

Remedial Action Plan

WUP: _____

Below is a list of potential remedial action items as recommended by AWWA. For the Remedial Action Plan submittal, as required by the District, please select action items that the Utility plans to pursue along with a schedule of a goal completion date.

	Action Item	Description	District Recommended	Utility Acceptance	Goal Completion Date
Data Validity	Source Meter Accuracy	Conduct detailed field testing to assess the accuracy of the supply meters in accordance with <i>AWWA M6 Manual of Water Supply Practices</i>			
	Billed Authorized Consumption	Conducting a statistical sampling and testing of customer meters by cohort to assess overall customer meter accuracy in accordance with <i>AWWA M6</i>			
	Unbilled Authorized Consumption	Refine policies and procedures for various unbilled authorized usages including water main flushing; firefighting and training; stormwater, street, and sewer cleaning; and construction uses. Methods are available for better estimating water use for these purposes.			
	Systematic Billing and Reporting Errors	Develop written policies and procedures for activation of new billing accounts, zero read meters, and overall billing operations management. Conduct an audit of billing records as part of this process.			

Short Term Loss Control Measures (6 months to 1 year)

Unbilled Authorized Consumption	Meter all flushing uses where possible. Record estimates of flushing volumes when metering is not feasible.			
	Track hydrant flow testing volumes either by metering or estimating by written log.			
	Record volumes used for stormwater, street, and sewer cleaning.			
Apparent Losses	Meter accuracy testing of a sample population of the customer meters with either a calibrated test bench or by bucket testing per AWWA M6.			
	Accuracy testing of all large meters (3-inch and larger) with low flow data gaps to try to quantify recoverable revenue consumption.			
	Implement SOP for routine large meter accuracy testing.			
	Ensure all customer classes are captured in reports and that the reporting queries are capturing accurate data from the billing database.			
Real Losses	Overnight flow monitoring for background leakage analysis.			
	Ensure prompt response time to know leaks and main breaks.			
	Pressure management to reduce flow rate of leaks			

Long Term Loss Control Measures (1 year to 3 years)

Unbilled Authorized Consumption	Flushing for water quality reduction			
	UDFs for water quality improvement			
	Consider shifting public works use to metered and billed consumption			
Apparent Losses	Complete an initial third-party billing audit to confirm the validity of the systematic and reporting loss category			
	Annual meter survey of customer meters to directly assess the potential financial and water loss benefits of the meter replacement program			
	Conduct an account audit to verify that all customers are accounted in the billing system			
Real Loss	Deploy a leak detection program for proactive leak repair			
	Establish a work order system that tracks and reduces time to repair of identified leaks			

Utility Representative

Date