

Waste not, want not

The Bill and Melinda Gates Foundation headquarters is a pioneer in water conservation.

KATE SPIRGEN | June 27, 2014



Photo by Timothy Hursley

“No water wasted” was the motto for the newly constructed Bill and Melinda Gates Foundation headquarters in Seattle. With a 2-acre green roof that absorbs about 90 percent of rainwater and a harvesting system that meets 100 percent of the campus’s irrigation needs, along with 95 percent of non-potable water use, it’s a revolution in water and energy conservation and the winner of the American Society of Irrigation Consultants’ 2014 Excellence in Irrigation Award.

Jeffrey Bruce & Co., consulted on the project, which owner Jeffrey Bruce says was the job of a lifetime. “I was told by a mentor early in my career that if you get three of these

types of projects that are so extraordinary and so wonderful to work on, you should consider yourself lucky,” he says. “And this sort of set that standard of execution and challenge and the highest sort of goals. It was a quite rewarding experience and one of those three that you would consider part of an incredible project.”

The company, with locations in Kansas City, Mo. and West Des Moines, Iowa, was brought in by lead landscape architect Gustafson Guthrie Nichol as a specialty consultant for the project after 27 years in the business of irrigation and water management.

A complicated system.

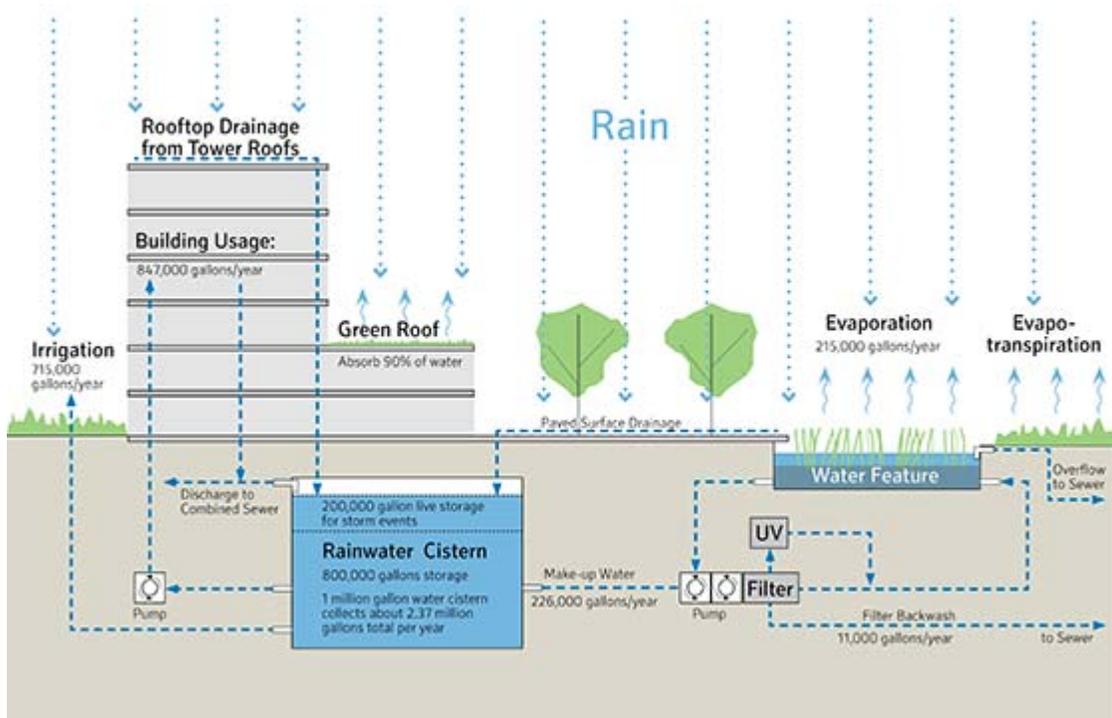
The 900,000 square foot campus is the largest LEED platinum non-profit building in the world. A 1-million gallon cistern in the basement of the building collects and stores 2.37 million gallons per year of runoff and rainwater.

“It was all integrated, so we were working with the architect and the whole team,” says Bruce, past president and professional member of the American Society of Irrigation Consultants. “Just about everything is on deck, so all of the utilities, all of the infrastructure, had to be highly coordinated and run around the structure itself.”

The four-year project, in terms of water, is nearly self-sufficient. “What’s unusual is being able to capture a sufficient quantity to accommodate 100 percent of your irrigation needs,” Bruce says. “We were fortunate enough they were looking at a zero runoff site. We were capturing everything off the buildings and off the site and directing it toward the large cistern.”

Rather than navigating the complicated municipal restrictions surrounding recycled water, the campus is a private rainwater harvesting system using UV and bio filtration through the campus water features. Everything is handled right on site. And in case of emergency, there's a "fairly complicated" conversion system, Bruce says. "There's a level of redundancy so that there are a couple of UV treatment pieces you can switch back and forth," he says. "It was a bit of a team effort."

Jeffrey Bruce & Co. is used to working on locations all around the country. For this project, Gustafson Guthrie Nichol was its main source of information. But since the irrigation consultants have been in 30 states, it's used to electronic communications on projects. Besides regular teleconferencing, "We did have a certain presence on site that was elevated during construction so we'd go out on a regular basis to observe," Bruce says.



Graphic by Gustafson Guthrie Nichol

The future.

While recycled water on this scale is a once in a lifetime project, Jeffrey Bruce & Co., has seen an upswing in rainwater harvesting projects. "I would say we're working on five- to 10-fold the amount of harvesting projects than we used to about 10 years ago," Bruce says. "There are a number of things driving this. One is greater awareness of sustainability, green building systems, things of that nature. It's a greater public awareness about water sustainability."

Bruce also notes that cities are working to get in compliance with the clean water act, requiring stormwater and sewer upgrades, which is increasing cost of water. But for the Bill and Melinda Gates Foundation, the intent was to create a high-standard work environment. "It was really about embracing a high standard for the employees and the environment as well," Bruce says.

<http://www.lawnandlandscape.com/efficient-irrigation-06302014-gates-foundation.aspx>