

Small town realizes big savings with prefabricated lift stations

Adding modern automation and controls improves operations and minimizes maintenance

A quiet, friendly community situated in the heart of Saskatchewan's wheat belt along the TransCanada Highway, the town of Herbert is home to nearly 900 residents. The predominately residential community serves as a service center for the surrounding agricultural area.

For years, the town relied on two aging lift stations to transport wastewater to its treatment plant, but by 2017, the lift stations were physically deteriorating and lacked modern monitoring and control capabilities.

Challenge

The town of Herbert hired Stantec Consulting to identify the best replacement solution. However, the town no longer had the design parameters for the existing stations, which originally went online sometime in the late 20th century.

"Because there was very little information to go off of, it made it very difficult for the engineer to narrow down the amount of flow into these stations," said Rebecca Gatto, technical outside sales representative, Xylem Inc.

The utility also wanted to use the same pumps in both lift stations so that they wouldn't need to carry excess inventory. But with the East and West lift stations located in different areas of the town, they experienced differing amounts of flow and pressure, which made finding a pump that fit both stations difficult.

Solution

Ultimately, Stantec proposed the town replace the existing lift stations with two Xylem Flygt pre-engineered TOP fiberglass stations equipped with Concertor pumps and MultiSmart® controllers.

Prepackaged stations like the Flygt TOP fiberglass station require less mechanical design and are cost-effective alternatives to building traditional concrete wet wells.

Other advantages of using a prepackaged fiberglass pump station include speed of installation; lightweight and easy-to-handle units; and minimal excavation time, which reduces site work and time spent on-site. Fiberglass stations also are more corrosion-resistant and wear-resistant than concrete, and require no additional interior protective coatings.



The MultiSmart controller panel is located just outside of the TOP fiberglass station for easy access.

CUSTOMER: Herbert, Canada

CHALLENGE: The town of Herbert needed to replace two outdated lift stations, but lacked design information.

XYLEM SOLUTION: The town replaced its existing lift stations with two Xylem Flygt pre-engineered TOP fiberglass stations equipped with Concertor pumps and MultiSmart controllers.

Because the amount of flow conditions could not be well defined, Stantec consulted Xylem experts, who recommended the Concertor pump, which can accommodate a wide range of pumping needs. Unlike the fixed performance curves of conventional pumps, Concertor offers an entire performance field from which to choose the right operating point. Not only does this make selection extremely simple, but operating performance can easily be changed and fine-tuned on site or remotely, as required.

“One of the major factors why we used the Concertor pumps is because we couldn’t narrow down specific duty points and the duty points that we had for both stations were different, which would have meant two different models of pumps in each station,” Gatto explained.

Installing Concertor pumps in both the East and West lift stations also means less inventory for the town of Herbert. Since the system covers a broad performance field and adapts automatically to different duty points, the town now has one back-up Concertor pump on the shelf rather than two different models taking up space.

The addition of automation and controls provides the utility a means to more proactively maintain their assets and optimize energy and performance by gaining better visibility into, and control of, critical water and wastewater operations. An effective preventative maintenance tool, the MultiSmart® controllers provide sophisticated technology that can collect data, activate alarm control system alerts from each station and prioritize issues that truly require a technician call-out. Additionally, the intelligent controller monitors and calculates power usage in real time. This enables the utility’s operators to identify and control any inefficiencies and reduce overall power consumption in the facility.

Results

Since installation was completed in 2019, the lift stations have experienced no major issues and the utility’s operators report they are more than satisfied with the results. The equipment has worked without incident and the MultiSmart controllers provide excellent communication, which the utility previously lacked.

Because the utility’s operators have had little experience operating a sophisticated station like the new East and West lift stations, Xylem also receives notifications of alarms. Having an open line communication enables Xylem experts to help the town of Herbert’s utility operators understand everything that’s going on at their station.

“That’s been one of the best outcomes,” said Gatto. “The fact that we’re able to help them with any issues and that we both have the capability to view what’s going on at the station online, instead of traveling to the stations.”

With the town of Herbert located four hours from the Xylem office in Saskatchewan, Canada, Gatto said remote viewing has been a saving grace for both parties.



The utility added MultiSmart controllers so staff can more proactively maintain the facility’s assets and optimize energy and performance.



A ground level view of the TOP fiberglass station, which is equipped with Concertor pumps.

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