

How Monitoring Optimizes Cleaning Maintenance with Multiple Payoffs

Profile

The City of La Mesa, California employs a highly rigorous cleaning process as part of its preventive maintenance program. The city has 153 miles of sanitary sewer pipes and 53 miles storm-water pipes to maintain. Both the storm and the gravity pipe systems are cleaned on an annual basis. All of this work is performed by a small, highly efficient group of eight field technicians. Adding to their annual workload, 100 sites are cleaned monthly due to roots and fats oils and grease (FOG).

Demands of the Maintenance Process

The City's preventive maintenance program has led to their excellent track record of preventing sanitary sewer overflows (SSOs). However, the City recognized that regular, high frequency cleaning is more than likely promoting over-cleaning where, in addition to taxing the field staff, it also increases pipe wear, potentially causing the necessity for premature asset replacement. Further, in older parts of the City's system, over-cleaning may threaten damage to already high-risk pipes. As a result, the City looked for a new approach to reduce operational demands, alleviate premature pipe wear, and continue to prevent overflows.

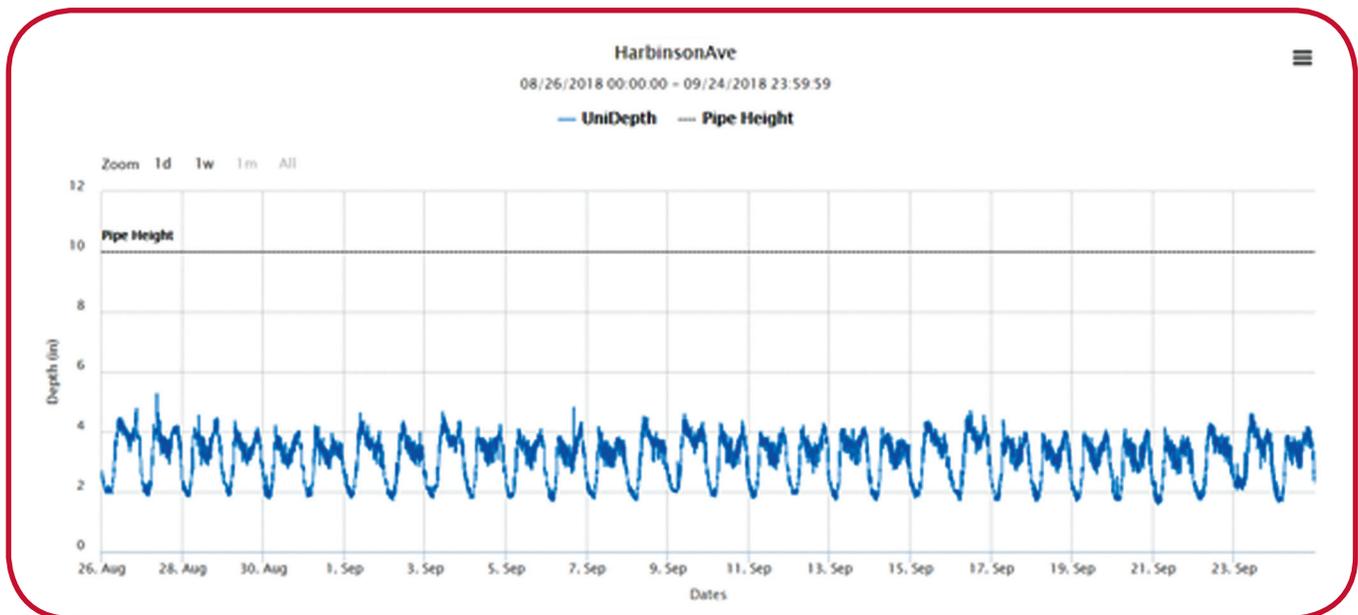
A New Vision

Partnering with ADS Environmental Services, ten sites were selected to install ECHOs, continuous remote site level monitors. Each site had been on the monthly cleaning schedule. These new generation monitors, with five configurable alarms, advanced LTE-M communications and continuous, cloud-based access to real-time data, gave the City assurance that this change in cleaning protocol would maintain their exemplary SSO record and provide the new efficiencies that they sought.



ECHO installation with tension bar makes installation fast and easy.

Results Verify Over-Cleaning and Reveal Savings Opportunities



Graph: ongoing feedback and assurance that cleaning is not necessary

The results in the first three months revealed that the City had indeed been over-cleaning. Where 10 sites would have been cleaned three times totaling 30 potential instances using the old practice, only 2 sites were cleaned using the ECHO monitors, a 93% overall reduction.

The average cost per segment cleaned is \$400. Therefore, the City would have anticipated a \$12,000 cost (10 sites x 3 cleanings x \$400) if all sites had been cleaned.

During the first three months the City incurred an \$800 cleaning cost (2 sites x 1 cleaning x \$400) gaining \$11,200 in savings. This would easily cover all costs for installation, continuous onsite service (D-Site) and still have a 1/3 of the savings left.

The Four Major Benefits

Moving forward, the City will now start to integrate monitoring into its maintenance program realizing four benefits.

- Reduction of pressure on operations to clean.
- Acquiring continuous monitoring to prevent SSOs where none existed previously.
- Reducing pipe wear and thus extending asset life.
- Acquisition of data for further analysis of collection system behaviors e.g., dry vs. wet weather.