

10:30

PALM BEACH COUNTY  
BOARD OF COUNTY COMMISSIONERS

WORKSHOP SUMMARY

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Meeting      March 29, 2016  
Date:

Department:    Water Utilities Department

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I. EXECUTIVE BRIEF

**Title:** Palm Beach County Water Utilities Capital Program Overview and Update


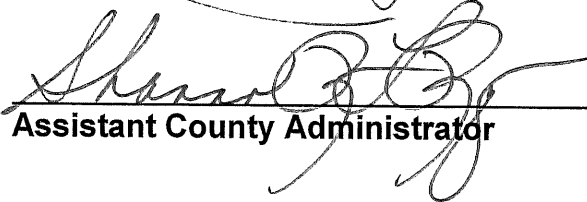
**Summary:** Palm Beach County's Water Utilities has embarked on an aggressive five (5) year Capital Improvement Plan to reinvest in the Utilities' aging supportive infrastructure. The Utilities' assets are currently valued at approximately \$1 Billion. This aggressive plan was developed to support the Utilities' Mission Statement of *Best Water, Best Service and Best Environmental Stewardship*. The programmed investments include all aspects and regions of the utility and are currently programmed at approximately \$421 Million. Of this programmed amount, \$103 Million is in the western region, \$109 Million in the central region, and \$210 Million in the southern region. This workshop item will provide an overview of the Utilities' supportive infrastructure, the programmed investments in each of the three (3) service regions, and an update regarding the status of planned improvements in all three (3) regions of the County with a partial focus on the Glades. Funding for these improvements are from the Department's designated Renewal and Replacement Fund and other appropriate revenue sources. Countywide (MJ)

**Background and Policy Issues:** Palm Beach County Water Utilities provides water and wastewater services to approximately 560,000 residents in the central, southern, and western incorporated and unincorporated areas of the County. The Department carries an AAA bond rating and is the second largest water utility in the State of Florida and has been nationally recognized as one of the best operating utilities in the County by the American Water Works Association. The Department has an annual operating budget of approximately \$150 Million.

**Attachments:**

Presentation

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Recommended by:		3-24-2016
	For Department Director	Date
Approved by:		3-28-2016
	Assistant County Administrator	Date



## II. FISCAL IMPACT ANALYSIS

### A. Five Year Summary of Fiscal Impact:

Fiscal Years	2016	2017	2018	2019	2020
Capital Expenditures	\$0	\$0	\$0	\$0	\$0
Operating Costs	0	0	0	0	0
External Revenues	0	0	0	0	0
Program Income (County)	0	0	0	0	0
In-Kind Match (County)	0	0	0	0	0
NET FISCAL IMPACT	\$0	\$0	\$0	\$0	\$0
# Additional FTE Positions (Cumulative)	0	0	0	0	0

Is Item Included in Current Budget:    Yes                      \_\_\_\_\_                      No                      \_\_\_\_\_

Budget Account No: \_\_\_\_\_

Reporting Category \_\_\_\_\_

### B. Recommended Sources of Funds/Summary of Fiscal Impact:

This contract includes language applying requirements of the Inspector General (IG) Ordinance.

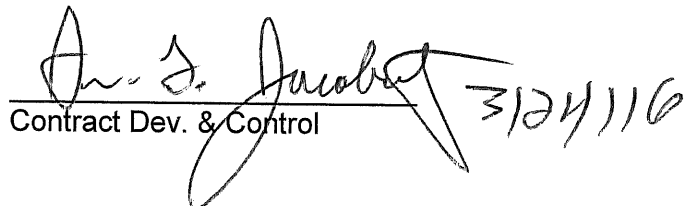
Departmental Fiscal Review: \_\_\_\_\_

## III. REVIEW COMMENTS

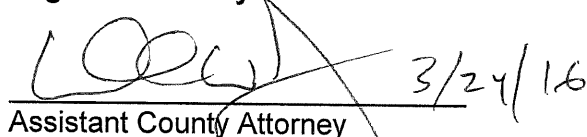
OFMB Fiscal and/or

  
OFMB

Contract Development & Control  
Comments:

  
Contract Dev. & Control    3/24/16

Legal Sufficiency:

  
Assistant County Attorney    3/24/16

Other Department Review:

\_\_\_\_\_  
Department Director

This summary is not to be used as a basis for payment.





# Palm Beach County Water Utilities Department Capital Program Update



## Palm Beach County Board of County Commissioners

March 29, 2016





# Today's Agenda:

- Department Overview
  - Service Area Customer Demographics
  - Overview of Facilities
    - Water Supply
    - Water Treatment Facilities
    - Water Distribution System
    - Wastewater Collection System
    - Wastewater Treatment Facilities
    - Reuse Facilities
  - Historical Growth Investment
  - Sustainability Investments
- Capital Improvement Program
  - Central, Southern & Western
  - Implementation Overview
- Questions





# Department Overview



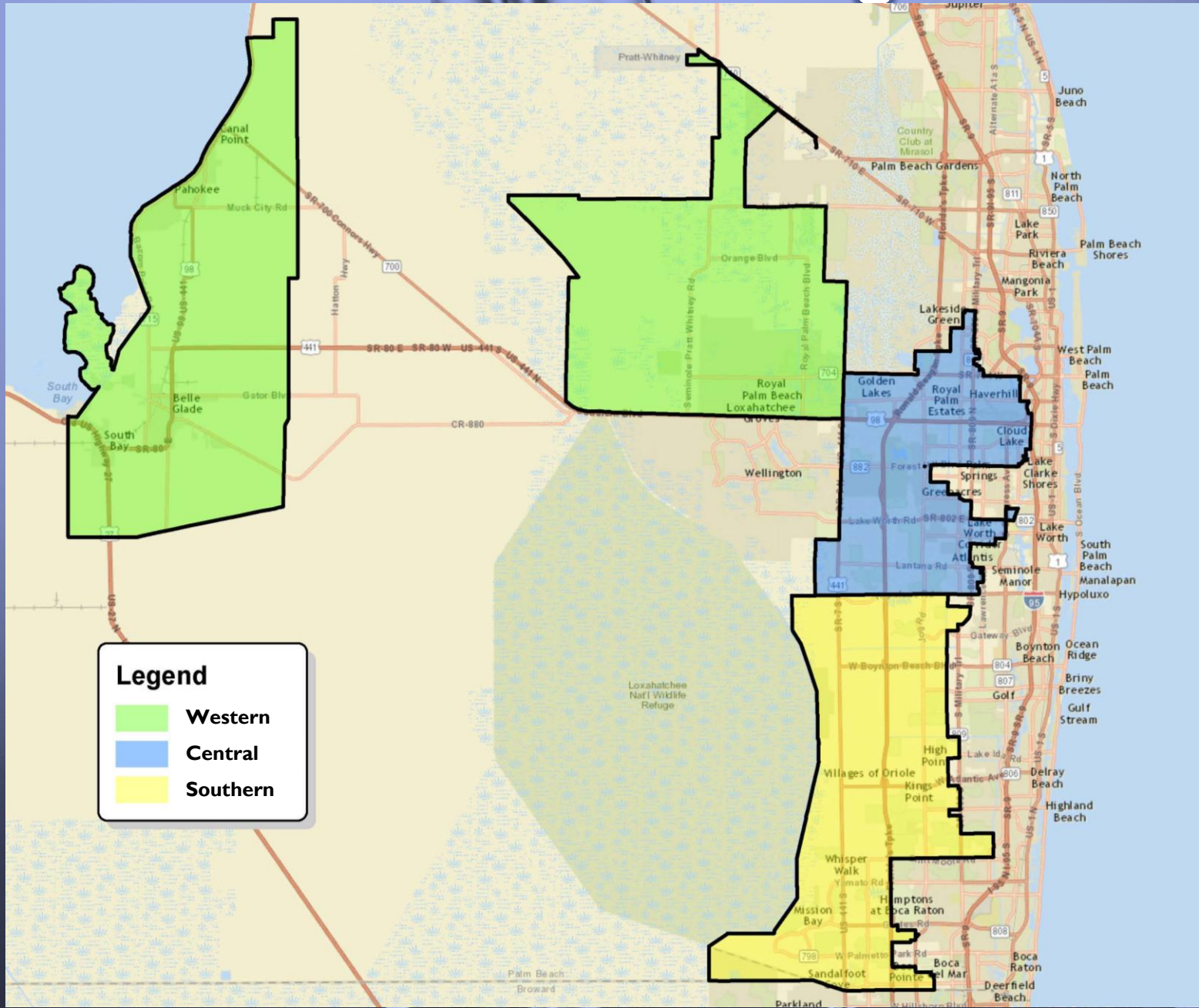


# **Water Utilities Mission Statement**

**Best Water,  
Best Service &  
Best Environmental  
Stewardship**



# Water Utilities Service Regions





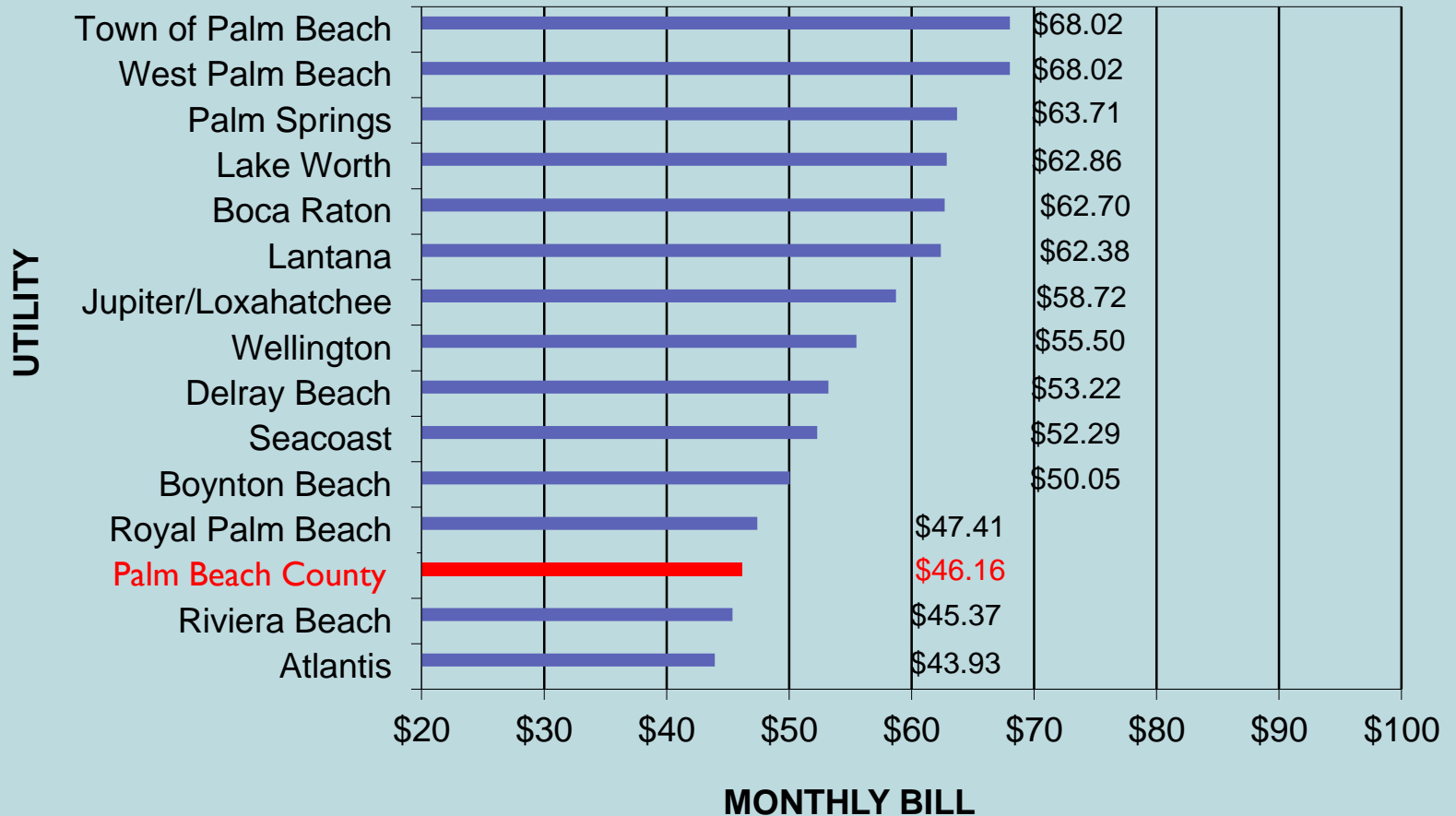
# Customer Demographics

- Serving 560,000 Residents
- Number of Connections by User Class
  - Single Family 149,023
  - Multi-Family 31,893
  - Non-Residential 7,464



# PBC Rate Comparison

## RESIDENTIAL CUSTOMER'S MONTHLY BILL (5,000 gallons combined service)





# Overview of Facilities

- Facilities and Types Include:

- Water Supply
- Water Treatment Facilities
- Water Distribution System
- Wastewater Collection System
- Wastewater Treatment Facilities
- Reuse Facilities





# Water Supply

AREA	SUPPLY SOURCE	NUMBER OF WELLS	PERMITTED CAPACITY (MGD)
<b>Central</b>			
WTP 2	Surficial	16	16.4
WTP 8	Surficial	25	30
<b>Southern</b>			
WTP 3	Surficial	32	30
WTP 9	Surficial	30	26.88
<b>Western</b>			
WTP 11	Floridan	9	10
Total		112	113.28

## Production Wells



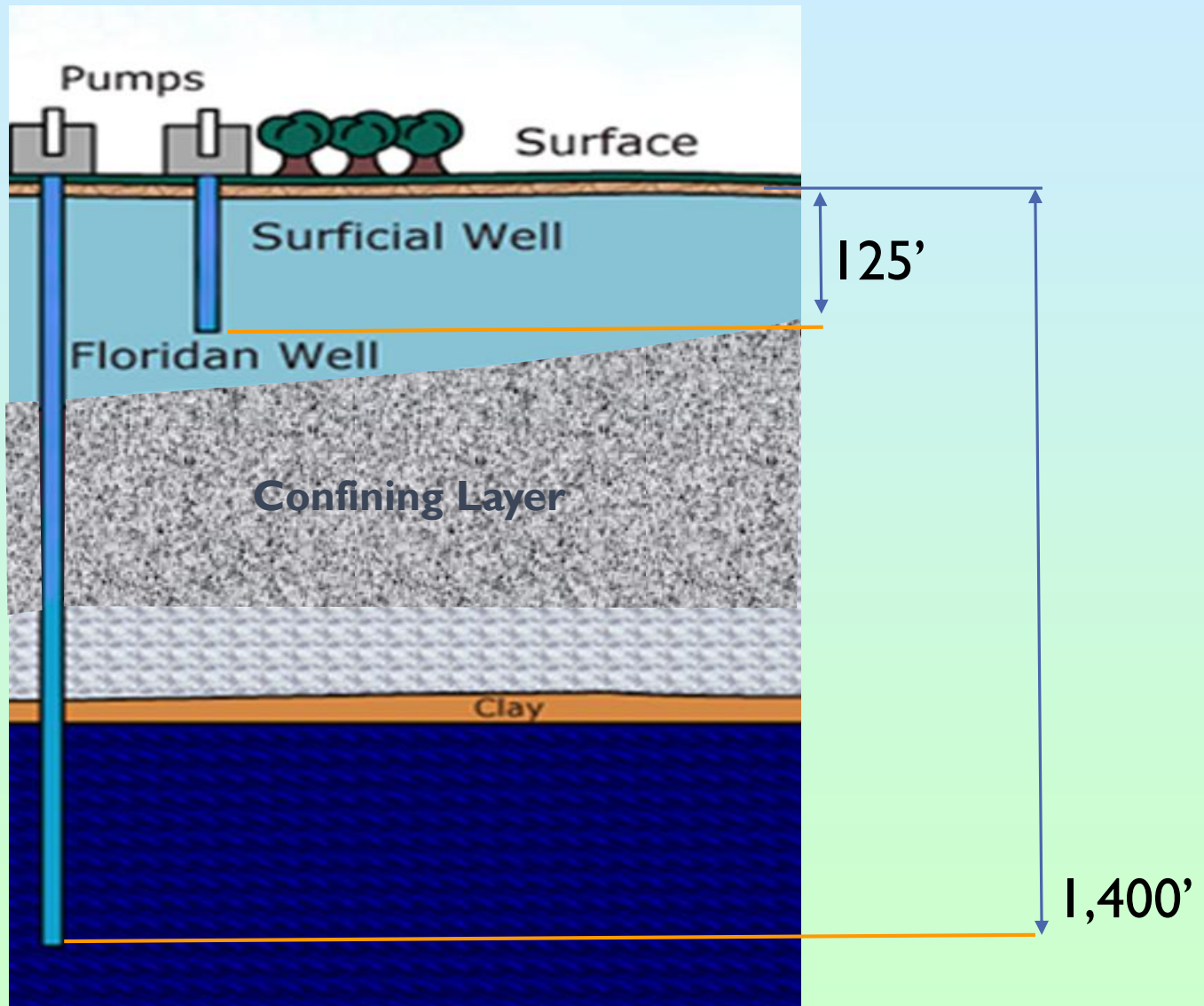
Surficial/Fresh - 125' Deep



Floridan/Brackish – 1,400' Deep



# Water Supply





# Water Treatment Facilities

## Central Region Water Treatment Plants

### Water Treatment Plant 2

- Acquired in 1976
- 16.4 MGD Capacity
- Two Treatment Technologies
  - Lime Softening
  - Anion Exchange



### Water Treatment Plant 8

- Acquired in 1982
- 30 MGD Capacity
- Two Treatment Technologies
  - Lime Softening
  - Anion Exchange





# Water Treatment Facilities

## Southern Region Water Treatment Plants

### Water Treatment Plant 3

- Built in 1994
- 30 MGD Capacity
- Membrane Softening



### Water Treatment Plant 9

- Built in 2001
- 26.88 MGD Capacity
- Membrane Softening





# Water Treatment Facilities

## Western Region Water Treatment Plant

### Water Treatment Plant I I

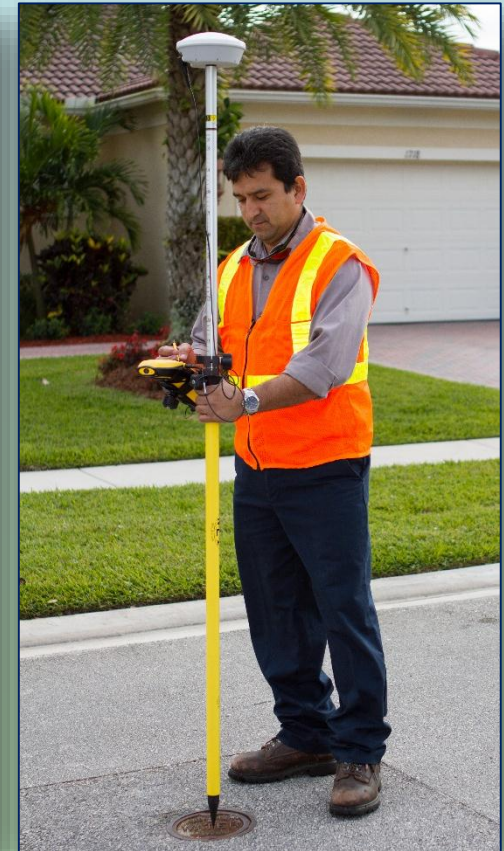
- 2008
- 10 MGD Capacity
- Reverse Osmosis Membrane





# Water Distribution System

- Miles of pipe (here to Spokane, WA) 2,411
- Number of Fire Hydrants 18,181
- Number of Valves 35,357





# Wastewater Collection System

- Miles of Pipe
  - Gravity Sewer 1,257
  - Force Mains 594
- Number of Lift Stations 898
- Number of Manholes 31,740





# Wastewater Treatment Facilities

Southern Region Wastewater Reclamation Facility  
*1991 - Southern Region*



35 MGD

East Central Regional (ECR) WW  
*Central Region*



70 MGD (WUD 24 MGD)

Belle Glade  
Wastewater Treatment Facility  
*Acquired 2013 – Western Region*



6 MGD

Pahokee  
Wastewater Treatment Facility  
*Acquired 2013 – Western Region*



1.3 MGD



# Reuse Facilities

Green Cay  
Boynton Beach, FL



**Over 75 Billion Gallons Reused**

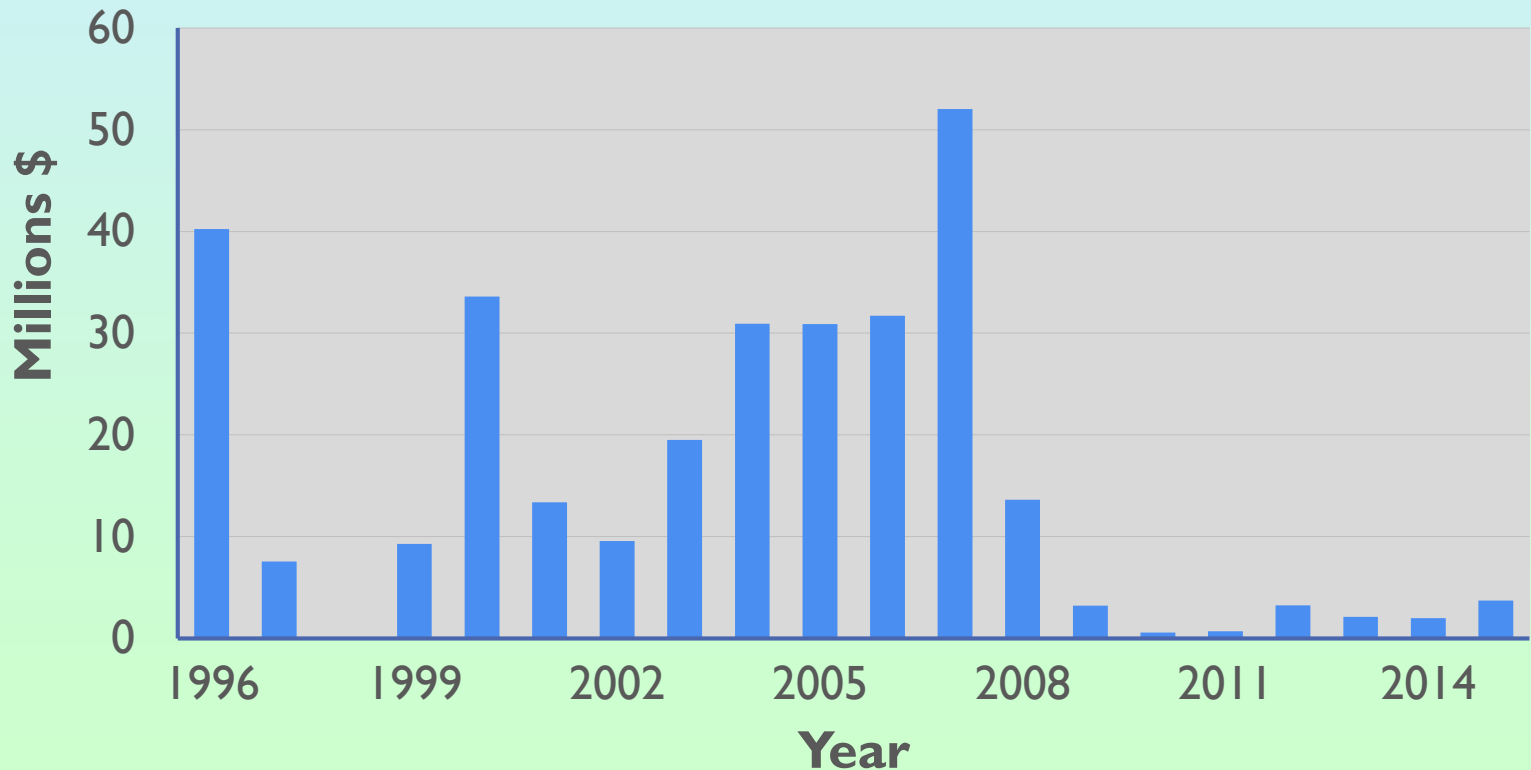
Wakodahatchee  
Delray Beach, FL





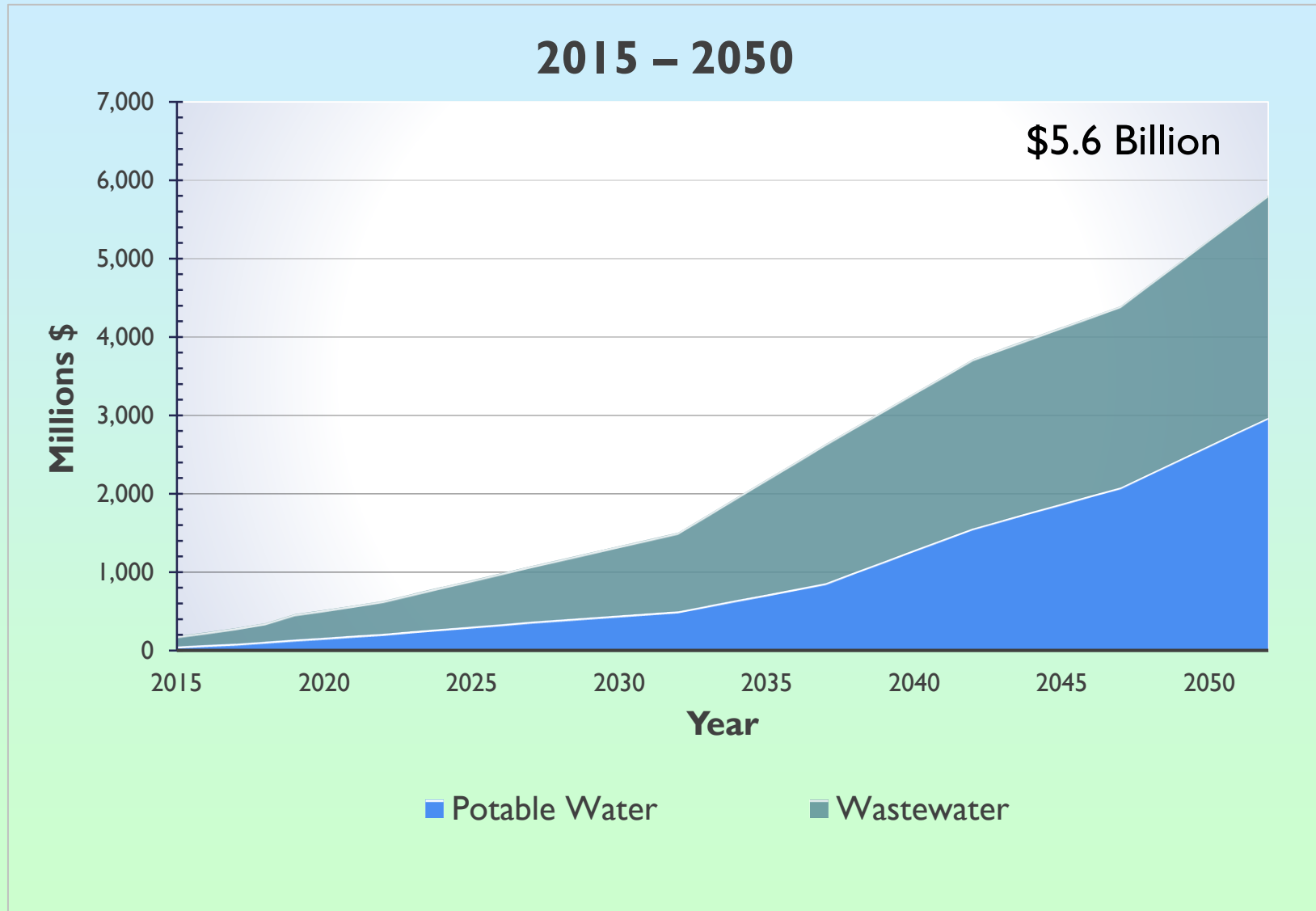
# Historical Investment in Growth

Building for growth largely completed  
\$1 Billion in Capital Assets



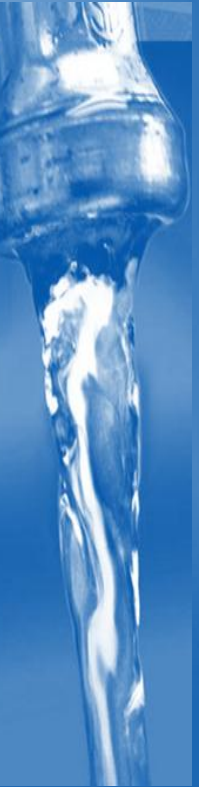


# Sustainability Investments





# Capital Improvement Program







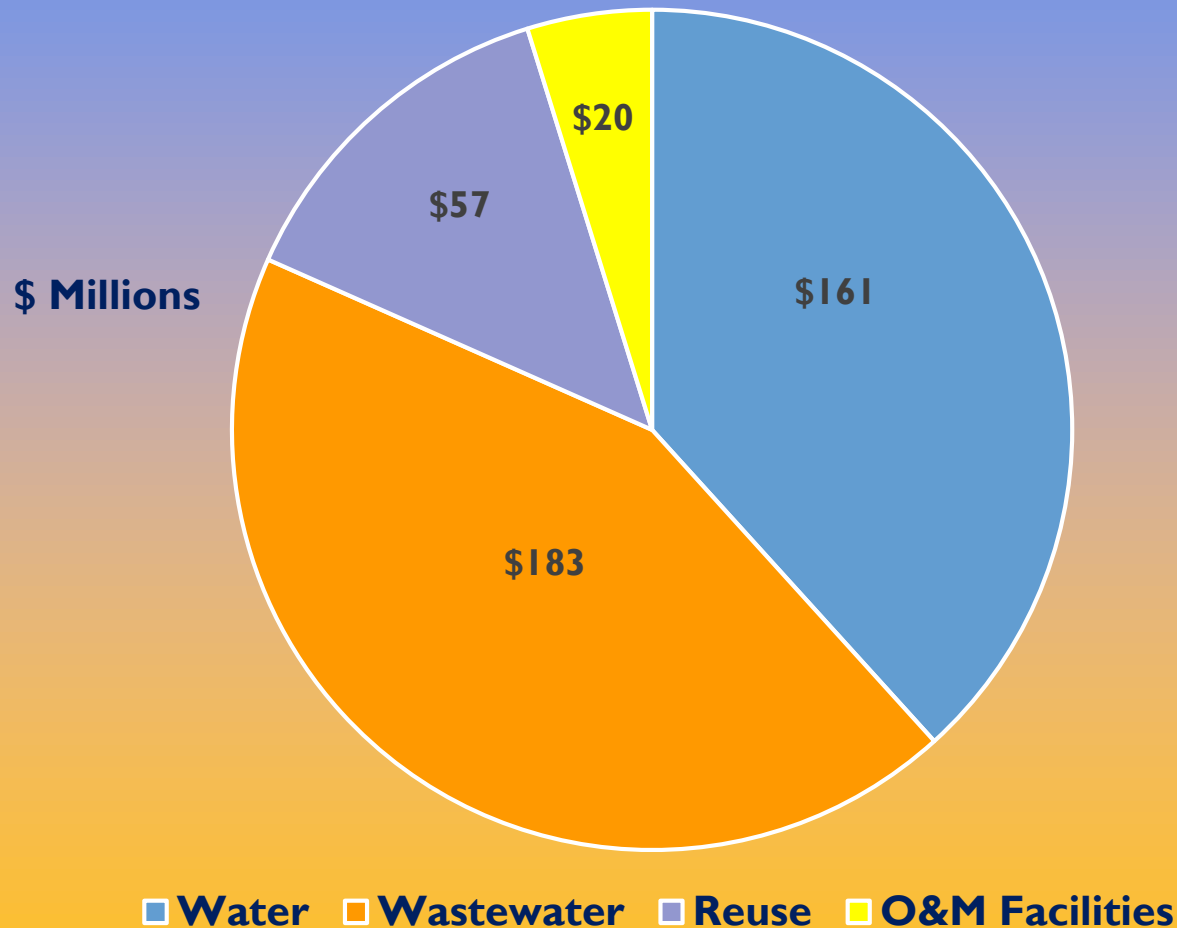
# Capital Improvement Overview

- 5 Year Plan (2015 - 2020)
- Covers all 3 Regions
  - Central
  - Southern
  - Western
- Program Implementation
  - WUD Staff
  - Program Management



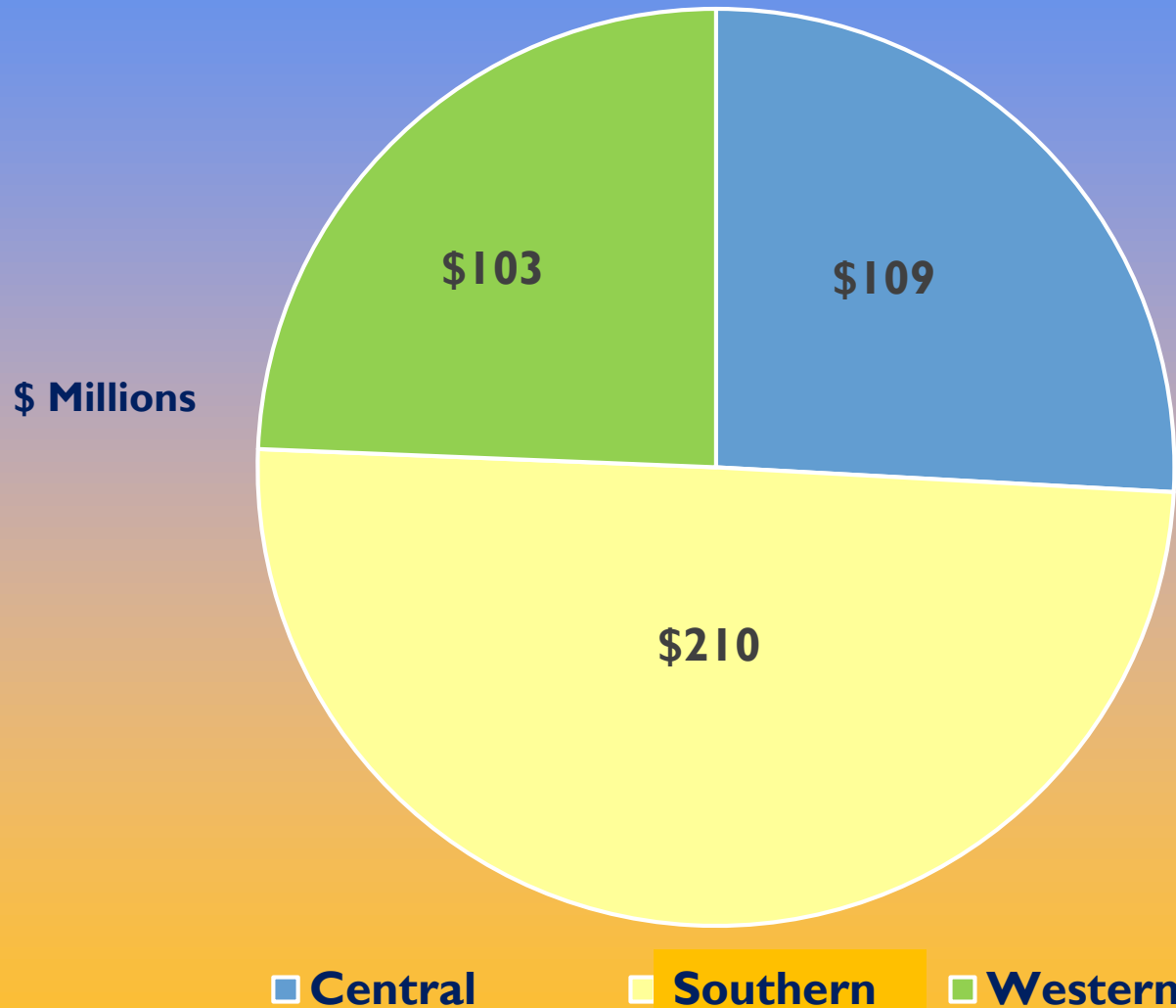
# 5 Year CIP Overview (2015-2020)

**Total - \$421 Million**





# 5 Year Capital Investment by Region










# Central CIP 2015-2020



Project Type	Number of Projects	Budget
Water Supply	1	\$ 350,000
Water Treatment	8	\$ 39,520,000
Water Distribution	4	\$ 24,464,000
Wastewater Collection	19	\$ 40,163,000
Wastewater Treatment	1	\$ 1,900,000
Reuse	3	\$ 2,470,000
Total	36	\$ 108,867,000



# Central Region Project Photos

**Water  
Distribution:  
Water Main  
Installation**



**Wastewater  
Collection:  
Telemetry  
Information  
System  
Improvements**



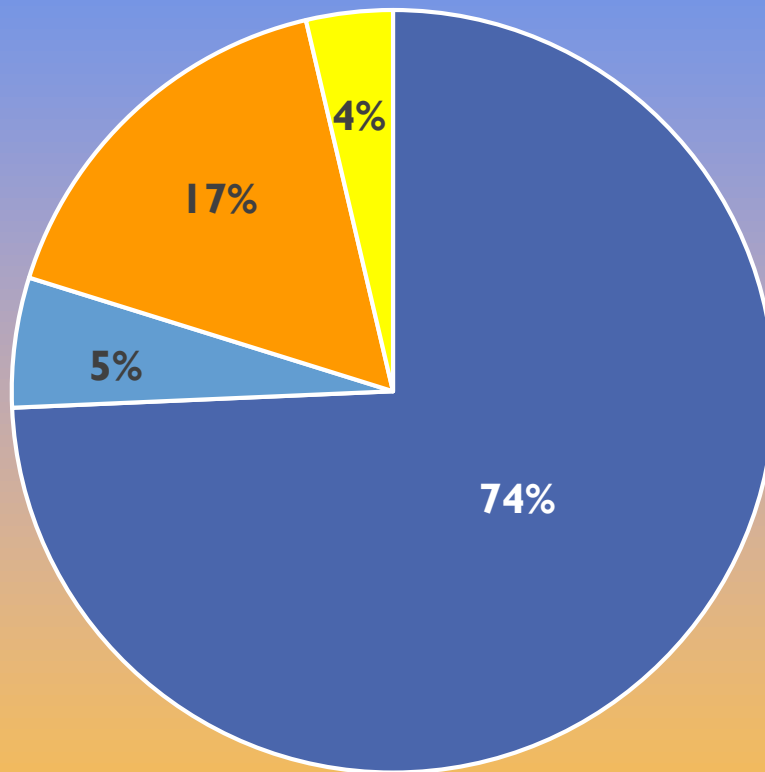
**Water Supply:  
New Well  
Construction at  
WTP 8**



**Water Treatment: WTP 8 – Jog Road, West Palm Beach**



# Central CIP Progress



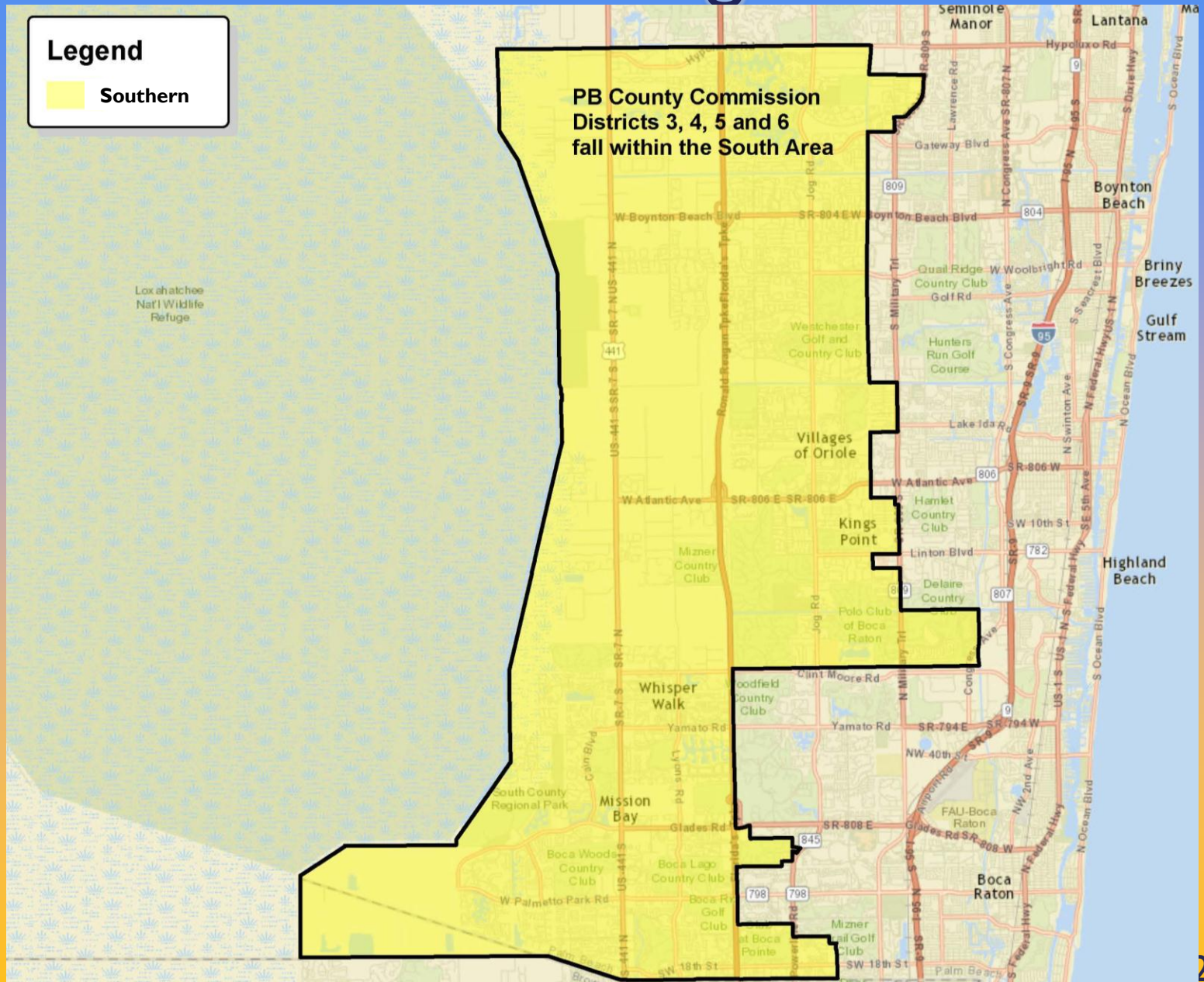
■ Planning ■ Design ■ Bid/Award ■ Construction



# Southern Service Region


## Legend

 Southern





# Southern CIP 2015-2020



Project Type	Number of Projects	Budget
Water Supply	7	\$ 31,063,000
Water Treatment	9	\$ 27,049,000
Water Distribution	3	\$ 5,550,000
Wastewater Collection	19	\$ 61,284,000
Wastewater Treatment	3	\$ 28,936,000
Reuse	4	\$ 53,929,000
O&M Facilities	1	\$ 1,800,000
Total	46	\$ 209,611,000



# Southern Project Photos

Water Supply:  
Well  
Rehabilitation



Water  
Treatment:  
Improvements  
to WTP #3



Wastewater  
Collection:  
Lift Station  
Rehabilitation

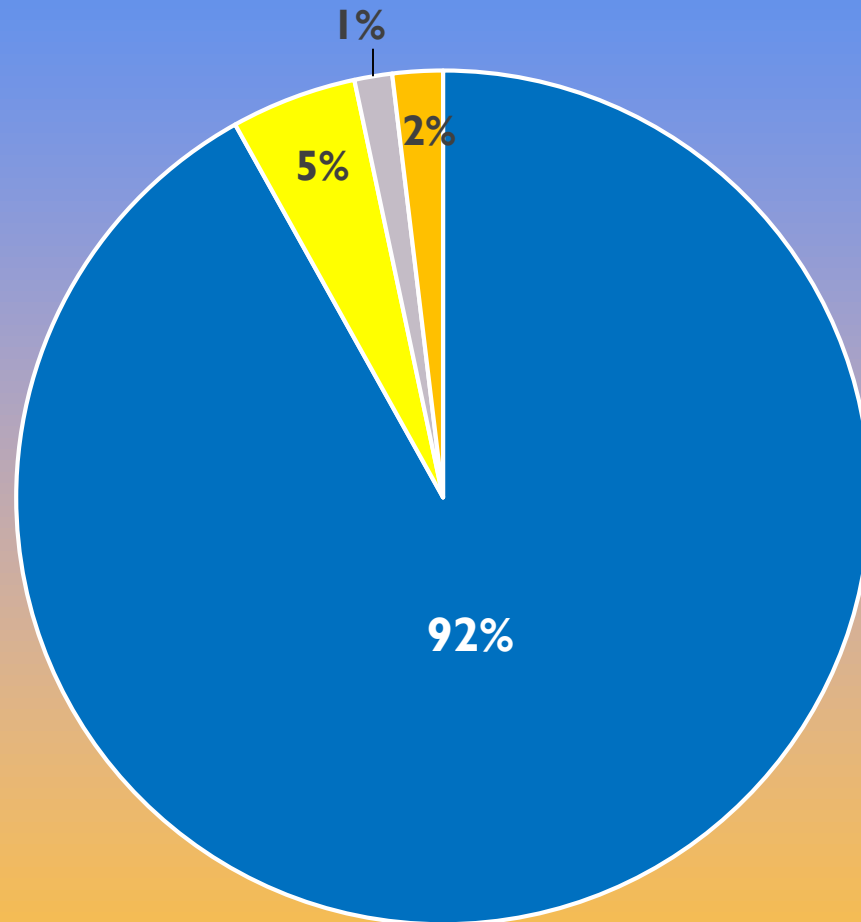


Reuse:  
Reclaimed  
Water Main  
Installation





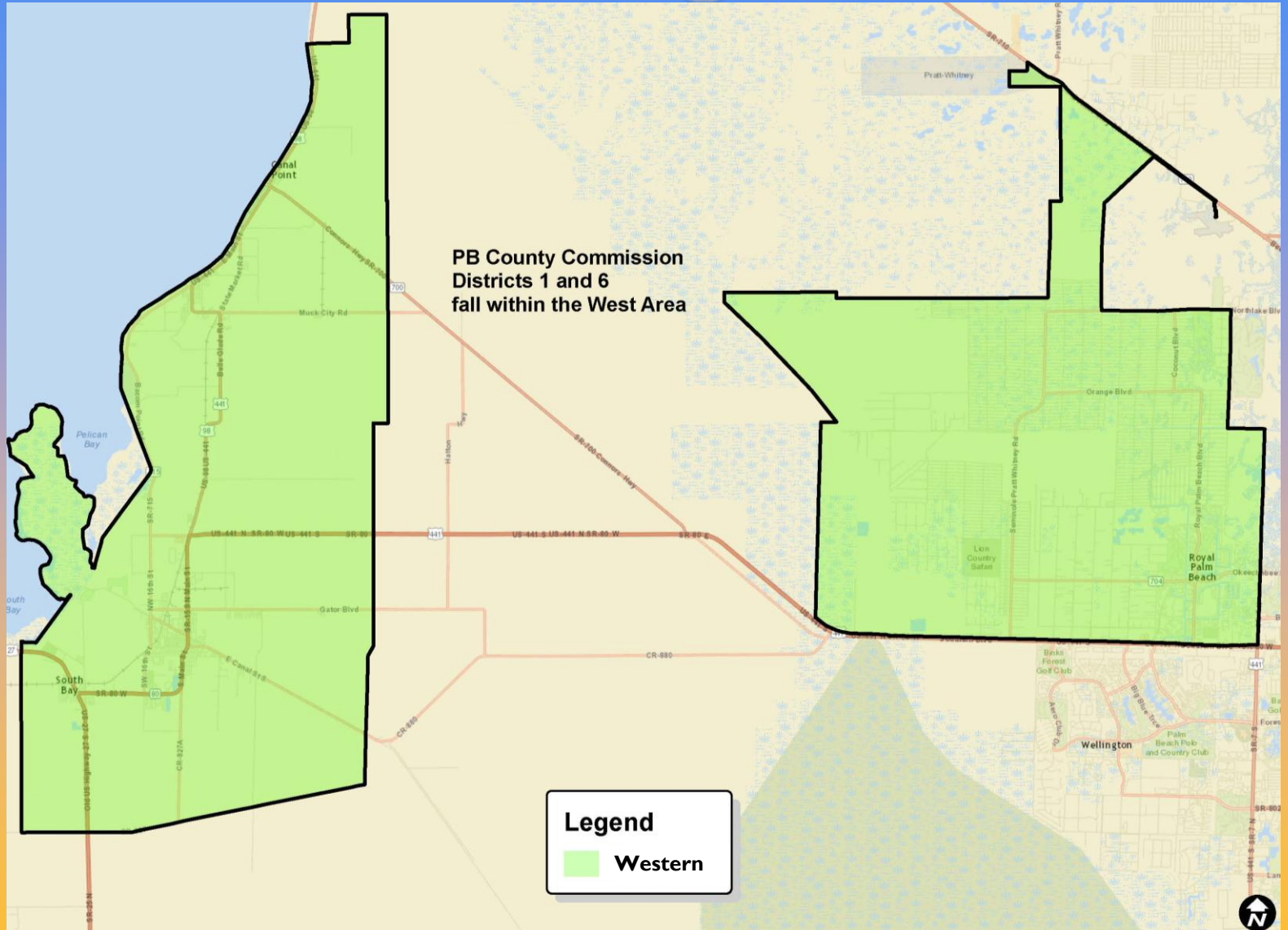
# Southern CIP Progress



■ Planning ■ Design ■ Bid/Award ■ Construction



# Western Service Region





# Western Growth

- Acquired Royal Palm Beach Utilities
  - 2007
  - Customers - 11,000
  - Cost - \$70 Million
- Acquired Glades Utility Authority (GUA)
  - 2013
  - Customers - 10,000
  - Cost - \$20 Million (Debt Assumed)
  - Required Investment of \$25 Million for Water Distribution



# Western CIP 2015-2020

## Royal Palm Beach and the Glades Area

Project Type	Number of Projects	Budget
Water Supply	3	\$ 2,800,000
Water Treatment	5	\$ 8,091,000
Water Distribution	16	\$ 22,285,000
Wastewater Collection	22	\$ 36,557,000
Wastewater Treatment	5	\$ 13,747,000
Reuse	2	\$ 750,000
O&M Facilities	2	\$ 18,375,000
Total	55	\$ 102,605,000



# Western Project Photos



Water Supply: Well Installation



Water Distribution: WM Installation



Water Distribution:  
New 5 MG Tank



Water Treatment:  
Improvements to WTP II

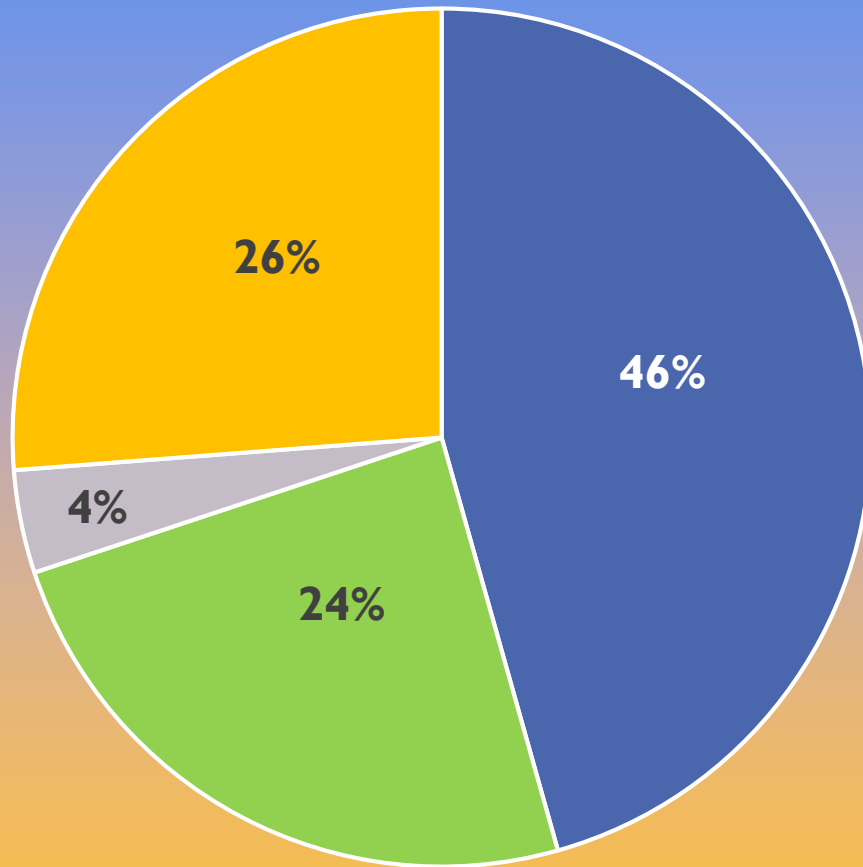


Wastewater Treatment: Pahokee WWTP Rehab



# Western CIP Progress

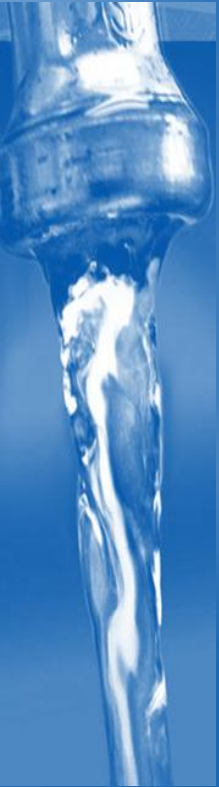
Royal Palm Beach and the Glades Area



■ Planning ■ Design ■ Bid/Award ■ Construction



# Glades Region





# Grants Acquired - \$10 Million

## Glades Grants per City

Belle Glade	\$5,193,959
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Pahokee & Canal Point	\$3,639,266
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South Bay	\$1,465,770
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Total Grants Funding:	\$10,298,995
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# Glades Success Stories

- **Belle Glade: 6 projects completed**
  - Water Treatment Facility improvements
  - Water Distribution System
  - Wastewater Treatment Facility improvements
  - Wastewater Collection System
- **Pahokee: 5 projects completed**
  - Water Distribution System
  - Wastewater treatment facility upgrades/improvements
  - Wastewater Collection System
- **South Bay: 4 projects completed**
  - Wastewater treatment facility upgrades/improvements
  - Wastewater Collection System

**\$20.5 Million**






# Glades CIP 2015-2020



Project Type	Number of Projects	Budget
Water Supply	3	\$ 2,800,000
Water Treatment	5	\$ 8,091,000
Water Distribution	10	\$ 12,820,000
Wastewater Collection	16	\$ 25,600,000
Wastewater Treatment	5	\$ 13,747,000
O&M Facilities	2	\$ 18,375,000
Total	41	\$ 81,433,000





# Glades Region Water Distribution System Improvements

## **Belle Glade \$17.5 Million**

Water Main Extension SR 15 Main St. & Gator Blvd.	\$2.4 M
Water Main and Services Replacement– Zone 1	\$5.7 M
Water Main Improvements	\$1.0 M
Water Main Extension Along W Ave A, NW 2nd to Main	\$0.3 M
Water Main and Services Replacement– Zone 2 West	\$2.5 M
Water Main and Services Replacement– Zone 2 East	\$1.5 M
Water Main and Services Replacement– Zone 3 & 4	\$2.8 M
Water Main Extension Connecting State Rd 15 to State Rd 80	\$1.3 M

## **Pahokee \$3.75 Million**

Bacom Point Rd. Water Main Replacement	\$3.08 M
Various Water Main Improvements	\$0.67 M

## **South Bay \$3.75 Million**

Water Main Extension to Rosenwald School	\$0.4 M
Water Main Replacement	\$1.6 M
Various Water Main Extensions	\$1.75 M

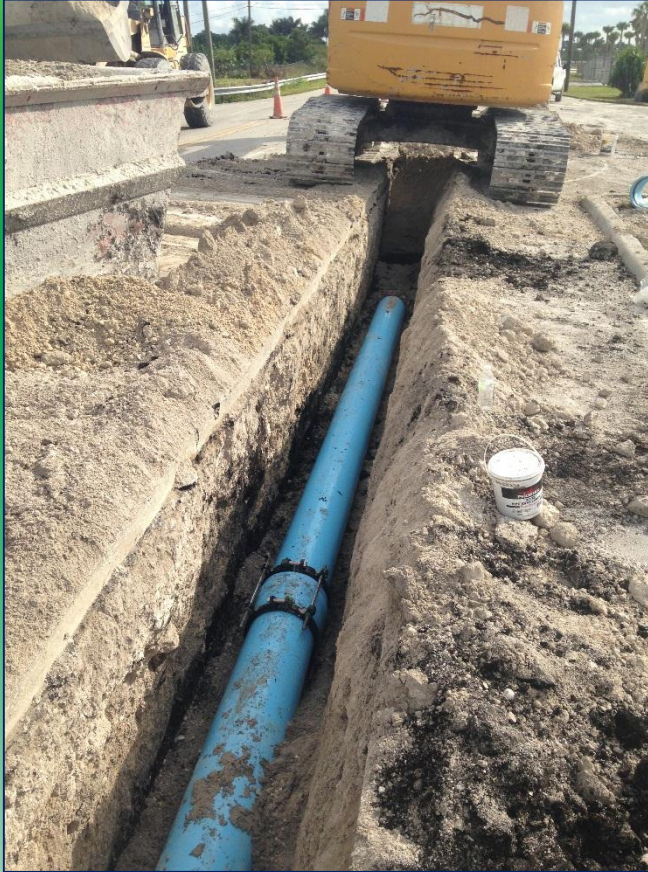
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**Total**

**\$25 Million**



# Belle Glade Watermain Improvements



Watermain Replacement Projects



# South Bay Watermain Improvements



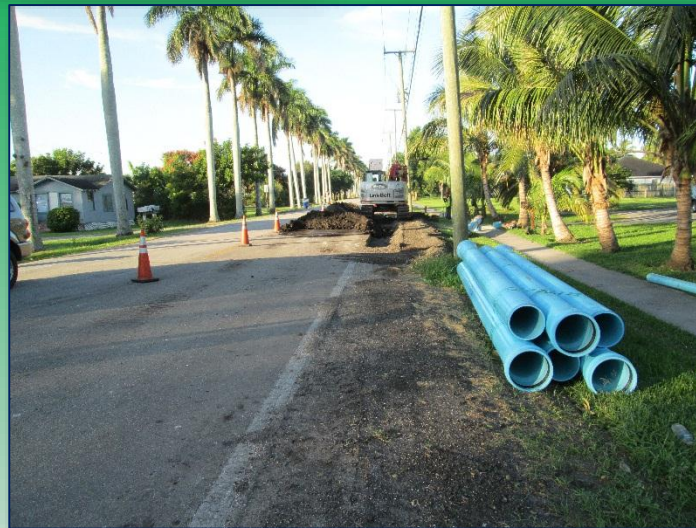
Water Service Upgrades



Aerial Crossing



# Pahokee Watermain Improvements



Watermain Replacement Projects



A vertical image on the left side of the slide showing water flowing from a faucet. The water is clear and has a dynamic, splashing appearance as it falls. The background of the slide is a gradient of green and blue.

# Glades Summary

- Substantial work accomplished to date
- 41 projects in progress or planned covering all categories
- Our Focus is on:
  - Improving reliability to reduce unplanned repair costs
  - Replacing water mains to minimize water loss
  - Providing increased fire flow/fire protection
  - Providing Best Water, Best Service & Best Environmental Stewardship



# Implementation Overview





A vertical image on the left side of the slide showing a close-up of a water fountain nozzle with water spraying out, set against a dark background.

# Implementation Overview

- Aggressive CIP
  - Must deliver approximately 3 times more capital work annually than historical average of \$20 - \$25 million
- Advanced Program Management Tools
  - Cost Estimating
  - Document Management
  - Procurement Packaging
    - Spread the Work
    - Maximize Small Business Enterprise Utilization
  - Scheduling
  - Budget

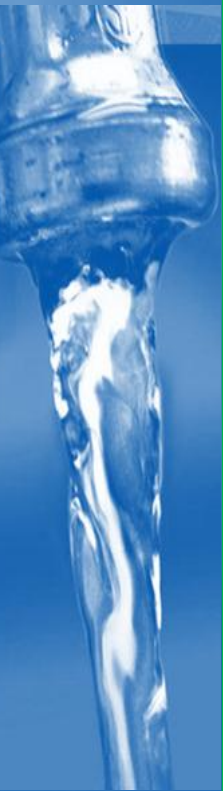




# Program Management

- International Engineering/Program Management Firm
- Timeline
  - RFP Issued March 23, 2014
  - BCC Awarded 5 Year Contract – August 19, 2014
  - Nearing completion of 2<sup>nd</sup> Year
  - Next Amendment to BCC in May
- Ahead of Schedule – Within Budget







# Questions?

