



Capital Contracts Symposium  
Miami-Dade Water and Sewer Department  
October 30, 2019

QUALITY. VALUE. ECONOMIC GROWTH.  
[WWW.MIAMIDADE.GOV/WATER](http://WWW.MIAMIDADE.GOV/WATER)



# Contents/Overview

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## I. Capital Improvement Program (CIP)

- Old CIP
- New CIP
- Program Updates
  - CD, OOL and PSIP
- **Upcoming Construction Bids (12 months)**

## II. Professional Service Agreements (PSAs)

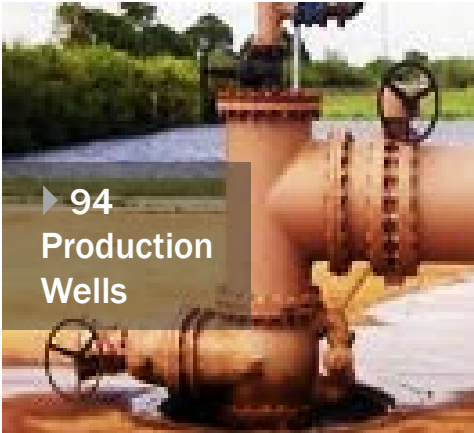
- New PSAs
- **Upcoming PSAs Solicitations (5 years)**
- A Few Words on Small Business

## III. Upcoming Initiatives

- Managing Our Water Supply
- Protecting Our Recreational Waters
  - Septic Conversion
  - Leaky Pipes
- Expanding Capacity







▶ 94  
Production  
Wells



▶ Projected  
Revenues \$825M



▶ 1,057 Pump Stations  
& 6,300 Miles of  
Collection System

▶ Serving  
Over 2.3 Million  
Residents

# Multi-Year Capital Improvement Plan



▶ 2,791  
Positions



▶ 3 Regional Water Plants & 1  
Shared Reverse Osmosis Plant  
Producing 300+ MGD

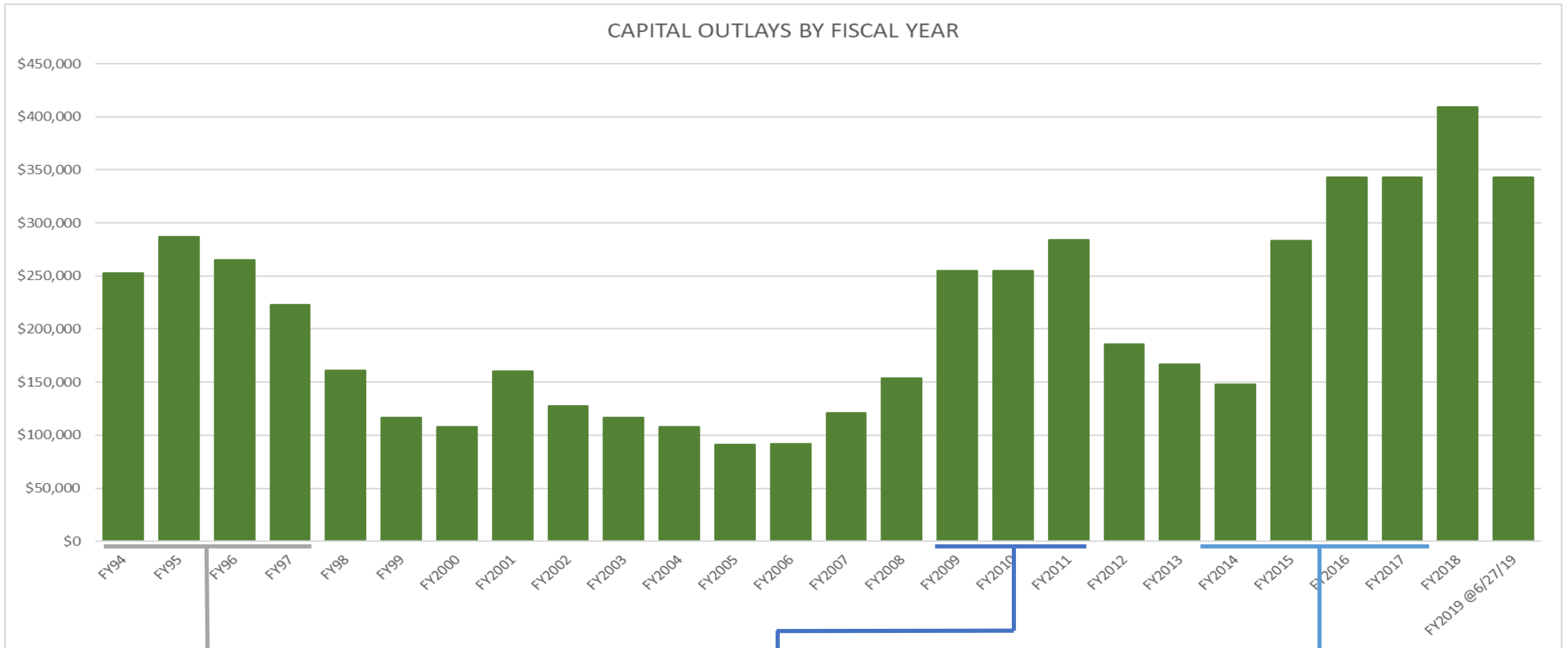


▶ 3 Wastewater  
Plants Treating  
Almost 300 MGD

# WASD AT A GLANCE

The Miami-Dade Water & Sewer Department (WASD) is the largest water utility in the Southeastern United States, providing high-quality, affordable water & wastewater services to the people of Miami-Dade County.

# Historical Capital Investment Pattern



Outlays in 1994-97 reflect work on the first Consent Decree

From 2009-11, the high-level disinfection project at SDWWTP was implemented, which was the largest single capital project undertaken by WASD up to that point

During the last five years, CIP investment has been driven by federal & state regulatory requirements (Consent Decree, Ocean Outfall Legislation)

# Current CIP Investment Drivers

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**Consent Decree**

**Pump Stations  
& Flow Reduction**

**Ocean Outfall**

**WASD Capital  
Projects**

# Capital Improvement Plan: FY 17/18 (Old) v. FY19/20 (New)

	ADOPTED 2017-18 CIP	PROPOSED 2019-20
Consent Decree Program	<b>\$1,822 M</b>	<b>\$1,817 M</b>
Ocean Outfall Legislation	<b>5,741</b>	<b>2,177</b>
Pump Stations & Flow Reduction	<b>300</b>	<b>389</b>
WASD Capital Projects	<b>5,436</b>	<b>3,141</b>
<b>Totals</b>	<b>\$13,299 M</b>	<b>\$7,524 M</b>

# New CIP: FY 19-20

	Projected Expenditures (Sept. 30, 2019)	Future Budget	Total Project Cost	% Spent
Consent Decree	\$733 M	\$1,084 M	\$1,817 M	40%
Ocean Outfall	172	2,005	2,177	8%
Pump Stations & Flow Reduction	109	280	389	28%
WASD Capital Projects	639	2,502	3,141	20%
<b>Totals</b>	<b>\$1,653M</b>	<b>\$5,871M</b>	<b>\$7,524M</b>	<b>22%</b>

**WASTEWATER \$6.0B**

**WATER \$1.5B**

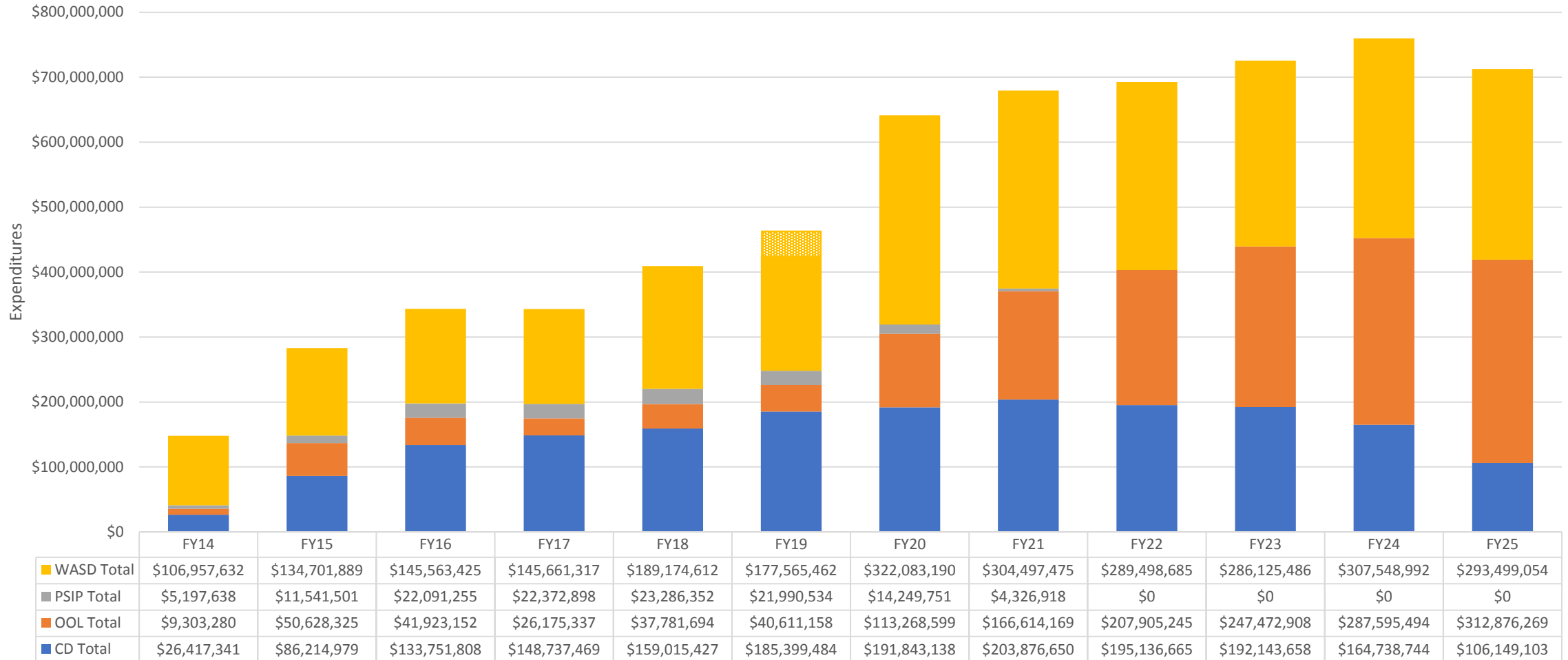
# Proposed CIP by Asset Category

Category	Total Cost	Remaining Costs (Sept. 2018)	Cashflow					
			2020	2021	2022	2023	2024	Future
<b>Water</b>								
-Supply	\$76M	\$73M	\$4M	\$5M	\$8M	\$7M	\$3M	\$44M
-Plants	241	216	56	26	16	18	27	27
-Transmission	956	743	125	115	102	85	68	143
<b>Wastewater</b>								
-Collection	2,840	2,427	171	178	213	260	318	1,111
-Pump Stations	812	623	60	51	45	65	92	232
-Plants	2,032	1,752	202	270	279	260	221	406
<b>General</b>	568	507	23	34	30	31	31	335
<b>TOTAL:</b>	<b>\$7,524M</b>	<b>\$6,341M</b>	<b>\$641M</b>	<b>\$679M</b>	<b>\$693M</b>	<b>\$726M</b>	<b>\$760M</b>	<b>\$2,298M</b>



# Capital Improvement Plan: Projected Expenditures

Capital Improvement Plan: Actuals and Projected Expenditures  
FY14 through FY19 Actuals



# Consent Decree Program

## CONSENT DECREE PROGRAM

**81** PROJECT  
ELEMENTS

**\$1.9** billion



DATE OF LODGING

**June 6, 2013**

EFFECTIVE DATE

**December 6, 2013**

PROGRAM DURATION

**15 years**

CAPITAL PROJECTS

**81**

SUPPLEMENTAL ENVIRONMENTAL PROJECT

**1**

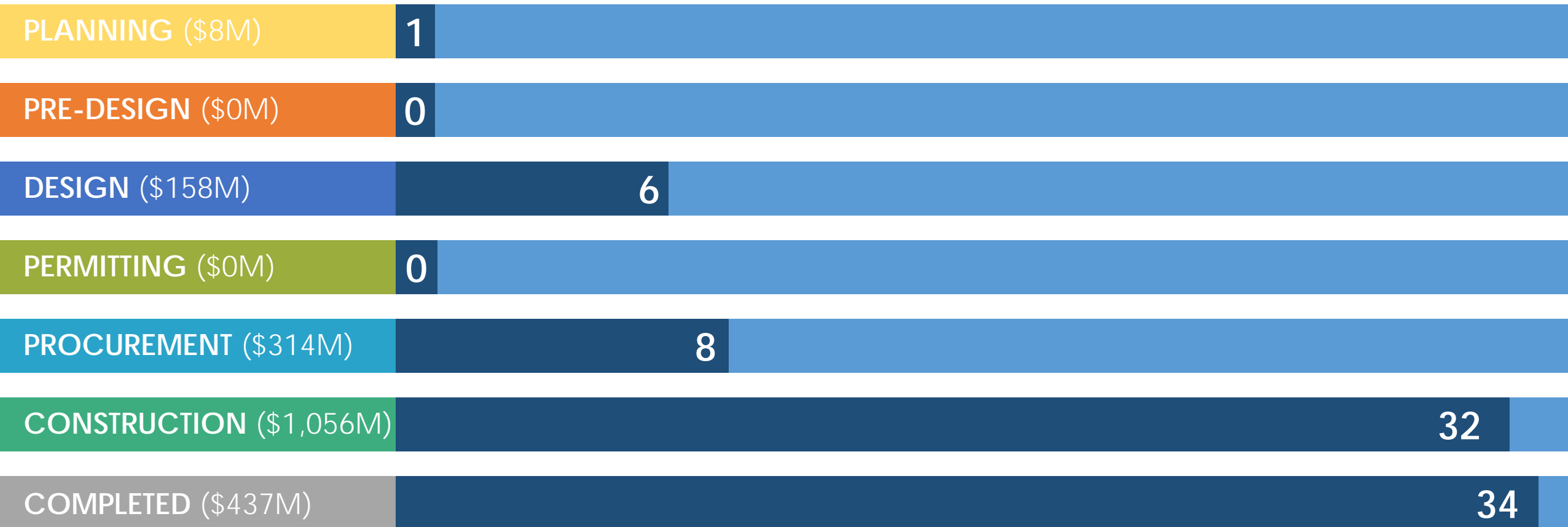
PROGRAM COST

**\$1.9B**

- 1 Continuation of Capacity Management, Operations, and Maintenance (CMOM) Programs from Previous Consent Decrees
- 2 New CMOM Programs
- 3 81 Capital Projects  
Supplemental Environmental Project
- 4 Others:  
Reporting and Hydraulic Modeling

# Consent Decree Projects

## STATUS BY PHASE



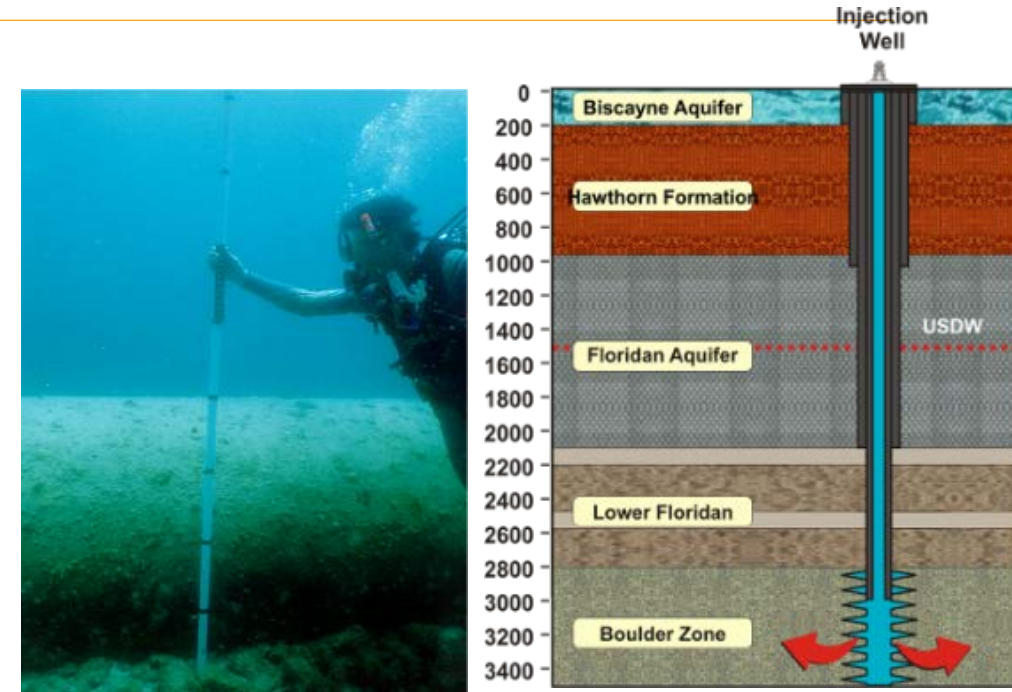
= 81 projects

# Ocean Outfall Legislation Program

## Florida Statutes Title CS/SB 444 Section 403.086 Requirements:

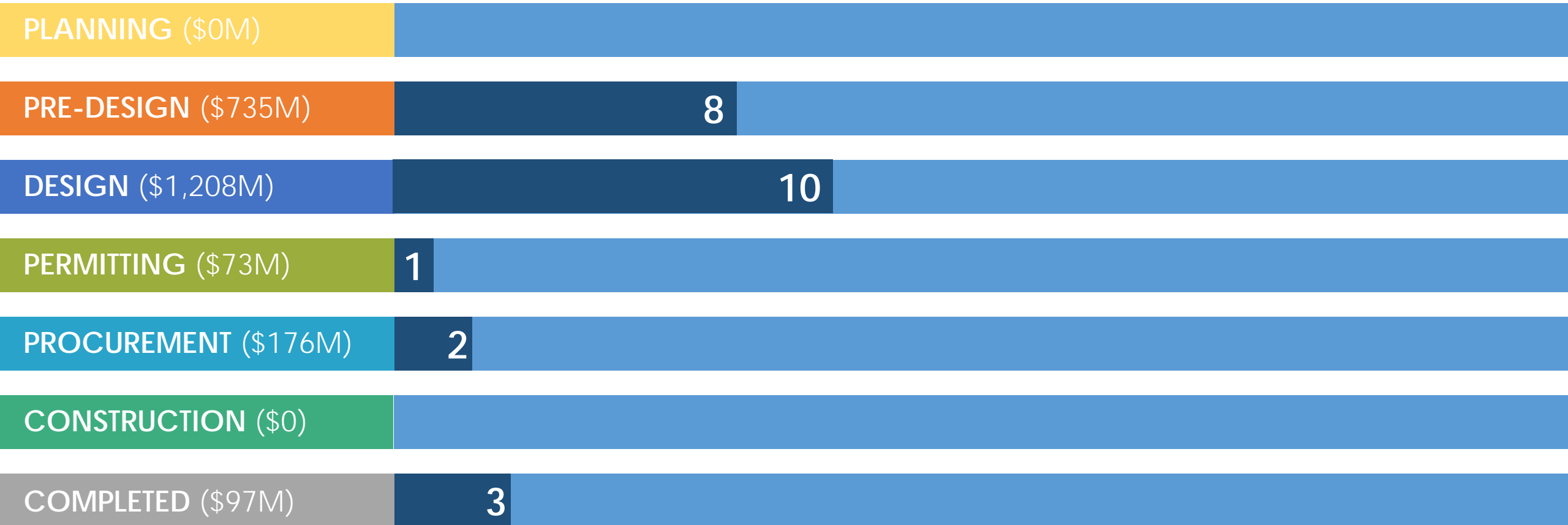
- ← Wastewater utilities in southeast Florida must move away from using ocean outfalls to dispose of treated wastewater
- ← Reduce the use of outfalls by 2025

- 1 Nutrient Reduction**  
Reduce nutrient discharges by 2025
- 2 Outfall Discharge**  
Limit use of ocean outfalls to peak flow disposal backup
- 3 60 Percent Reuse**  
Reuse 60% of the wastewater flows



# Ocean Outfall Projects

## STATUS BY PHASE



= 24 projects



# Pump Station Improvements Program (PSIP)

- **PSIP Objectives:**

- Ensure that any pump station out of compliance is upgraded and certified to meet United States Environmental Protection Agency (USEPA) schedule as agreed under a federal Consent Decree.
- Provide necessary upgrades and operational efficiencies to the WASD sewer infrastructure to continue offering high quality services and to protect the environment and public health of the residents of Miami-Dade County.

- **PSIP Team:**

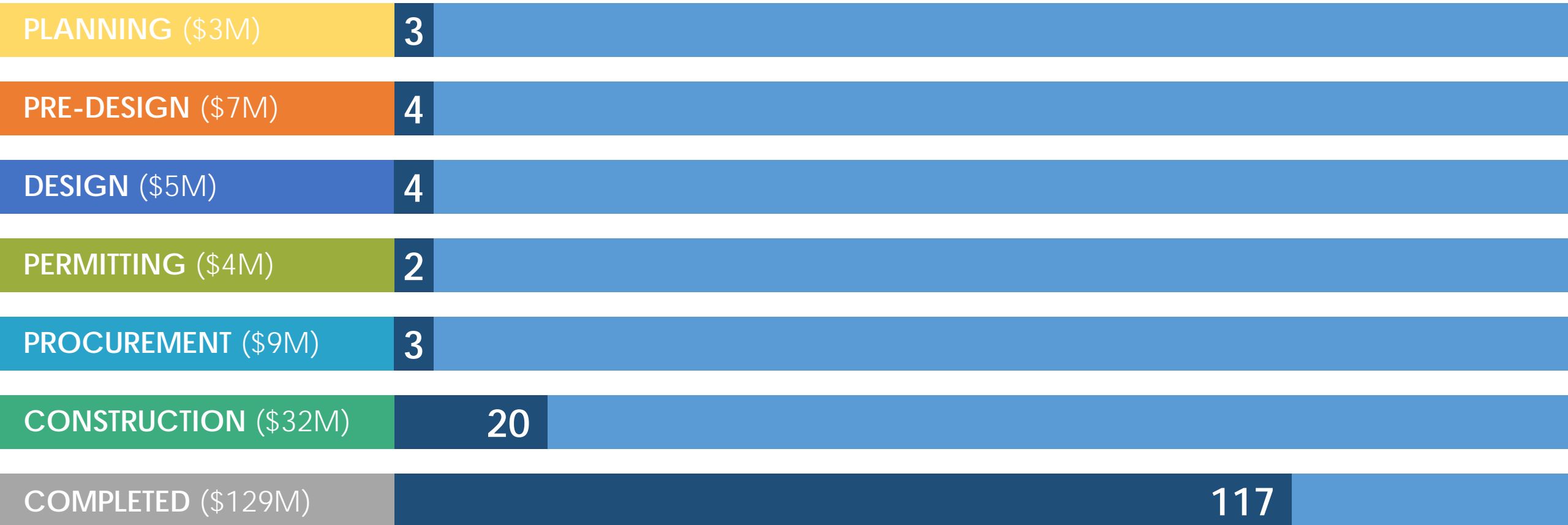
- 100% of PSIP Team consist of local consulting firms
- 80% of PSIP Team is categorized as Small Business Enterprise (SBE)
- Program Targeted for small and local contractors through MCC 7040 RPQ Contracts

- **PSIP-At-A-Glance:**

- 153 Total Projects, including Pump Stations and Force Mains
- 118 Service Areas / Basins
- 2.3 Million Population Served
- Over 6,000 Infiltration/Inflow repairs of Gravity Lines
- All USEPA Deadlines were met for 2015, 2016, 2017, and 2018
- All USEPA Deadlines will be met for 2019

# PSIP Projects

## STATUS BY PHASE



= 153 projects

# PSA/G&S Needs by Asset Category-Next Five Years

PSA Need	Asset Category						
	Water			Wastewater			General
	Supply	Plants	Transmission	Collection	Pump Stations	Plants	
Planning/Hydraulic M.	✓	✓	✓	✓	✓	✓	✓
Design/ESDC	✓	✗	✗	✗	✗	✓	✓
Inspection & Const. Mgmt.	✓	✓	✓	✓	✓	✓	✓
Geotechnical Services	✓	✓	✓	✓	✓	✓	✓
Surveying	✓	✓	✓	✓	✓	✓	✓
GIS/BIM	✓	✓	✓	✓	✓	✓	✓
Cost Estimating & Scheduling	✓	✓	✓	✓	✓	✓	✓
Environmental, Health & Safety	✓	✓	✓	✓	✓	✓	✓

# PSAs Solicitation Structure-Preliminary

## Dedicated Small Business Contracts

- Inspection & Const. Mgmt.
- Cost Estimating & Scheduling
- Surveying

## Multiple Contracts

- Inspection & Const. Mgmt.
- Cost Estimating & Scheduling
- Geotechnical Services
- Design/ESDC
- GIS/BIM

## Single Contracts

- Planning & Hydraulic Modeling
- EHS
- Other

# A Few Words on Small Business

Fiscal Year	COUNTYWIDE			WASD			WASD % of Countywide Awarded Contract Value	WASD % of SBE Countywide Measure Amount
	Awarded Contract Value	SBE Measure Amount (Includes WASD)	SBE%	Awarded Contract Value	SBE Measure Amount	SBE%		
13-14	\$1,964.6M	\$177.0M	9%	\$376.4M	\$70.0M	19%	19%	40%
14-15	2,382.4M	267.9M	11%	546.1M	124.0M	23%	23%	46%
15-16	1,663.3M	168.8M	10%	356.4M	63.5M	18%	21%	38%
16-17	2,443.9M	307.3M	13%	562.8M	128.3M	23%	23%	42%
17-18	1,521.6M	287.3M	19%	364.3M	116.9M	32%	24%	41%



# Contracts by the Numbers

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## In the last 5 years

Total number of contracts awarded by WASD was 972  
749 or 77 % had SBE measures

## Currently

Total number of active contracts is 180  
153 or 85 % have SBE measures

## Types of Trades

Civil, Structural, Mechanical, Plumbing, HVAC, Electrical, Surveying, Architectural, Engineering, and General Contractors

# Types of Projects

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- Pump stations
- Water and Wastewater Treatment Plants
  - Digester cluster upgrades, lime kiln, effluent pump station, electrical, electrical radiators, oxygen trains, secondary clarifiers
- Pipelines
  - Water mains, force mains, distribution mains, gravity sanitary sewer, transmission
- Infiltration and Inflow (I&I)
  - Cured in place lining, sectional lining, cleaning and televising, SSES (smoke testing), manhole rehab
- Consumer Line Relocation
  - Relocation of meter, water pipe
- Well Construction/Rehab
  - wellfield rehab, deep injection well construction, monitoring wells, production wells, MIT testing, Packer testing
- Facility Rehab
  - Administrative and ancillary buildings maintenance and repair, 40 year recertification
- Other:
  - Fencing, A/C, Roofing, Paving/Sidewalk Rehab

# Improving the WASD/SBE Relation

## Getting SBEs Paid

- **Change Orders – 75% of our issue with payments is related to change orders**
  - **Lump Sum Change Orders** – Arrive at price at the beginning; lump sum based on cost-estimate
  - **Change Order Committee** – approves change orders as a group, expediting approval
  - **Training** – Construction managers and contractors
- **Preparation of redlines – 25% of delay**
  - **Pay What You Can** – Pay portion of invoice and leave rest until all documents received
- **One-on-One Invoice Assistance**

## Setting Firms Up For Success

- **Right Firms/Right Jobs** - Identify projects that fit small businesses
- **Mentor Protégé Program** – Large firms partnering with smaller firms to help gain knowledge in the industry
- **Invoice and E-Builder Training** - Provide training upon award of contract
- **Standardized Contract Language** - modify contracts to create consistency
- **Workforce** - Using Partners (e.g. LiUNA/CareerSource) to train workforce in needed skill sets to better qualify to bid on WASD MCC projects

# Local Employment Contract Requirements

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## Community Workforce Program

- 10% of workforce be local residents within Designated Target Area

## Residents First

- 51% construction labor hours performed by MDC residents

## Employ Miami-Dade

- 21% of workforce from the Employ Miami-Dade register through Career Source South Florida (for projects over \$1M)

# Local Employment By the Numbers

Number of WASD project in last 12 months with Local Employment goals

Contract Phase	Community Workforce Program	Residents First	Employ Miami-Dade
Completed	2	14	7
In Construction	15	34	26
Awarded (Pre-Construction)	13	20	18
Upcoming (Pre-award)	3	7	7
Total Contracts	33	75	58

Total 92 contracts

**Over half of WASD contracts have local employment requirements**



# Local Employment Partners

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## Benefits

- Training for WASD projects in various skill sets
- Meet local labor mandates
- Competitive salaries and benefits
- Pool of local workers accessible allows projects to run smoothly and on-time
- Reduces violations and saves money
- Well staffed projects
- Avoid change orders due to delays and cost overruns.
- Right workforce, right skillset to complete the job

# Future CIP Initiatives

- ✓ Managing Our Water Supply
- ✓ Protecting Our Recreational Waters

- ✓ Expanding Capacity
- ✓ Reuse



**US Army Corps  
of Engineers.**



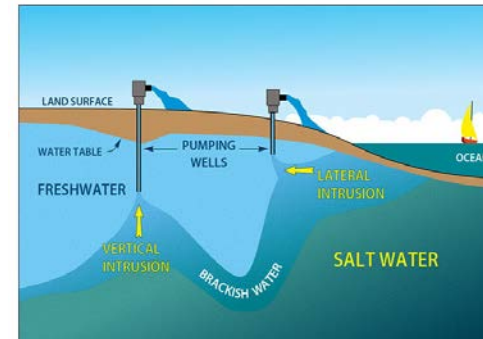
**FLORIDA  
PUBLIC  
SERVICE  
COMMISSION**

# Managing our Water Supply: Optimization Water Resources

- WASD is orienting its Capital Planning to optimize available Water Resources.
- Engaging key stakeholders to develop and coordinate strategy (RER-DERM, South Florida Water Management District, Everglades National Park, etc.)
- Seasonal Allocations (Aquifer Storage and Recovery)
- Wellfield Optimization
  - Timing and Amount of Water Draw
  - Location of Water Draw
- C-51 Water Storage

*Capital Investments for Optimizing Water Resources means cleaner water available for:*

*Salt Water  
Intrusion  
Mitigation*



*Potable Water  
and Agriculture*



*Environmental  
Restoration*



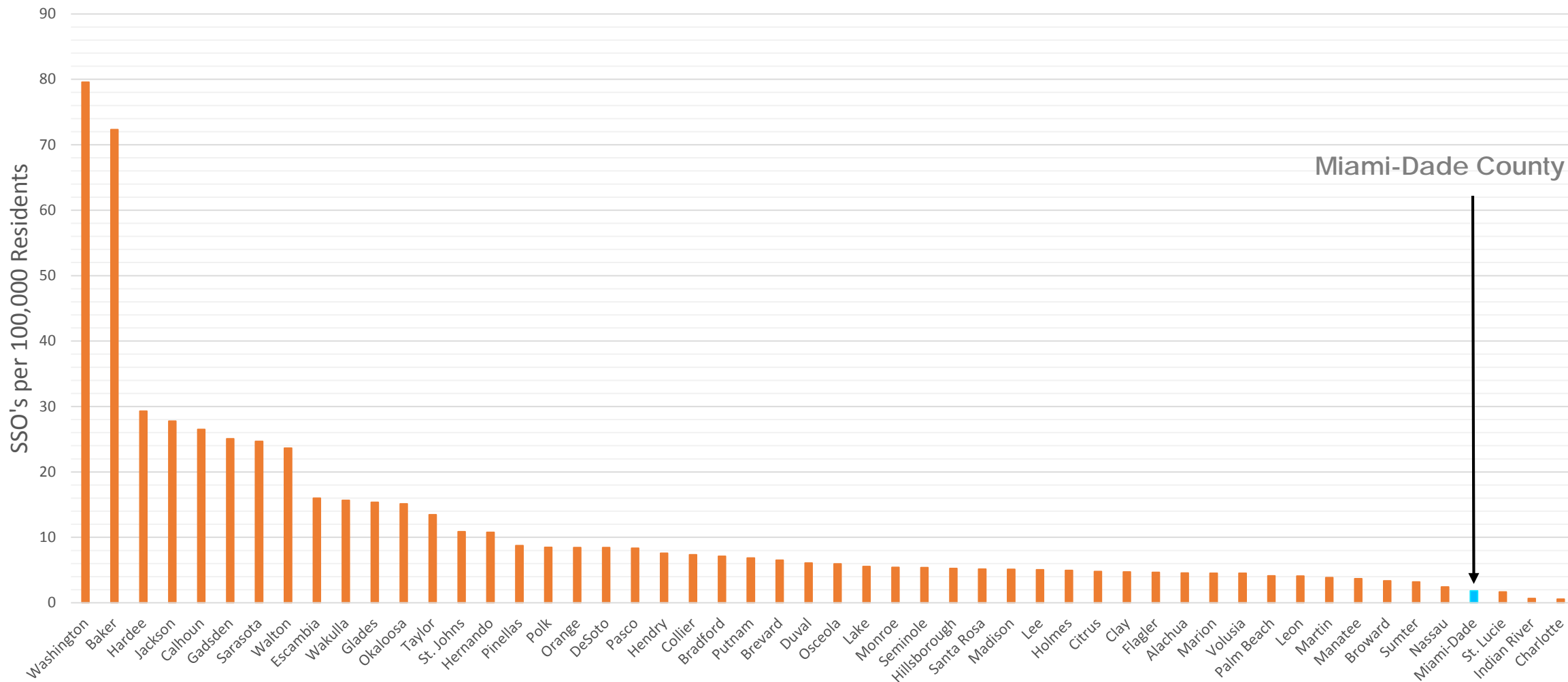
# Protecting our Recreational Waters: Septic Tanks Overview

- 120,000 Septic Tanks County-Wide
  - Of these septic tanks, approximately 5,000 and 12,000 are estimated to be outside of the Urban Development Boundary or within Volume Sewer Customer areas respectively.
- 103,000 Septic Tanks within WASD Retail Service Area
  - Of the septic tanks within WASD's service area, it is estimated that approximately 12,000 are currently abutting sanitary sewer systems with feasible connection.

Category	Number of Parcels
Estimated Total Parcels on Septic Tank in Miami Dade County	<b>120,000</b>
-Estimated Parcels on Septic Tank Outside UDB	5,000
-Estimated Number of Parcels on Septic Tanks within Volume Sewer Customer Areas	12,000
Estimated Number of Parcels on Septic Tanks within WASD Service Area	<b>103,000</b>
-Estimated Number of Parcels on Septic Tanks which currently abut Sanitary Sewer Systems	12,000
Estimated Number of Parcels on Septic Tanks without immediate access to sanitary sewer infrastructure	<b>91,000</b>



# Leaky Pipes: Wastewater-State of Florida SSO Statistics



WASD 5 Year SSO Rate < 1 gallon per resident per year (0.0025% of annual flow)