



# Charlotte County Utilities

## Past, Present, and Future

Board Workshop - April 16, 2013





# Past





CHARLOTTE  
COUNTY  
UTILITIES  
ESTABLISHED  
1991





# CCU Beginnings

- General Development Utilities (GDU)
  - A Florida Corporation
  - Provided Water, Wastewater and Liquefied Petroleum (LP) Gas Service to Developments Built by General Development Corporation(GDC) in Charlotte County
  - GDC Developed Port Charlotte, the Largest Unincorporated Community In the County





# CCU Utility System Acquisition Timeline

- In June 1991, the County acquired the utilities system from GDU by means of a quick-take condemnation.
  - Financed through the issuance of the Charlotte County, Florida, Utility System Revenue Bonds.
- Charlotte County became the owner and operator of gas and wastewater facilities that served Charlotte County, and a water system that served Charlotte and De Soto counties.
- The Board of County Commissioners decided to sell the gas system in 1996 and the sale was completed on March 31, 1998.



# Water Supply Authority Formation

- Inter-local Agreement Signed 1982
  - Charlotte, Desoto, Manatee, Hardee\*, and Sarasota Counties formed the Water Supply Authority.

\*Hardee County opts out.
- 1991 Charlotte County acquires GDU Peace River Water Treatment Plant Facilities as directed by SWFWMD and Water Supply Authority and transfers plant to the Authority forming the PRMRWSA (Peace River Manasota Regional Water Supply Authority).

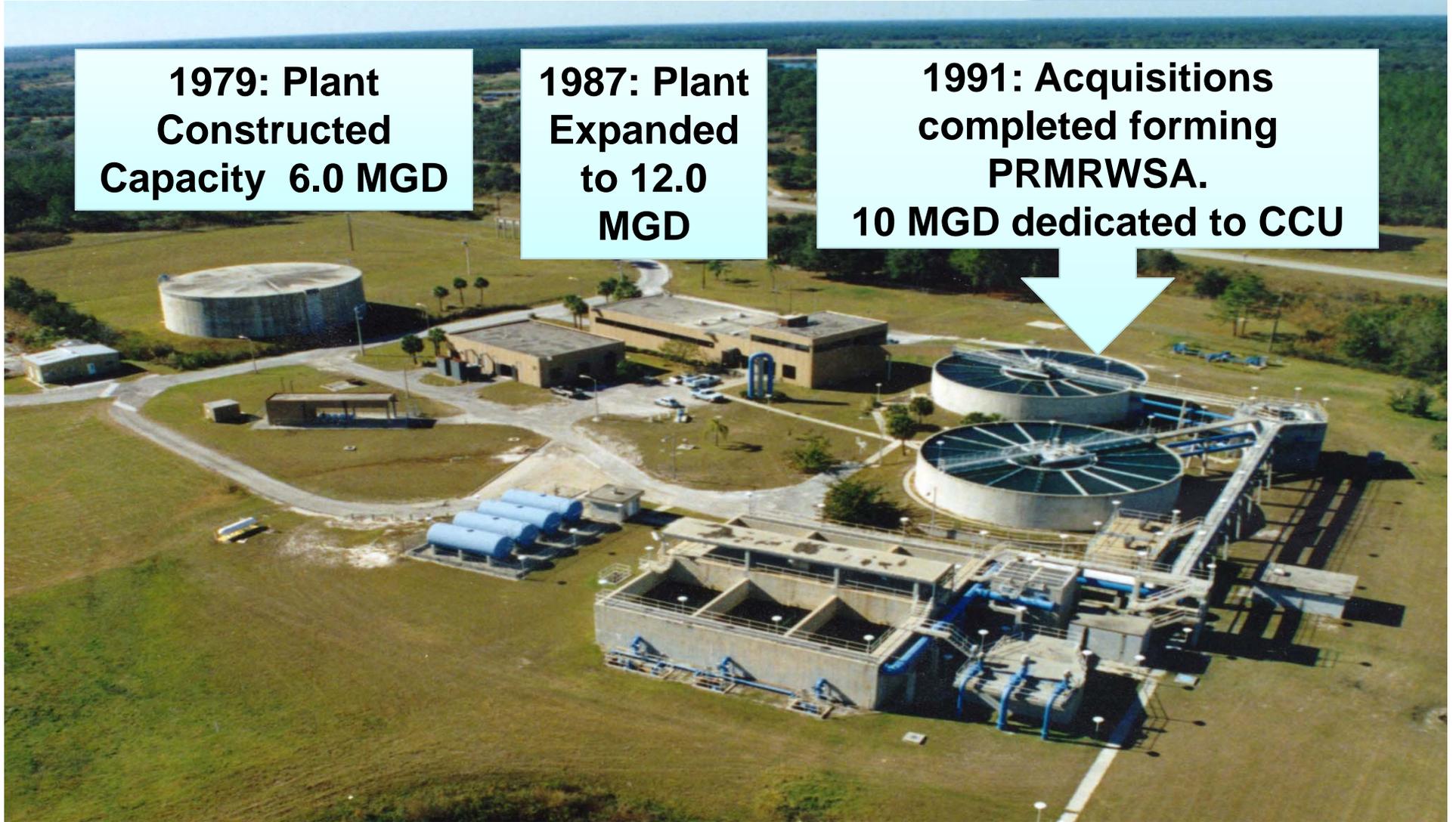


# GDU Peace River Water Treatment Plant Facilities

**1979: Plant  
Constructed  
Capacity 6.0 MGD**

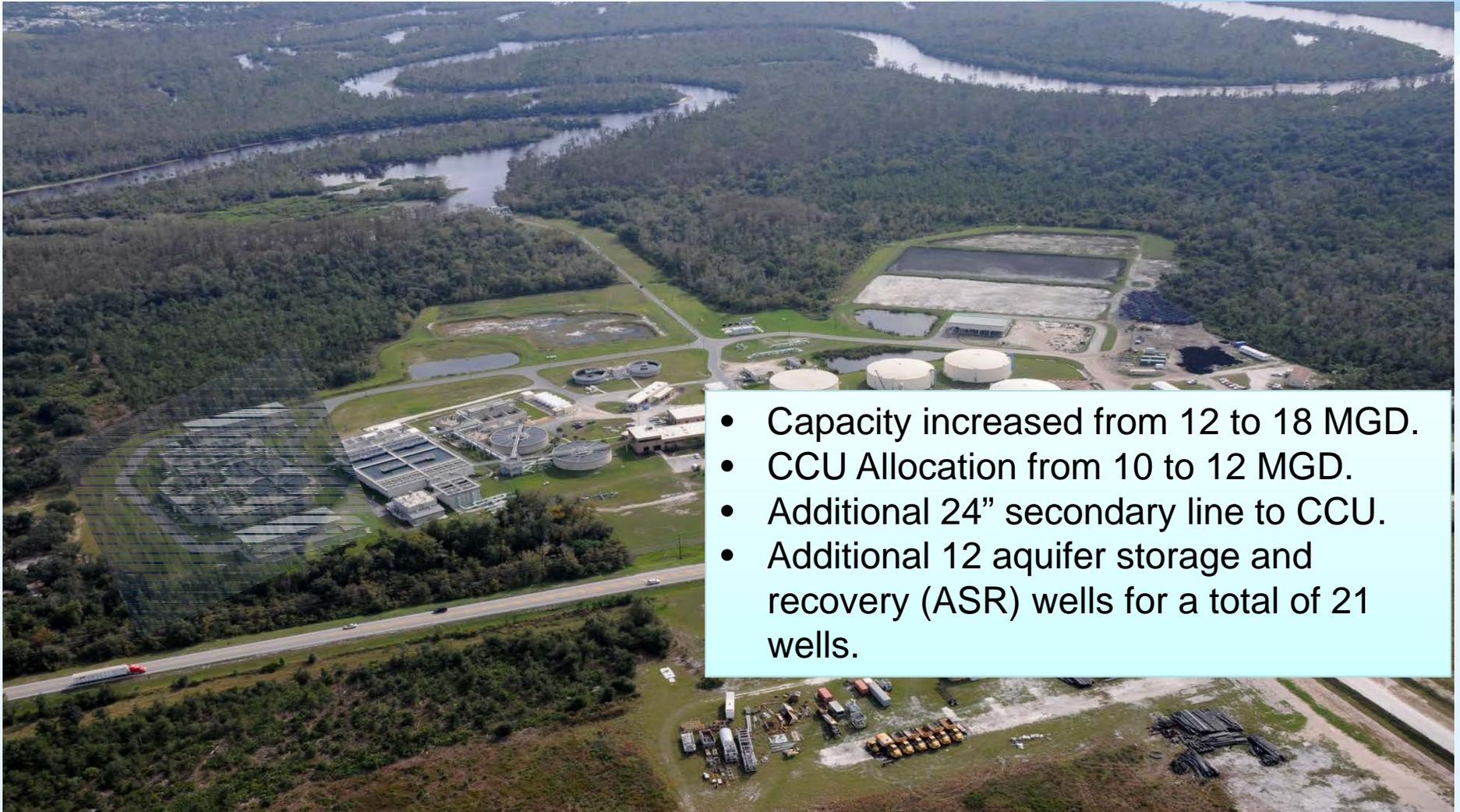
**1987: Plant  
Expanded  
to 12.0  
MGD**

**1991: Acquisitions  
completed forming  
PRMRWSA.  
10 MGD dedicated to CCU**





# 2001: PRMRWSA Capacity Upgrades “Peace River Option” (PRO)



- Capacity increased from 12 to 18 MGD.
- CCU Allocation from 10 to 12 MGD.
- Additional 24” secondary line to CCU.
- Additional 12 aquifer storage and recovery (ASR) wells for a total of 21 wells.



# 2009: PRMRWSA

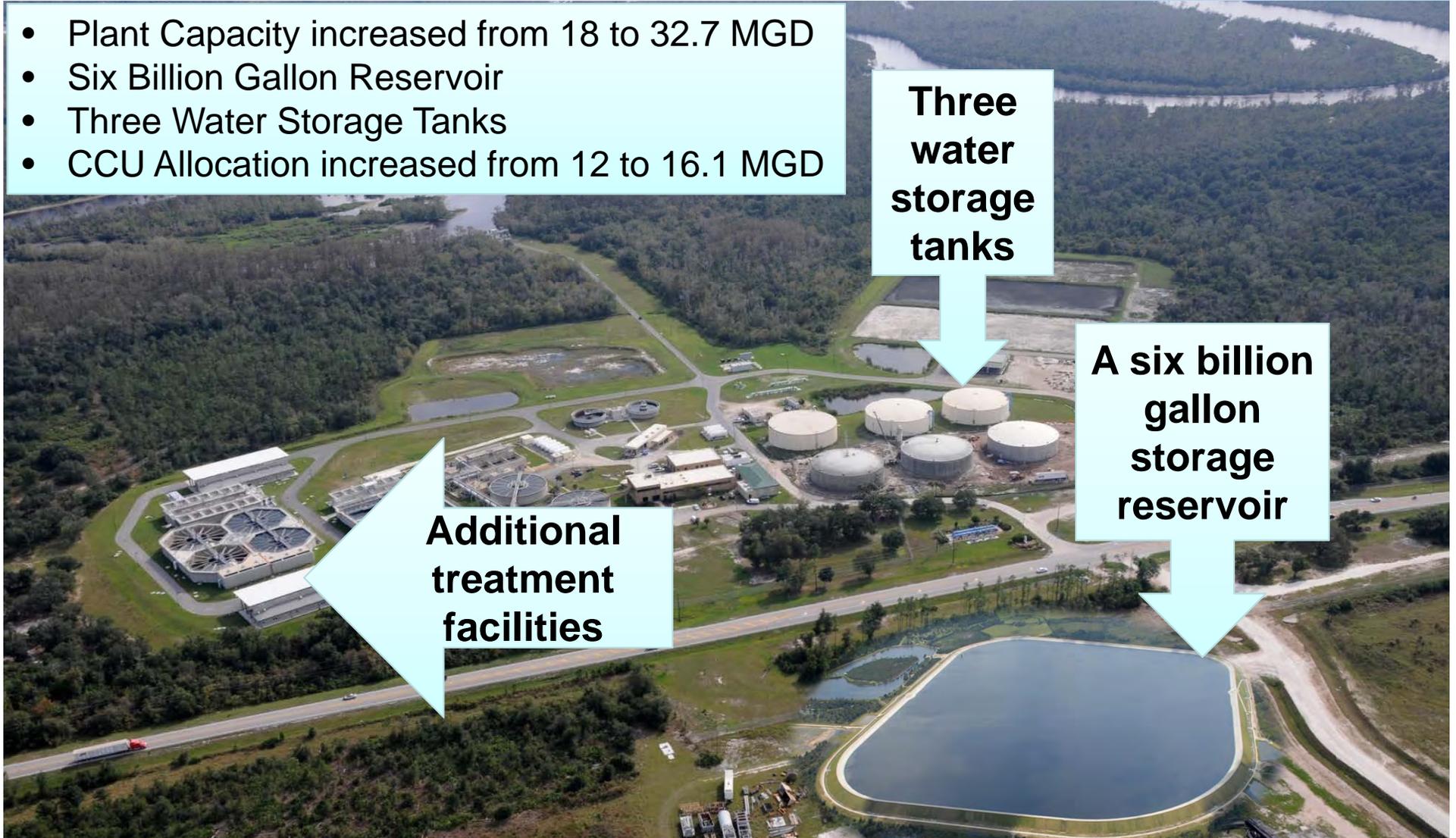
## “Regional Expansion Program” (REP)

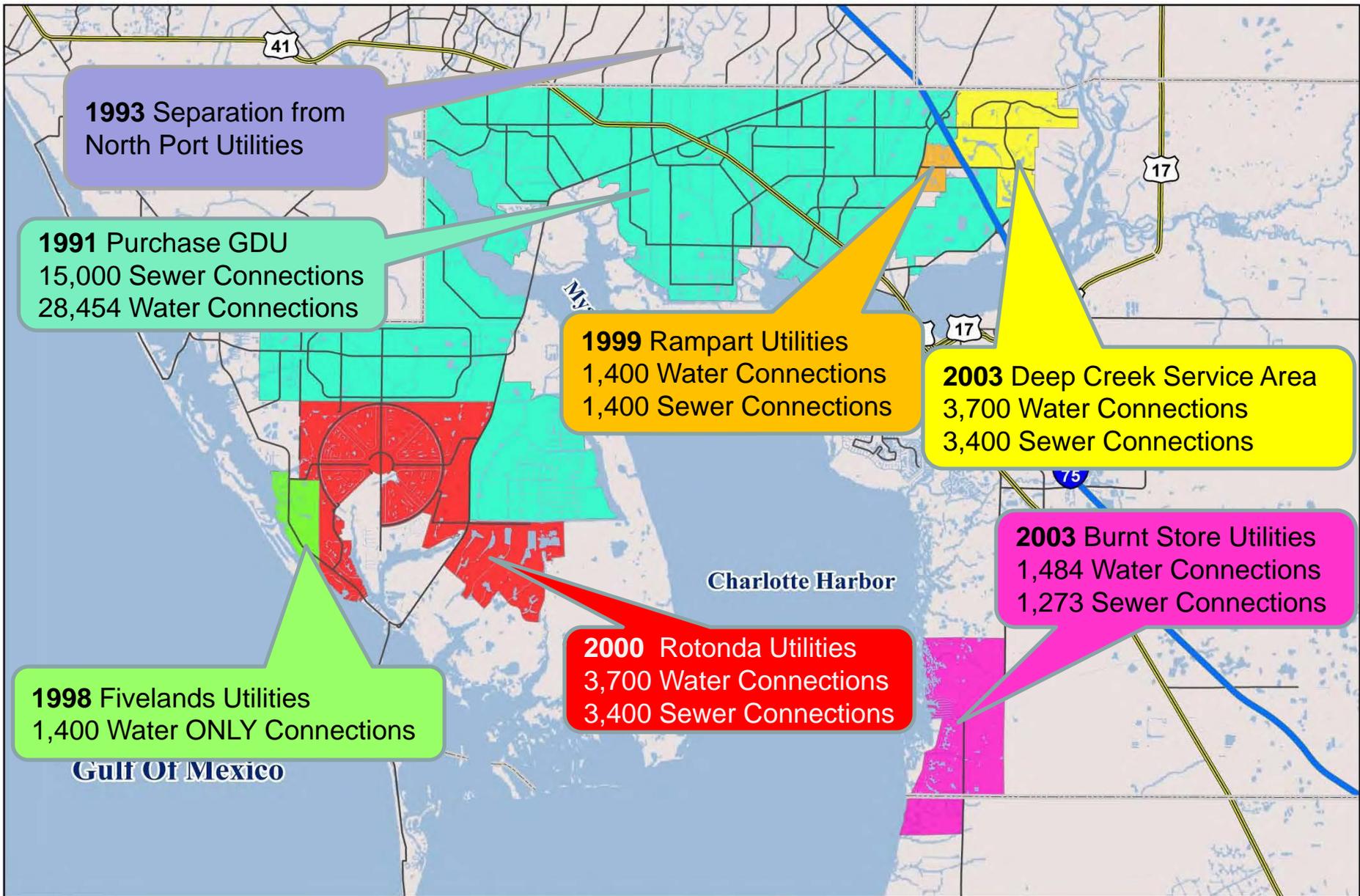
- Plant Capacity increased from 18 to 32.7 MGD
- Six Billion Gallon Reservoir
- Three Water Storage Tanks
- CCU Allocation increased from 12 to 16.1 MGD

Three  
water  
storage  
tanks

A six billion  
gallon  
storage  
reservoir

Additional  
treatment  
facilities





## Purchased Utility Service Area





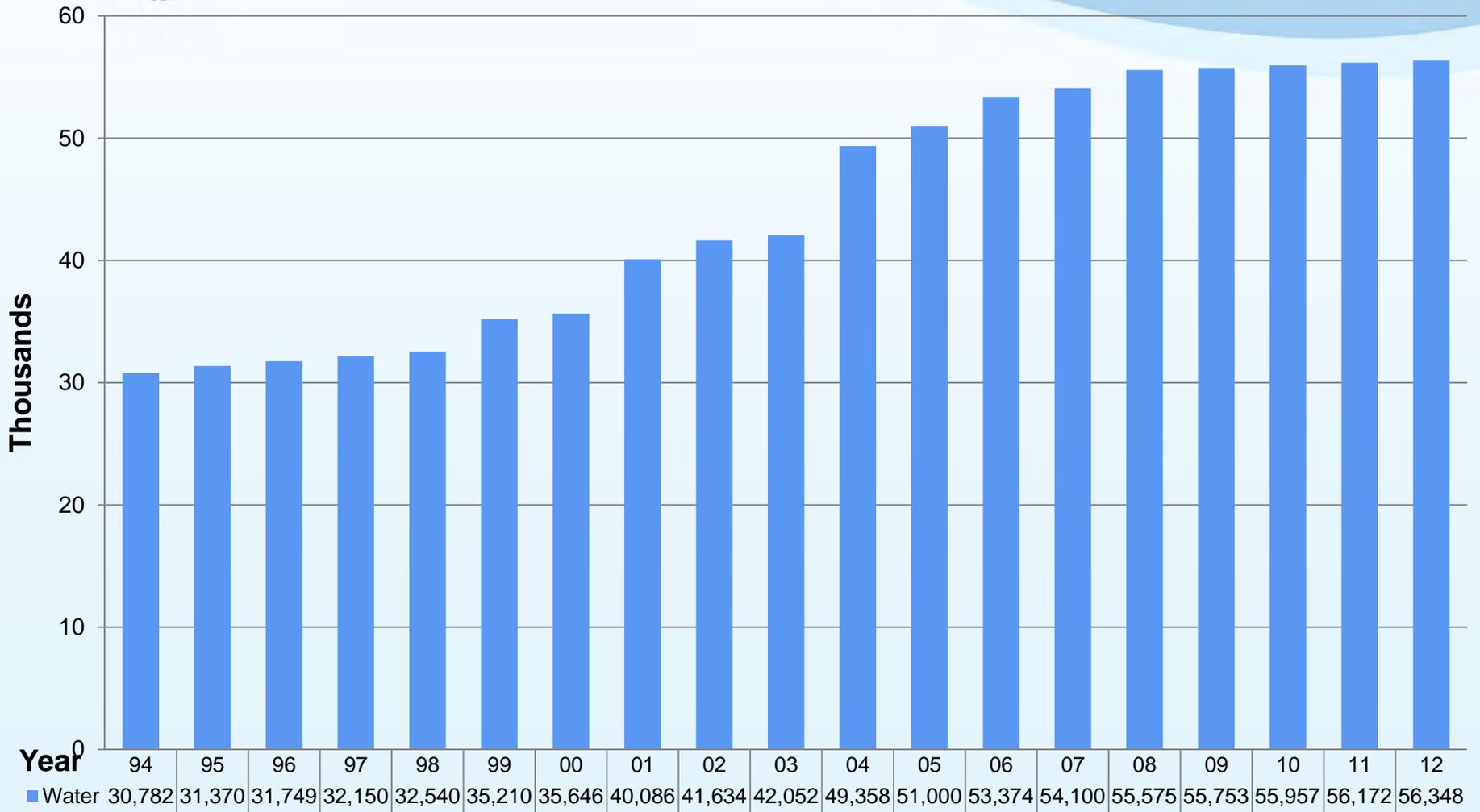
# Potable Water

**CHARLOTTE  
COUNTY**  
"Open for Business"



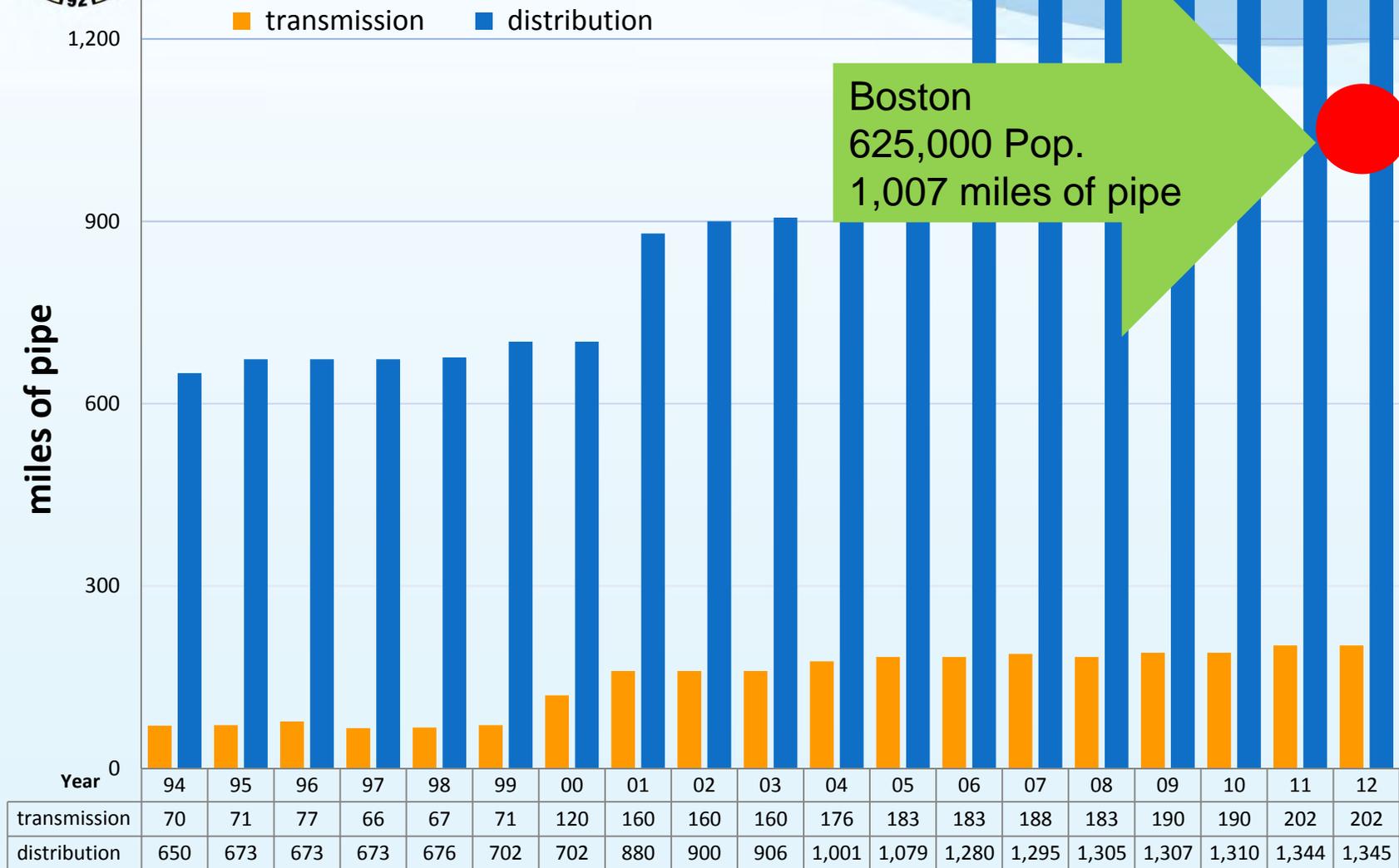


# Water Connections

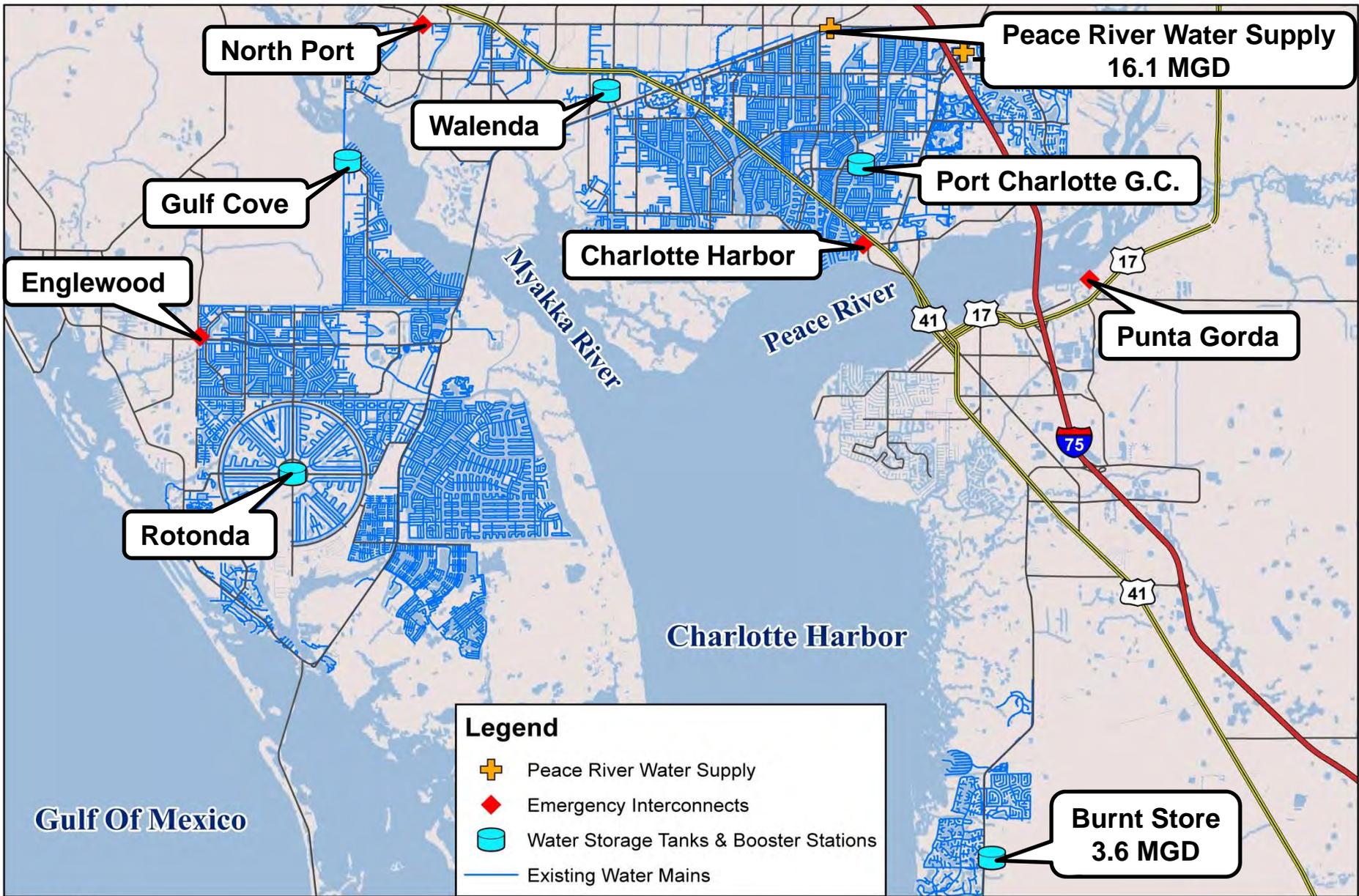




# Potable Water Infrastructure Inventory



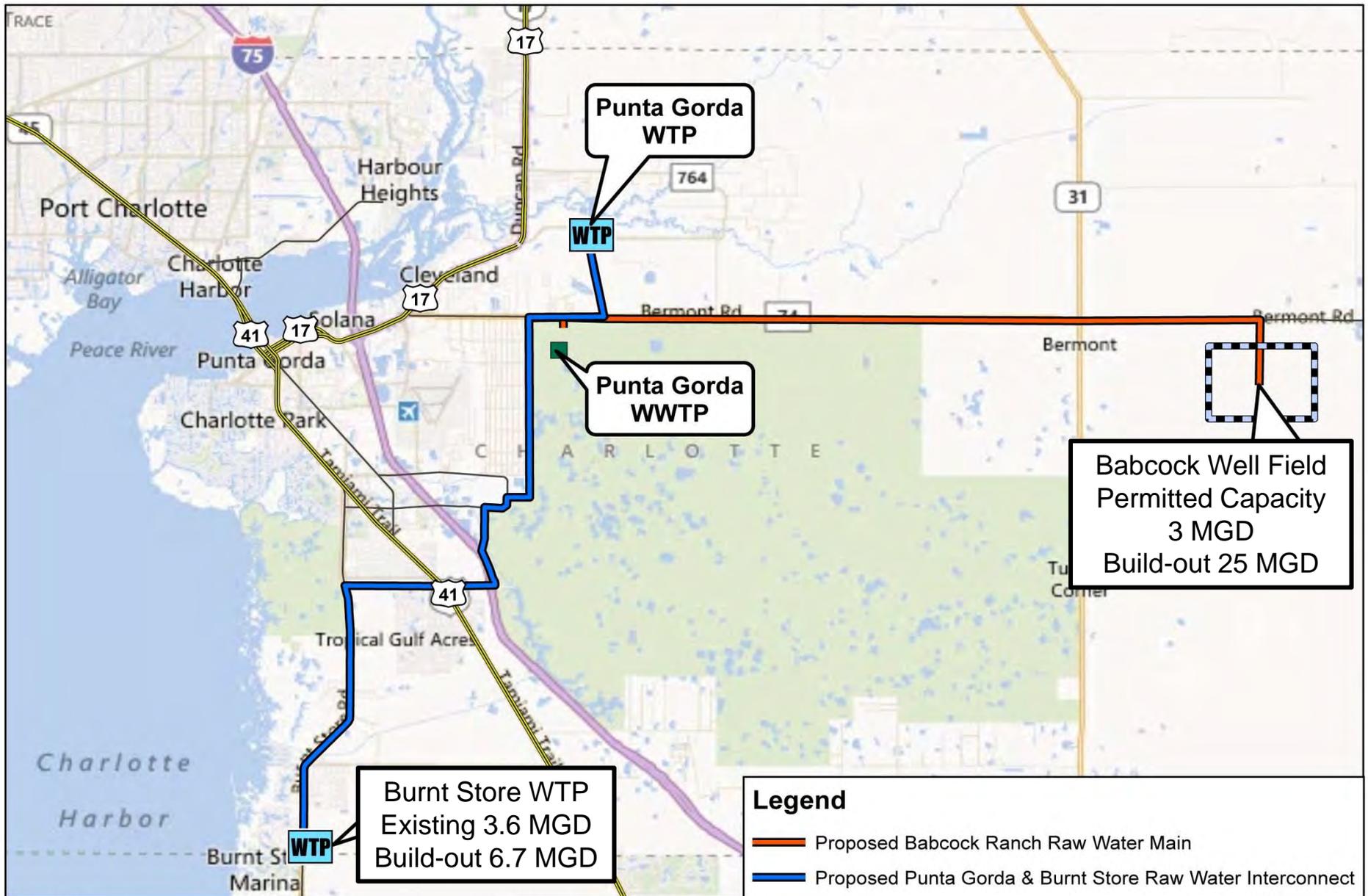
Boston  
625,000 Pop.  
1,007 miles of pipe



# Charlotte County Utilities

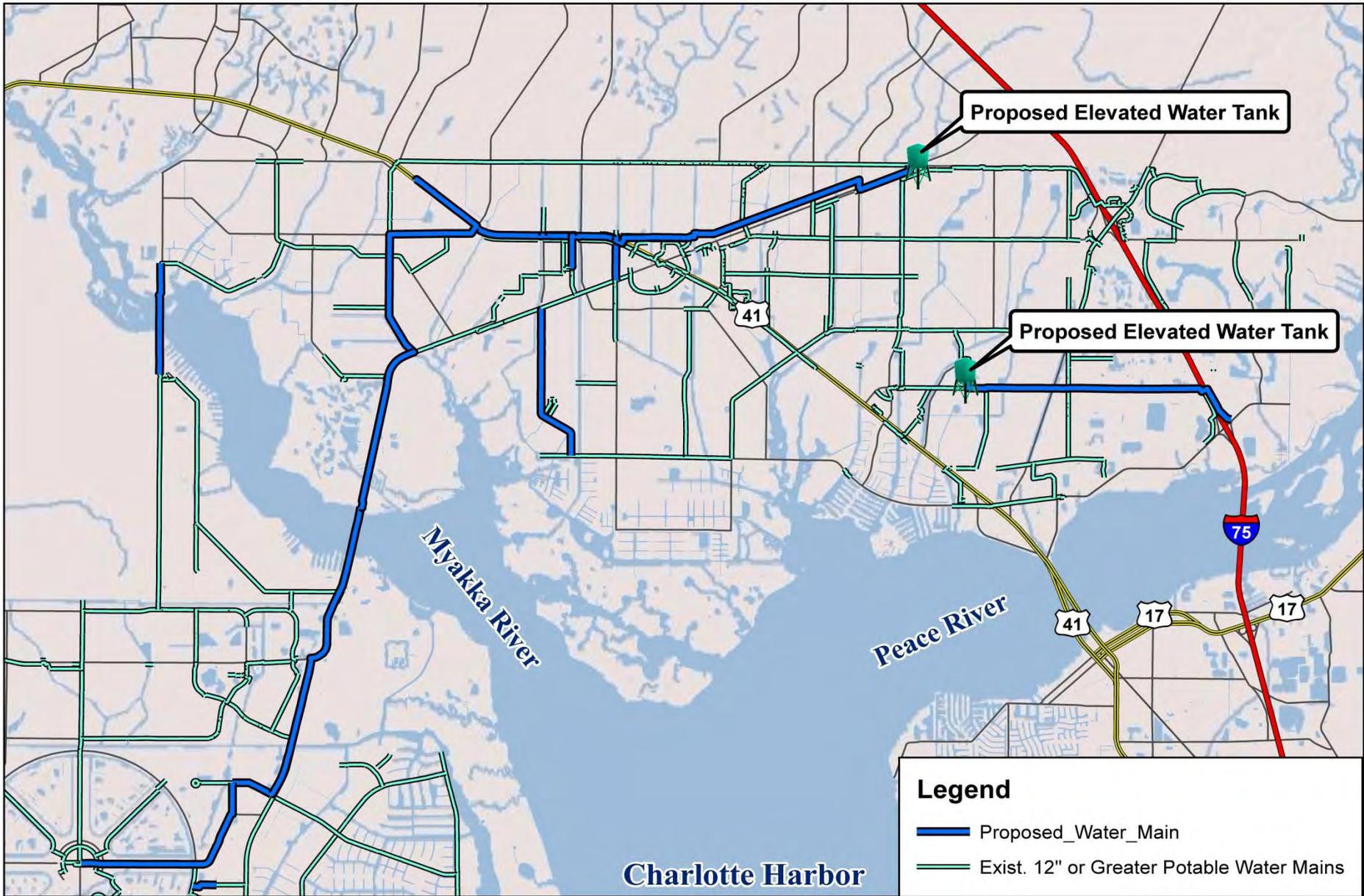
## Existing Water Infrastructure and Interconnects





**Charlotte County Utilities**  
**- Proposed Punta Gorda WTP & Burnt Store WTP Interconnect**  
**- Babcock Ranch Raw Water Pipeline Route Alternatives**





# Charlotte County Utilities Proposed Potable Water Infrastructure





# Wastewater



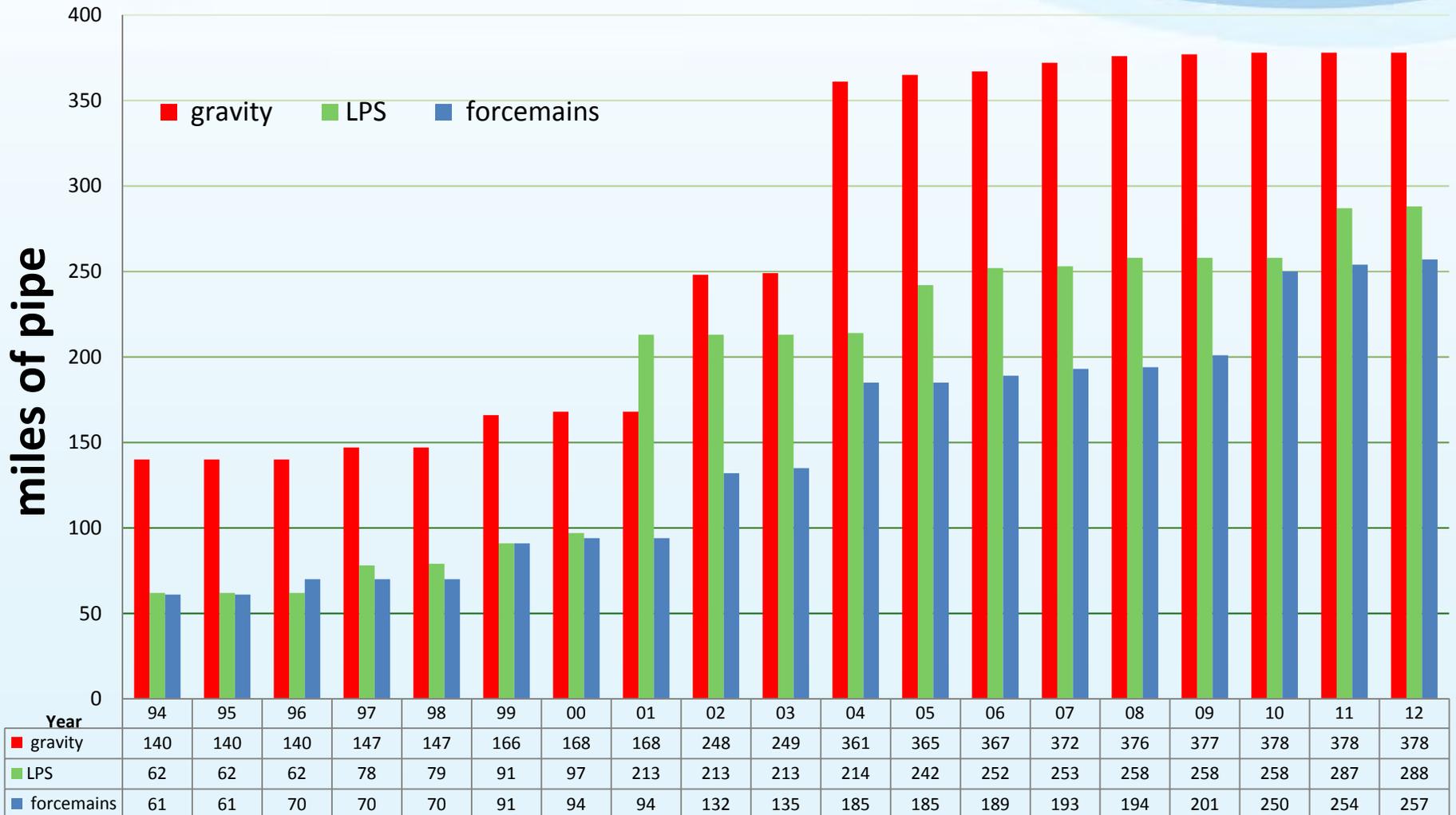


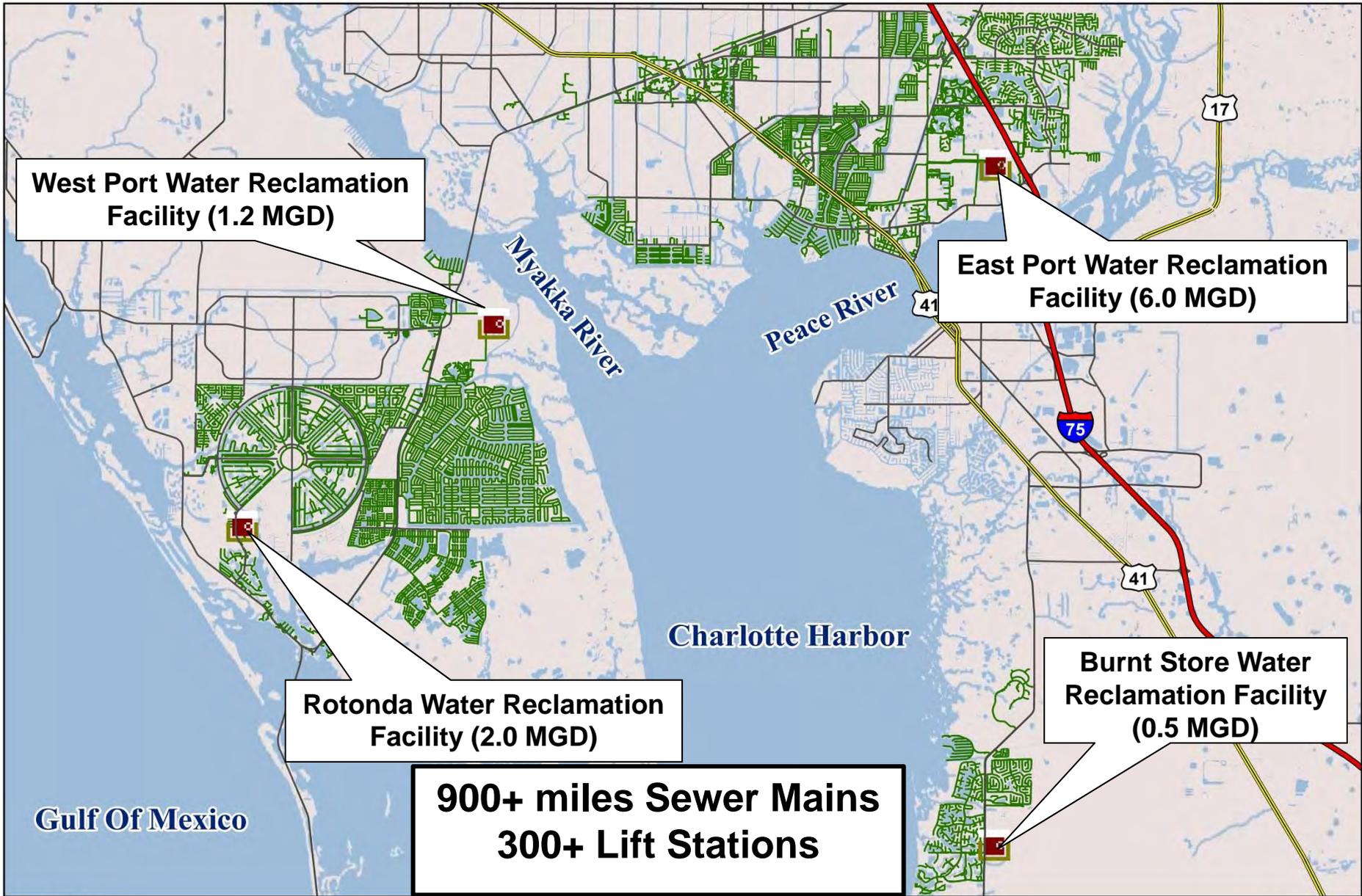
# CCU Sewer Connections





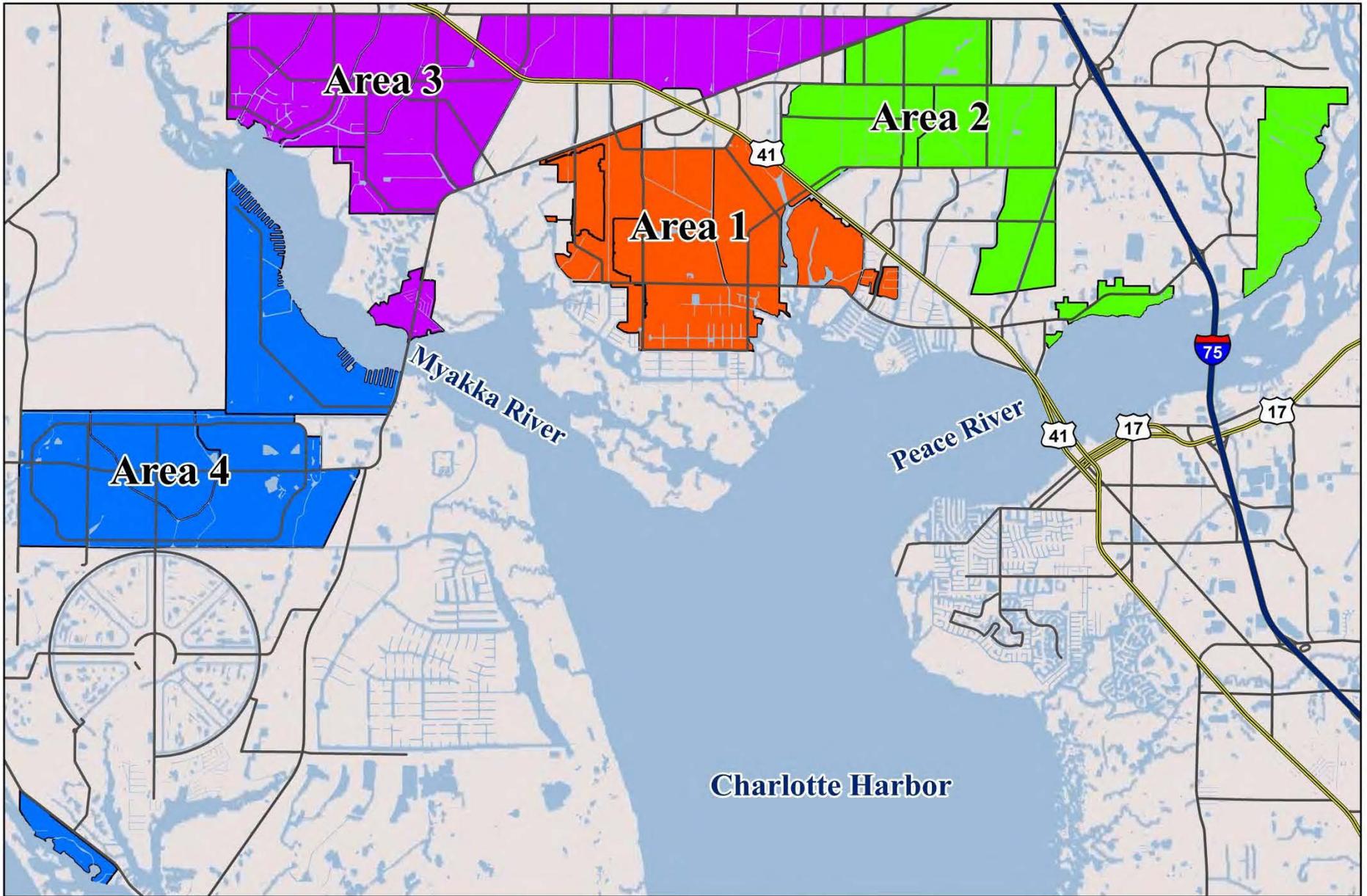
# Wastewater Infrastructure Inventory





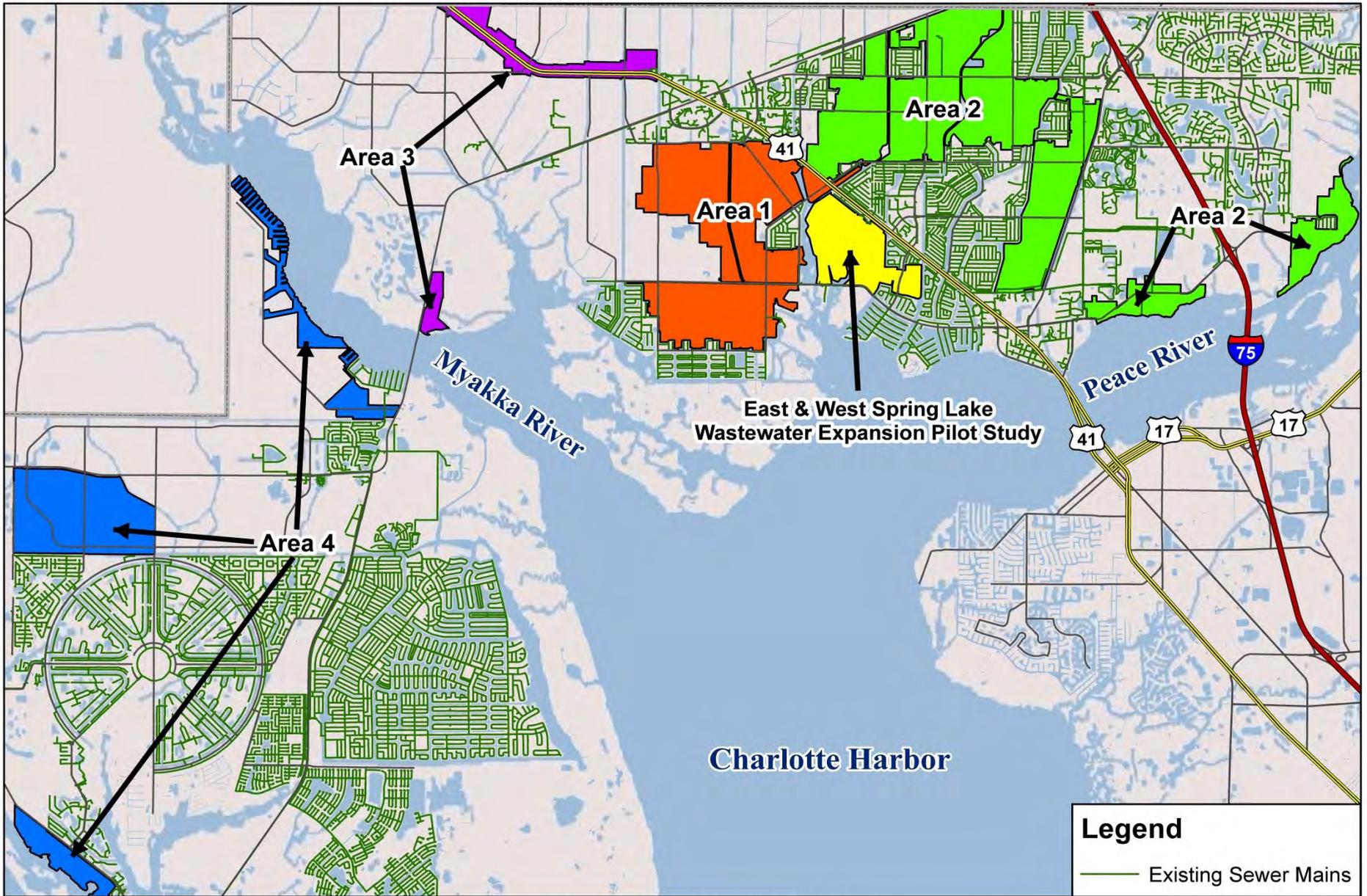
# Charlotte County Utilities Existing Wastewater Infrastructure





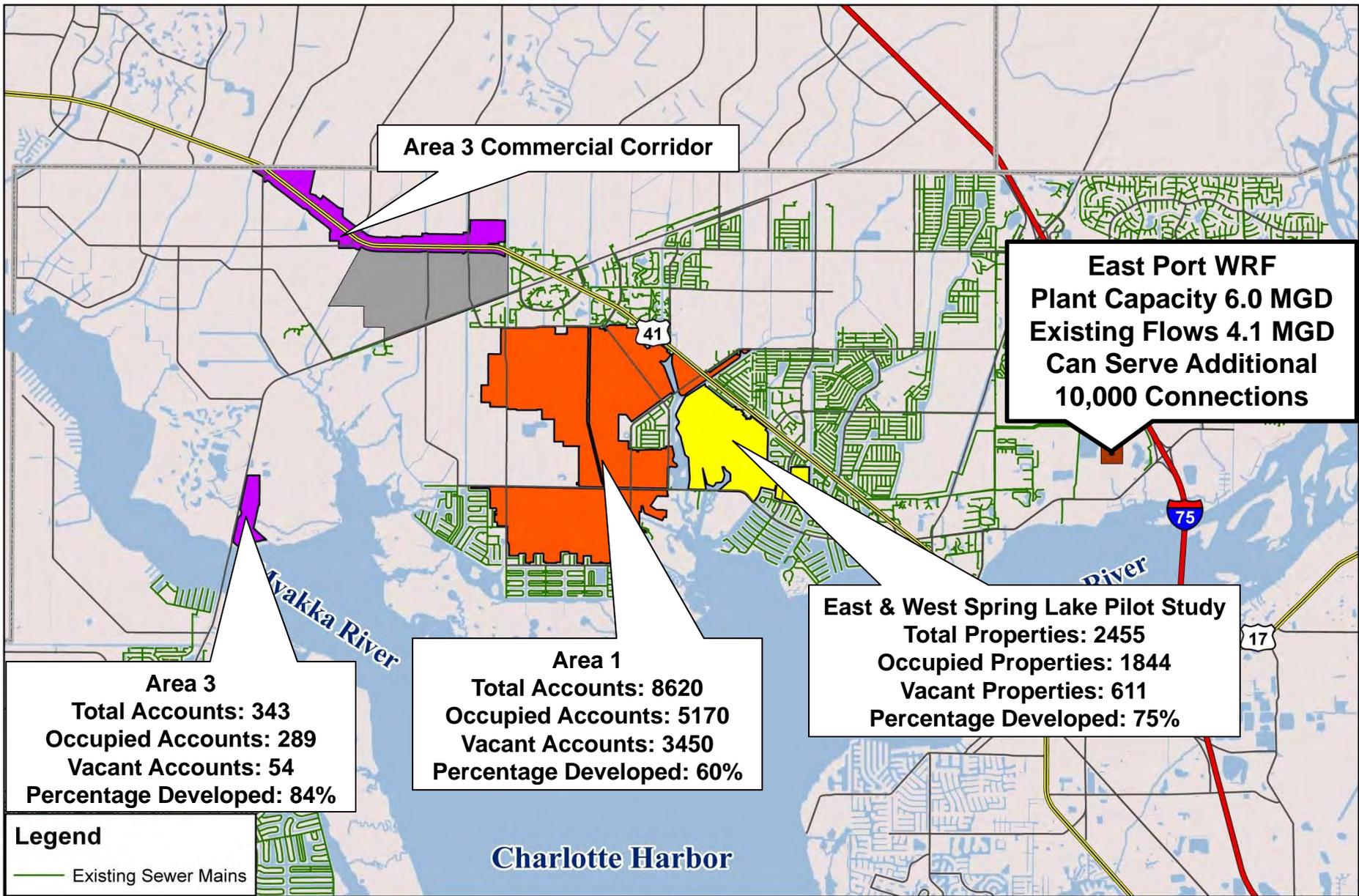
# Charlotte County Utilities 2009 Proposed Wastewater Expansion Areas





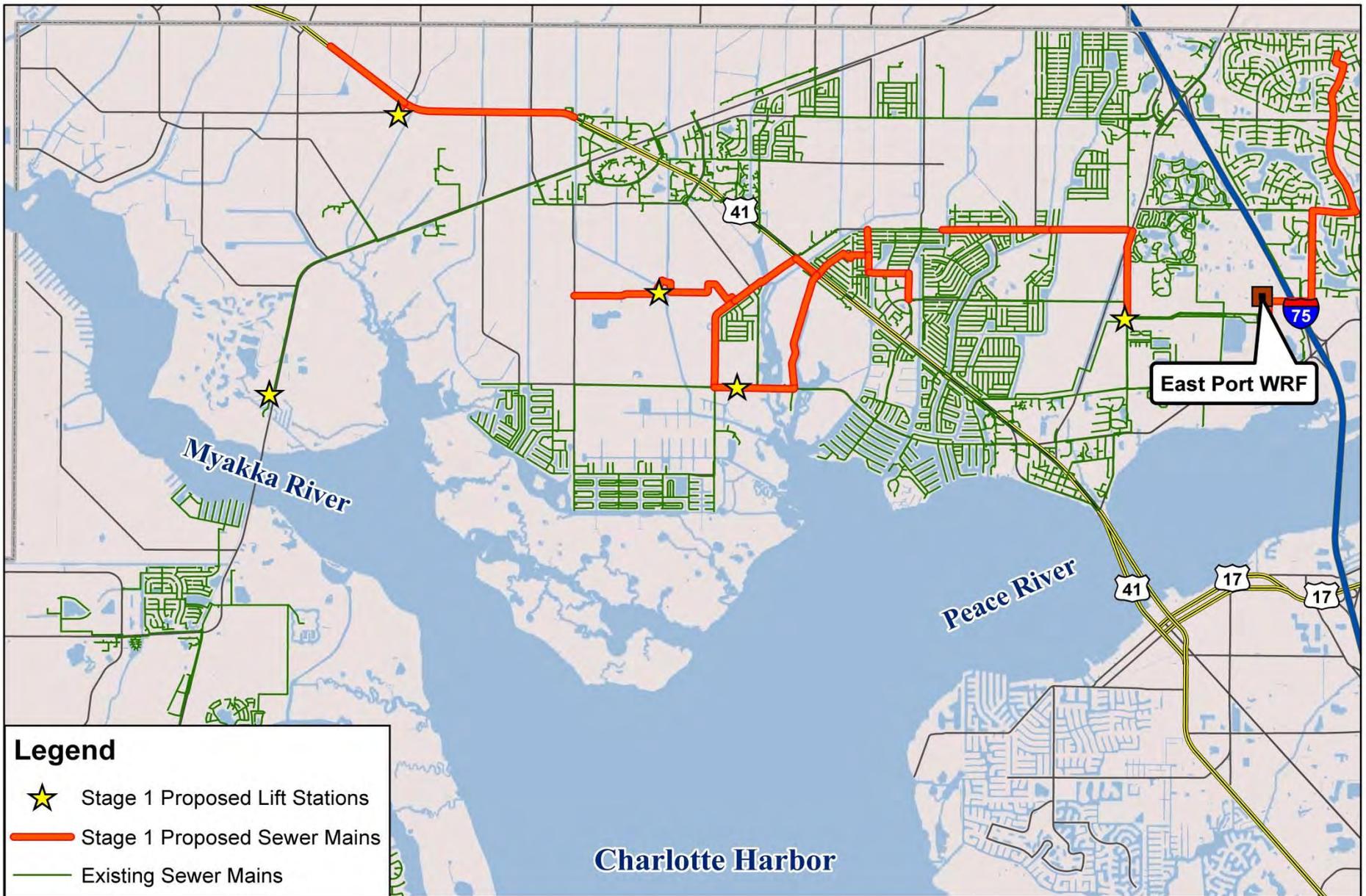
**Charlotte County Utilities**  
**2013 Proposed Wastewater Expansion Plan**  
**Commercial Land Or 50% Greater Developed Residential Land**





**Charlotte County Utilities**  
**Stage 1: Proposed Wastewater Expansion Plan**  
**Existing East Port WRF**

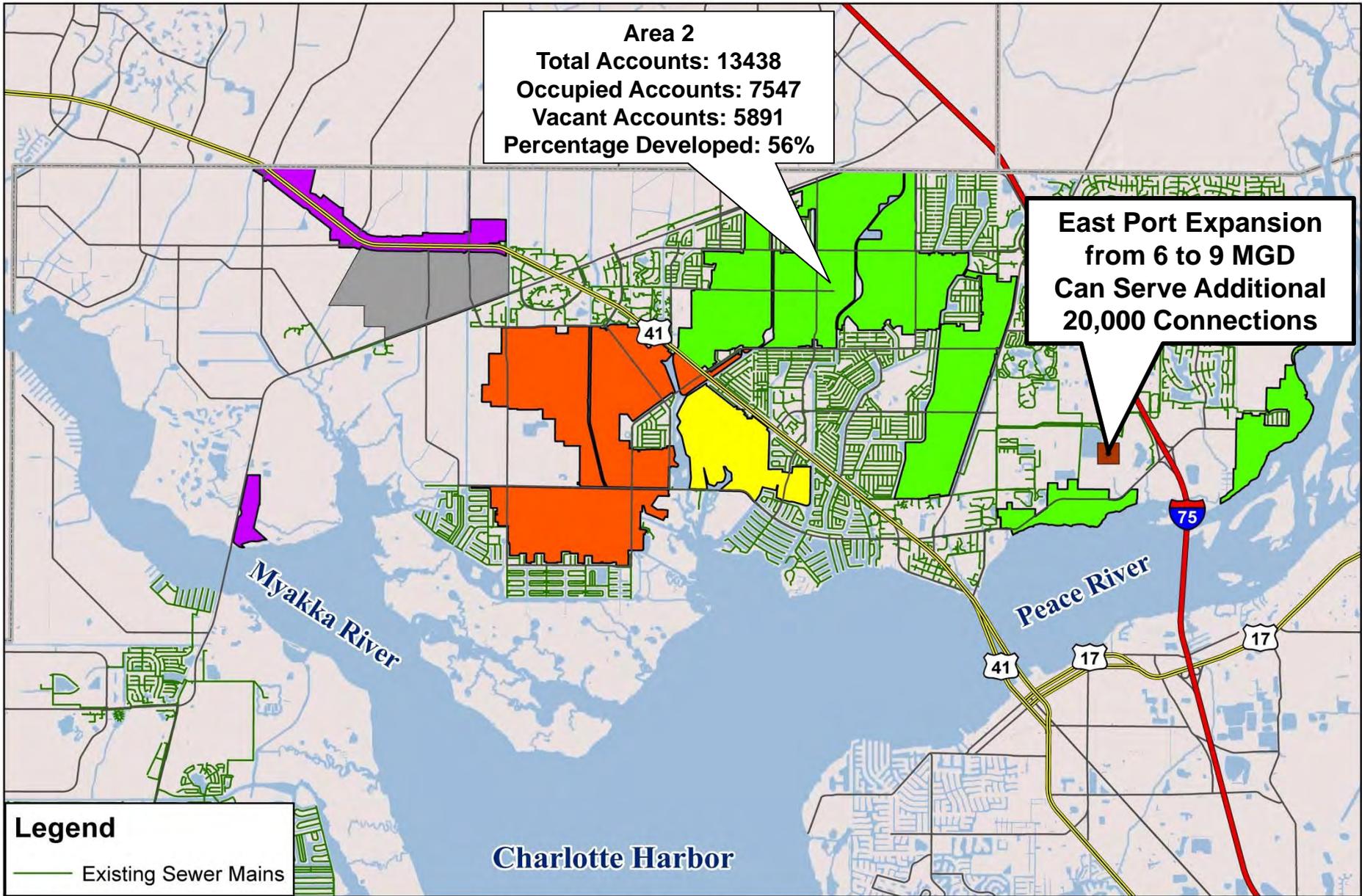




# Charlotte County Utilities

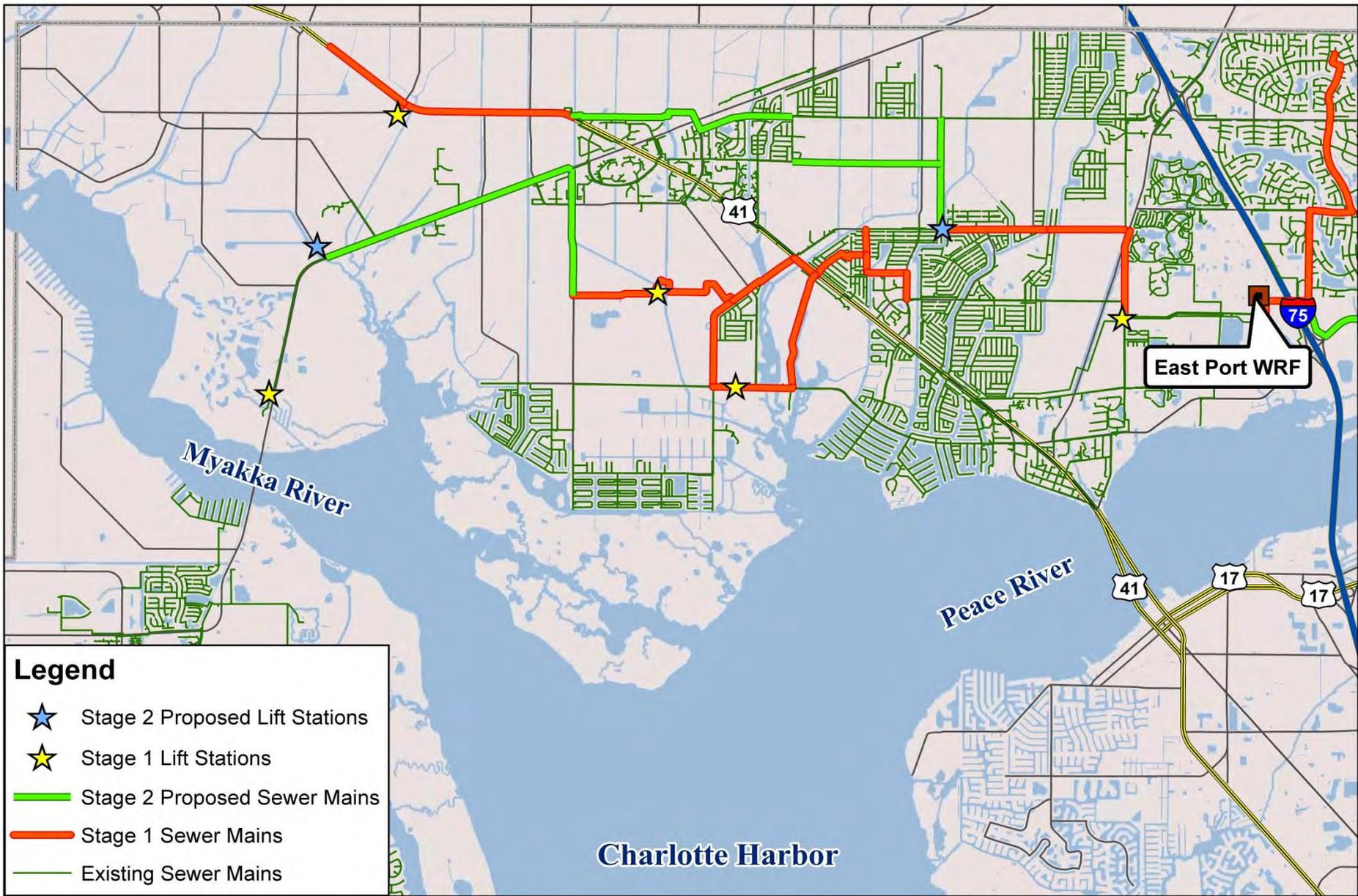
## Stage 1: Mid County Master Wastewater Plan





**Charlotte County Utilities**  
**Stage 2: Proposed Wastewater Expansion Plan**  
**Permitted East Port WRF**





**Legend**

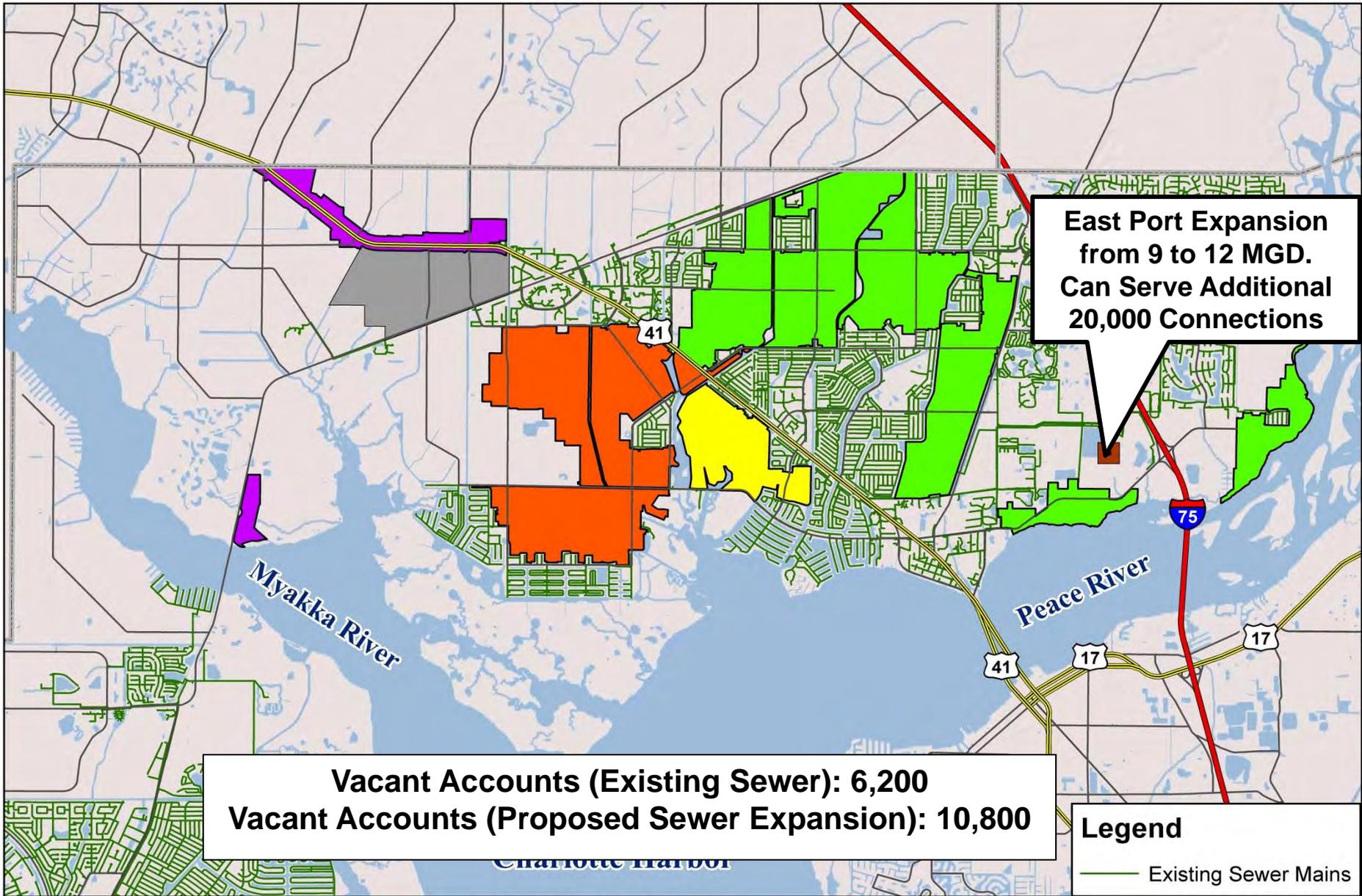
- ★ Stage 2 Proposed Lift Stations
- ★ Stage 1 Lift Stations
- Stage 2 Proposed Sewer Mains
- Stage 1 Sewer Mains
- Existing Sewer Mains



# Charlotte County Utilities

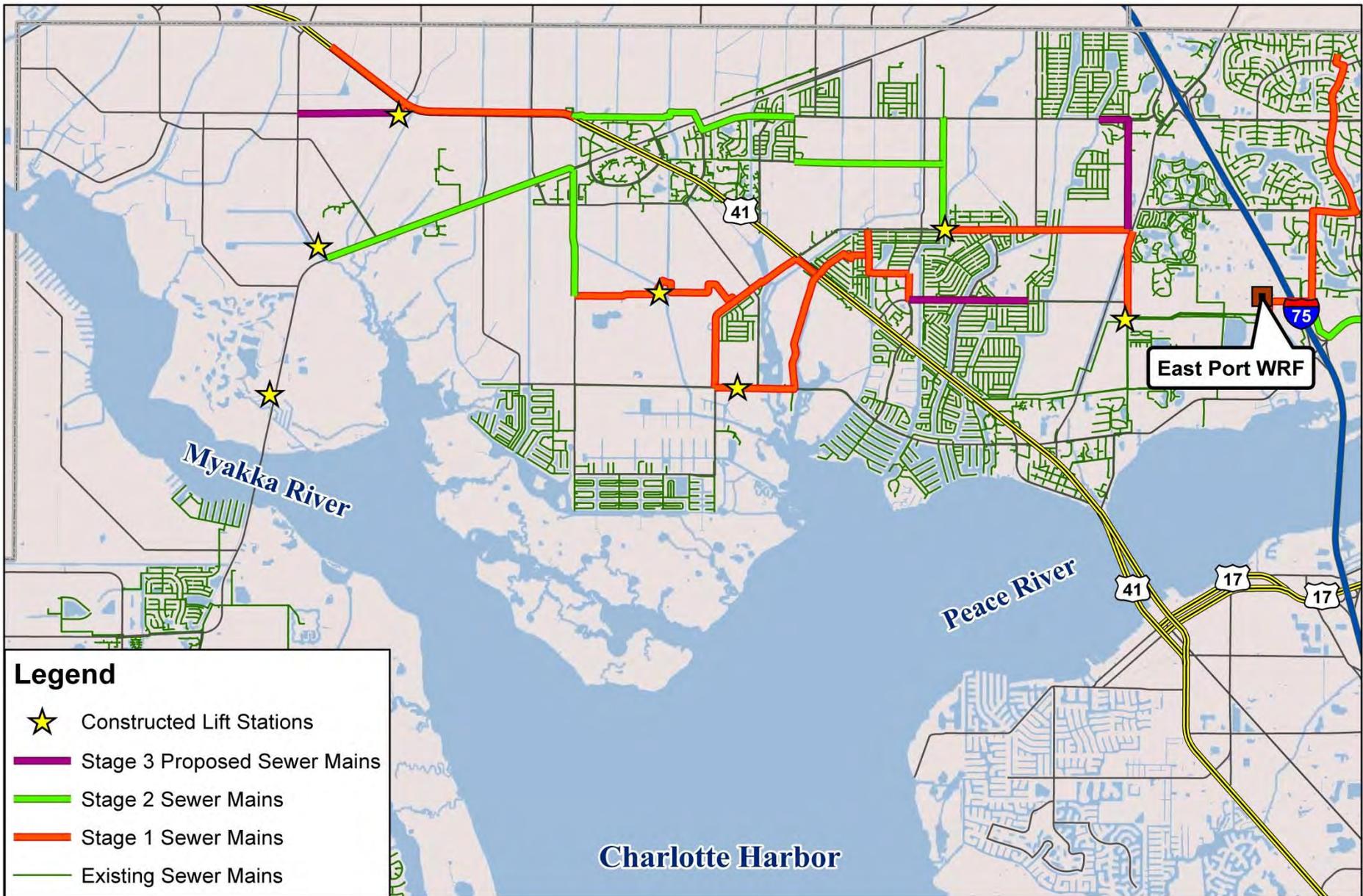
## Stage 2: Mid County Master Wastewater Plan





**Charlotte County Utilities**  
**Stage 3: Mid County Wastewater Infill**  
**Expansion of East Port WRF**





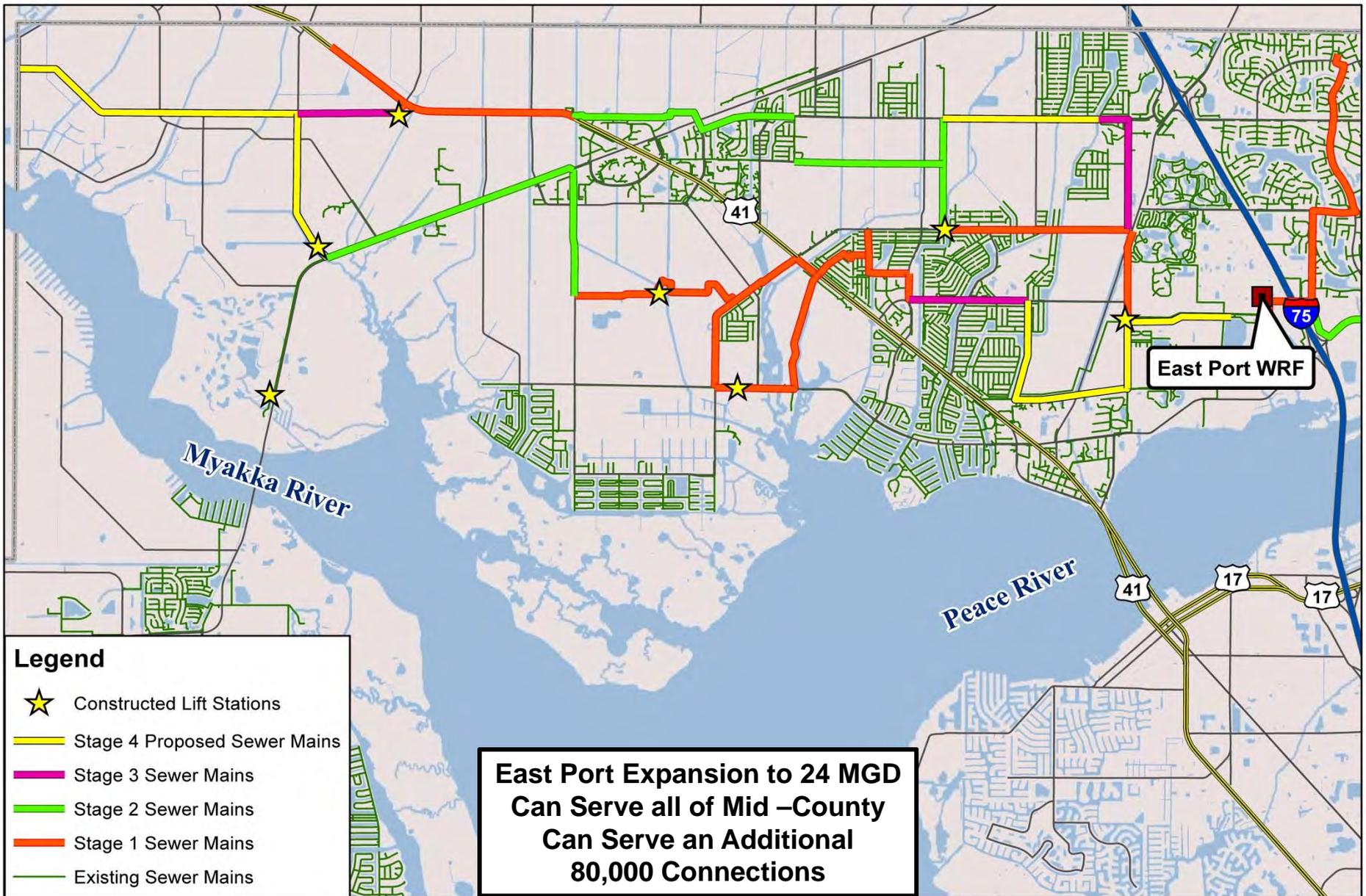
**Legend**

- ★ Constructed Lift Stations
- █ Stage 3 Proposed Sewer Mains
- █ Stage 2 Sewer Mains
- █ Stage 1 Sewer Mains
- █ Existing Sewer Mains



**Charlotte County Utilities**  
**Stage 3: Mid County Master Wastewater Plan**





**Legend**

- ★ Constructed Lift Stations
- Stage 4 Proposed Sewer Mains
- Stage 3 Sewer Mains
- Stage 2 Sewer Mains
- Stage 1 Sewer Mains
- Existing Sewer Mains

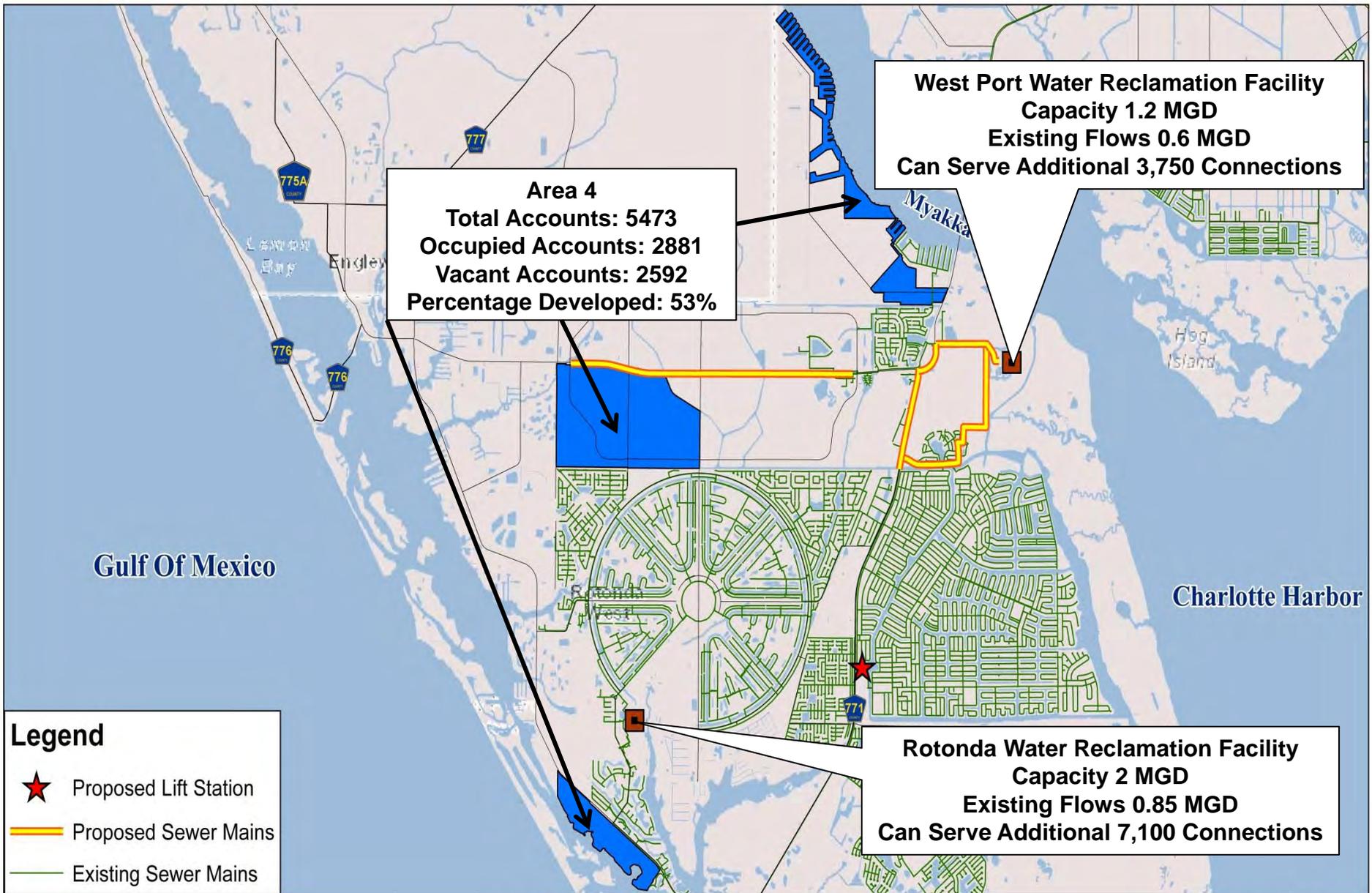
**East Port Expansion to 24 MGD  
Can Serve all of Mid –County  
Can Serve an Additional  
80,000 Connections**



# Charlotte County Utilities Mid County Full Build Out Wastewater Plan



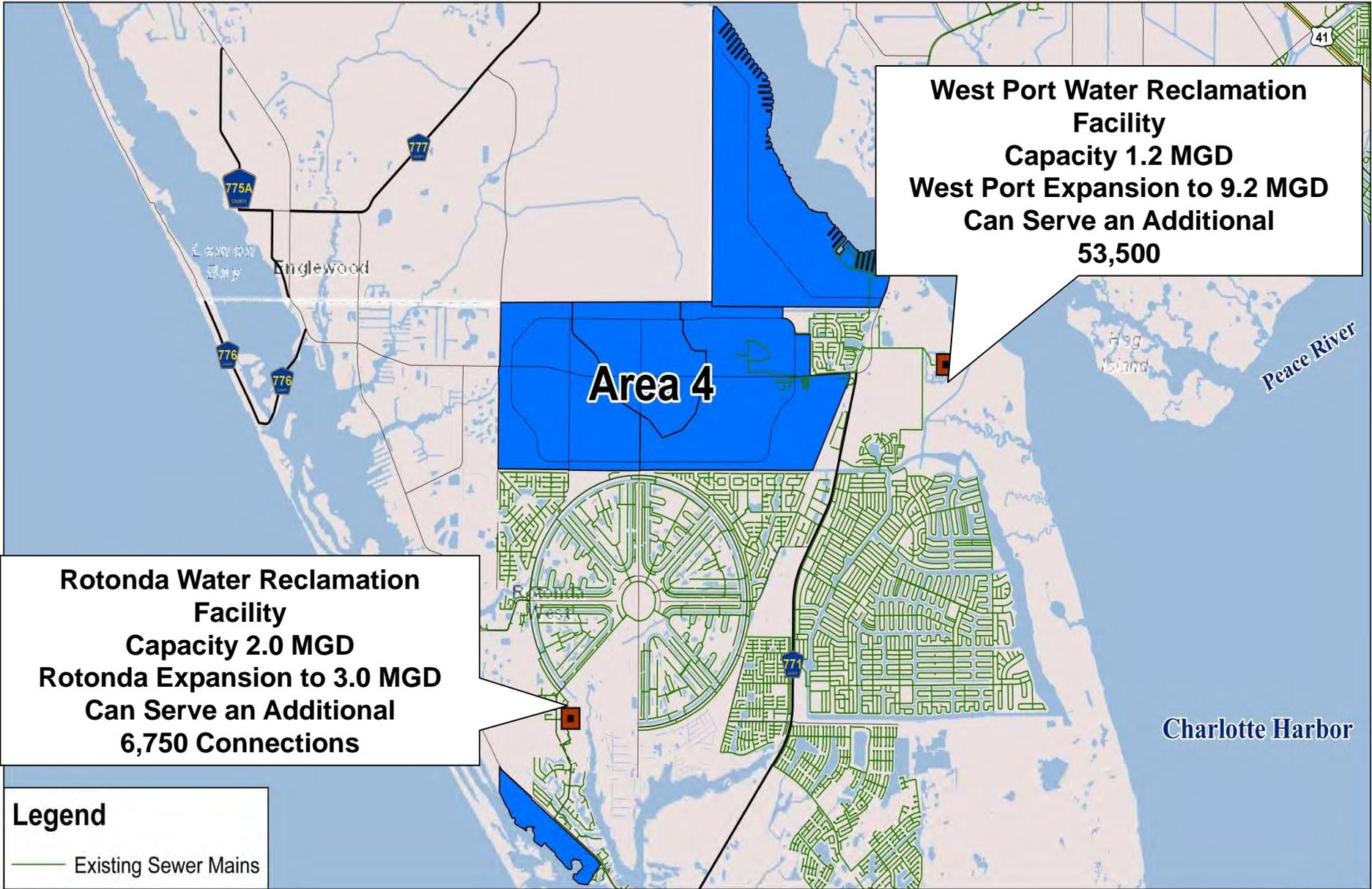
NOT TO SCALE



**Charlotte County Utilities**  
**2013 Proposed Wastewater Expansion Plan**  
**50% Greater Developed Residential Land**



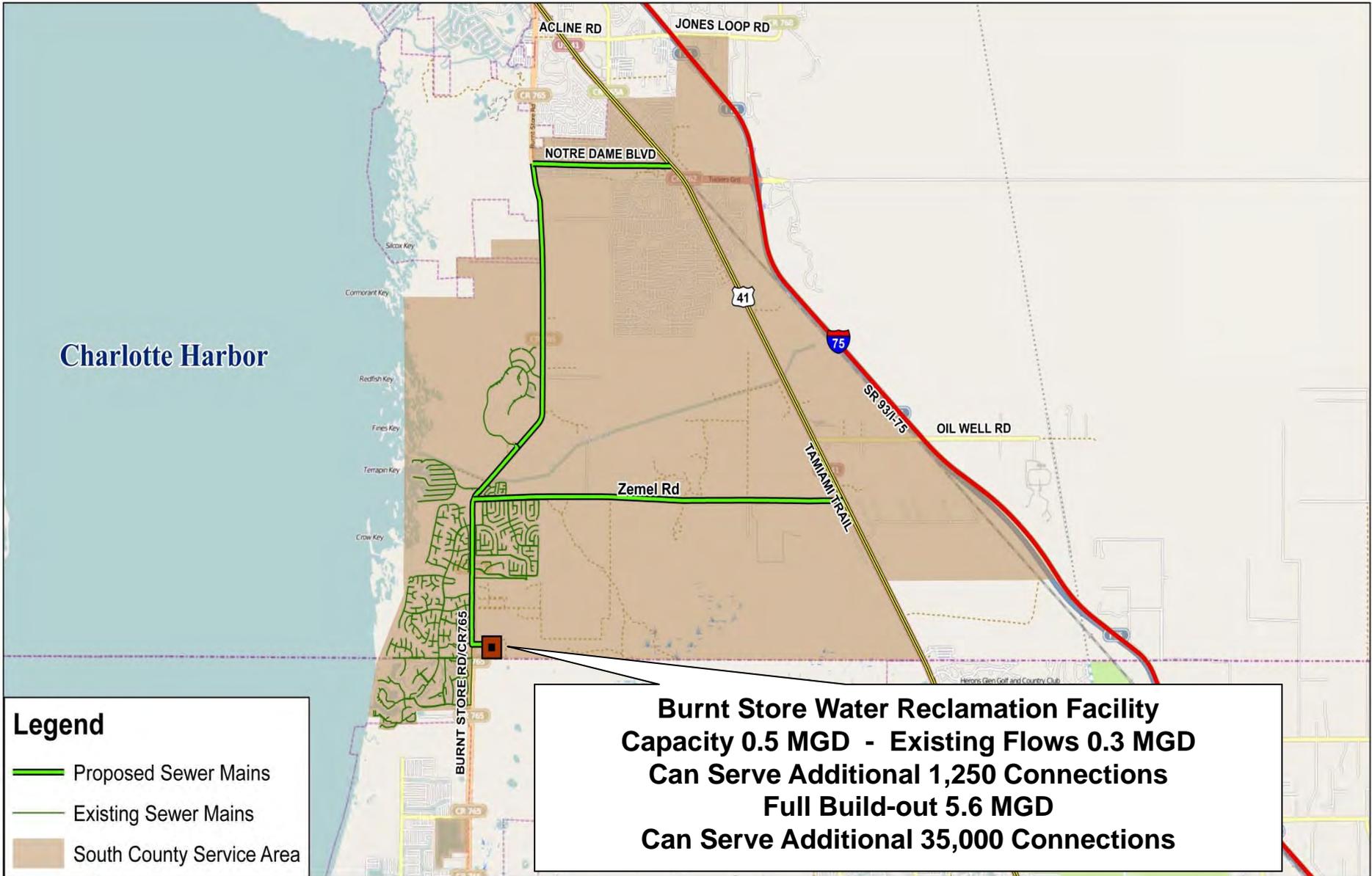
NOT TO SCALE



**Charlotte County Utilities**  
**West County Proposed Wastewater Expansion Plan Full Build Out**



NOT TO SCALE



# Charlotte County Utilities

## South County Full Build Out Master Wastewater Plan



NOT TO SCALE



# Reclaimed Water





# Why Use Reclaimed Water?

## Environmental:

- Protects environment by helping to prevent salt water intrusion inland caused by excessive ground water withdrawals for irrigation
- Saves utility customers money by reducing the need to develop new potable water supplies

## Regulation:

- Compliance with State's long term goal to conserve water by utilizing 75% of all wastewater flows for potable water offsets
- Compliance with existing permits allows future expansion of treatment and storage facilities to meet future growth

## Financial Consequences:

- New Desalination Plant  
\$10 to \$12 / 1,000gal
- New Reverse Osmosis Water Treatment Plant and Babcock Ranch Wellfield  
\$4.00 to \$4.50 / 1,000gal



# Cost of Reclaimed Water Distribution

Line No.	Description	Existing System Capital Costs	Existing System Equiv Annual Cost	Phase 1-3 Expansion Capital Costs	Phase 1-3 Equiv Annual Cost	Total System Capital Costs	Total System Equiv Annual Cost
Capital Investment:							
1	On-Site Facilities [1]	\$ 1,610,595.00	\$ 89,004.00	\$ 3,133,198.00	\$ 173,145.00	\$ 4,743,793.00	\$ 262,148.00
2	Transmission Mains [1]	10,124,463.00	559,491.00	9,952,540.00	549,991.00	20,077,003.00	1,109,482.00
3	Storage [1]	1,219,912.00	72,050.00	1,909,240.00	112,762.00	3,129,152.00	184,812.00
4	Pump Stations [1]	2,064,917.00	153,938.00	4,425,500.00	329,918.00	6,490,417.00	483,856.00
5	Total Capital Cost	\$ 15,019,887.00	\$ 874,483.00	\$ 19,420,478.00	\$ 1,165,816.00	\$ 34,440,365.00	\$ 2,040,299.00
6	Less Grants Received/Applied For	4,165,005.00	335,538.00	-	-	13,875,244.00	1,501,354.00
7	Total CCU Capital Investment	\$ 10,854,882.00	\$ 538,945.00	\$ 19,420,478.00	\$ 1,165,816.00	\$ 20,565,121.00	\$ 538,945.00
8	Amortized Capital Cost[2]		\$ 538,945.00				\$ 663,713.00
9	Renewal & Replacement[3]		42,839.00				78,000.00
10	Operating Expenses:						
11	Electric Pumping Cost[4]		106,000.00				162,000.00
12	Other Operating Cost[5]		-				67,000.00
13	Total Operating Expenses		\$ 106,000.00				\$ 597,000.00
14	Total Revenue Requirements		\$ 687,784.00				\$ 970,713.00
15	Daily Revenue Requirement		\$ 1,884.00				\$ 2,659.00
16							
17	Reclaimed Production @ Plants		<b>5.9 MGD</b>				<b>8.5 MGD</b>
18	Cost to produce 1000 gals if all production is sold		<b>\$0.32</b>				<b>\$0.31 w/ 50% Grants</b>
							<b>\$0.76 w/o Grants</b>
19	Reclaimed Sent to Customers @ present time		<b>3.003 MGD</b>				
20	Cost to produce 1000 gals with existing sales		<b>\$0.63</b>				

**Notes:**

**CCU Life Estimate for Assets:**

[1] Cost to Produce per 1000 gallons based on sales/demand

On-site facilities & Transmission Mains: 100 years

[2] Amortization based on the average service life of the facilities an an annual capital cost of 5.5%

Storage Facilities : 50 years

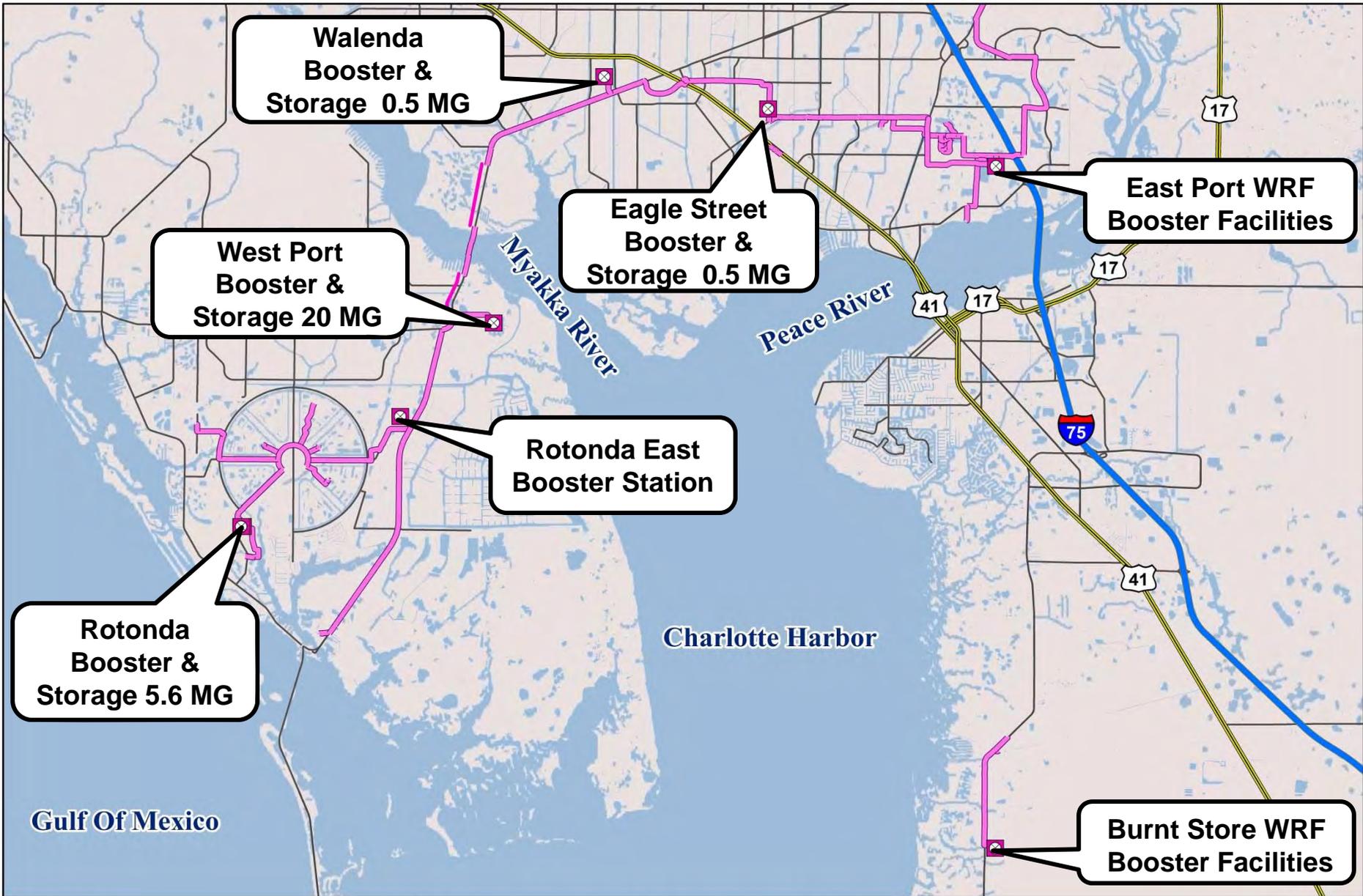
[3] Based on renewal and replacement funding level equal to 5.0% of revenue

Pumping Facilities: 25 years

[4] Per CCU staff based on actual operating expense.

[5] Based on one additional line technician.

Equivalent Annual Cost (EAC) = Net Present Value/Annuity Factor

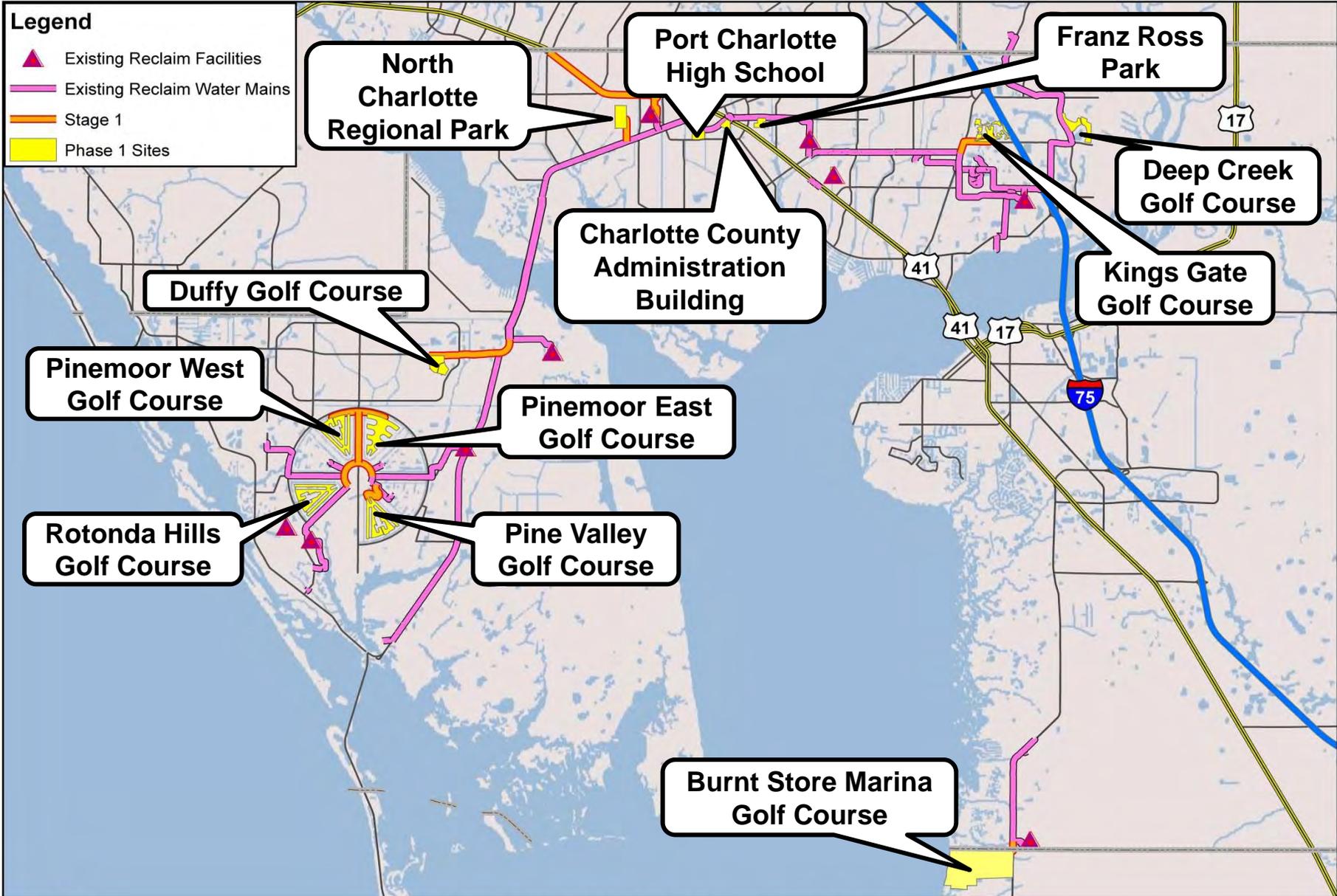


# Charlotte County Utilities Existing Reclaimed Water Infrastructure



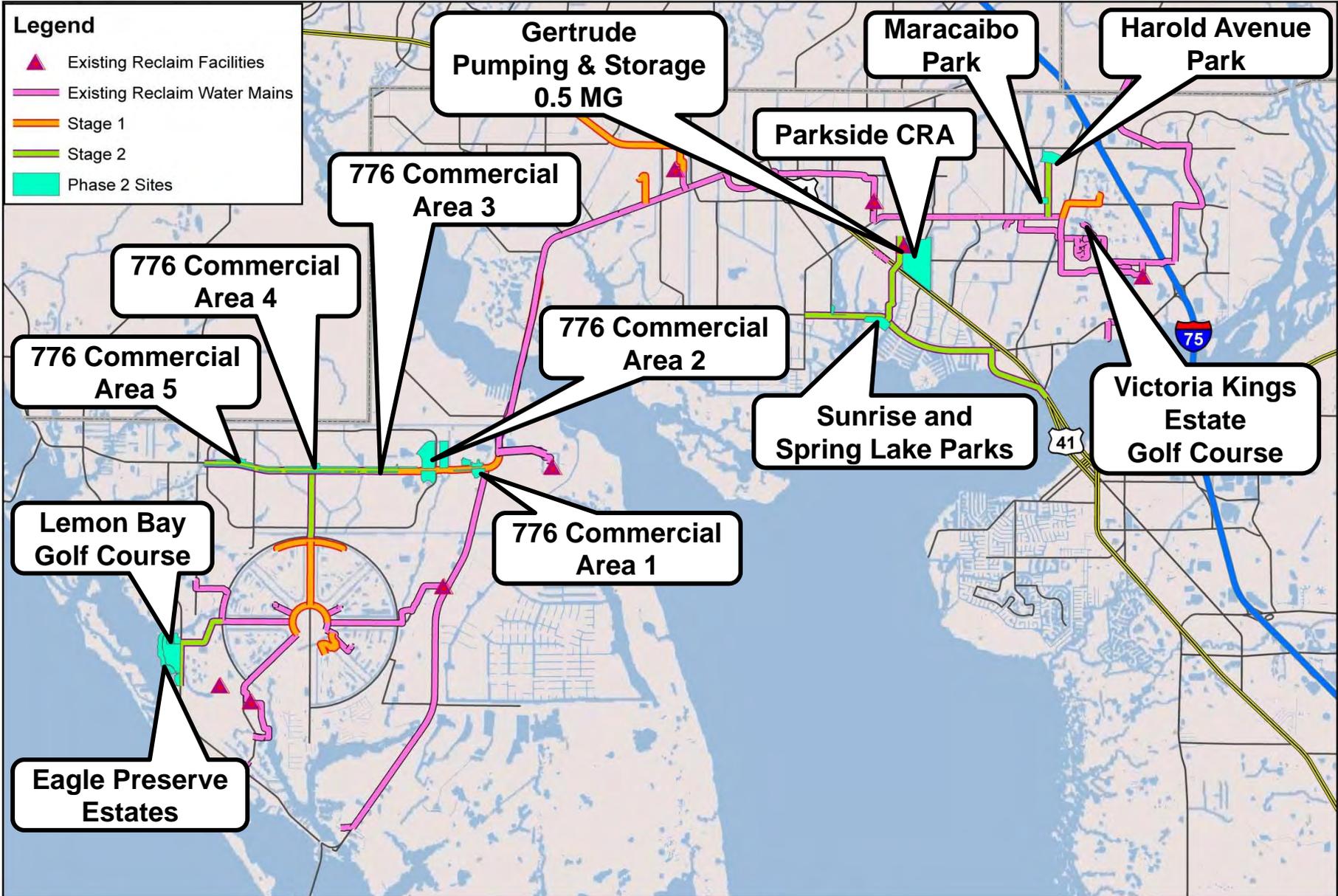
**Legend**

-  Existing Reclaim Facilities
-  Existing Reclaim Water Mains
-  Stage 1
-  Phase 1 Sites



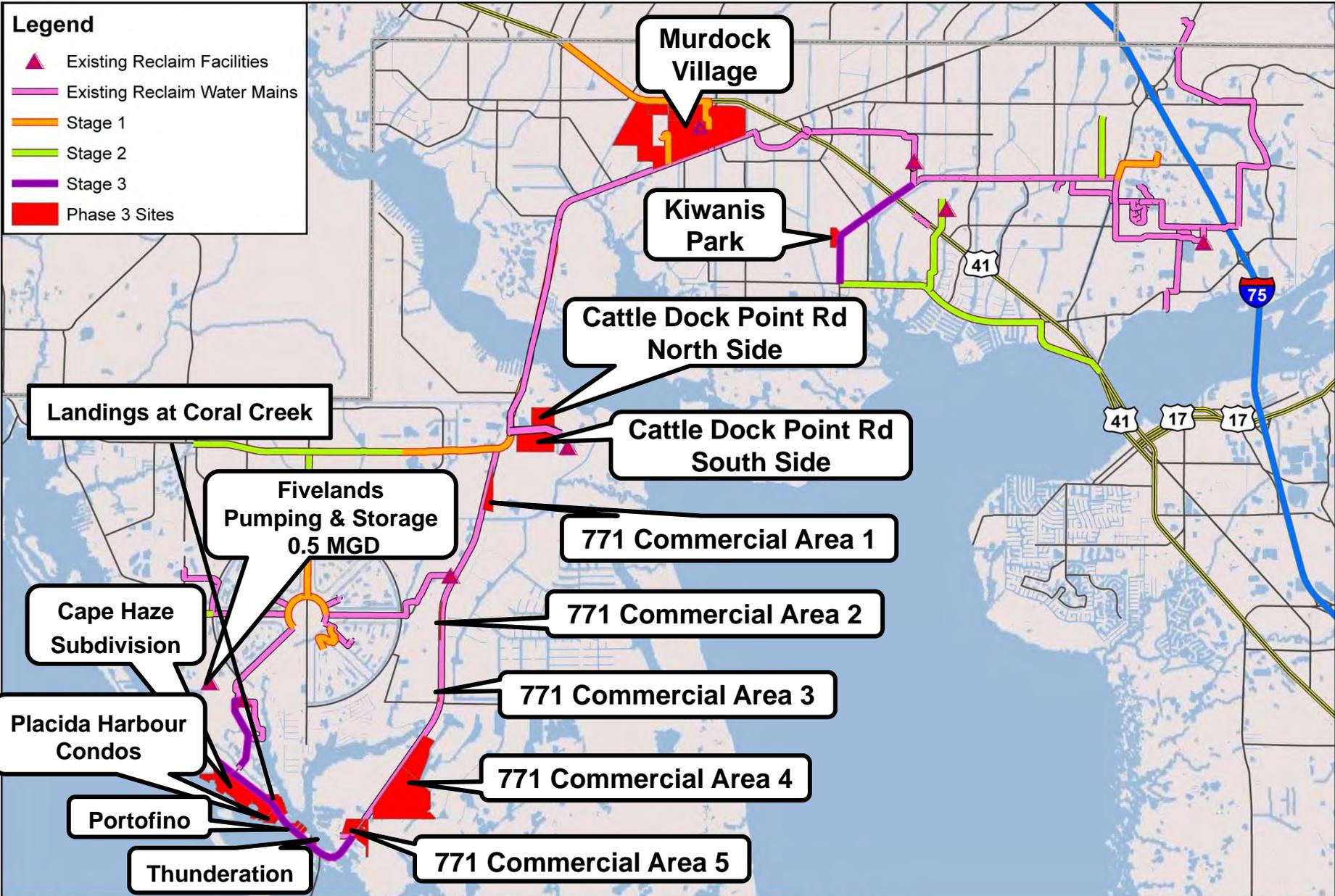
**Charlotte County Utilities**  
**Phase 3 - Stage 1: Proposed Reclaimed Water Users**





**Charlotte County Utilities**  
**Phase 3 - Stage 2: Proposed Reclaimed Water Users**





**Charlotte County Utilities**  
**Phase 3 - Stage 3: Proposed Reclaimed Water Users**





# Reclaimed Water Dry Season Production and Usage

Plant	Production*	Sent to Users*	Total Available*
East Port WRF (current)	4.1	1.5	2.6
Rotonda WRF (current)	0.9	0.9	0.0
West Port WRF (current)	0.6	0.6	0.0
<b>TOTAL (current)</b>	<b>5.6</b>	<b>3.0</b>	<b>2.6</b>
<b>WASTEWATER EXPANSION (Additional 17,000 Connections)</b>	<b>2.6</b>		<b>5.2</b>
<b>TOTAL DEMAND PHASE 3 STAGES 1-3</b>		<b>3.5</b>	<b>1.7</b>
Burnt Store WRF (current)	0.3	0.003	0.297
Burnt Store (future demand)		0.297	0

\* Flow in Million Gallons per Day (MGD)

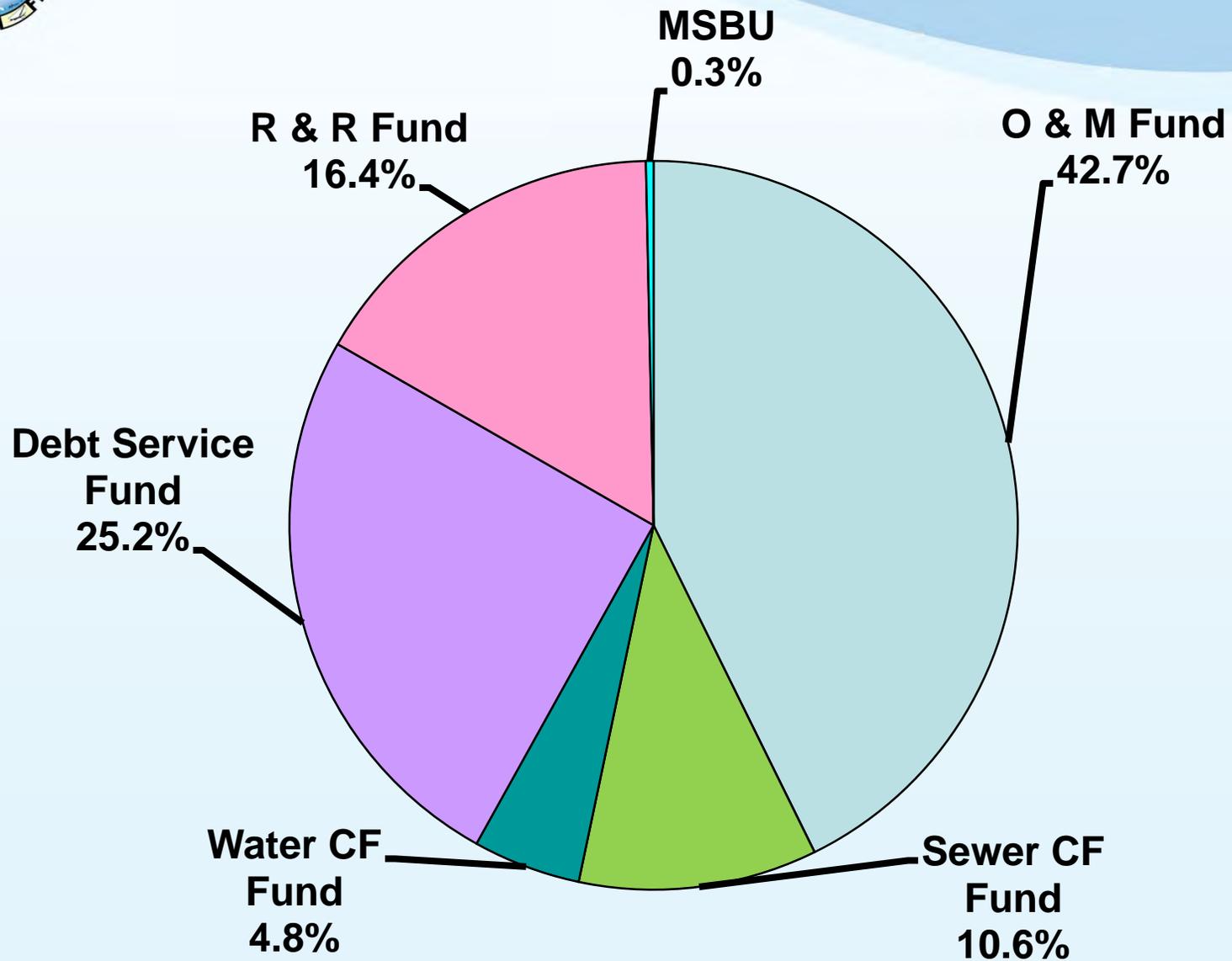


# Finance



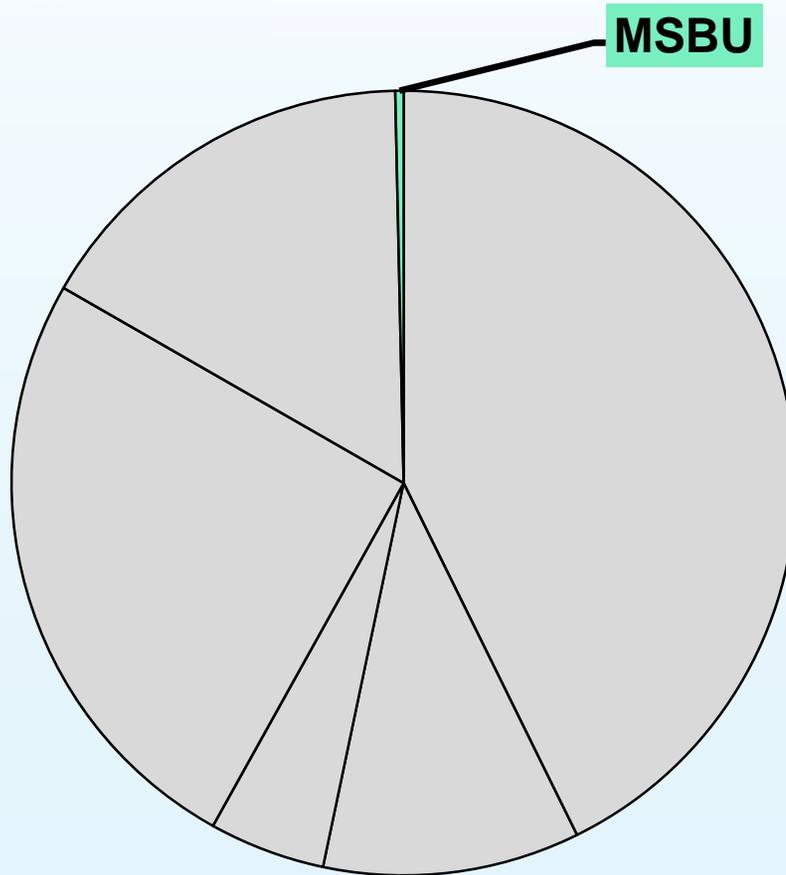


# FY 12/13 Net Budget \$93,818,051





# Municipal Service Benefit Unit (MSBU) Funds



**Percent of Budget:** 0.3%

**Amount:** \$319,093

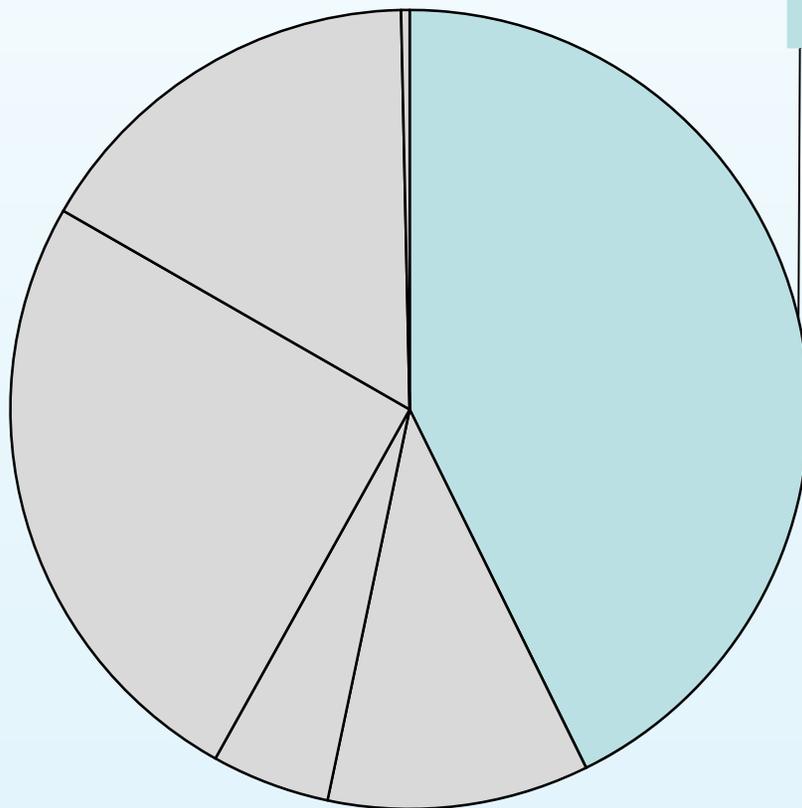
**Definition:** Pays for expansion projects through equitable assessments adopted by resolution.

**Source:** Assessments (Can be augmented with grants or other funding sources)

**Note:** Assessments are used as pledged revenues for borrowings



# Operations & Maintenance (O&M) Fund



O & M  
Fund

**Percent of Budget:** 42.7%

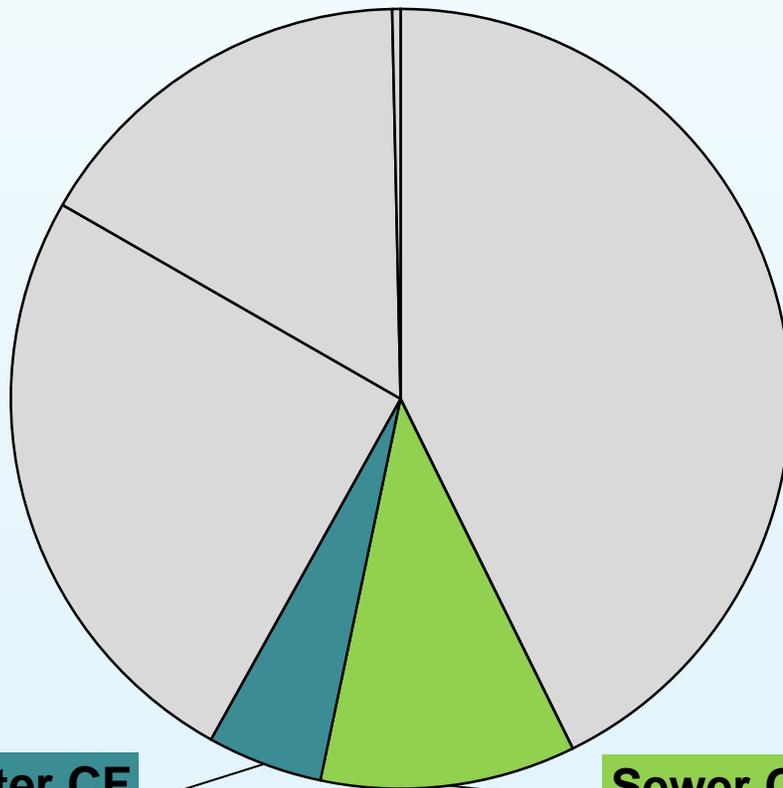
**Amount:** \$40,069,921

**Definition:** Cost of providing services and maintaining system and capacity.

**Source:** User fees including Base Facility Charge, Consumption or Usage Charge, a Customer Charge and payment of Accrued Guaranteed Revenue Fee by new users requesting service



# Sewer Connection Fee and Water Connection Fee (CF) Funds



**Water CF Fund**

**Sewer CF Fund**

**Percent of Budget:**

Sewer 10.6%; Water 4.8%

**Amount:**

Sewer \$9,935,397

Water \$4,489,291

**Definition:** Used to pay for growth related capital costs. Also known as System Development Charges.

**Source:** New customers requesting utility services.



# Connection Fee per ERC\*

<b>Water</b>	
<b>Plant Capacity</b>	\$910
<b>Transmission</b>	\$380
<b>Distribution</b>	\$490
<b>Total</b>	\$1,780

<b>Sewer</b>	
<b>Plant Capacity</b>	\$1,100
<b>Transmission</b>	\$500
<b>Collection</b>	\$740
<b>Total</b>	\$2,350

\* Equivalent Residential Connection (ERC) Based on rate resolution 4/1/2012



# Debt Service Fund

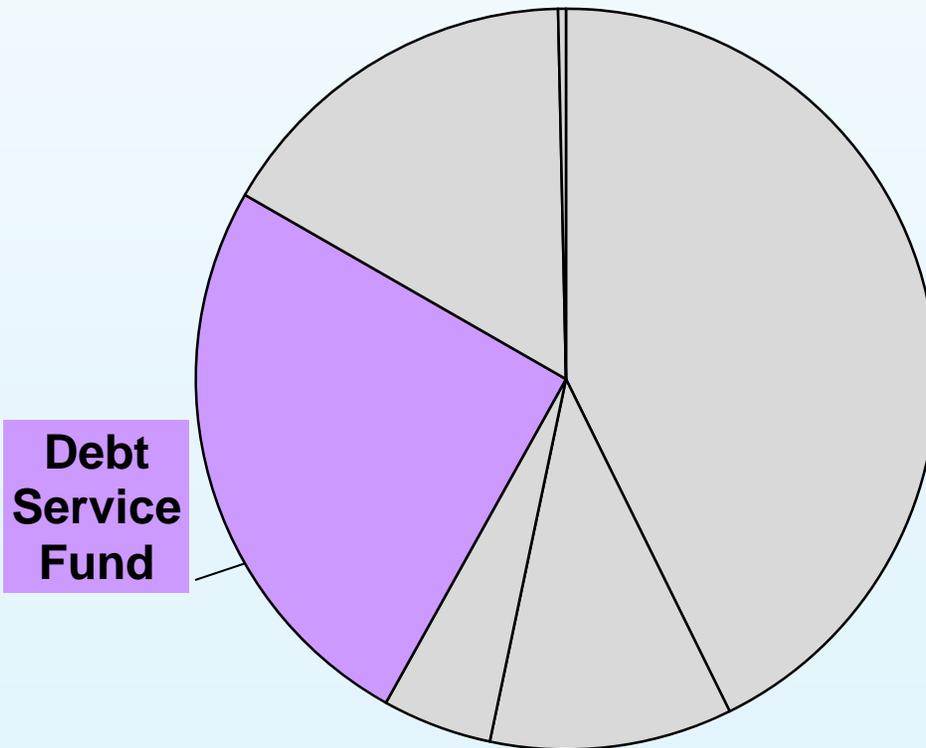
**Percent of Budget:** 25.2%

**Amount:** \$23,640,081

**Definition:** Fund pays all Utility bonds and debt.

**Source:** Transfer of Operations and Maintenance funds and MSBU Funds as needed to pay the annual debt and maintain debt reserves as required.

Final Bonds Maturity - 2024





# Debt Retirement Fund

Principal Amount  
remaining as  
of 9/30/2012

Bond Total\*

\$ 151,315,000

SRF Funding, Loans Total\*\*

23,070,693

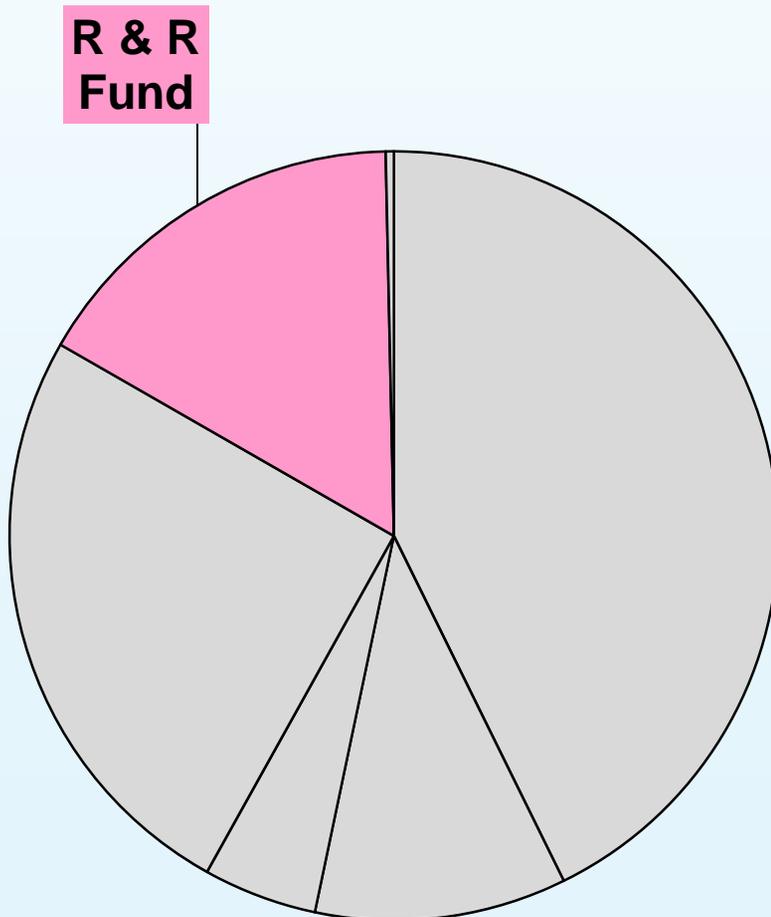
**Total Debt \$ 174,385,693**

\* Purchase of GDU, Rotonda and Florida Water Service, Expansion of Burnt Store and 1995 Wastewater Expansion Engineering Design.

\*\* MSBU water and sewer expansions, 1996 upgrade of East Port Facility, and Peace River REP internal loan payment.



# Repair & Replacement (R&R) Fund



**AKA - Refurbishment and Rehabilitation of Assets**

**Percent of Budget: 16.4%**

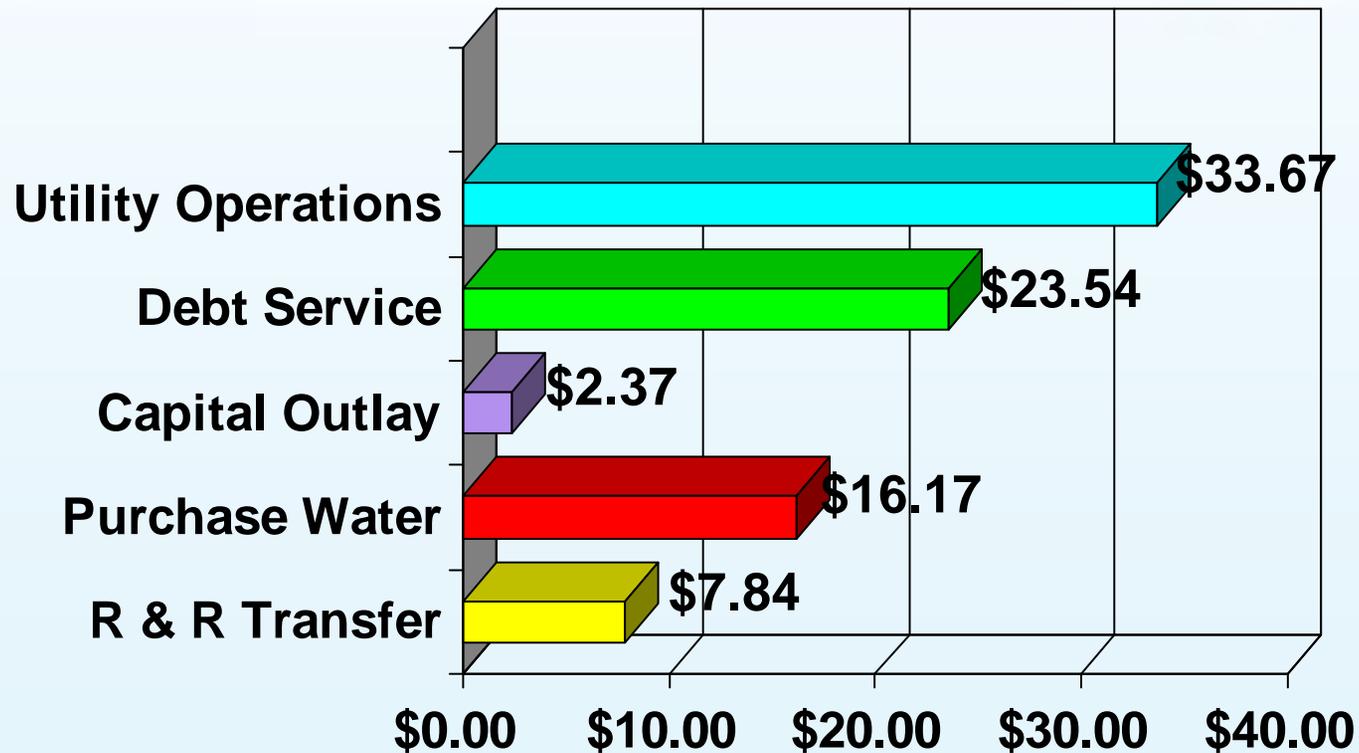
**Amount: \$15,364,268**

**Definition:** For renewal and replacement of infrastructure to maintain services and meet regulatory treatment standards

**Source:** Operations and Maintenance Funds



# How an Average Payment of \$83.59 is used by the Utility



*\* Based on 4,000 gallons usage @ Rates Effective 10/1/2013  
All utility bill payments are deposited initially into the O&M Fund.*

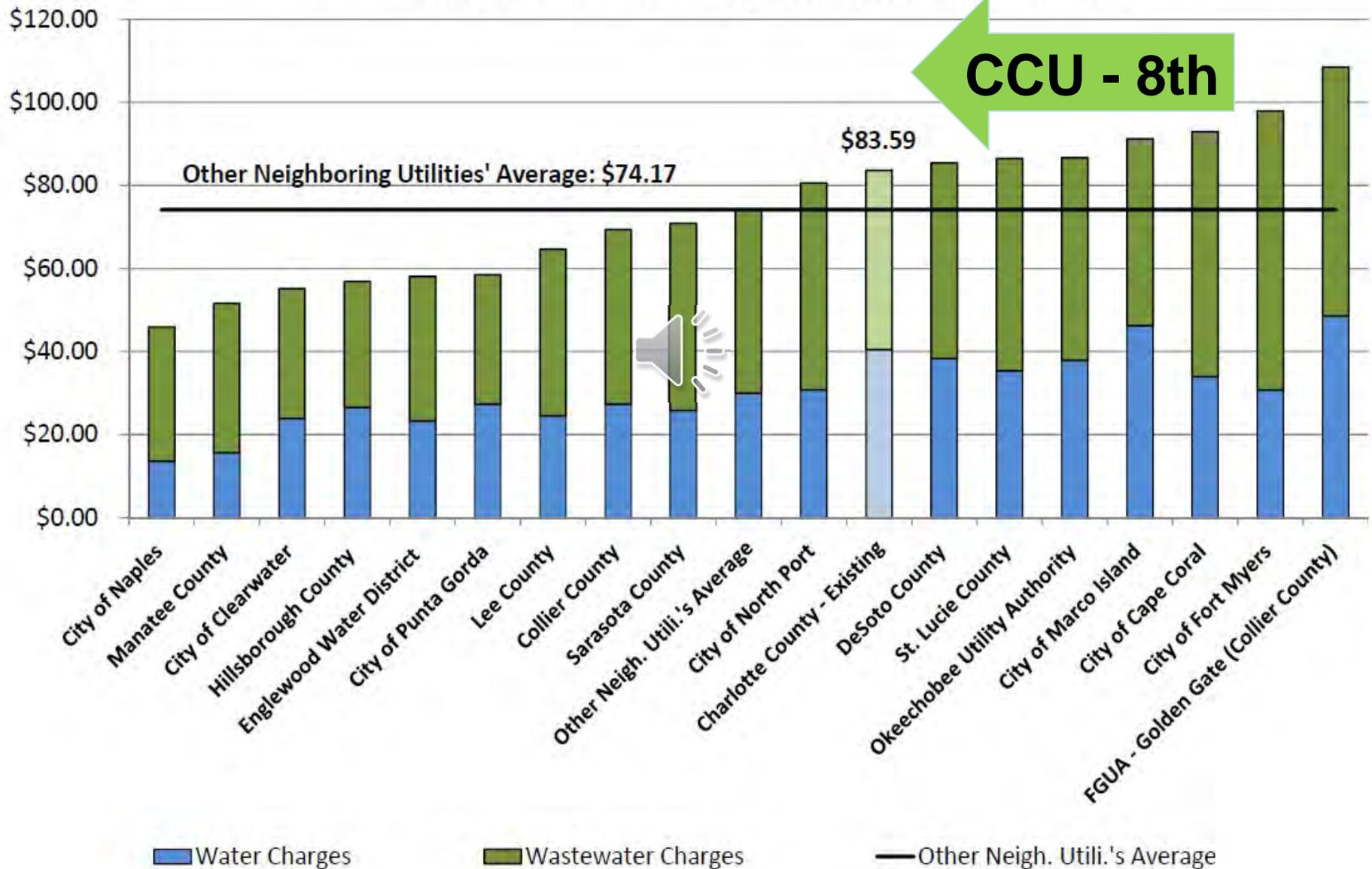


## 1997 – 2005 Rate Decrease For Water and Sewer Customers

- BOCC decreased water rates by 12% and sewer rates by 5%.
- No increases for inflation during this period.



## Comparison of Monthly Charges for Combined Water and Wastewater Service For Single-Family Residential Customers Using 4,000 Monthly Gallons





# Plans

- Rate study 2013
- Vacant Lot Program
- Adjust R&R Budget to bring in line with Asset Management Program





# Awards and Accomplishments



Plant Operations Excellence Award CCU  
Burnt Store Water Treatment Plant by  
FDEP 2008 and 2012



FWEA Medium  
Collection Size  
Wastewater Collection  
System Award 2013



FWPCOA Safety Award at  
West Port WRF 2011



Water Distribution employees were  
recognized with a proclamation by  
Charlotte Board of County  
Commissioners 2011



2nd - Top Ops  
Competition 81st  
Annual FWRC 2006



AWWA Water Distribution  
Service Award 2010



Best Tasting Drinking Water  
Taste Test, AWWA, Florida  
Region X 2006 and 2009



Excellence in Marketing &  
Communications MarCom  
Award for 2007 Annual Report,  
produced by CCU and PB  
Americas 2008



Received QualServe  
Self-Assessment and Peer Review  
plaque in April by the Florida  
Section of AWWA and WEF 2010



# **This is Only the Beginning....**

