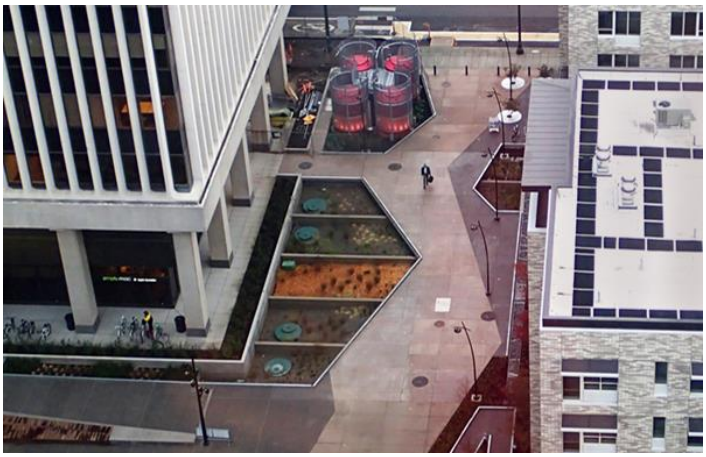
Water Reuse Case Studies

Decentralized Water Reuse: NORM and his wastewater cohorts



The Hassalo on Eighth Case Study, an innovative urban wastewater treatment and reuse project in downtown Portland, Oregon, has been lovingly nicknamed 'NORM' by its owners. NORM – the 'natural organic recycling machine' processes up to 45,000 gpd of residential and mixed use wastewater for non-potable reuse to supply toilets, irrigation and cooling water to the surrounding 4 high-rise buildings. Located within the public streetscape, this unique project features wastewater wetlands at the doorstep of its residents and under the pedestrian walkway that runs along the central spine of the project. Ms. English will share an overview of the project as well as lessons learned in the design, start-up and permitting. She will also briefly review a selection of other innovative water reuse projects in Oregon and beyond that feature beneficial reuse for wildlife habitat and public recreation.

Presenter:	**Erin English, PE LEED AP**
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Ms. English brings 15 years of engineering expertise to her work in innovative water master planning; wastewater treatment, storm water treatment, and water reuse projects. She leverages her educational background in chemical engineering for advancing ecological wastewater process design and innovation. As a senior engineer with Biohabitats, a firm focused on ecological restoration, conservation planning and regenerative design, she applies ecological justice and resilient water design to her ongoing daily engineering practice. Her experience includes numerous landmark high-performance building projects that prioritize water reuse, including Living Building Challenge™, Net Zero water, the Sustainable SITES Initiative and LEED® projects. Her portfolio includes wastewater treatment and reuse systems of various scales at Hassalo on Eighth (OR), the Sidwell Friends School (D.C.), the Boy Scouts of America's Bechtel Summit Reserve (WV), and the Omega Institute Center for Sustainable Living (NY).

University of Idaho Reclaimed Water System

The University of Idaho Reclaimed Water System Case Study will give a justification for building the wastewater treatment plant; explain some of the hurdles in setting up the system, construction of the system, and how the system operates. The wastewater treatment system creates class B recycled water that is then land applied. A map of the irrigation area will be provided to show just how much land the system operates on. The facility will share how much water they are applying and how much of a difference they have experienced. Advantages and disadvantages of using reclaimed water will be explained. There will be a discussion of lessons learned in the construction and operation to help other systems get online smoothly.

Presenter: **Gene Gussenhoven**
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Gene is the Director of Utilities and Engineering University of Idaho, Moscow. Manages and directs operations of the Utilities Infrastructure Systems and provides engineering support for maintenance and reliable operation of all campus utilities infrastructure systems and building systems. Responsibilities include the full range of managerial and oversight services related to the daily operations and maintenance of the university's infrastructure and distribution systems for campus utility needs and requirements (Steam Plant, Chilled Water Plants, Domestic Water System, Reclaimed Water System, Sewer Systems, Electrical Distribution System, Energy Management & Resource Conservation, Sustainability and Plant Engineering); provides broad oversight to ensure compliance with State and Federal regulations including Air, Water, NPDES, Reclaimed Water, Storm water and other applicable permits and regulations; provides forecasting and planning related to the support of projected campus needs, loads and requirements with adequate utilities procurement, generation, and delivery; supervision of the Utilities & Engineering staff; providing assistance to the Facilities Department Leadership as required in regard to infrastructure and utilities issues; building systems repair and maintenance; tracking and monitoring industry trends, developments, and projections; serving as liaison to the campus, local community, regulatory agencies, vendors, and stakeholders in regards to infrastructure issues and concerns, and issues related to utilities and energy management. He is responsible for the planning, programming and project management of utilities supporting the University of Idaho Campus and Colleges. The position includes managing several wells, central chiller system, central heating plant, waste water discharge NPDES Permit to Paradise Creek.