

Waukesha's Pools Save Water

Waukesha Water Utility's Audit/Leak Survey Program Adopted

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When companies identify and address water losses in their systems, by conducting water audits and leak surveys, they not only reduce their water use but they also save money on their water, wastewater, energy, and on-site treatment costs. Recently, that is what two public accounts in Waukesha did by using the criteria of Waukesha Water Utility's (WWU) Water Audit/Leak Survey program. Waukesha's Park & Recreation department and the Waukesha School District both had issues with their pools – a city public pool and a high school pool; and even though the issues were different, after working together with WWU, these two public entities were able to save water and reduce their costs. In today's economy, companies are motivated to conduct water audits and leak surveys in order to reduce their operating cost; and as we all know, when it comes to saving water and reducing costs, every little bit helps!

To help companies with their water audits and leak surveys, WWU has a voluntary five step program. The steps of the program consist of the following:

1. Gather information - such as locations and equipment of where water is used, water bills and consumption data, equipment manuals, etc.;
2. Do a walk through - to verify water uses, estimate hours and rate of use, look for leaks and ways to reduce water use;
3. Compare - estimated water use with consumption data from water bills;
4. Estimate costs - of fixture change outs, new equipment or new processes, and compare with estimated savings for water, wastewater, and energy to calculate the potential payback period; and
5. Summarize - the recommended actions and implementation schedule for those actions that make sense.

The City of Waukesha contacted WWU. Waukesha has two public pools and the City noticed that one of the pools was using more water than typical. WWU was able to work with the City departments and together they brainstormed solutions. The Utility installed a Sensus C-2 meter, a meter that has data logging capabilities, to help gather more detailed information on the consumption data. After the consumption data was uploaded, pool piping plans were reviewed and visual inspections were conducted. In addition, measurements were taken and volumetric static leak tests were performed.

After the data was collected, meetings were held with the pool pipe designers, chemical suppliers, and engineers to



strategize where changes could be made. The City diligently monitors the pool bowl, so they knew that the pool bowl was intact. However, they did identify several small leaks. Some of them were found in the seams of the return gutters, one was under the slide where the zero depth met the wall, and others were found in the pool's return piping. When the team was finished, they calculated that their solutions save the City seven to eight hundred gallons of water per day.

The Waukesha School District is another public customer that the Utility was able to help. One of their high school pools had a different issue. They were dealing with a situation that whenever there was a power outage, the water

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in the pool would drain and they would have to refill it. The pool's drain line/suction line was connected to the pumps and whenever there was a power failure, the drain line would remain open and the pool would empty. In this situation, WWU served as a resource and recommended an actuator for the control valve, one that is spring loaded, so that whenever there is a power failure, the drain line would close. The Waukesha School District contacted a supplier and had this actuator installed. Now, whenever there is an electrical outage, the pool doesn't need to be refilled – saving the School District thousands of gallons of water.

WWU advertises and promotes its Water Audit Program in a very cost effective manner. One way that the program is advertised is on WWU's website under the Conservation heading. The website talks about the importance and benefits of businesses doing water audits and leak surveys. The site outlines the steps involved, links to the Alliance for Water Efficiency (AWE) for more detailed information, and links to the American Water Works Association (AWWA) for a free water audit reporting spreadsheet. Another inexpensive way that the Utility educates its customers about the Audit/Leak Survey program is through presentations. WWU has given presentations to the Business Alliance, Rotary Club, Southside Business Council, Wisconsin Water Conservation Coalition, and to the Utility's Conservation Stakeholders Committee. All of these groups have members from the commercial, public, and industrial sectors.

The Utility has also promoted its program with bill inserts. WWU sent a bill insert to its commercial, industrial, and institutional water users. The bill insert directed customers to the Utility's website to the AWE calculator tool. When customers click on this tool, they find water conservation tips for businesses.

Finally, any time a customer calls the Utility asking for information or has a high consumption, the WWU is always willing to act as a resource to help its customers, because

Waukesha truly believes that saving water is just good business.

The City of Waukesha and the School District are two examples of customers implementing changes to save water and reduce costs; and whenever WWU is informed that a business has made some changes to save water, the Utility documents the activity and tracks future consumption usage. This recording step is also a part Waukesha's Water Audit/Leak Survey program. The Utility documents the information by adding a comment to the customer's account as to what conservation efficiency measures were implemented. The Utility also calculates the two year average consumption prior to the changes so that a 'before and after' comparison can be made. Then, the Utility records the activity/information in the AWE's tracking tool in order to keep track of the water savings.

The focus of today's businesses is on tracking and reducing its operating costs. A utility can help serve the needs of its customers by providing the expertise on how a business can save water and lower their costs. Developing a commercial, public, and industrial water audit/leak survey program, such as Waukesha's, is inexpensive and fairly easy to do; and when customers save water and reduce costs, the utilities reduce their operating costs as well with lower pumping/energy and treatment expense. Lowering costs may be the focus of many businesses and utilities; however, as we all know, conserving water is ultimately the right thing to do – and any way that a utility can help out is beneficial to all. 💧

