

SMARTCOVER®



Photo provided by City of Kelowna

KELOWNA, BC DEPLOYS RANGE OF APPLICATIONS ON SAME HIGH TECH SYSTEM

BACKGROUND

Cradled within a glorious range of mountains, Kelowna, British Columbia is a sanctuary filled with pristine lakes, pine forests, abundant gardens, orchards and vineyards, sandy beaches and superb amenities.

Stretching from north to south for approximately 135 km (84 miles) is beautiful Okanagan Lake. The lake sustains several diverse communities, with long warm summers and short mild winters. The city of Kelowna is the largest community and is located midway through the valley. It has a rapidly growing population and is the primary transportation, business and service hub of the valley.

THE CHALLENGE

Kelowna's wastewater system collects, conveys, treats and disposes of domestic and industrial wastewater from homes and businesses. On a peak day, wastewater treatment exceeds 42 million liters (11M gallons). Wastewater is conveyed to Kelowna's Wastewater Treatment Facility (WWTF) through a network of 595 km (370 miles) of wastewater mains and 49 lift stations.

All of the wastewater operations need to be managed as efficiently as possible with relatively limited staff resources. At the same time, the solution had to accommodate a rapidly growing population and address new challenges, such as monitoring H₂S, creek levels, and optimizing cleaning efficiency.

THE SOLUTION

Guided by a forward-looking operations team, Kelowna has become a leader in the use of SmartCover technology across a variety of innovative applications.

Primary among these is deployment of H₂S monitoring sensors to more accurately manage hydrogen sulfide levels.

The distinctive, persistent rotten egg smell created by the presence of H₂S is a nuisance to employees, residents, community leaders, and businesses located near manholes and water treatment facilities. H₂S also causes corrosion to pipes, leading to shorter asset life and increased replacement costs.

THE RESULTS

Kelowna now has remote, real-time visibility into their sewer system using SmartCover's instant infrastructure.

"Real-time availability of hard data has been a major improvement for closely managing our H₂S levels."

*-- Mike Gosselin, Wastewater Operations Manager
City of Kelowna*

Real-time H₂S monitoring has resulted in significant cost savings -- allowing them to combine remote H₂S level data with remote dosing to minimize staff trips to the field.

NEW CHALLENGES OPENED UP TECHNOLOGY APPLICATIONS

REMOTE DEPLOYMENTS TO
LOCATIONS WITHOUT POWER
OR EXISTING COMMUNICATIONS
ENABLE SMARTCOVER TO
ADDRESS A RANGE OF NEEDS

Flexible technology allows
for quick adaptation
to new challenges

DEPLOYMENT SCENARIOS:

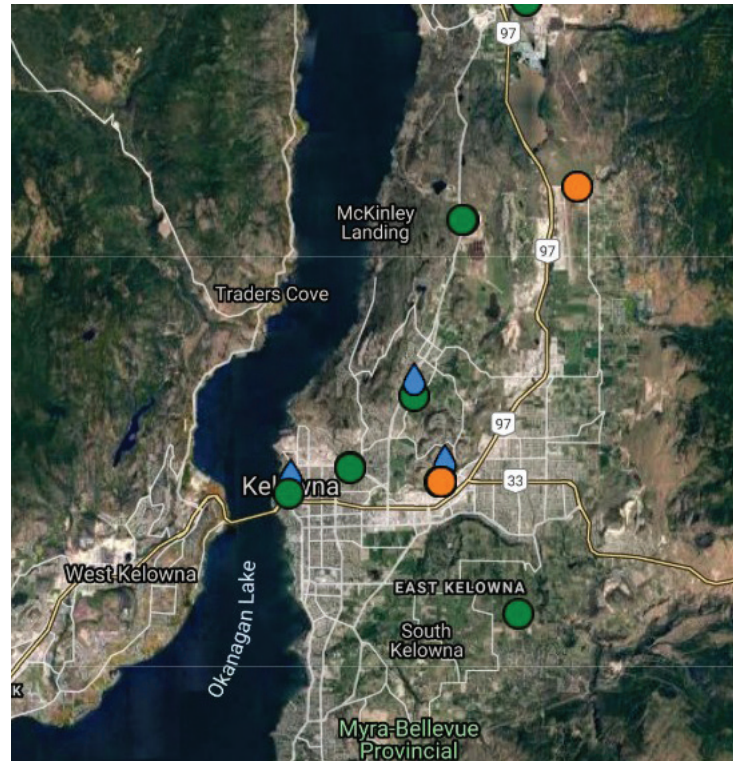
H₂S Monitoring: including a solid waste transfer facility

Wastewater Monitoring: including high frequency cleaning, I&I monitoring and flow monitoring

Surface Water Monitoring: including creek monitoring, diversion inlets/outlets, and flow monitoring over weirs

Pressure Monitoring: at pressure reducing valve (PRV) station

Rain/Temperature: data fusion for sites subject to fluctuations and potential flooding during heavy rainfall



SUMMARY:

The City of Kelowna is leveraging many of SmartCover's unique features, including the off grid aspect of satellite communications, to address a wide range of innovative and preventative wastewater applications such as overflow prevention, optimization of high frequency cleaning, and ongoing I&I studies. In addition, other departments in the city were able to take advantage of SmartCover technology for H₂S monitoring, leachate at the solid waste facility, and stream level monitoring. An added benefit for all City users has been the ability to access the same cloud-based system user dashboard to view reports that have analytics across applications. There is also the ability to retain archived data from previously-deployed sites in order to easily view comparisons with historic data for performance evaluation. The extensive use of their collection system data is what makes Kelowna a true smart city.

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