LIFT Scholarship Exchange Experience for Innovation & Technology (SEE IT)
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TRIP REPORT

SCHOLARSHIP UTILITY: Denver Water, Denver Colorado

SCHOLARSHIP UTILITY CONTACT: Bea Stratton, Landscape Transformation Program Manager – bea.stratton@denverwater.org

ATTENDEES: Bea Stratton

TRIP DATES: November 1-3, 2023

UTILITIES/SITES VISITED: San Fransisco Utilities, San Francisco, California (SFPUC)

- Luxury multi-family high rise residential – 40 stories (550 units) – Epic Cleantec
- Office building/multi-family combo – 55 stories – Aqua Cell
- Residential laundry to landscape (L2L) system

TECHNOLOGIES/INNOVATIONS SEEN: Two large-scale greywater systems and one residential L2L system

TRIP BACKGROUND and RATIONALE:

Denver Water provides clean, affordable drinking water to 1.5 million customers in our service area. Being a water utility in the Colorado River Basin requires thoughtful and effective conservation programs to ensure continued availability of this finite resource. Denver Water's conservation and efficiency team has provided matching funds and in-kind support to a residential greywater pilot program to have access to data to learn more about water savings potential via greywater systems as well as customers' behaviors and interactions with these systems.

Since we are still in the early stages of considering our relationship with onsite reuse and how we will engage, an opportunity to learn from San Francisco Utilities, a leader in greywater policy and systems, was a great way to learn a little more about the different scales and systems being used.

Why did you select the specific utility and technology for the visit?

I selected SFPUC because they are leaders in onsite water reuse and have several large-scale systems throughout the city. Paula Kehoe, Director of Water Resources at SFPUC, has implemented a program to support developers in using onsite water reuse systems which led to legislation requiring new developments over 250,000 square feet to have onsite reuse for non-potable water uses.

On your visit, do you think this technology/approach works for your utility?

If Denver Water decides to move forward with a formal greywater program, there is a lot to be learned from SFPUC. Their decision to build programming to support developers interested in installing these systems is a great way to increase conservation and have the ability to monitor and evaluate these systems. Their residential L2L rebate program is straightforward and puts the work on the customer which is important for a program like this. It would be easily replicable if Denver Water decides to pursue residential greywater further. L2L would likely be the first iteration of a greywater offering for residential customers and would fit nicely into landscape transformation programming and goals.

How useful was the trip in your decision-making process?

No further decisions have been made about our greywater programming at this moment. As we continue the conversation, this trip and SFPUC's example will be extremely helpful.

What were some of the trip highlights and takeaways?

One of my personal highlights was learning about Epicleantec's wastewater organics biosolids garden (picture below from their website – did not see garden on tour). Their circular approach to water reuse was inspiring. They turn treated wastewater into energy, water, and soil amendments.

Another highlight from the day was visiting a residential L2L system that had been successful for nearly a decade. The landscape was beautiful, the homeowner said there was minimal upkeep, and when mistakes have been made (like using the wrong detergent or not paying that much attention to the system) it wasn't detrimental to the landscape. This "room for error and disregard" is encouraging knowing that we cannot control customers' behaviors.

I also really enjoyed talking with representatives from Epicleantec and AquaCell about their trials and errors along the way with these systems. For instance, the system in the multi-family residential building had to have an additional filtration step added after they realized they had underestimated the amount of hair that would be coming through the system. This system has the capacity to recycle 7,500 gallons of greywater per day.

The office building we visited has the capacity to recycle over 5,000 gallons of greywater a day, but this property ran into some trouble during covid because the building was empty and not enough greywater was being created to support the system. This meant potable water needed to be used to keep things in the building working properly. This is something to consider when planning systems for these types of buildings with new hybrid office schedules being commonplace.


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