Water Matters

Newsletter of the Grand Isle Consolidated Water District

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From the lake to the tap: Ensuring health

Providing drinking water to our consumers is a sacred obligation. While the Covid-19 pandemic makes us more aware of our vulnerability and the importance of the work we do, it does not change anything. We take the same precautionary care regardless of the circumstances swirling around us.

Our work begins with our "source" water, the water that flows into our intake pipe. Fortunately for us, we share property with the Ed Weed Fish Hatchery. The hatchery is as concerned about the quality of the source water as we are. We are lucky to have such a well-aligned neighbor. We stay diligent to ensure that the water flowing into our plant is of the highest quality possible.

Once the water enters our intake pipes, we add a small amount of a chemical – called a polymer – that causes solids in the water to coagulate, or form into clumps. The water then gets filtered twice, first through a pressurized ceramic-bead filter and then through an activated carbon (GAC) filter. Those filters remove tiny bits of sediment and organic matter, as well as organic compounds that might cause unpleasant tastes or odors.

Once the water exits the carbon filter, it is almost perfectly clear. That measure of clarity is called "turbidity," and it is measured in "NTUs" or "nephelometric turbidity units." ("Nephele" is Greek for "cloudy," so turbidity is a measure of water's cloudiness or clarity.) Removing the turbidity removes the habitat for potentially dangerous microorganisms, thus decreasing the amount of disinfectant required to keep the water safe to drink.

The last step in the treatment process is disinfection, which GICWD does by adding chlorine. We add a carefully dosed amount of chlorine, and then let it work in the water for an industry-standard prescribed time, called "contact time."

We have two storage tanks, one near the plant on Bell Hill that holds 300,000 gallons, and the other farther north on Lover's Lane, that holds 130,000 gallons, where we can add more disinfectant if necessary to ensure that the water is safe all the way to the farthest tap. We also own and maintain 26 miles of piping!

You can be confident that our treatment process and distribution lines meet and exceed every industry standard and that the water we deliver to you is of extremely high quality.

The path to reliability: Long-term capital planning

As with any complex system, we have to constantly plan for the future. Fortunately, we have sufficient treatment capacity for the foreseeable future, and we cover most maintenance issues, such as tank cleaning and filter-media cleaning, in our annual budgets. However, we do have a few long-term actions on our radar.

Customer Meters GICWD is now 25 years old. The meters we originally installed have an estimated life of 20 years, so they need to be replaced. The new meters will not only be more accurate, they will also have a drive-by radio system that sends a signal to a passing car. Instead of needing a technician to physically read the meter, these new meters will just require the technician to drive past the meter, and the usage reading will automatically be recorded. Work that has taken about a week will now take about one-half a day.

Master Meters Master meters and valves are essential to ensuring system reliability. Master meters provide a reading of how much water passes through a section of water main, while customer meters indicate how much water each customer uses. If the amount of water passing through the main is substantially greater than the amount registered by the customer's meters, we know there is an underground leak, and we know the approximate section of pipe. Leaks are inevitable; repairing them is essential, not only for reliability, but also to control costs: treating water that is wasted can be very expensive. The valves surrounding these master meters must also be checked, exercised, maintained,

and replaced as needed so that sections of main can be isolated and repaired without any disruption to your water service.

The leak from this damaged pipe accounted for a loss of roughly 20 gallons per minute!

New piping When the system was installed, almost all of the piping was new … but not all. The piping serving Grand Isle village … an area known as "District 1" … did not need new piping at the time, so it is older than the mains in the rest of the district. That older pipe is no longer up to the standards of the system, so it will be replaced with thick-walled, long-lasting PVC like in the rest of the system.

Generator replacement We cannot treat water without electricity to power the pumps and equipment. Fortunately, we have enough storage capacity in our two tanks to last for a day or two, so your water does not stop flowing in the event of a power loss … but our stored water cannot last very long. Last winter, the back-up generator at our plant failed, so we had to rent one at a considerable expense. To ensure system reliability, we plan to replace the old generator with a new one that should last at least 20 more years.

Retiring GICWD's Debt

The question that seems to be top-of-mind for most GICWD customers is "How long will we be paying such a high debt service fee?" It is a reasonable question.

We have almost $3.2 million in long-term debt, for which we currently pay about $320,000 per year in debt service. Since our inception 25 years ago, we have invested $9.2 million in capital assets, $6.9 million of which entailed long-term debt.

We spent about half of that $6.9 million starting in 1994 on initial construction costs when the District first came into existence. That debt will be fully paid off in 2024, after which we will begin to see some reductions in the "debt service" portion of our bill. Because of other long-term capital costs, however, we will never see an elimination of the fee, but it will decline over time.

The second biggest debt we carry began as a $1.8 million, 40-year note with the US Department of Agriculture for the second phase of system construction. We incurred that debt in 1997 and will be paying on it until 2037. That is the only note we have that includes an interest payment, in this case, 1.83%. Our remaining long-term debt has been financed by the Vermont Municipal Bond Bank at 0.0% interest.

Other than the initial construction debt, the rest of our existing long-term debt expires in the mid-2030s, so we see it coming, but it will be a while before we feel the effects.

Most importantly, we are proud to report that our balance sheet is strong; we have ample funds for operations and maintenance; our financial future looks bright; and we have doubled our capacity, from 180,000 gallons per day to 360,000 gallons per day. We are well-poised for a safe and reliable long-term future.

The CCR: Consumer Confidence Report

Few things in the world of public health are more important than the quality of our drinking water. We drink it, bathe and shower in it, cook with it, feed it to our families, and, of course, we also use it to water our lawns and fight fires.

In 1998, in an effort to ensure public confidence around drinking water quality, the Environmental Protection Agency passed a rule requiring all public water agencies, large and small, to communicate with their users about their water source, water treatment, and water quality, including detailed testing results. Not only would that document ensure diligence on the part of the water providers, it would also instill confidence in consumers. With those goals in mind, the annual "Consumer Confidence Report" or "CCR" was born.

We are proud to report that our delivered water exceeds every possible health standard. For most of us, that means you can drink and bathe in the water with total confidence. However, if you are severely immune-compromised, have serious health conditions, or are undergoing chemotherapy, you may want to speak with your doctor about your drinking water.

You can find GICWD's CCRs dating back to 2014 on our website, www.GICWD.com.

GICWD FAQs

When will I start to see the debt retirement portion of my bill decline?

You will begin to see a drop in the debt retirement portion of your bill in 2024. At no point, however, will debt service ever drop to zero because of other long-term debt as well as ongoing maintenance expenses that require long-term debt financing.

What are those funny-looking blue pipes I see along the side of the roads?

Those are called "blow-off valves." They allow GICWD to "blow-out" the pipes to remove sediment that might settle at the low points of the line.

Where does GICWD's responsibilities end and mine begin?

GICWD manages and maintains the intake and treatment plant, the pumps and storage tanks, and all 26 miles of water mains. Your responsibility begins at the "curb stop" where you can turn the flow of water from the main on and off. From that point to your tap, you are responsible for maintenance, leak repair, and usage that results from a leak. GICWD will replace your water meter if it fails in the course of normal operation. If it freezes or fails from abuse, you will pay to replace the meter.

What can I do to help protect the water system and save money?

Conserve water and maintain your septic system!

Maintaining your septic system may be the most important single thing you can do to protect the drinking water supply and lake quality. Poorly treated or untreated waste not only contains disease-causing microorganisms, it also causes nutrients to flow into the lake, polluting the water, promoting the growth of algae and weeds, and requiring GICWD to treat the water far more aggressively than it would have to otherwise. Have your septic tank pumped and your system inspected regularly to be sure it is always in top operating condition.

Water conservation efforts on your part minimize the amount of water we have to treat, thus saving money on treatment chemicals, filter replacements, and pumping costs.

- Fix leaks.
- Be sure your toilets are in good operating condition.
- Turn faucets off when you are not using the water.
- Run your dishwasher and washing machine with full loads only.
- Replace appliances with water-efficient and energy-efficient models.

Water your yard and garden late in the afternoon or early in the morning to minimize evaporation, and only do so when they are dry and need to be watered.

What's the difference in "Debt Service," "Base Rate," and "Water Usage" on my bill?

GICWD spends money from three different buckets, and we bill for each of those buckets separately.

"Debt Service" is the money we collect from each customer to pay our long-term debts. We incurred these debts by building, expanding, and improving our water system.

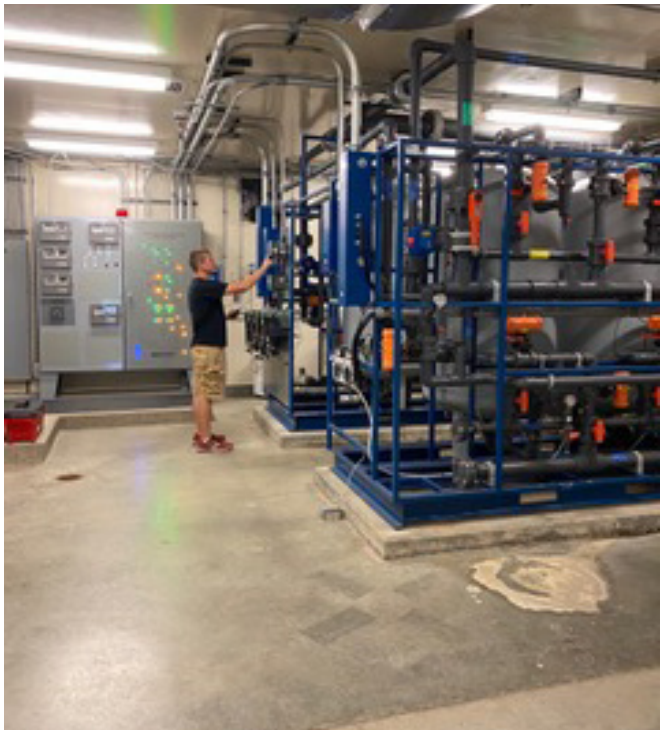
"Base rate" is the amount we need to cover our fixed costs regardless of the amount of water we deliver. It includes electricity, building costs, personnel, and system maintenance. Whether we sell one gallon of water or 300,000 gallons, our "base rate" remains the same.

"Water Usage" covers the variable costs of treating and delivering water. It includes filter cleaning and maintenance, the cost of treatment chemicals, such as chlorine for disinfection, and pumping costs.

Every customer in the district pays the same for "debt service" and "base rate." The amount you pay for "usage" depends entirely on the amount of water you use, so if you conserve and use water wisely, you realize the savings. Don't waste water!

Who operates our water treatment plant?

The GICWD contracts with Simon Operation Services (SOS) to operate our treatment plant, deliver the water, and bill customers. SOS provides similar services to roughly 150 other municipal water utilities in Vermont. The value of working with a contract service is immense for a small utility such as GICWD. Not only do we not need our own billing infrastructure, but we possess far more capacity, experience, and depth than we could possibly possess if we operated totally independently. In the event of an emergency, we have access to 24 certified operators who could be dispatched in short order. Having the depth of SOS at our fingertips is one of the many reasons you can be confident about the quality and reliability of your water.



Chief Operator Joe Danis checking meters inside the water treatment plant.

Meet your operators: Warren Steadman and Joe Danis

Our two plant operators do not technically work for GICWD. Instead GICWD contracts with Simon Operation Services (SOS) to operate our treatment plant, maintain the distribution system, and manage billing. Our two operators, Warren Steadman and Joe Danis, work for SOS, and SOS works for GICWD.

Warren Steadman began operating the plant at the very beginning, when everything was brand new. As time passed and the plant began aging, he had to maintain the plant too. Eventually, he needed help. On Warren's recommendation, SOS hired Joe Danis. Just out of high school at the time, Warren mentored Joe, who eagerly took classes and studied to earn his operator's license.

Warren is now in his 70s and working part time. Joe has grown into the role of Chief Operator. In 25 years, we have had a two-operator system. Not only do we benefit from the strong bond between Warren and Joe, we also benefit from the depth of working with SOS. As Joe put it, "If we have an emergency, we have access to additional certified operators who could be here within a couple of hours."

Joe in his confined space gear about to enter a meter pit.