

Sanitary Sewer Overflow (SSO) Application Brief

The Problem

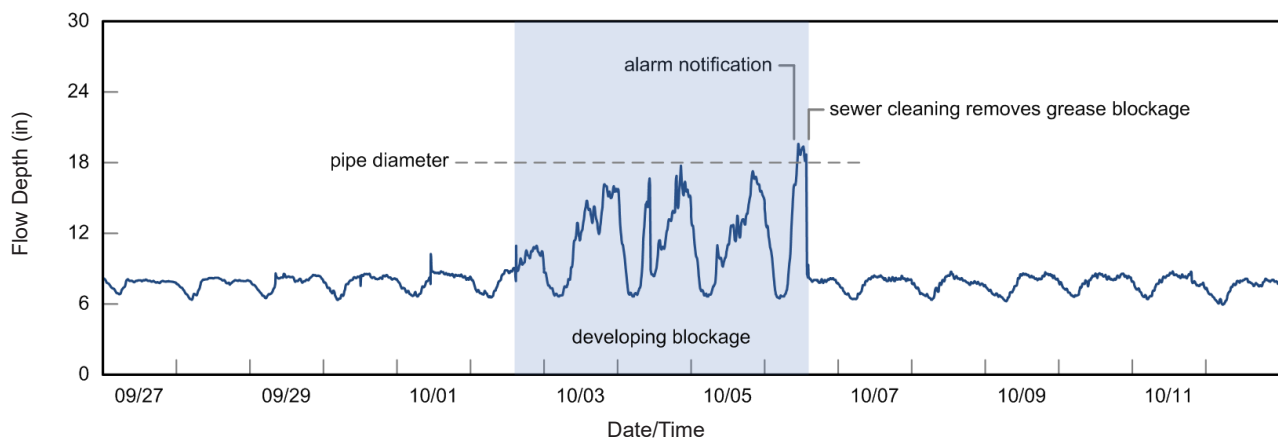
Many municipalities have sanitary sewer systems that were built 50-100 years ago. Over time many of these systems have not received adequate upgrades, maintenance, or repairs in relation to their age and have developed capacity issues as populations have increased. Combine those challenges with the use of a variety of material, design, and construction practices over the years and even well-operated systems are subject to occasional blockages or structural and mechanical failures that can lead to overflows.

“Sanitary sewer overflows (SSOs) are releases of untreated sewage into the environment. They occur when there is an overflow, spill, or release of raw or partially-treated sewage from a sanitary sewer collection system before it reaches a sewage treatment plant. Such releases regularly contaminate our nation’s waters, degrade water quality and expose humans to viruses and other pathogens that can cause serious illness. In addition, these discharges can occur as basement backups, causing property damage and further threatening public health.”

Environmental Protection Agency (EPA) Website, (<https://www3.epa.gov/region1/sso/>), October 2016



Utilities have a primary obligation to protect public health and safety through responsible wastewater collection system management. However, the EPA estimates up to 75,000 SSOs still occur annually in the United States. As a result, there is an ongoing responsibility to prevent overflows to not only protect public health and safety but also satisfy environmental regulations, achieve improved customer service, and avoid negative media exposure.



Level monitoring and alarming provides early blockage detection to prevent SSOs.

When Overflows Matter - ADS Monitors



www.adsenv.com

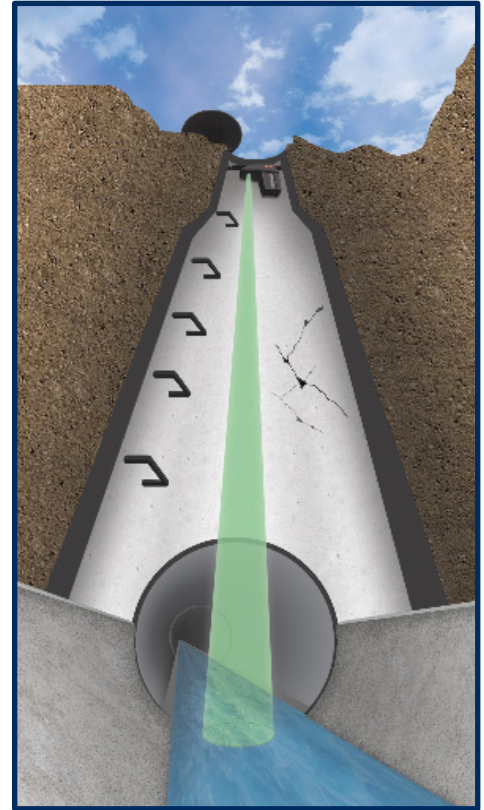
The Solution

In areas with recurring SSOs, an important first step is monitoring sewer conditions to provide early warning of emerging problems before SSOs can occur. In the case of a sewer blockage, deteriorating conditions are often first evident by subtle changes in sewer behavior. As the blockage continues to develop, surcharge conditions will ensue and, if left untended, an overflow will occur.

The ADS® ECHO™ is the only level monitoring system that provides continuous visibility of flow levels within a manhole from the invert to the rim and beyond. One of the primary uses of the ADS ECHO is the advanced notification of pending SSO conditions and ultimate prevention of SSOs. This is achieved by providing continuous monitoring of the water level and alarming once predetermined thresholds are reached.

The patent pending design uses a parabolic reflector to create a narrow-focused beam to read water levels directly in the invert. By reading into the invert, a low level alarm can be set to identify flow losses that may indicate a blockage upstream, while a variety of high level alarms can be configured to detect downstream blockages.

Since the ADS ECHO is mounted within a manhole from the surface, a span of up to 20 feet can be fully monitored up to the ultrasonic sensor with no “dead band.” Once the ultrasonic sensor is submerged, the ADS ECHO transitions to an embedded pressure sensor to measure water levels up to the manhole rim and beyond. With this industry-leading range, up to five different alarms can be set to notify when predetermined levels in the manhole are reached.



The ADS ECHO installs near the top of the manhole and measures flow depths from the bottom of the sensor housing up to 20 feet from the face of the sensor.



The ADS ECHO is a cost effective, easy-to-use monitoring system for overflow prevention.

Enhanced collection system visibility enables customers to identify issues early so corrective action can take place before an SSO occurs. The ADS ECHO level monitoring solution provides municipalities with an easy-to-deploy and inexpensive way to holistically reduce SSOs in their system. All collection systems suffer from areas that are at higher risk for overflows due to blockage or structural condition. The ADS ECHO watches these locations and alarms when personnel should be deployed to respond to emerging threats.

In areas at risk of blockages due to heavy grease, long-term installations can provide the continuous visibility needed to identify blockages occurring before they are a problem. In areas at risk of restrictions caused by failing infrastructure, the ADS ECHO can be deployed in temporary installations and then easily moved around once issues are resolved. With an enhanced awareness of what is occurring in the collection system, utilities can better schedule crews to clean sewers only when needed – saving time and money while reducing risk.

When Overflows Matter - ADS Monitors



www.adsenv.com