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CASE STUDY

Hampton Roads Sanitation District | Suffolk, Virginia

Doors Open Way to Innovative Wastewater Project in Virginia

A community in Virginia recently celebrated the opening of an innovative project that could solve a multitude of water-related issues that are affecting the quality of life of local residents.

A central part of the system are specialty access doors that stand before pumps and vaults that serve as the engine behind the complex system. The doors are an integral part toward protecting water and other matter from infiltrating the system, which could throw the entire project into disarray.

The innovative water treatment program called SWIFT (Sustainable Water Initiative for Tomorrow) is a critical first step designed to ensure a sustainable source of groundwater while addressing environmental challenges. The Hampton Roads Sanitation District (HRSD) is managing the project, which will take highly treated water and put it through additional rounds of advanced water treatment to meet drinking water quality standards. The SWIFT Water will then be added to the Potomac Aquifer, which will slow or even reverse the shrinking of land due to withdrawal, help restore the health of the Chesapeake Bay and give the region a sustainable source of groundwater.

"This is a great project, because 90 percent of what we currently discharge will no longer go into the Chesapeake Bay," says Ted Henifin, General Manager of HRSD. "It will be treated, purified and put into the ground where it can provide other benefits."

Pumps are used at several parts in an eight-step process that kills 99 percent of disease-causing pathogens such as bacteria and viruses. The water is treated to closely match the geochemistry of the water already in the aquifer and pumped to a recharge well, where well conditions and surrounding aquifer water quality can be monitored when it is released back into the environment.

Marcor Associates, the BILCO sales representative in Virginia, worked with the Sanitation District to ensure that the proper access products were utilized for this project. BILCO Type JD-AL floor access doors were selected for the two underground pump stations to protect the vaults and provide reliable access to the underground pumps. The doors feature a channel frame design to prevent water and other liquids from entering the access openings and engineered



Photo: Scott Lau, Marcor Associates



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lift assistance for easy, one-hand operation. The corrosion resistant aluminum doors were also supplied with Type 316 stainless steel hardware to stand up to this harsh water processing environment. BILCO LadderUP® ladder safety posts were also used throughout the system to ensure worker safety.

The SWIFT project could ultimately be a template for many areas of the country to follow to fight similar issues with wastewater and land subsidence. "SWIFT requires some geological features to be fully successful that are location specific — a confined thirsty aquifer being the primary requirement," Henifin says. "But large scale success with a carbon based process — eliminating the need to deal with a waste brine stream — opens the possibility of recycling wastewater throughout the country."



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