



City Utilities Committee Work Session Water Main Break Repairs + Prevention



The Honorable Mayor Andre Dickens

July 9, 2024

AGENDA

- ❖ System Overview
- ❖ JE Boone & JP Brawley + 11th Street & W. Peachtree Main Breaks
- ❖ COA Collective Emergency Response
- ❖ Invest Atlanta Water Relief Program
- ❖ System Review + Overhaul
- ❖ Current Activities + Next Steps



SYSTEMS OVERVIEW

**LaChandra Burks, Chief Operating Officer
City of Atlanta**

Department of Watershed Management (DWM)

DWM is responsible for providing clean, safe drinking water, wastewater collection and reclamation, investing in infrastructure to improve resilience, and facilitating the growth and economic prosperity of the City of Atlanta and the region it serves.

Atlanta's Water + Sewer System

- The Chattahoochee is the source of Atlanta's drinking water.
- The City of Atlanta services more than 1.2 million people each day.
- Approximately 136.5 million gallons of wastewater are treated each day at R.M. Clayton, Utoy, and South River Reclamation Centers
- Hemphill and Chattahoochee Water Treatment Plants treat approximately 97.4 gallons of drinking water each day.
- Atlanta has approximately 2,750 miles of drinking water pipes and 1,930 miles of sewer pipes.

Municipal Option Sales Tax (MOST)

- Approved by voters on the May 21, 2024, ballot, the MOST is a 1-cent sales tax on most goods purchased and services performed within the City.
- The MOST assists with paying for Atlanta's two (2) federal Consent Decrees: Combined Sewer Overflows (CSO) Consent Decree and Sanitary Sewer Overflows (SSO) Consent Decree issued in 1998 and 1999 that require investing in **water and sewer** improvements estimated at \$4 billion.



"This one cent sales tax—which is shared by residents and visitors alike—keeps our city's water and sewer infrastructure improvements moving forward without raising the price of services, which disproportionately affects our most vulnerable communities. With your support, we are creating a safer and more sustainable infrastructure and a city built for the future." Mayor Andre Dickens

Drinking Water Infrastructure Repairs

DWM performs several types of infrastructure repairs, including damages caused by utility contractors



Cap Leak



Valve Replacement



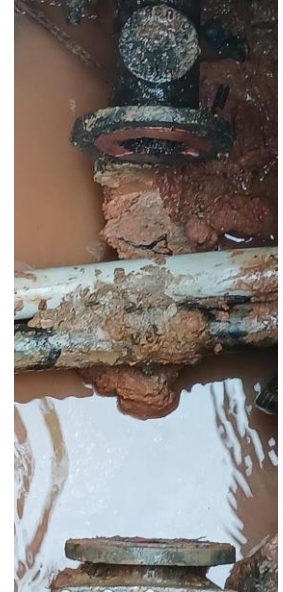
Fire Hydrant Service Repair



Damaged Sleeve



Service Line Leak



Meter and Service Line Damage

Water Main Breaks from January 2022 - Present



Annual – Water Main Breaks

• 2022	410
• 2023	374
• <u>2024</u>	<u>176</u>
Total	960

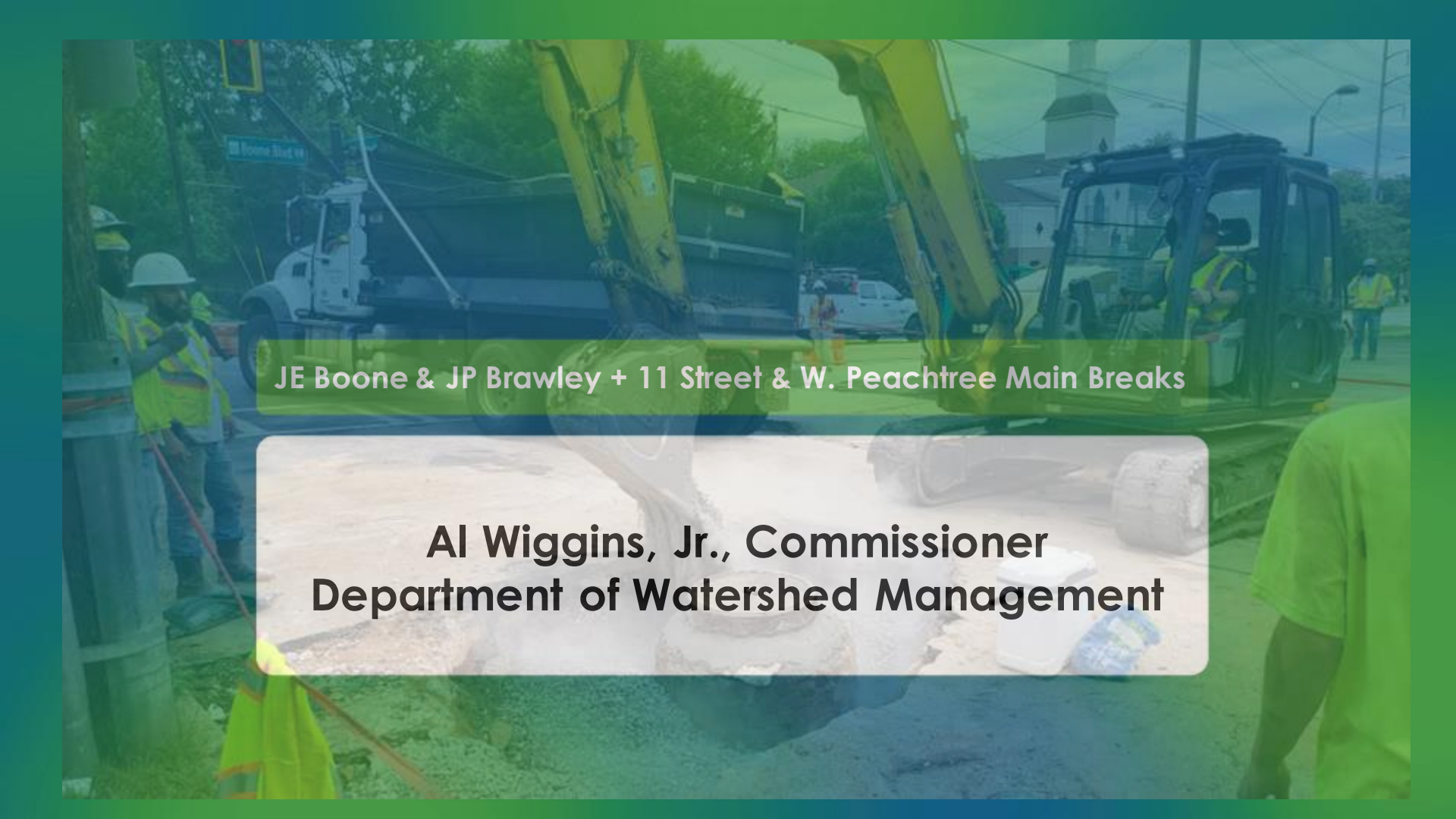
Water Main Replacement Program – Long-Term Strategy

Watermain Replacement Program	System Miles	Estimated Cost/Ft	Current Program(FY22-25)*		DWM Master Plan		Council Recommendation	
			0.17% **		0.5%**		1.33%**	
			Miles	Cost/yr.	Miles	Cost/yr.	Miles	Cost/yr.
Small Mains (2" - 12")	2,447	\$318	4.76	\$8,000,000	12.2	\$20,484,288	32.5	\$54,568,800
Large Mains (16" and greater)	318	\$1,035	-	\$0	1.6	\$8,743,680	4.2	\$22,952,160
Total	2,765		4.76	\$8,000,000	13.8	\$29,227,968	36.8	\$77,520,960
Replacement Cycle - in years			580		200		75	

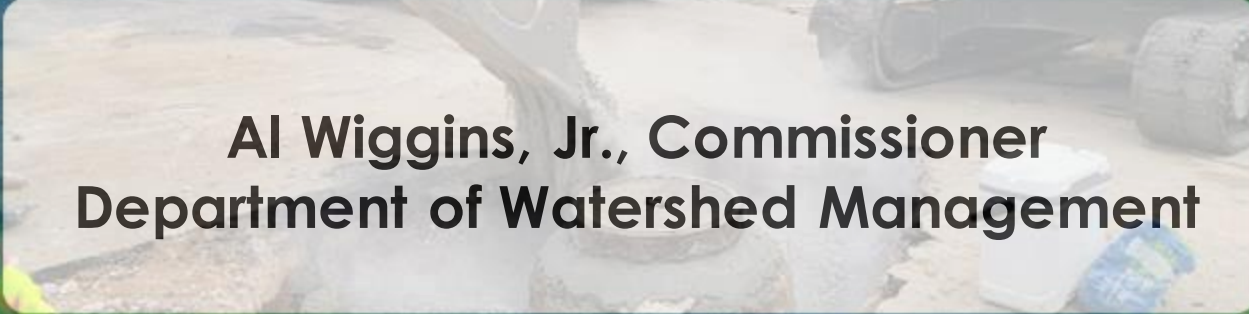
*Current program (FY22 – 25) does not include large diameter mains which will be repaired/replaced as needed through a separate contract after the condition assessments have been completed.

** Percent of total water main distribution system

- Prioritize replacement of oldest watermains 75 years old or greater and prone to repeat breaks.
- Prioritize replacement of both 2" and 6" watermains.
- Increase deployment of sensors to identify system leaks and leverage AI technologies to further prioritize leak detection and minimize water loss.
- Seek Federal funding to supplement water/sewer revenue funding to advance replacement efforts.
- Advance Small Diameter Watermain Replacement Annual Contract – Pending re-solicitation 1st Quarter 2024. Previous solicitation summer 2023 garnered no bids.

A photograph of a construction site with a yellow excavator, a white truck, and workers in safety gear. The scene is overlaid with a semi-transparent green box containing text.

JE Boone & JP Brawley + 11 Street & W. Peachtree Main Breaks

A close-up photograph of a manhole opening in a street, showing the interior of the pipe and some construction materials. This image is overlaid with a semi-transparent white box containing text.

**Al Wiggins, Jr., Commissioner
Department of Watershed Management**

Situational Overview

May 31, 2024, Joseph E. Boone Blvd and James P. Brawley Dr.

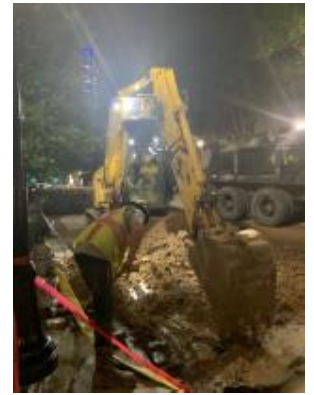
- Water main break was near the intersection
- Boil advisory issued was issued out of an abundance caution for the impacted area



Repairs completed June 1, 2024

May 31, 2024, West Peachtree St. And 11th St.

- Water main break was at the intersection
- The valve removed from the site dates back to the 1920s.
- Water disruption for five days



Repairs completed June 6, 2024

Situational Overview (con't)

Updates were disseminated to the public every two hours

- Four Press Conferences
- Three Interviews
- Two City-Wide Robocalls Regarding Outage and Water Service Disruption
- Five Atlanta City Council Briefings
- 13 Press Releases
- 117 Social Media Posts
- 10 NotifyATL Mass Notifications
- 15 Small Business Touchpoints
- 100+ Small Businesses Contacted Regarding the City of Atlanta Recovery Fund



A photograph of a group of people at a construction site. In the foreground, a man in a white shirt and glasses is looking towards the camera. Behind him, several other people are wearing hard hats and high-visibility safety vests. They appear to be in a discussion or inspection. The background shows a building with vertical siding and windows.

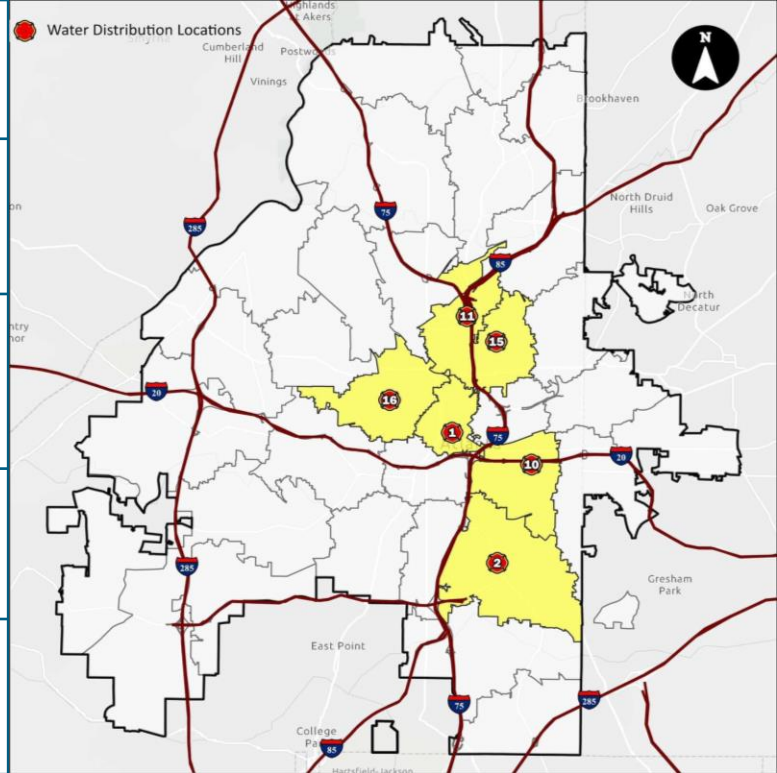
COA Collective Emergency Response

**Asher Morris, Deputy Director
Emergency Preparedness**

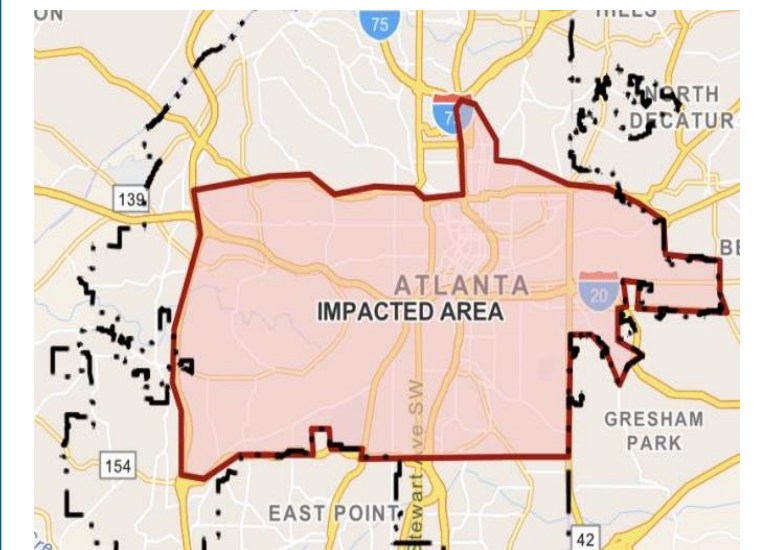
Collective Emergency Response

Response Participation	Coordination Calls
15 Departments	15
6 Offices + E-911	27-57 people/call
	Participation increased with incident evolution

Pallets Procured
262
Bottles Distributed
192 K+



Boil Water Advisory Issued on May 31, 2024

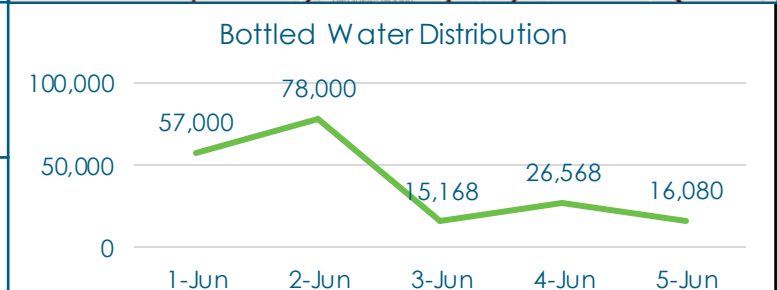


Residents Served
15,000+

Deliveries Made
90+

Fire Stations Used
6

Depts. Delivering
10



Preliminary After-Action Review

Approach: (1) Real-time Conversations, (2) Survey, (3) In-depth After-Action Meeting, (4) Compilation of Results into After-Action Report and Improvement Plan

Best Practices

- ✓ Leadership
- ✓ Collaboration, Cohesion, Coordination, Communication
- ✓ Teamwork, Unity of Effort
- ✓ Quick mobilization of on-call staff, Staff flexibility
- ✓ Good base of suppliers

Areas of Opportunities

- Communication
- Planning
- Training
- Exercising
- Inventory Management
- Storage Space

A photograph of the Atlanta skyline, featuring several prominent skyscrapers and a Ferris wheel in the foreground. The image is overlaid with a green gradient that is darker at the top and lighter at the bottom. Two semi-transparent text boxes are centered over the image.

Invest Atlanta Business Water Relief Program

**Dr. Eloisa Klementich, Chief Executive Officer
Invest Atlanta**

Program Criteria

- Priority given to industries most impacted
 - Restaurants
 - Beauty Salons/Spas
 - Daycares
- Application ranking will also consider the number of days the business was impacted.
- Businesses must be registered with the Georgia Secretary of State and have an active City of Atlanta business license

Business Impact by Industry

Date	NAICS Code	Number of Businesses	Description
May 31	722511	747	Full service restaurants
May 31	541611	497	Admin management and general management consulting
May 31	561439	363	Other business service shops (including print shops)
May 31	812112	236	Beauty salons
May 31	531210	21	Real estate agents and brokers
June 3	722511	492	Full Service Restaurants
June 3	541611	269	Admin management and general management consulting
June 3	561439	185	Other business service shops (including print shops)
June 3	531210	133	Real estate agents and brokers
June 3	812112	126	Beauty Salons

City of Atlanta Recovery Fund for Small Businesses

- Grants to eligible small businesses to support Atlanta's communities, trade, industry, and commerce.
- As this is a unique situation in which the City has declared a state of emergency, these grants are to help small businesses recover from the disruption in water service.
- Businesses located in the boil water advisory impact area are eligible to apply for a grant.

Program Structure

Criterion 1

Businesses closed/Impacted for 4 days or more receive more funding

Criterion 2

Funding based on the revenue of the business

Revenue brackets are recommended as follows:

- < \$500,000
- \$500,000 - \$1,000,000
- >\$1,000,000

Combined Structure

- Closed/Impacted 1-3 days, revenue <\$500,000 ~ \$2,000
- Closed/Impacted 1-3 days, revenue \$500,000 - \$1,000,000 ~ \$4000
- Closed/Impacted 1-3 days, revenue >\$1,000,000 ~\$5,000
- Closed/Impacted 4+ days, revenue <\$500,000 ~ \$6,000
- Closed/Impacted 4+ days, revenue \$500,000 - \$1,000,000 ~ \$8,000
- Closed/Impacted 4+days, revenue >\$1,000,000 ~ \$10,000





System Review + Overhaul

**Peter Aman, Chief Strategy Officer
City of Atlanta**

Installation Timing, Linear Feet & Miles of Pipes

Installation Series Pipe Diameter (Inches)	1900-1920	1921-1940	1941-1960	1961-1980	1981-2000	2001-Present	Unknown	Total	
								Linear Feet	Miles
6	500,936	835,000	1,829,946	262,093	47,138	108,529	454,501	4,038,144	765
8	143,212	132,198	1,432,760	2,097,029	1,180,664	1,952,071	153,439	7,091,373	1343
10	23,660	18,933	21,131	8,155	3,112	20,632	12,924	108,546	21
12	44,208	44,318	427,208	647,500	406,710	268,890	5,393	1,844,227	349
16	62,917	36,717	196,061	227,004	191,723	32,456	10,489	757,367	143
20	23,399	6,248	86,544	69,407	19,383	6,421	28,554	239,955	45
24	3,061	8,805	41,607	182,818	69,102	51,752	7,630	364,776	69
30	11,167	31,473	51,303	39,502	5,686	4,925	17,468	161,524	31
36	11,509	16,196	9,294	34,711	19,956	16,387	8,559	116,611	22
42	0	0	28,758	3,648	488	0	298	33,193	6
48	0	13,553	12,543	2,019	58,295	9,096	2,258	97,764	19
54	0	0	228	231	2,839	0	90	3,389	0.6
60	0	525	372	2,710	2,901	0	209	6,717	1.3
66	0	0	0	0	0	0	493	493	0.1
72	0	635	18	25,589	1,673	0	1,851	29,766	5.6
78	0	0	0	654	248	0	529	1,431	0.3
96	0	0	0	0	0	0	2,005	2,005	0.4
Total Linear Feet	824,069	1,144,599	4,137,774	3,603,070	2,009,917	2,471,160	706,692	14,897,282	
Total Miles	156	217	784	682	381	468	134	2,821	

Atlanta Water Advisory Committee

Members

- Shirley Franklin; Mayor, City of Atlanta (retired)
- Raheem Beyah; Dean, College of Engineering, GA Tech
- Cleve Fann; VP Strategy and Support, GA Power
- Ron Johnson; CoS to President, Georgia Tech; Major General USACE (retired)
- Katie Kirkpatrick, PE; CEO Metro Atlanta Chamber of Commerce; Water Engineer
- Limited number of select additional members as needed for expertise, etc.

Atlanta Water Advisory Committee

High-Level Scope: Provide Advice and Counsel to the City of Atlanta Leaders

1. Assessment of the current drinking water collection, treatment, and distribution system
 - Major mains assessment (16"+)—Army Corps of Engineers Project
 - Smaller pipes, City of Atlanta
 - Treatment and other systems, City of Atlanta
2. Recommendations for improvement of the drinking water system
3. Assessment of current disaster preparedness readiness and recommendations for improved planning, preparedness, and response efforts

The U.S. Army Corps of Engineers

ACE Expertise and Scope of Atlanta Project

- Provides engineering services in over 130 countries worldwide, prioritizes environmental sustainability, and diligently enhances national security through the construction and maintenance of America's **infrastructure** and military facilities
- Atlanta large main assessment (16"+) includes:
 - Assessment of and recommendations for current risk and resiliency plans
 - Pipe condition assessment work-planning, prioritization, scheduling, pipe assessment field work, analysis, condition assessment reports, recommendations for replacement, and rough replacement cost estimates

A photograph of a construction site. In the foreground, a worker wearing a high-visibility yellow vest and a white hard hat is standing next to a red pipe that is resting on a wooden pallet. The pipe is being secured with white straps. In the background, a yellow Kobelco excavator is visible, along with a white pickup truck and a white van. The site is cordoned off with yellow caution tape. A multi-story building with balconies is visible in the background.

Current Activities + Next Steps

**Al Wiggins, Jr., Commissioner
Department of Watershed Management**

Capital Improvement Program Summary

5-YR Total: \$1.4B (89 Projects)



\$504.6 M
Consent Decree/Wastewater Collections
Projects: 17



\$108.8 M
Facilities Management
Projects: 3



\$69.2 M
GDOT/ATLDOT
Project: 3



\$3.1 M
OIM (AIM, SCADA, Smart Utility, etc.)
Projects: 3



\$79.8 M
Professional Services
Projects: 7



\$1.0 M
Regulatory Compliance (Local limits, LCR, etc.)
Projects: 2



\$12.8 M
Security Surcharge
Project: 4



\$2.7 M
Safety & Security
Projects: 1



\$37.6 M
Stormwater (MOST, GI, EIB)
Projects: 13



\$74.9 M
Water Distribution & Appurtenances
Projects: 10



\$285.1 M
Water/Wastewater Facilities (inclu. Supply, Small Cap, Dams, etc.)
Projects: 26

AI Technology – Leak Detection

Benefits

- Accurate leak detection with leak sizing and location
- Repair prioritization
- Increase operational efficiency
- Fewer emergent repairs

