

LIFT Scholarship Exchange Experience for Innovation & Technology (SEE IT)
Sponsored by: WRF, WEF, and NACWA

TRIP REPORT

SCHOLARSHIP UTILITY: Wetlands and Water Reclamation Facility, El Dorado, KS

SCHOLARSHIP UTILITY CONTACT: Jason Patty, Public Utilities Director, jpatty@eldoks.com

ATTENDEES: Jason Patty

TRIP DATES: July 27, 2022

UTILITIES/SITES VISITED: Metro Water Recovery, Robert W. Hite Treatment Facility

TECHNOLOGIES/INNOVATIONS SEEN: Side stream Phosphorus Recovery

TRIP BACKGROUND and RATIONALE (250 WORDS): What technology did you select to visit? What is the problem you are trying to address? How did you envision the LIFT SEE IT scholarship trip helping your utility?

I've often wondered why we do all the work to remove P from the wastewater only to send it back through the treatment process and do it all over again. During our decant cycles with our aerobic digestors we release P into solution and send it back to the headworks. This is the same scenario with our centrate coming from the centrifuge when we are processing sludge. I felt that there had to be a way to divert these streams and keep from adding P back to the head of the plant that combines with the incoming P load making the microorganisms work overtime in order to accomplish what has already happened once before. The idea of the LIFT SEE IT scholarship was to see these concepts first hand and to speak with the operators running the technology to see what they liked or disliked and ultimately if it worked.

TRIP SUMMARY:

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

I previously toured the Metro Water Recovery Facility when NACWA held their National Conference in Denver, CO. At that time Metro was piloting side stream P removal and I was intrigued by the interruption of the P recycle loop and wondered if it made sense for the City of El Dorado to explore this process in greater detail.

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

I think this technology has a place in smaller treatment plants to pull P out of the internal recycle streams, but at what cost if under a voluntary basis is somewhat up in the air.

How useful was the trip in your decision making process?

The trip was very informative and interesting to see the largest installation of this technology in the world up close and personal. Understanding that the ROI of side stream P removal encompasses more than just P removal and that this technology can help in other O&M aspects of treatment may be the avenue for smaller utilities to consider the investment moving forward.

What were some of the trip highlights and takeaways?

Understanding some of the additional benefits of this system not only as P recycle removal but as a reduction in struvite production was something I hadn't previously thought about. These conversations with operations staff may prove to be beneficial as we start to replace problem valves around our facility with valves more equipped to handle the different types of flows they are carrying. Operations staff was very willing to show myself and my family the entire process of a large wastewater utility. Overall, I would say very few people get to see and understand the complexity and scale of a 150 MGD treatment facility and I am grateful for the opportunity to have done so.