

Flygt Horizontal Dry Pit Submersible N-impeller Pumps in Manitoba, Canada

Lift station upgraded after rainstorm causes flood and electrical short

Scope

Ross Street Station, the main lift station located in the town of Swan River in Manitoba, Canada, was constructed in 1975, and by 2012 parts for its original pumps could no longer be easily and readily obtained. Pump components that failed had to be manufactured, which was costly and made for long lead times. During the 2012 Manitoba Summer Games, Swan River received a monumental rainstorm that dumped over 76 mm (~3 in) of water on the area. The town soon discovered that a motor on the dry side of Ross Street Station had shorted out due to excessive moisture.

Swan River quickly declared a state of emergency and discharged wastewater directly into the river to prevent sewage backup into area homes.

With the quick response of the town's public utilities, they were able to get the issue under control and start working on solving the electrical issues in the dry pit.

Solution

After speaking with their consulting engineer, Associated Engineering, and Xylem, the town selected three Xylem Flygt horizontal dry pit, flood-proof NZ-3171 submersible pumps to replace the old equipment. These medium-capacity 600-volt, 30-horsepower pumps include self-cleaning N-impellers.

A wide range of spare parts is now kept on site for speedy replacement if necessary. In addition, other spares can be quickly ordered from Flygt's North America central distribution center.



Parts for the original pumps at Ross Street Station were not readily available, causing long lead times for repairs.

END USER: Town of Swan River, MB, Canada
CLIENT: Ross Street Station
ORDER DATE: 2012
COMPLETION: 2015

The old pumps created a space issue because they were much larger than the NZ-3171 pumps, making service in tight quarters a dangerous situation. This is no longer the case with the smaller and sleeker Flygt dry pit, flood-proof pumps, which can now be easily and safely maintained.

Original voltage to the pump station was 600 volts. However, since the older pumps had 230-volt, three-phase motors, a transformer was required to set the voltage down. Replacement with the Flygt NZ-3171 pumps enabled the town to eliminate the need for a transformer.

During installation of new piping and pumps at Ross Street Station, a bypass system using an external engine driven pump moved wastewater from the approach manhole to the force main. The newly upgraded Flygt diesel backup bypass system now allows the station to be shut down without putting the town at risk of wastewater backup and provides the town with 100 percent redundancy. Also, in the future the station can be bypassed during maintenance, ensuring worker safety.

Result

Installation of the three Flygt horizontally mounted dry pit, flood-proof NZ-3171 submersible clog-free pumps immediately offered a 25 percent boost in efficiency over their venerable predecessors.

Now with completely upgraded mechanical and electrical systems along with the new Flygt pumps, capacity of Ross Street Station is 85 L/s running a single pump, 106 L/s running two pumps in parallel, and 113 L/s with three pumps running.



Flygt NZ-3171 pumps installed at Ross Street Station

Xylem, Inc.
14125 South Bridge Circle
Charlotte, NC 28273
Tel 704.409.9700
Fax 704.295.9080
855-XYL-H201 (855-995-4261)
www.xylem.com

Flygt is a trademark of Xylem Inc. or one of its subsidiaries.
© 2015 Xylem, Inc. JUNE 2015



www.youtube.com/flygtus