

# Water Resource Review Committee Graywater Annual Report

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University of Colorado **Boulder**

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# Williams Village North residence hall

- Opened 2011
- 500 beds
- Certified LEED Platinum by USGBC
- Graywater system one of key sustainability features
  - Collects graywater from 25% of showers and sinks, and distributes to all toilets for flushing



# Graywater system

- Treatment system manufactured by Water Harvesting Solutions (WaHaSo)
  - Only NSF-certified graywater system in the country
- Consists of sedimentation, coarse filtration, multimedia filtration and disinfection
- Designed to meet IPC and Regulation 86 requirements





# Graywater system



# System performance/statistics

- Reduces potable water demand for toilets by 33%
- Average monthly potable water usage for building is 375,000 gallons
- Processes 50,000 gallons during high-usage months
- 12% reduction in potable water usage for building



# Education & scientific research

- **Classes:**
  - Residential water re-use
  - Sustainability in Built and Natural Environments
  - Technical Writing and Communication
- **Professors**
  - Dr. Joanne Silverstein
  - Dr. R. Scott Summers



# Education & scientific research

- Graduate research projects
  - Katie Spahr (MS 2013)
    - Challenges to Implementing Decentralized Water Reuse
  - Kyle Thompson (MS & PhD 2018)
    - The evaluation of sorption, coagulation, and biodegradation for graywater treatment
    - Evaluating Treatment Approaches of Sustainable Reuse of Greywater, Wastewater, and Stormwater
  - Marylia Batista (MS in progress)
    - Water Conservation and Water Quality: Understanding the Impacts of New Technologies and New Operational Strategies
    - Complies with 45 CFR 46 & has IRB approval



# Looking ahead

- Continue use of system as resource for student, faculty and staff research
- Continue discussions with City of Boulder about possible Reg 86 adoption
- Future reports to Water Resource Review Committee





# Thank you!



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