

## **Improving Drinking Water Quality in Pinellas County via Optimized Flushing**

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### **Abstract:**

The Pinellas County water distribution system is suffering from serious water quality issues that affect 500,000 residents. This problem results from decreased water consumption in recent years with the implementation of a water conservation program and the population drop in Pinellas County due to the economic downturn. Consequently, water in the distribution system is aging, and its quality is decreasing. To address this issue, fire hydrant flushing is used to maintain water quality and system integrity. However, how to schedule the flushing location, time, and volume is a problem, both in academia and industry; the schedule is currently determined in an ad-hoc manner in Pinellas County. In this project, an optimization approach will be investigated to provide a systematic tool to obtain a better flushing schedule and thus improve water quality in Pinellas County.