

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

TRIP REPORT

SCHOLARSHIP UTILITY:

City of Calgary, Calgary, Alberta, Canada

SCHOLARSHIP UTILITY CONTACT:

Nancy Stalker, Manager, Water Quality Services, Nancy.Stalker@calgary.ca

ATTENDEES:

Nancy Stalker – Manager, Water Quality Services, Water Resources, City of Calgary

Darren Finney – Leader, Bonnybrook Plant D expansion, Water Resources, City of Calgary

Catalina Nadeau-Bonilla, Leader, Operational Performance Wastewater Treatment, Water Services, City of Calgary

Jigs Patel, Infrastructure Planning Engineer, Water Resources, City of Calgary

TRIP DATES:

August 21 to August 24, 2018

UTILITIES/SITES VISITED:

Blue Plains Advanced Wastewater Treatment Plant, DC Water, Washington DC

TECHNOLOGIES/INNOVATIONS SEEN:

Digestion enhancements - Thermal Hydrolysis

Filtrate/Side-stream Treatment (Deammonification)

Resource recovery - Biosolids Program, Energy recovery (solar and biogas)

Industrial discharges management (Pretreatment program)

Research and Development Program

Strategic Planning

TRIP BACKGROUND and RATIONALE (250 WORDS):

Calgary will implement Thermal Hydrolysis at its larger WWTP (Bonnybrook) in the coming years, and learning from DC Water's experience with the research, implementation, Construction, Commissioning and Operation of their facility was important to ensure the success of our project and to reduce costly change orders during construction or commissioning.

Learning from DC Water's experience with Resource Recovery, Biosolids programs, Industrial discharges management and R&D programs will help us influence planning of our Utility's strategies

TRIP SUMMARY (1 page max. Please include 10 photos and a 1-2 minute video montage from the

trip. The video does not need to be professional, however if you have the means to create a professional video feel free to do so):

Calgary selected Blue Plains because of the innovative work they are doing on Biosolids Management, THP implementation, Industrial discharges management, implementation of new technologies, and their innovative in-house applied research program that includes piloting of new technologies and optimization of existing facilities.

DC Water has installed the first THP system in North America, and one of the largest in the world. With The City of Calgary planning to install first THP in Canada in the next few years, it was important for the Calgary team to understand the lessons learned during commissioning, technology complexities and day to day operational challenges. DC Water provided valuable practical information that we can implement in design and construction of Calgary's facility. The Calgary team toured their installation and learned practical issues that can be resolved prior to construction.

Meeting with DC water to discuss their biosolids approaches was very informative and inspiring, having demonstrated that biosolids are a good resource that should be valued (and paid for) by the final users. DC is currently producing and marketing a suit of Bloom products and they continue exploring new options for better products. Prior to THP, DC Water explored different technologies with the product quality in mind, and did research on issues such as odours, pathogen regrowth, dewatering technologies, Class A Biosolids technologies, etc. DC Water spent 10 years doing research before moving forward with their major capital programs.

The Calgary team also met with the Research Program Manager at DC Water to learn about their challenges, focus areas, drivers, goals while touring their facilities. The Calgary team learned how decisions are made for future large capital projects with input from research results. DC Water conducts research through their own dedicated R&D staff, research associates and collaborative partnerships. The research activities attract students from Universities all over the world to conduct bench and pilot studies at Blue Plains with their wastewater and sludge. DC Water also collaborates with other utilities on joint strategic projects. The Calgary team also learned that DC Water looks for 100 percent intensification (increase in capacity), to further optimization, technology improvements and extending the asset life when considering investing in research.

The visiting Calgary team also had the opportunity to meet and exchange strategies and information with a number of other DC Water team. These groups including staff who manage and coordinate strategic business planning, resource recovery, industrial discharges, communications, community outreach, school education programs, and digital communication. The City of Calgary's was able to share our efforts in these areas. with focus on the Customer, what they need and addressing their changing needs.

Calgary's wastewater treatment challenges and future technology considerations have many similarities to those of DC water, and this opportunity to gain knowledge from DC Water's experience has been invaluable. As The City of Calgary moves forward, maintaining the newly established peer relationships and contact with counterparts at DC Water will provide many benefits.