



STUDENT SUSTAINABILITY COMMITTEE

Semesterly Report

Thank you for your commitment to green initiatives at the University of Illinois. One of the ongoing requirements listed in the terms of the funding agreement for your project is the submission of semesterly reports with key information about your project. In addition to this form, please provide additional financial documentation and/or progress photos if available.

Please be as accurate as possible in describing the project (including possible setbacks or challenges in meeting the initial goals of the project). Not fully meeting your project's goals will not disqualify you from making future funding requests as long as your reports are as complete and accurate as possible. If you have any questions, please contact the Student Sustainability Committee, at sustainability-committee@illinois.edu.

Project Name: Campus Instructional Facility

Date of Report Submission: 9/21/2021

Project Purpose:

The University of Illinois Campus Instructional Facility (CIF) will be a four-story building (with a total of five levels when you include the lower level) dedicated to academic and classroom uses on a site bounded by Talbot Laboratory (south), Grainger Engineering Library (east), Wright Street (west), and Springfield Avenue (north). The CIF will become a major academic building (serving thousands of students at any time and staying open well into the evening for group projects and studying), satisfying classroom demand for both the College of Engineering and the broader campus. The CIF is the first public-private partnership of its kind on the Urbana-Champaign campus, as well as the first geothermal system project of its size and scale.

The project proposes a new paradigm for campus construction that can inspire future campus improvement projects using geothermal exchange, thermal storage, and optimized building designs. In the future, the system could be expanded to provide renewable energy sharing with other buildings. The ground-source heat exchange system will not impede the pedestrian and civic amenities that the students enjoy on and around the John Bardeen Quad. The borefield and piping will be buried below the ground. Once the system is installed, the impacted land will be restored to its original condition and be able to support student events.

This project will be a milestone for the University's goal of being carbon-neutral by 2050 and will be the first to include this forward looking design. Unlike other buildings connected to the central heating and cooling plant, which is powered by fossil fuels, introducing a thermal borehole energy system will enable buildings on the quad to have an opportunity to share thermal resources in a cooperative way, fed instead by renewable resources.

Detailed Accounting of Expenditures to Date:

As of September 21, 2021, the project spent \$0 of \$25,000 (0%) of Fund 1-304398, "602 SSC-CIF Geothermal".

Pending expense items:

- A digital signage of recognition of SSC's \$375K contribution to Geothermal for a year at CIF - Expected \$10,000
- Additional the geothermal metering and the Heat Recovery Chillers metering to monitor the energy use for Energy Dashboard – expected \$15,000

Project Progress to Date:

The geothermal source wells have all been installed and construction of the field is complete. The next step is to connect the field to the mechanical systems within the new building. The system was commissioned and fully operational March of 2021.

Student Involvement and Outreach to Date:

- The Civil Engineering students attended the site of the geothermal drilling with instructors
- The Civil Engineering students attended the building site to assess the foundation and its detailed construction with instructors, which was toured by the construction managers.
- The Computer Science (CS) students developed the web page interface for displaying the energy usage and savings for the electrical engineering computing building (ECEB). This interface will be passed on to another group of CS students for an independent study and will be used as a base for the subsequent software development.
- Students and faculty are using the facility for the fall semester classes and informal study space.

Marketing and Promotion Efforts to Date:

- Construction fence banner signs have been produced and installed. These signs contains the Student Sustainability Committee's logo and identifies the project.
- A digital signage of recognition of SSC's \$375K contribution to Geothermal for a year at CIF.

Additional Comments:

The project was completed in the Spring of 2021.



Geothermal well field in late August, 2021