South Suburban Sanitary District, Oregon

Pinpointing I&I Made Easy and Cost Effective in PacNW

Case Study

Background

The Klamath Falls South Suburban Sanitary District (SSSD) includes roughly 10 square miles and serves a population of approximately 25,000 people in more than 7,500 households and businesses.

SSSD owns and maintains more than 100 miles of sewer pipe and more than 1,000 manholes. Most of the sewer mains were installed in the 1960s and 1970s and are comprised of asbestos cement (AC) pipe.

The sewer pipe size depends on how much wastewater needs to be carried. The sewer pipe varies between 6-inches and 36-inches in diameter. Most of the larger pipe is reinforced concrete pipe (RCP).

The Challenge

Because of age and usage, the sewer pipes require constant maintenance and replacement to avoid potential spills and reduce sewer back-ups. It is also critical for increasing the longevity of the capital investments.

A key focus area is Inflow and Infiltration (I&I), which occurs when groundwater and/or storm water flow into the wastewater collection system, through cracked sewer pipes, leaky manholes or undesired connections of downspouts and sump pumps.

Excessive I&I can overwhelm the system's capacity, causing overflows and unnecessarily increasing the treatment plant processing costs.

The Solution

SSSD turned to the use of SmartCover sewer monitoring for several reasons. First, the cost per unit was significantly lower than other solutions and the deployment flexibility was less invasive because SmartCover does not require any confined space entry for installation. Also, based on calibration against other flow systems, the SmartCover units proved to deliver the needed accuracy. In addition, the integrated SmartTrend software supports trend analysis and modeling to hone in on specific I&I issues.

Highlights

- Deployment flexibility enabled quick and easy re-configuration or expansion of flow monitoring in different sub-basins
- Units helped with better targeting of available resources on addressing real issues of concern regarding I&I
- Expanded monitoring and enhanced granularity and detail of flow information that they receive
- Cost per unit was significantly lower than other solutions
- Deployment flexibility was less invasive with no confined space entry for installation
- Integrated software supports trend analysis and modeling to hone in on specific I&I issues

The Results

For the relatively small staff at Klamath Falls SSSD, the SmartCover units helped with better targeting of available resources on addressing real issues of concern regarding I&I.

By leveraging SmartCover's benefits, SSSD has been able to both expand monitoring and to enhance the granularity and detail of flow information that they receive.

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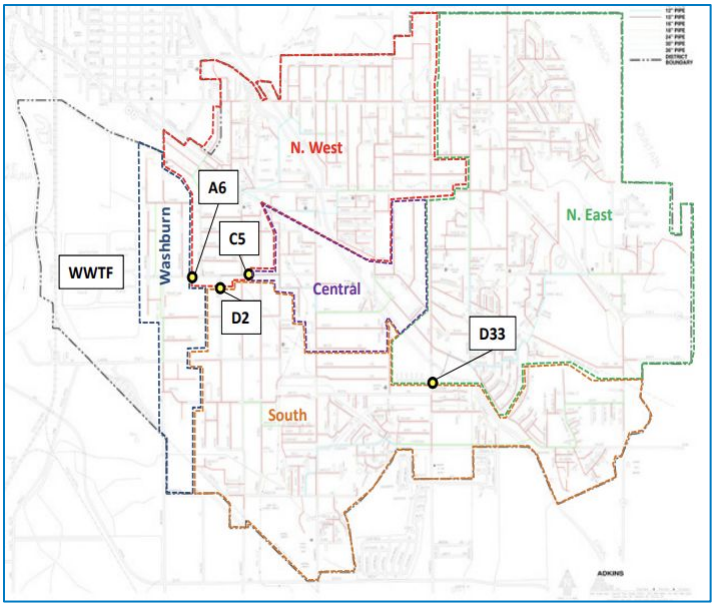

Figure 1: Before- flow monitoring configuration

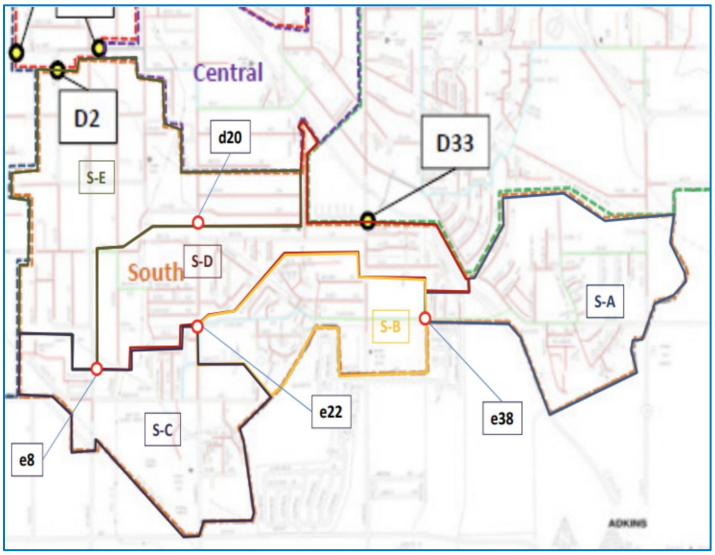

Figure 2: After- sub-basin correlation

Conclusion

"Monitoring remote locations with SmartCover is key in our efforts to identify and combat I&I," states Mike Fritschi, District Manager.

Using SmartCover allowed Klamath Falls SSSD to quickly expand and improve I&I monitoring processes at a much lower cost than the alternatives.

Deployment was quick and easy because no confined entry was required, which allowed them to get up and running fast without a lot of wasted staff time. They also get the benefit of real time monitoring and alerts in more locations.

In addition, SmartCover tech support staff even tailored special software for aggregating flow information from multiple locations, thereby improving flexibility to analyze relationships between sites and to better understand the dynamics within the sub-basin.

Looking forward, it is anticipated that ROI on the first round of SmartCover deployment will yield better information on I&I and provide a more refined capital improvement decision making process, while also controlling costs and optimizing usage of valuable staff and resources.

As Klamath Falls SSSD continues to monitor the results, the deployment flexibility of SmartCover allows a smooth transition to support reallocation of existing units and/or expansion of the overall footprint to define additional sub-basins.