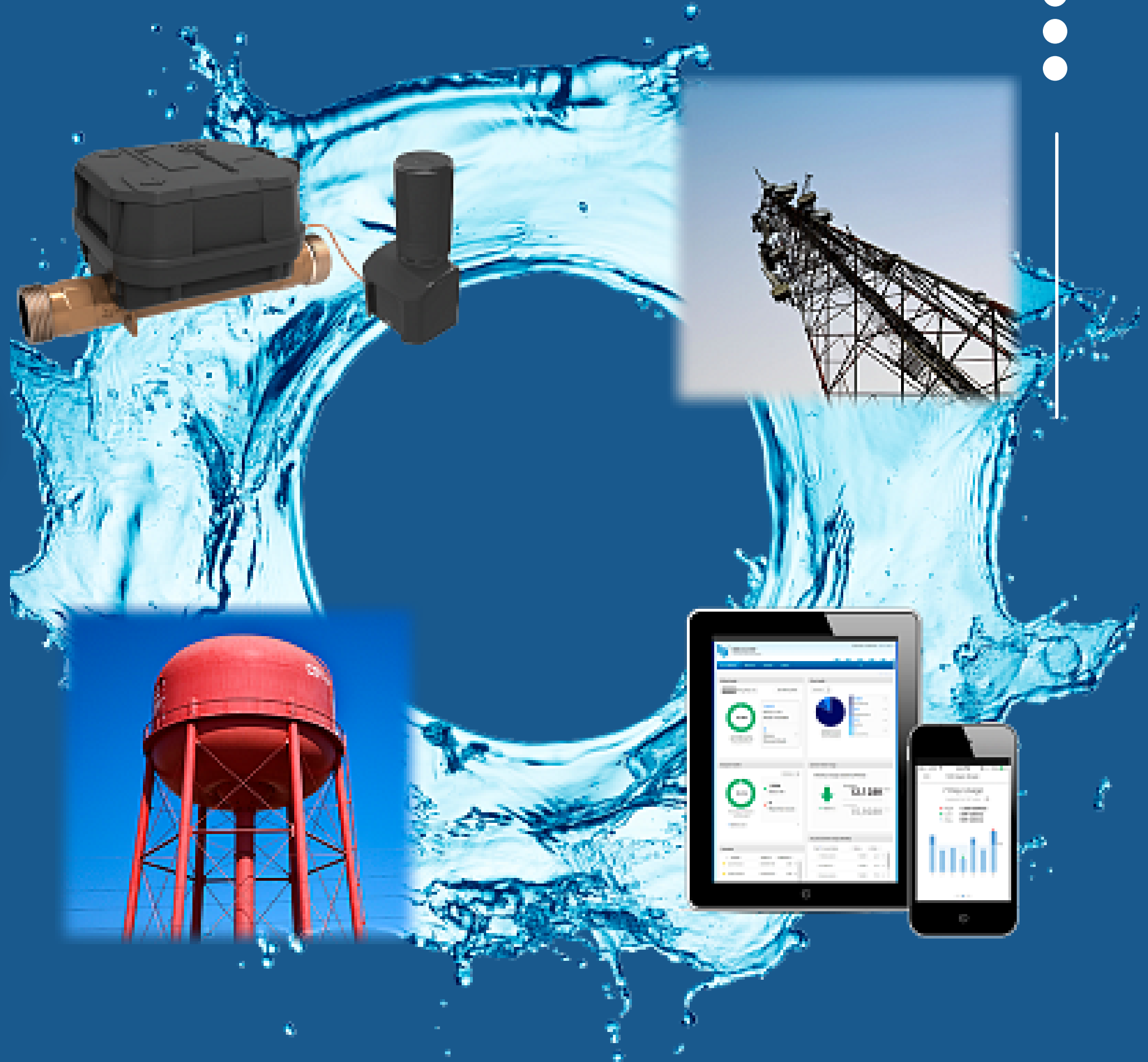


City of Hallandale Beach

# AMI Remediation Project

Update on Challenges with  
City Water Meters

June 7, 2023





# Today's Agenda

- 1 Background
- 2 Overview of Project
- 3 Status Update
- 4 Statistics on Meter Reads
- 5 Challenges
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- 7 Recommendations/Potential Costs
- 8 Summary
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# What is AMI?

Advanced metering infrastructure is an integrated system of water meters, communication networks and data management systems that enables two-way communication between meter endpoints and utilities. The system automatically transmits the data directly to the utility at predetermined intervals.

Meters are often viewed as the cash registers of a water utility. An AMI system simply provides a way to electronically gather that meter data.

# Background

## Meter Reading Problems & Impacts

On December 14, 2022, City Staff presented to City Commission, a plan to correct ongoing issues with the Utility System's AMI Meter System. A significant number of meters were not transmitting electronic reads or the electronic read is inaccurate. Additional problems were identified:

- Register Failures
- Supply Chain Issues
- System Limitations

The problems identified are having the following impacts on the City's Meter Maintenance Program, Utility Billing Process, and other dependent initiatives:

- Manual Meter Reads
- Timley Billing
- Other dependent strategic Initiatives
- Estimated Bills
- Measuring Problem
- Unaccounted for Water
- Zero Billed Consumption

Now more than ever, accurate and complete billing is necessary to ensure the success of other long-term strategic projects.

City Staff is providing this update to inform City Commission about progress and changes to our plan that may impact the FY24 Budget.

# Overview of Project

## AMI Remediation Project

- Due to the extraordinary nature of this issue, its impact to the financial stability of the utility,
- and its impact on other key initiatives, the AMI Remediation Project Plan below was approved.
- Resources in the amount of approximately \$830,000 were allocated to this effort.

**Field Audit**

**Warranty  
Replacements**

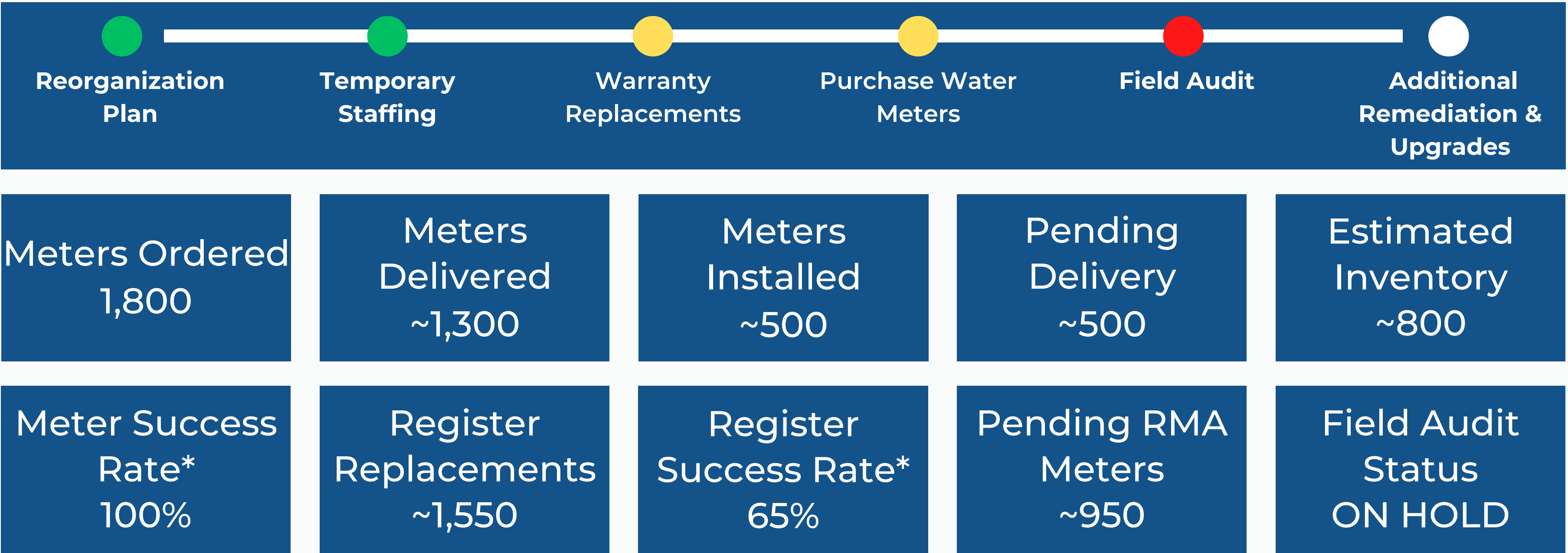
**Purchase Water  
Meters**

**Reorganization  
Plan**

**Temporary  
Staffing**

**Additional  
Remediation &  
Upgrades**

# Status Update

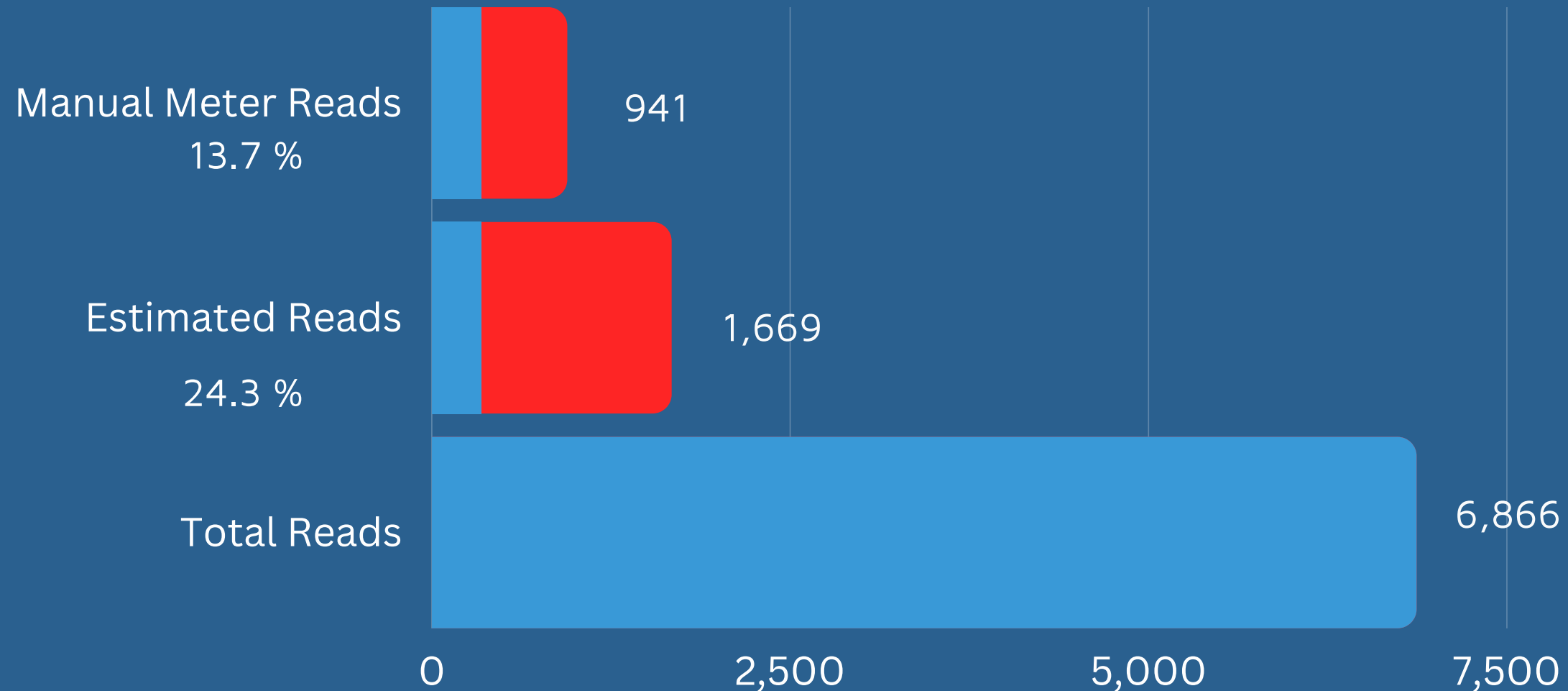


\*Based on a sample

# Statistics on Meter Reads

## September 2022

Meter Read Data for September 2022



Red area is amount of reads above 5% goal

### Goal

5%  
(343 Estimated Reads)

#### Meter Maintenance Impacts

Manual Meter Reads  
(Change YOY)

+36% ↑

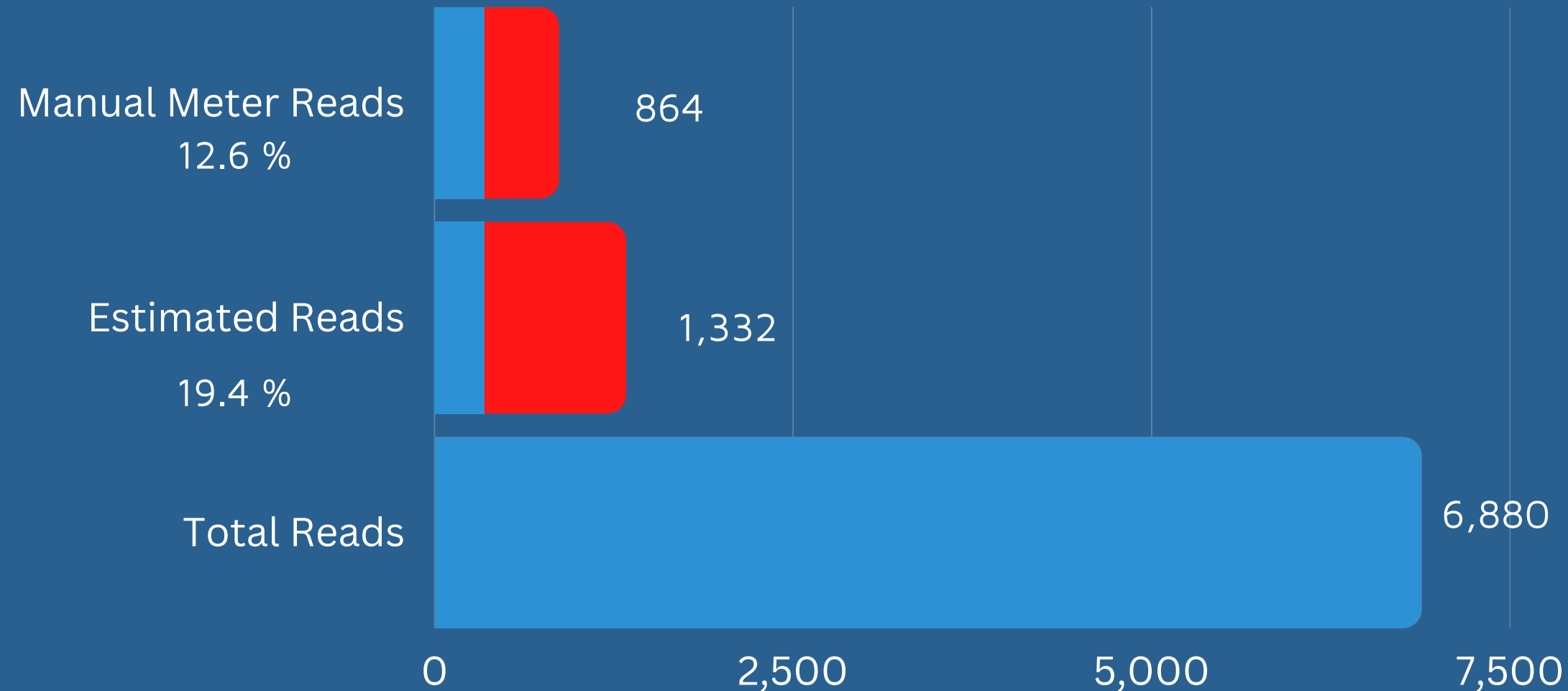
UB Work Orders

+1,200

# Statistics on Meter Reads

## May 2023

Meter Read Data for May 2023



Red area is amount of reads above 5% goal

### Goal

5%  
(344 Estimated Reads)

Meter Maintenance Impacts

Manual Meter Reads  
(Change YOY)

-7%



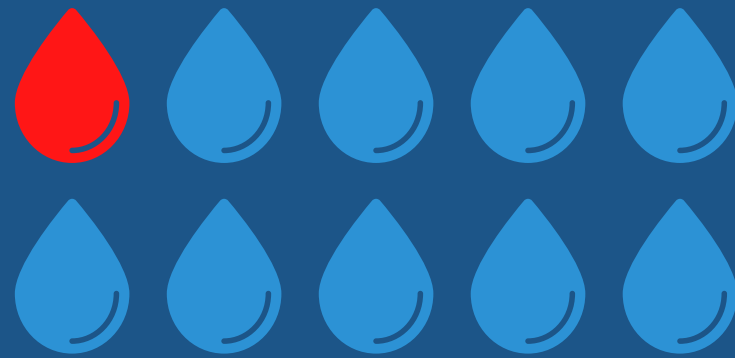
UB Work Orders

+1,500



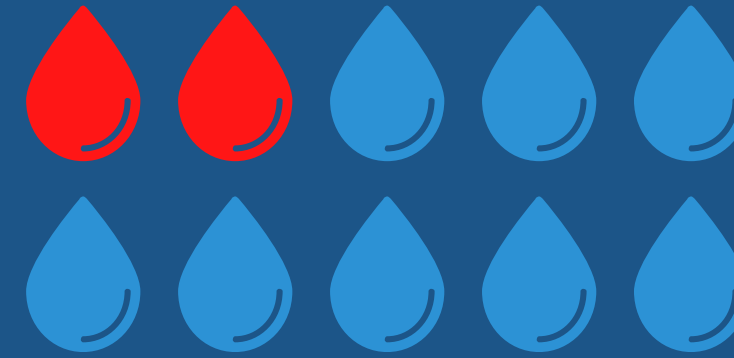
# Statistics on Meter Reads

May 2023



1 out of 10

Manual Meter Reads  
(in field)



2 out of 10

Estimated Meter Reads  
(in billing)

**Substantial improvement of Meter Reads = Less than 5% (or 0.5 out of 10) Estimated Meter Reads**

# Challenges

## Unexpected Issues:

- Significant reduction in effectiveness of register replacement program
- ~1 month delay in the register replacement program due to high meter failure rates
- 35% of register replacements are still not working, requiring at least an additional ~450 meters
- We continue to see a significant number of new register/meter failures
- Substantial increase in administrative effort required with register change outs
- Physical inspection alone, cannot identify meter issues, which was the basis of the field audit.

## Open Issues

- Sensus identifying the global issue is still pending
- Supply chain issues
- Revenue losses and resolving issue timely important to stakeholders (e.g. customers, bondholders)
- Tracking progress (differences between Sensus reports and Utility Billing Meter Issues reports)
- Meeting goal of substantial improvement by 09/30, given high failure rates of register replacements

# Current Situation

Due to the ongoing issues, City Staff met with Sensus representatives on April 26, 2023 to discuss issues and to consider a more effective plan for substantial improvement of the system by September 30, 2023. As a follow up from this meeting, Sensus submitted a proposal to support a full water meter upgrade. Here are some highlights:

- All pending and future RMA Accustream meters will be replaced with iPERL meters at no costs.
- Offered substantially discounted meter pricing if the City chooses to purchase meters out of normal RMA process.
- Upgrade includes converting all smaller meters to iPERLs and replacing all larger meters reaching the end of their warranty period.
- Sensus to provide a timeline for substantial improvement by 09/30/23
- Sensus may absorb installation costs of meter replacements.
- The City paused the system field audit in consideration of a full system upgrade with iPERL and other more reliable products given that visual inspections were no longer going to be as effective.

# Recommendations and Potential Costs

City Staff is currently in negotiations with Sensus to determine the potential cost of a complete water meter system upgrade. This is based on preliminary discussions with Sensus.

City Staff are pending follow-up discussions with Sensus on additional details about which costs, if any, would be absorbed by the City. *Any cost absorbed by the City would have an impact on the FY2023-24 Budget.*

## Expectations:

- Conversion of all Accustream meters to iPERLs & replacement of larger meters reaching the end of their warranty period
- iPERL meters to include a 20 year manufacturers warranty
- All pending RMA meters will be replaced with iPERLS at no cost
- All smaller meters installed by a 3rd party, including meters on hand to accelerate progress.
- Larger meters to be installed by City staff
- City may need to pay for installation cost for meters not covered by warranty, installation cost for meters covered by warranty is absorbed by Sensus



# Summary

- 1,500 Advance Register Replacement: Installation completed in April 2023 with a 35% meter failure rate.
- Meter Installations: Public Works will continue to install iPERL meters at ~50/week, as planned.
- Field Inspections: Strategically paused in consideration of a full system upgrade.
- Sensus: Work closely with manufacturer to identify global issue and develop a plan for substantial improvement by September 30, 2023.







**Thank You**  
**Questions?**