

Flygt Technology in Dearborn County, IN

TOPS Lift Stations Deliver Fast Fix for Private Sewer Utility

Hidden Lake is a lakeside residential development outside of Lawrenceville, Indiana in Dearborn County. Valley Rural Utilities (VRU) acquired the Hidden Lake service area in 1995 from the Homeowners' Association that had assumed control of the sewage system from the subdivision's developer. The private utility serves a total of 1,945 customers in the service area and anticipates projected growth will add another 1,000 connections.

Project Background

Floyd Ogden, with VRU says recurring pump station failures and I & I have been among issues at the top of the list of deficiencies in the wastewater collection system serving the development. He attributes the problems to the system's age and deterioration, clog-prone pumps, undersized original construction and capacity shortfalls caused by higher density development than the collection system's original design for 200 home sites.

"We experienced overflows and up to six pump outages a month that cost us at least \$250 per incident. The failures drew customer complaints and were sapping our budget."

Ogden continued, "We qualified for a \$13 million federal loan through the USDA Rural Development that underwrites an extensive multi-phase improvement program. Among the numerous problems we identified in a preliminary engineering study were that eight of our 12 duplex lift stations had reached the end of their life expectancy. Their replacement became a high priority."



END USER: Valley Rural Utilities
CLIENT: Valley Rural Utilities
ORDER DATE: TBD
COMPLETION: TBD

Replacing the 110-gpm to 660-gpm pump stations was complicated by their locations. Several of them were located 100 feet off the road with steep topography. Unavoidable intrusions into customer home sites would be a necessity. Completing the replacements as fast as possible while the existing stations remained active further shaped the project management plan.

Solution

The existing concrete flat bottom wet wells were replaced by TOPs Pre-engineered pump stations. The innovative self cleaning hopper shaped bottom helps transport solids and debris to the inlet of the pumps. The results are greater removal of settled and floating solids from the station eliminating the need for vector truck call outs to clean the station. The Flygt TOPs station was developed in parallel with Flygt non-clog pumps to work seamlessly together.

The N-Pump's clog resistance is the result of an impeller designed to move axially upwards when encountering most bulky rags, cleaning and personal hygiene wipes or other debris, so it passes through smoothly.

The system presented a remarkably simple and fast installation for the tandem replacements that were assuming the pumping mission. The complete package included control panels and a Flygt AquaView SCADA management software system.

Following success with the two-part lift station and control panel at one installation, the utility opted to apply the same units at the remaining stations.

Result

The added volume of the TOPs prefabricated wetwells provided the capacity increase to gain the needed efficiency and handle the past growth in connections. Furthermore, the more clog-resistant Adaptive N-pumps are acclaimed for eliminating built up material on their impellers that induce drag and compromise energy efficiency.

"Our first station entered service two years ago and has used less than half the electricity of the old pumps," Ogden said. "Flygt technology was our choice because of past success, ease of operation and cost savings realized with the stations in operation."



Preparing pump for installation.



Looking down on the spreader.



Reviewing installation.

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