capital Improvements

- No change to Series 2023 and 2026
- Add Series 2025 (Construction Projects)
 - \$17.3 million principal
 - 20 years at 6.25%
 - \$1.5 million payment (FY25)
- Add Series 2027 (Construction Projects)
 - \$20.8 million principal
 - 20 years at 6.75%
 - \$1.9 million payment (FY27)

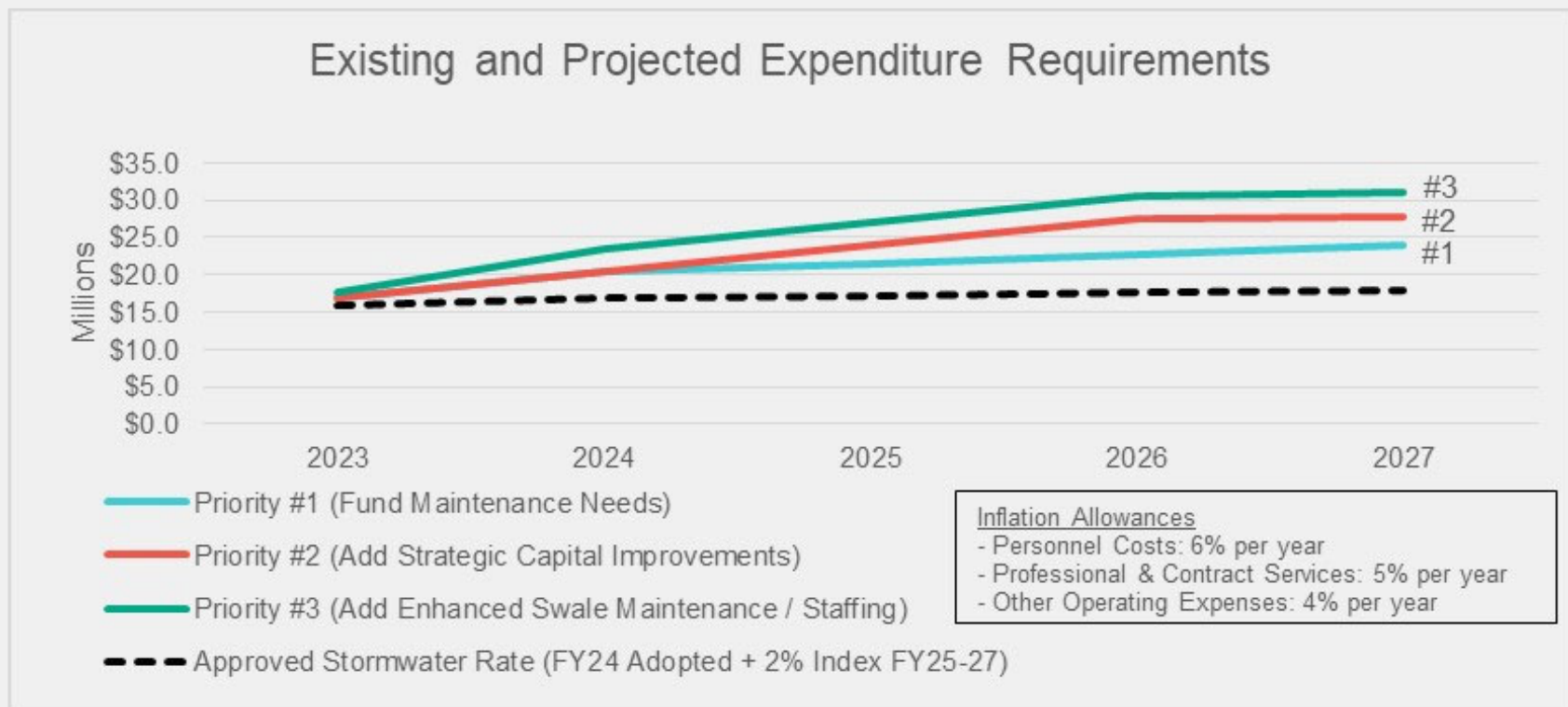
Annual Payments by FY27
\$3.9 million / yr.

Priority 3: Add Enhanced Swale Maintenance / Staffing

- No change to Series 2025, 2026 and 2027
- Revised Series 2023 (Major Equipment)
 - \$4.5 million principal
 - 10 years at 5.25%
 - \$585,000 payment (FY23)

Annual Payments by FY27
\$4.4 million / yr.

Total Projected Expenditure Requirements



Other Study Considerations

- The proposed rates should meet the following criteria:
 - › Fully fund the operating and capital requirements over the study period
 - Includes right-of-way mowing currently funded from the General Fund
 - Provides for partial funding for the Maintenance Operations Center
 - › Maintain a minimum reserve fund equal to at least 20% of the annual operating expenses, required transfers and debt service payments to provide:
 - Adequate working capital to meet the operating needs of each system
 - A contingency to respond to natural disasters or other unforeseen events
 - › Comply with the minimum debt service coverage requirements
- A portion of the existing reserves above the 20% minimum requirement were used to fund program maintenance and capital costs while implementing the rate adjustments over the study period

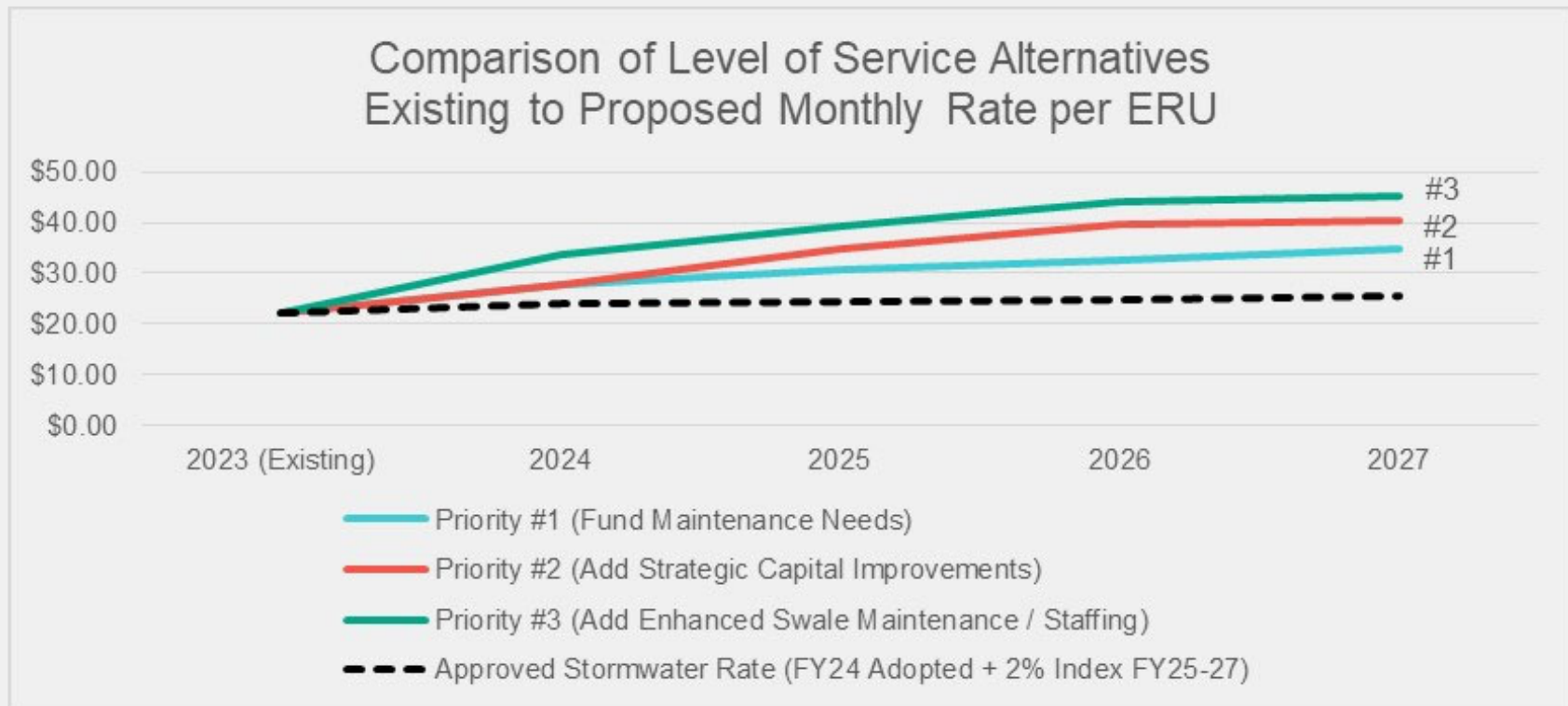
Summary of Rate Study Results



Summary of Proposed Stormwater Rates

Description	Existing	FY24	FY25	FY26	FY27
Priority 1: Fund Maintenance Needs					
Percent Rate Increase		25.0%	11.0%	6.0%	6.0%
Increase in Monthly Charge per ERU		<u>\$5.58</u>	<u>\$3.06</u>	<u>\$1.86</u>	<u>\$1.96</u>
Existing/Proposed Residential Bill	\$22.27	\$27.85	\$30.91	\$32.77	\$34.73
Priority 2: Add Strategic Capital Improvements					
Percent Rate Increase		25.0%	25.0%	14.0%	2.0%
Increase in Monthly Charge per ERU		<u>\$5.58</u>	<u>\$6.96</u>	<u>\$4.87</u>	<u>\$0.80</u>
Existing/Proposed Residential Bill	\$22.27	\$27.85	\$34.81	\$39.68	\$40.48
Priority 3: Add Enhanced Swale Maintenance / Staffing					
Percent Rate Increase		51.0%	17.0%	12.5%	2.0%
Increase in Monthly Charge per ERU		<u>\$11.37</u>	<u>\$5.72</u>	<u>\$4.92</u>	<u>\$0.88</u>
Existing/Proposed Residential Bill	\$22.27	\$33.64	\$39.36	\$44.28	\$45.16

Comparison of Service Level Alternatives



Observations / Conclusions

- Based on community feedback and master planning criteria as established by the City, City staff developed three service level priorities to address program goals and objectives
- Each service level priority considers a balanced approach to funding major capital improvements and ongoing renewal and replacements using both debt and pay-go funding that will provide benefits over the useful life of the assets
- Key cost factors include:
 - › Recent inflation
 - › New staffing positions
 - › Vehicle & equipment needs
 - › Right-of-way mowing
 - › Funding the Maintenance Operations Center
 - › Major capital improvements

Observations / Conclusions (cont.)

- The City Council should consider adopting the proposed stormwater rates prepared under Priority 3, which would become effective on and after October 1, 2023, and each October 1st thereafter
- The Priority 3 Service Level adds certain strategic capital improvements and invests in new staffing and equipment as described in this presentation, which will enhance the stormwater program
 - › Retaining existing staff will help to continue to reduce the backlog of work orders
 - › Adding two additional swale crews will double the swale maintenance efforts and increase the City's level of service
 - › Adding a second ditch crew allows the team to work in tandem with the swale crews to address immediate downstream ditch improvements at the same time
 - › Bringing the City's asphalt/concrete work inhouse provides the City more control, which will accelerate project response and completion time
 - › Completing major capital improvements planned for the study period will extend the life of the system and ensure that the infrastructure is functioning properly

Observations / Conclusions (cont.)

- If approved, the proposed rates are designed to provide adequate cash flows over the study period to fully fund the projected revenue requirements of the system, while also maintaining adequate cash reserves in compliance with City policy
- The City should consider updating this study within three years, or at such time that actual results differ from the assumptions and estimates made during this analysis