



Pulsar Measurement provides end-to-end solution for wastewater treatment plant.

Wastewater treatment is a vitally important process. Just ask The Township of Edwardsburgh/Cardinal's Assistant Chief Water and Sewer Operator, Eric Wemerman. "For a community to keep everyone's trust you want to make sure you're operating a good system." Eric continues. "It's important for health reasons, when people flush their toilets you need to get that away and be treated so there's health reasons why we treat everything. And environmental too, because what we treat gets put back into the St. Lawrence River and becomes someone else's drinking water downstream. So, we want to ensure that

we're creating the most clean effluent, not only to protect the environment but for downstream users. The mindset that what we have here is the same as people upstream."

The Township of Edwardsburgh/Cardinal is a smaller community of about 6,900 people, located in Eastern Ontario. One of the challenges of operating the wastewater treatment system for such a small community, explains Eric, is that the working parts of the wastewater system are spread-out. "It can be a little unique in the sense that if you go to a bigger city, you might just be working in one place, but because we're a smaller system we work in all four systems."

Pulsar Measurement provides The Township of Edwardsburgh/Cardinal complete confidence in their plant operation through the use of a variety

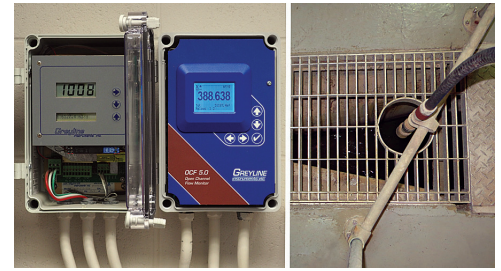


"It worked well there, so we put them everywhere."

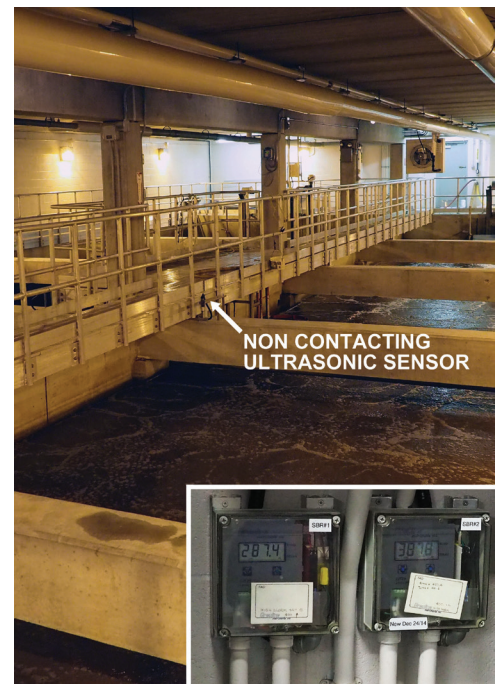
Eric Wemerman, Assistant Chief Water & Sewer Operator,
Township of Edwardsburgh Cardinal

of ultrasonic flow and level instruments. This is a confidence that Eric did not always have. "There are other products, prior to the Greyline controller, they had what they call float systems." Eric says. "I'll be honest they worked quite well too, but this system [with Pulsar Measurement] seems to be quite superior." Eric explains further, "Without them we wouldn't be able to treat our products and we'd have massive spills everywhere."

The Town of Edwardsburgh/Cardinal's complete plant monitoring system begins at the four sewage pump stations in town. "We use Greyline controllers pretty much everywhere, in every single one of our sewage pumping stations." says Eric. Wet well levels are measured and controlled with the Greyline PSL 5.0 Hybrid Pump Station Level Controller. The PSL 5.0 works by measuring tank level via the primary non-contacting ultrasonic level sensor, located above the tank. When a high level set-point is reached, which is easily programmed in the PSL by the user, built-in relays energize to start the discharge pumps. Because loss of the ultrasonic signal is possible due to foaming or grease on the surface of the water, Eric's team took advantage of the PSL 5.0's redundant 4-20mA sensor level input. A pressure sensor is submerged in the tank and connected to the PSL 5.0. Being a hybrid meter, the PSL 5.0 will automatically switch to the pressure sensor should the primary ultrasonic signal be lost. This unique redundant sensor system means no catastrophic over-flows and no false-alarms for Eric's team if signal to the primary ultrasonic sensor is blocked. When sewage is pumped back to the main plant from the pump stations, it is processed through bar screens to remove debris and then passes through a grit chamber. Once past the grit chamber, the total influent is metered via two Greyline Open Channel Flow Meters, an OCF 5.0 and legacy Greyline Model 3. Flow is measured based on the level of wastewater passing through two Parshall Flumes, also purchased through Pulsar Measurement.



Open Channel Flow Monitors with Non-Contacting Sensors Measure Plant Influent



Sequential Batch Reactors with Greyline Level Control

The next step in the wastewater treatment process is separation of solids from the water. The influent passes through two sequential batch reactors where water level is again monitored and controlled by Pulsar Measurement, this time non-contacting Greyline LIT25 Level Indicating Transmitters. While influent is entering the first sequencing batch reactor, it is aerated and alum is injected. Alum treats the wastewater by binding to solids, creating a sludge floc which will settle in the tank for separate treatment.

Once the tank is full, aeration continues through the react stage and finally decantation where supernatant is discharged from the batch reactor until the tank is back to a specific level measured by the Greyline LIT25. The treated effluent passes a final UV treatment system on its way to the St. Lawrence River.

In addition to treating the wastewater, the settled sludge is also treated, and Pulsar Measurement makes a presence in this process as well. Eric mentions, "We also use Greyline controllers to give us level indicators in our sludge tanks." These sensors help Cardinal maintain levels between 10 to 200 cm in both the un-thickened and thickened sludge tanks. Sludge is further treated so that odor causing bacteria is removed, to prevent complaints from the community.

Through the use of a variety of Pulsar Measurement flow and level products, Eric and his team can relax knowing their wastewater plant is operating without the fear of catastrophic failures, and is treating the effluent and sludge to high environmental standards.

Pulsar Measurement is a worldwide leader in ultrasonic instrumentation for industrial and environmental markets. We develop, manufacture and market industrial flow and level monitoring instruments including ultrasonic level transmitters, flow meters and open channel flow meters.

Pulsar Measurement's primary market is environmental - especially water and wastewater treatment systems. Customers include industry and municipalities. Modern research facilities at Pulsar Measurement include closed pipe and open channel flow systems. With years of steady growth, Pulsar Measurement products are sold and supported worldwide.

Featured Products



Greyline PSL 6.0 Pump Station Controller



Greyline OCF 6.1 Open Channel Flow Meter



Greyline LIT25 Level Indicating Transmitter



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