

Lift Station Upgrades at Pennsylvania's Cumberland-Franklin Joint Municipal Authority Streamline Wastewater System Performance



The Pump People®

With 11 lift stations being upgraded with new pumps and controls supported by Envirep and Gorman-Rupp Pumps, Cumberland-Franklin Joint Municipal Authority is positioned to better manage its 120 miles of wastewater pipeline, and deliver more reliable service for its 5,000 customers.

Located in Shippensburg, Pennsylvania, roughly 30 miles southwest of Harrisburg, the Cumberland-Franklin Joint Municipal Authority (CFJMA) provides sewer service in two districts within Franklin and Cumberland Counties. CFJMA is a satellite system, piping sewage to the Shippensburg wastewater treatment plant which is owned and operated separately by the Shippensburg Borough.

CFJMA was formed in 1972, the same year 12 lift stations were installed in Franklin and Cumberland Counties to manage the flow of wastewater. Thirty years ago pump upgrades were done on some of the stations, and ten years ago new controls were installed in five of the biggest lift stations.



The pump-over-motor design of these pumps allows for easier maintenance that technicians can perform upright.

Need for Upgrade to Lift Stations

"Our lift stations have a dry well and a wet well underground," said Dwain Koser, Manager at CFJMA. "Many of the pumps have been in use for 50 years and were starting to wear their life out. It was difficult to get



Roger Stauffer of Envirep (left), Dwain Koser (center) from the CFJMA and Dillon Bennett (Inside Sales Engineer, Envirep) with the first of the 11 scheduled lift station installations.

new parts, everything was obsolete. The pumps were functional, but spraying, my dry wells were always wet.”

“Six lift stations were still using the analog controls that were installed 50 years ago,” continued Koser. “They were corroded and starting to fail. Our consulting engineer suggested I talk with someone at Envirep to assess our pump and controls issues, this was in 2023.”

Envirep is a manufacturer’s representative serving the municipal and industrial water and wastewater market in Eastern and Central Pennsylvania, Southern New Jersey, Maryland, Delaware, District of Columbia, Northern Virginia, and part of West Virginia. The firm represents manufacturers of equipment used to pump, store, and treat potable water, wastewater, stormwater, landfill leachate, and biosolids.

“We met with Dwain Koser and inspected the municipality’s lift stations,” said Roger Stauffer, Plant Sales Manager at Envirep. “CFJMA had three different brands of dry-pit submersible pumps installed in its lift stations that were quite old. They were hard to maintain because they could not get parts for them any longer.”

Visiting Gorman-Rupp Pumps’ Manufacturing Facility

“Some municipalities want a pump that is out of the wastewater so they can more easily maintain it and

not have issues with having to go into a wet well,” added Stauffer. “Gorman-Rupp is our main pump line. The predominant type of pump we handle for them are suction lift pumps, which are not submersible. We recommended this would be a good pump selection for the CFJMA lift stations, and suggested the CFJMA team tour the Gorman-Rupp Pumps manufacturing facility in Ohio.”

For more than 90 years Gorman-Rupp has manufactured pumps for the municipal, sewage, industrial, mining, construction, petroleum, OEM, government and agricultural markets. The company’s extensive line of pump products include self-priming centrifugal, standard centrifugal, submersible, rotary gear, and priming-assisted, as well as a complete line of packaged lift stations and pressure booster/water reuse stations that include pumps, motors, controls, piping, accessories and enclosures.

Specifying Gorman-Rupp Pumps for CFJMA’s Lift Stations

“I was very impressed with Gorman-Rupp’s facility,” added Koser. “What impressed me the most was that their pumps are still pretty much the original design from fifty years ago, so I could always get parts within days. I liked the design of their pumps, how they ran their business, and the availability of service through Envirep.

“I then reached out to people that had Gorman-Rupp pumps in their plants, and they did not say a bad thing about them,” explained Koser. “That was the deciding factor for me to turn everything over to Gorman-Rupp. This was in 2023, we got the pump purchasing going in the beginning of 2024.”

Controls Upgrade

Five lift stations had upgrades to their controls earlier in 2015, these controls will remain in place. After visiting the Gorman-Rupp Pumps’ manufacturing facility, CFJMA made the decision to have Gorman-Rupp upgrade the remaining seven lift stations’ controls packages.

“Each of these seven lift stations were approved for a Gorman-Rupp air bubbler control panel,” said Stauffer. “The existing variable frequency drives (VFDs) in these lift stations were retained and connected into the new controls panels.”



Engineering

Envirep assumed responsibility for the entire upgrade of the lift stations as general contractor, from engineering through installation and post-installation training of the CFJMA team.

“This included preparing completely new site CAD drawings and engineering for each station – including analysis and calculations, and hydraulic testing to determine flow and head – as the original engineering plans were no longer available,” added Stauffer. Much of the CAD operation and hydraulic calculations were performed by Dillon Bennett, the Envirep Inside Sales Engineer dedicated to the project. “From Envirep’s engineering, pump horsepower and speed, and equipment layout in the dry pits was determined for each station.”

Pumps

The lift stations are each handling between 300 – 500 GPM. The existing submersible pumps are being replaced with VS Series® 2-stage solids-handling, self-priming centrifugal pumps from Gorman-Rupp, which are being installed into the lift station dry pits. The superior solids handling and increased pressure capabilities of these pumps make them ideally suited for CFJMA’s sewage applications.

One of the lift stations required a unique hydraulic application, parallel/series pumping, to compensate for a particularly long three-to-four mile force main with subsequent reduction in pressure. This resulting in reduced line flow and tuberculation.

The series pumping arrangement in this lift station provides additional force main pressure. The two pumps are also VS Series 2-stage solids-handling, self-priming centrifugal pumps from Gorman-Rupp. The first pump is designed to pump directly into the second pump for much greater pressure and scouring velocity.

Upgrades in Progress

The lift station upgrades were initiated in 2024, and as of early 2025 three of the 11 lift stations have been installed, with two more scheduled for completion in summer of 2025. The additional seven lift stations are scheduled for completion by 2030.

“We have not had a single issue or problem with the



The staged configuration of these pumps allows for increased pressure and flow compared to traditional suction lift pumps.

three lift stations currently installed,” said Koser. “We have had nothing but good experiences with Envirep and Gorman-Rupp Pumps.”

About Cumberland-Franklin Joint Municipal Authority

Cumberland-Franklin Joint Municipal Authority (CFJMA), formed in 1972, provides sewer service in two districts within Franklin and Cumberland Counties, Pennsylvania. CFJMA owns and manages almost 5,000 service connections, with approximately 120 miles of pipeline and 11 pumping stations. The sewage is piped to the Shippensburg wastewater treatment plant which is owned and operated by the Shippensburg Borough.

For more information, contact Dwain Koser, Manager, CFJMA; 204 W. King Street, Shippensburg, PA 17257; Phone 717-532-6949; email cfjma@cfjma.com; www.cfjma.com.

About Envirep/TLC Environmental

Envirep/TLC Environmental (Envirep) is a manufacturer’s representative serving the municipal and industrial water and wastewater market in Eastern and Central Pennsylvania, Southern New Jersey, Maryland, Delaware, District of Columbia, Northern Virginia, and part of West Virginia.



Envirep represents manufacturers of equipment used to pump, store, and treat potable water, wastewater, stormwater, landfill leachate, and biosolids. As a manufacturers rep, Envirep works with consulting engineers, municipalities, owners, and industries to provide budget pricing, pumping and process solutions, and assistance with integrating equipment into their projects.

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About Gorman-Rupp Pumps

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mining, construction, petroleum, OEM, government and agriculture markets.

The company's extensive line of pump products includes self-priming centrifugal pumps, standard centrifugal pumps, submersible pumps, rotary gear pumps, diaphragm pumps, engine-driven pumps and priming-assisted pumps. In addition, Gorman-Rupp manufactures a complete line of state-of-the-art packaged lift stations and booster stations that include pumps, motors, controls, piping, accessories and enclosures.

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