



Infiltration and Inflow (I&I) Program Update

City Commission Conference Meeting
March 5, 2024



AGENDA

1. CITYWIDE INFLOW AND INFILTRATION (I&I) REDUCTION PROGRAM OVERVIEW
2. STRATEGIC I&I REDUCTION PROGRAM & GOALS
3. EXISTING AND PROPOSED FUNDING
4. I&I WORK PLAN
5. QUESTIONS



INFILTRATION & INFLOW (I&I) OVERVIEW

Infiltration: Water, other than wastewater, that enters the sewer pipes from the ground through such means as:

- Defective pipes
- Pipe joints
- Manhole cracks
- Defects in laterals



Infiltration

Inflow: Water, other than wastewater, that enters the sewer from sources such as:

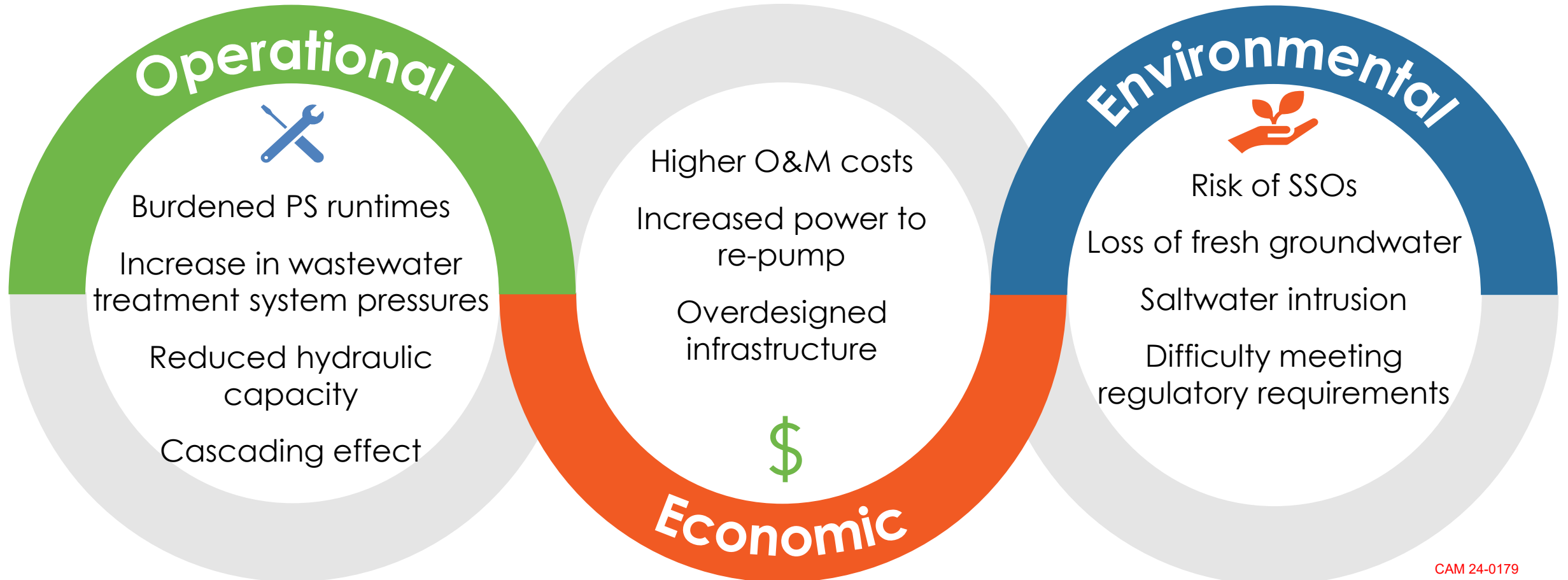
- Down Spouts
- Yard Drains
- Storm-Sewer Cross Connections
- Manhole Covers
- Drainage
- Stormwater Surface Runoff



Inflow



CHALLENGES OF EXCESSIVE I&I





CITYWIDE INFLOW & INFILTRATION (I&I) REDUCTION PROGRAM

The City of Fort Lauderdale selected **Ardurra Group Inc.** to provide Program Management & Consultant Services for the implementation of the City's "City-Wide Inflow and Infiltration Reduction Program" Contract under RFQ/Event #147





STRATEGIC I&I REDUCTION PROGRAM





I&I REDUCTION GOALS

REDUCING I&I = INCREASING THE EXISTING SYSTEM'S HYDRAULIC CAPACITY

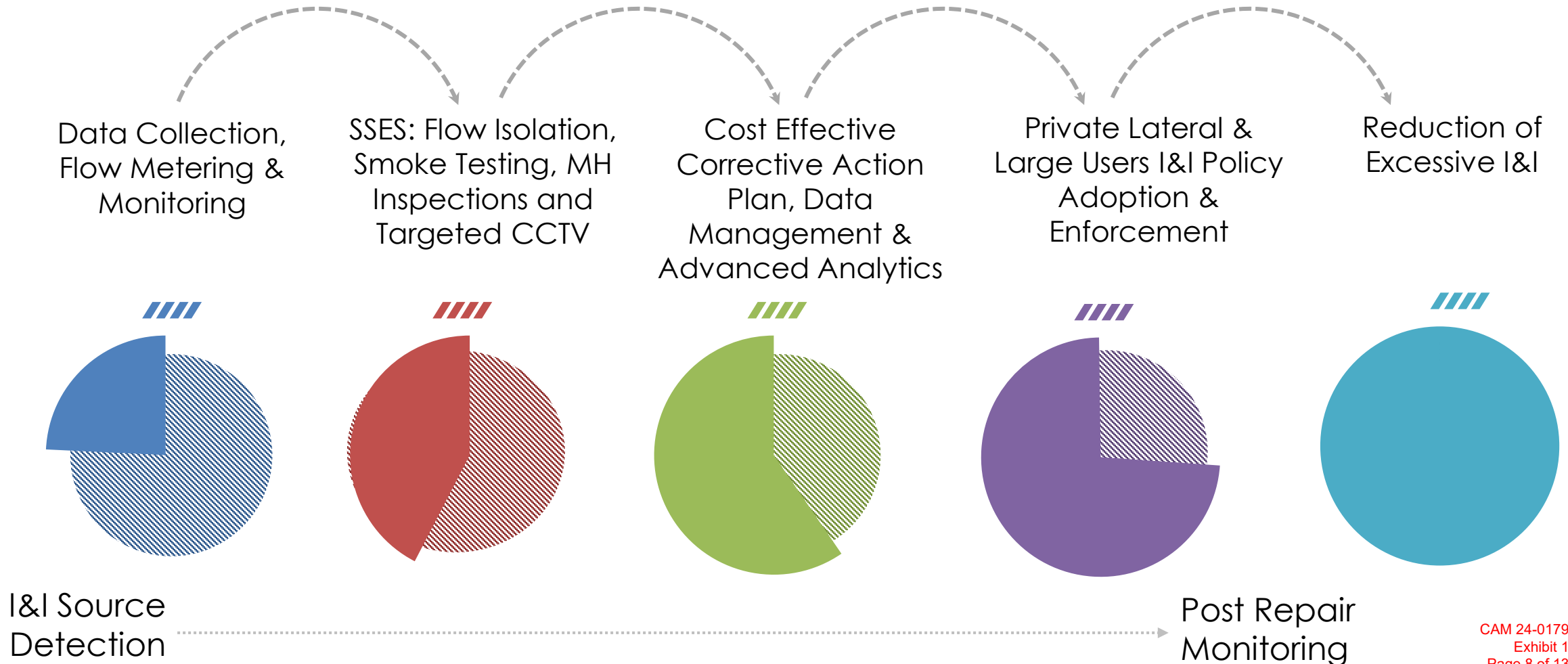
SAVINGS

- 1 Reduce Volume Treated at GTL-WWTP – Prevent Expansion Needs including new Injection Well
- 2 Reduce O&M Costs Associated to Pumping Excess Flow (Electrical Cost, Wear & Tear of Pump Stations, etc.)
- 3 Mitigate Dilution Effects & Additional Chemical Usage at GTL-WWTP
- 4 Increase Capacity without Substantial Costs resulting in Economic Growth
- 5 Avoid Regulatory Agency Penalties for Excessive Flow





I&I INVESTIGATION & REDUCTION PLAN





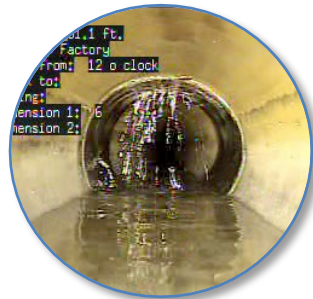
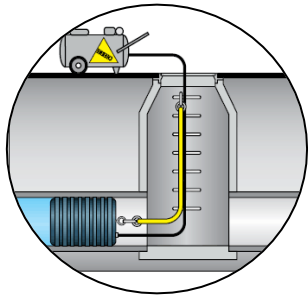
SANITARY SEWER EVALUATION SURVEY (SSES)

Wet Season (June – November)



● Night Flow Assessment

● Night Flow Isolation



Year Round

● Manhole Inspections

● CCTV Inspections



Dry Season (December – May)

● Smoke Testing

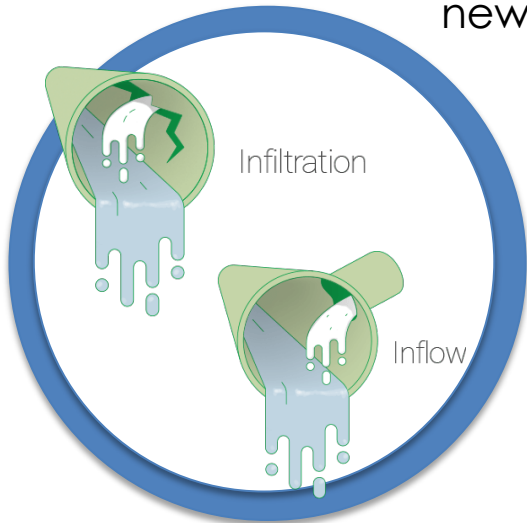




PRIORITIZATION & RANKING

REDUCING I&I = INCREASING THE EXISTING SYSTEM'S HYDRAULIC CAPACITY

Goal: Reduce Volume Treated at GTL-WWTP – Prevent Expansion Needs including new Injection Well



Critical & High I&I

**Peaking Factors
Reduce Rainfall
Derived I&I**



**Tidal I&I &
King Tides**

**Reduce Potential
Sewer Overflows
(SSOs)**





FUNDING

- Budget Amendment Approved February 6, 2024

PROJECT NUMBER	COST CENTER NAME	CHARACTER CODE/ ACCOUNT NAME	TOTAL AMOUNT
P12214	Infiltration and Inflow (I&I) Program	Capital Outlay / Construction	\$23,315,728

- Adopted Budget 2024

DESCRIPTION	CHARACTER CODE/ ACCOUNT NAME	FY 2024
Combined Total of Sewer Basin Collection System Rehabilitation Projects(I&I)	Capital Outlay / Construction	\$3,785,934

- Department's I&I plan for Proposed CIP FY2025-2029*

PROJECT NUMBER	DESCRIPTION	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
P12214	I&I Program	\$5,099,723	\$15,774,862	\$14,900,217	\$15,163,903	\$15,222,072

*Subject to approval through standard CIP approval process.



PRELIMINARY I&I WORKPLAN SUMMARY

- Develop Comprehensive Phased Plan
- Phase 1 Planning and Implementation
 - Assessing approximately 10 Critical Basins in Year 1
 - Prioritization and Ranking of deficiencies
 - Rehabilitation and Post-Rehab Monitoring of high priority deficiencies and illegal connections
- Phase 2 Planning and Implementation Process
 - Focusing on Priority 2 Basins
- Phase 3 Planning and Implementation Process
 - Focusing on Priority 3 Basins

Phased Approach:

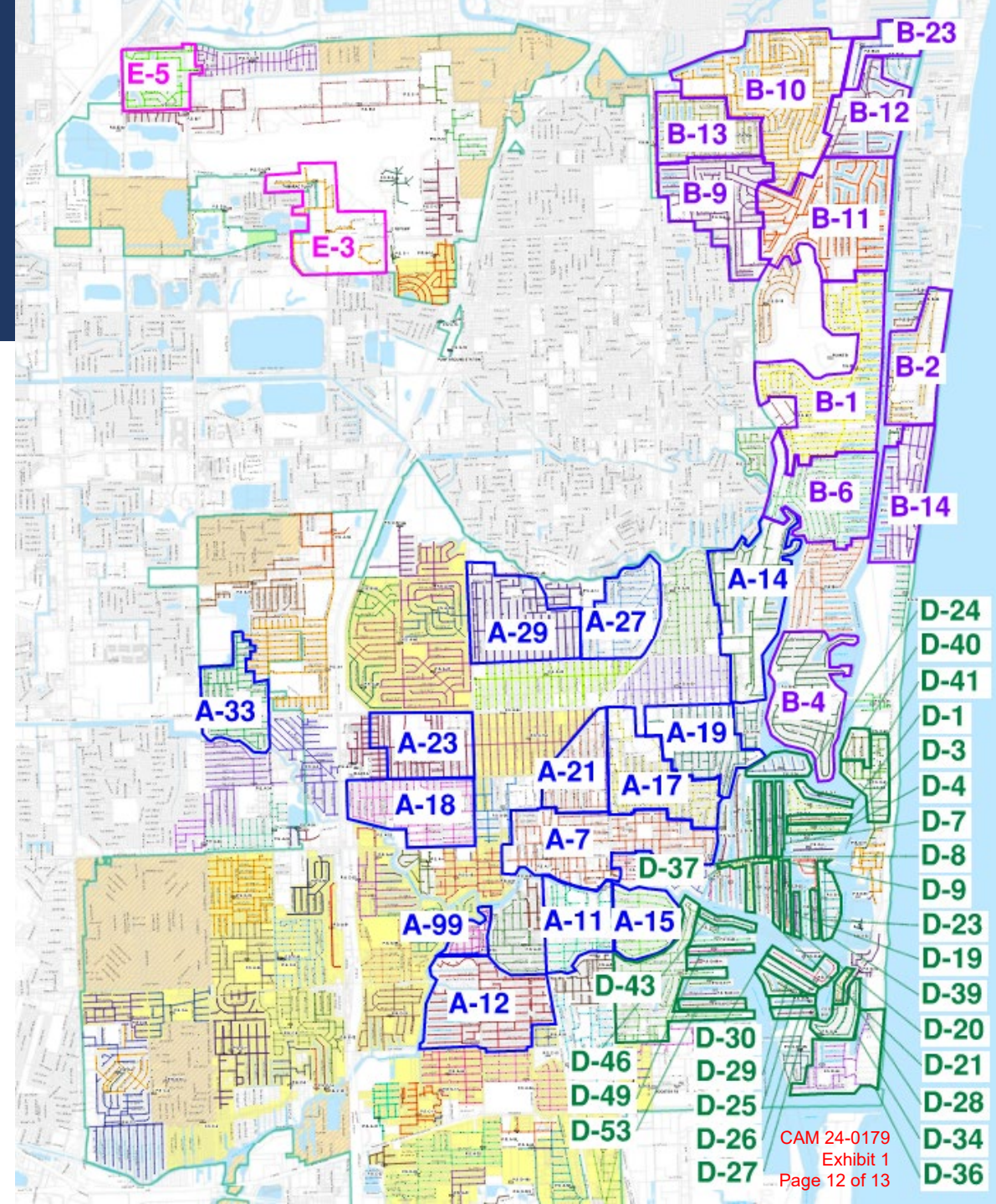
Assess Priority Basins



Prioritize and Rank



Rehab and Post Rehab Monitoring





THANK YOU!