WATER & STORMWATER

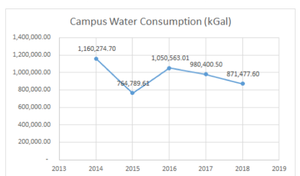
The University of Illinois has increased its water conservation efforts, with a potable water reduction target of 40% by 2025. Opportunities to utilize non-potable sources will be harnessed, including connecting the existing raw water system by 2020. Two goals are listed for campus water use: 1) reduce annual potable water use by 25% by FY20; and 2) capture and reuse 25% of campus stormwater by FY20. Rather than discharging stormwater, it could be used for irrigation across campus acre-age, freeing up potable water for other campus uses. The campus will undertake a number of studies and pilot projects to bet-ter understand its water usage and to plan for smarter consumption.

OBJECTIVES

5.1. Obtain and publicize more granular water use data by FY16, including water quantity and quality data where available.

Status:
In progress

- Funding has been received for installation of a greywater line meter at the Business Instructional Facility. The meter is currently in use.
- Water is metered in real-time at five points on campus, and monthly at every building.
- Water quality reports can be found at go.illinois.edu/potable-water-quality.



Next Step:

- Publicize water meter locations and details on a website connected to Illini Energy Dashboard.

5.2. Improve the water efficiency of cooling towers by limiting the amount discharged to sewer to less than 20% of water intake for chiller plant towers, and less than 33% for stand-alone building towers, by FY20.

Status:
Complete!

- Water softening is an alternative water treatment to manage dissolved salt left behind from evaporated water in cooling towers while reducing water consumption.
- All but two cooling towers managed by Facilities & Services (F&S) have been replaced with connections to a more water-efficient chilled water plant. Methods of water use reduction by remaining towers are still considered until those towers are replaced.
- F&S works to improve water efficiency by reconnecting stand-alone cooling towers to the chiller plant, although modifying the chiller plant is not feasible at this time.

5.3. Perform a water audit to establish water conservation targets and determine upper limits for water demand by end-use, for incorporation into facilities standards by FY16.

Status:
Not complete

- In Fall 2017, a senior in the campus Sustainability Minor worked with a faculty member to develop a water auditing system for campus.
- F&S has done a month of metering on the greywater line at the Business Instructional Facility. According to the meter, the building used 169,000 gallons of water for non-potable use during a one-month period, which is approximately two-thirds of the building's total water use.

Next Step:

- Encourage student involvement to audit water use in highest-consumption buildings and to use data from the BIF water meter.

5.4. Inventory and benchmark campus' existing landscape performance by FY17.

Status:
In progress

- Undergraduate 2015-16 SWATeam member David Douglas completed a report of inventory and benchmarking performance of two areas on the south side of Boneyard Creek.
- The study concluded that campus will have to implement a variety of strategies that are substantially different than current management practices.

Table : Quantities of campus surfaces that drain to Boneyard Creek

Surface Type	Parking	Street+ Service Drive	Sidewalk	Building	Hardscape	Unpaved	Total Area
Acres	87.47	79.5	81.11	123.55	371.63	321.53	693.16
Percent	12.6%	11.5%	11.7%	17.8%	53.6%	46.4%	

5.5. Through an open solicitation process, implement at least four pilot projects to showcase the potential of water and/or stormwater reuse by FY20, with the objective of implementing a broader program by FY25.

Status:
Not complete

- The State Plumbing Code presents a significant barrier to implementation of water/stormwater reuse.

Next Step:

- SWATeam will produce a recommendation for the University of Illinois to push for modernization of the Plumbing Code.

5.6. Investigate the water quality impacts of stormwater runoff and potential ways to reduce stormwater pollutant discharges by FY18.

Status:
In progress

- Potential for student projects to research impacts — especially at Boneyard Creek, the only "impaired" campus-area body of water.
- Porous parking lot C9 at 5th Street and Chalmers has potential for study, as well as permeable pavement near Wassaja Hall.
- Student Sustainability Committee funding application submitted to complete a Green Stormwater Infrastructure Master Plan.
- Students who participated in the EPA RainWorks Challenge in Fall 2017 won with a redesign of the oft-flooded Parking Lot F4 (*see images at top and above right*). An SSC funding application for a feasibility study was submitted by the Parking Department.
- Recommendation in Spring 2018 to update Parking standards to include green stormwater infrastructure in renovations. F&S assigned Brent Lewis the Campus Landscape Architect to incorporate GSI in all the Facility Standards.

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