

UNIVERSITY OF TORONTO, TORONTO, CANADA



END USER:

Stan Szwagiel

IRRIGATION CONTRACTOR:

D.J. Rain & Co. Ltd.

RAIN BIRD PRODUCTS:

- IQ-Desktop v. 3.0
- ESP-LXMEF Controller with Flow Smart Module
- ESP-LXD Series Controller
- 1804 and 1812-PRS Series Spray Heads
- 5004 PRS Series Rotors
- DVF Series Valve
- PGA Series Valve
- Rain Water Harvesting Pumps

"I firmly believe that we can save even more water as we expand the features we are using."

— Stan Szwagiel,
 Manager, Grounds Services, Facilities and Services,
 University of Toronto

PROJECT OVERVIEW:

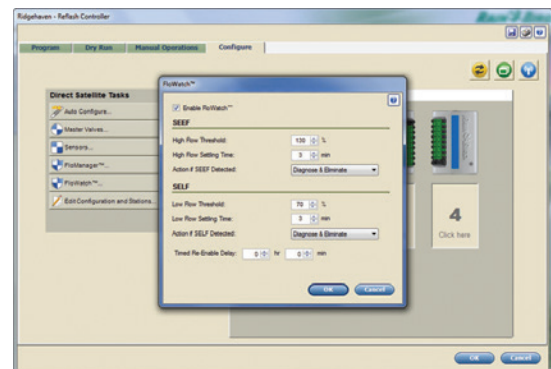
The University of Toronto St. George campus in downtown Toronto recently upgraded to the IQ-Desktop v. 3.0 to save time, increase efficiency and meet the requirements of a University-wide water conservation initiative. In the two years since its installation, IQ has helped U of T save over 10 million gallons of water. In addition, U of T is switching non-pressure-regulating sprays and rotors to Rain Bird 1800-PRS Sprays and 5000 PRS Series Rotors to reduce water waste.

CHALLENGE:

The St. George campus used more than 80 individual irrigation controllers to irrigate common areas and green spaces. Without a central control system, the grounds maintenance staff had to turn the controllers on and off manually, to respond to weather conditions. As a result of this manual operation and campus size, irrigation schedules were rarely modified or adjusted. Local contractor D.J. Rain & Co. Ltd. advised the ground services team that a central control system, such the IQ system, could give the department better oversight, increase efficiency and reduce water use.

CENTRALIZED SYSTEM MONITORING AND OVERSIGHT

Using IQ's Flow Watch™ and the ESP-LXMEF Controller with Flow Smart Module, Stan Szwagiel, manager of grounds services, monitors flow rates from his office. IQ's Seek and Eliminate Excessive Flow (SEEF) and Seek and Eliminate Low Flow (SELF) programs help him automatically turn off the master valve if excessive flows are detected before water is wasted or landscaping is damaged.



IQ Flow Watch

"The information that IQ provides helps me dispatch a crew to proactively fix a problem, rather than wait for someone to call and tell me there is a leak," Szwagiel said.

IQ allows Szwagiel to analyze system run times and adjust schedules from his office. In the near future, he plans to install an onsite weather station and upgrade to IQ's Advanced ET option which would enable automatic schedule changes based on weather conditions.

SEAMLESS SATELLITE COMMUNICATIONS

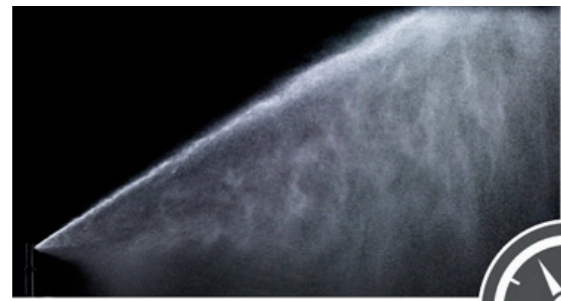
D.J. Rain managed the upgrade of IQ at U of T, which included installing 86 ESP-LXMEF Controllers and one ESP-LXD Controller. These are satellite controllers that are connected to IQ using 900 MHz radio communication. Radio communication was a reliable choice because there is a short distance between controllers and limited access to University IP addresses. An antenna was installed to ensure frequency coverage.

"Communication with all the satellite controllers went really well; it was pretty seamless. This was my biggest fear with this project because of the number of satellites and because I have worked on other projects that did not use IQ and it took significant time to get all the satellite controllers to communicate back to central control system. I was pleased that it went so smoothly," Roy Neeves of D.J. Rain said.

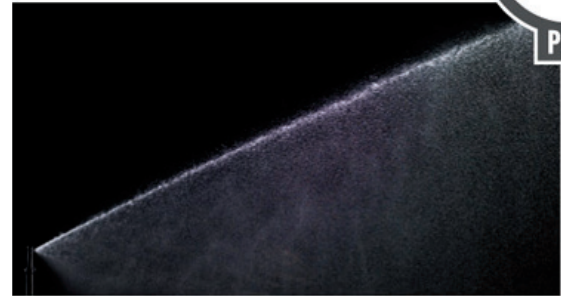
PRESSURE-REGULATING SPRAYS AND ROTORS OFFERED ADDITIONAL WATER SAVINGS

Another way the university is saving water is by using pressure-regulating (PRS) rotors and sprays. Rain Bird's PRS rotors and sprays with Flow Optimizer™ Technology save approximately one gallon of water a minute over non-pressure-regulating models by regulating the pressure at the head to the optimal pressure. Also, Flow-Shield™ Technology found on PRS models restricts water flow when a head is damaged.

"Before we installed PRS versions of the 1800 Spray or 5000 Rotor, we would usually receive a call from Campus Police telling us 'we had a geyser' from a head being knocked off," Szwagiel said. With PRS versions, water loss when the head has been damaged is reduced by 90 percent. "PRS provides huge water savings and protects the landscape. Over the past ten years, as we have had money, we have changed out zones to PRS, and PRS sprays and rotors are on all new installations," Szwagiel said.



Without PRS



With PRS

PRS reduces misting and fogging, and produces larger water droplets which are less prone to evaporation and wind drift

WATER SAVING RESULTS

U of T has saved 10 million gallons of water in the two years that the IQ system has been operational. Through centralized schedule management Szwagiel has better day-to-day control over the irrigation schedules and makes adjustments from his office rather than sending a crew to the controller in the field. IQ's flow monitoring and alarms allow Szwagiel's team to react to problems quickly before water is wasted.

Szwagiel's team and D.J. Rain have also received University and industry recognition for water conservation for the implementation of IQ. In 2013, Szwagiel's team was awarded the University's Excellence through Innovation Award for Smart Irrigation and D.J. Rain won Landscape Ontario's Award of Excellence, Water Conservation Award for Potable Water in 2012.