*Please submit this completed application, the supplemental budget spreadsheet, and any relevant supporting documentation by the deadline indicated in your Step 1 notification letter to* *Sustainability-Committee@Illinois.edu**.The Working Group Chairs will be in contact with you regarding any questions about the application. If you have any questions about the application process, please contact the SSC at* *Sustainability-Committee@Illinois.edu**.*

# General Information

**Project Name:** Bevier Hall Occupancy Sensors

**Total Amount Requested from SSC:** $17,500

**Project Topic Area(s):** [x] Energy [x] Education [ ] Food & Waste

 [ ] Land [ ] Water [ ] Transportation

# Contact Information

### Project Lead

Applicant Name: Bradley Klein

Unit/Department: Facilities & Services/Deferred Maintenance

Email Address: bradklei@illinois.edu

Phone Number: 217-300-3400

### Financial Contact *(Must be Full-time University of Illinois Staff Member)*

Contact Name: Doris Reeser

Unit/Department: Facilities & Services/Deferred Maintenance

Email Address: dreeser@illinois.edu

Phone Number: 217-244-3101

Organization Code: 814000

### Facilities Management Contact *(If Applicable)*

Contact Name: Doug Wolters

Email Address: dwolters@illinois.edu

**Primary Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Bradley Klein | Capital Programs | bradklei@illinois.edu |
| Doris Reeser | Capital Programs | dreeser@illinois.edu |
| Mark Blazis | Interface Engineering, Inc. | markb@interfaceeng.com |
| Doug Wolters | College of ACES | dwolters@illinois.edu |

# Project Description

**Please provide a brief background of the project, the goals, and the desired outcomes:**

Project Background: Bevier Hall currently has a number of spaces served by obsolete thermostat controls. While efforts to improve scheduling for heating and cooling have made improvements to energy consumption, the installation of occupancy sensors would improve the efficiency of the HVAC system, reducing energy use without sacrificing user comfort. The occupancy sensors will also control lighting in some of the spaces.

Project Goals: The goal of this project is to provide new occupancy sensors in 7 classroom and office spaces in Bevier Hall.

Desired Outcomes:

1. The heating and cooling system will be able to work more efficiently, eliminating the need to constantly provide conditioning for unoccupied spaces.
2. Individual spaces will have better temperature control, therefore improving occupant comfort.
3. Improved ccupant comfort will increase productivity, improve test scores, and reduce sick days.

**How will the project improve the sustainability of the Illinois campus and how will the project go above and beyond campus standards?**

The new occupancy sensors will reduce heating and cooling demands by reducing air flow when there are no occupants sensed in a space. This reduces steam and chilled water production requirements, reducing green house gas emissions. The electricity for lighting will be reduced as lights turn off due to inactivity. The project will enhance spaces that do not have occupancy sensors, bringing those spaces up to the current campus standards.

**Where will the project be located? Will special permissions be required to enact the project on this site? If so, please explain and submit any relevant letters of support with the application.**

The project will be located in the south end of the first and second floors of Bevier Hall. If funded, the occupancy sensors will be added to the existing capital project U16062: Bevier Hall – Infrastructure Renovation Phase 2. Permission to work in these spaces has already been given as part of that project.

**Other than the project team, who will have a stake in the project? Please list other individuals, groups, or departments affiliated directly or indirectly by the project. This includes any entity providing funding (immediate, future, ongoing, matching, in-kind, etc.) and any entities that will be benefitting from this project. Please attach letters of commitment or support at the end of the application.**

The College of Agriculture, Consumer and Enviromnmental Sciences is the primary user of the building, although several classrooms in the building are geneal assignment. Doug Wolters, Director of Facilities with the College of ACES, is the primary contact for the departments impacted. Funding for the associated capital project is provided through Deferred Maintenance. Doris Reeser is the Director of Defered Maintenance, and a letter of support from her is attached.

**Please indicate how this project will involve or impact students. What role will students play in the project?**

The project will impact students by making the spaces they learn and work more comfortable and energy efficient. Students will not be involved in delivering the project.

# Financial Information

*In addition to the below questions, please submit the supplemental budget spreadsheet available on the Student Sustainability Committee website. Submission of both documents by the submission deadline is required for consideration of your project.*

**Have you applied for funding from SSC before? If so, for what project?**

Applications for funding of light shelves at Altgeld Hall and insulation at Noyes Lab steam tunnel were submitted in 2015 and 2016. Neither were selected for funding.

**If this project is implemented, will there be any ongoing funding required? What is the strategy for supporting the project in order to cover replacement, operation, or renewal costs?

Please note that SSC provides funding on a case by case basis annually and should not be considered as an ongoing source of funding.**

No ongoing funding will be required. Several extra occupancy sensors will be purchased as “attic stock” to replace ones that might fail prematurely. It is noted that Maintenance will have to change out the occupancy sensors more frequently than regular light switches.

**Please include any other sources of funding that have been obtained or applied for. Please attach any relevant letters of support as needed in a separate document.**

Funding from the AFMFA fund have been obtained for the associated air handling unit replacement work, bids have been received, and contracts are being processed.

# Environmental, Economic, and Awareness Impacts

*In addition to the below questions, please indicate specific measurable impacts as applicable on the supplemental budget spreadsheet.*

**Which aspects of sustainability does your project address, and how? Does the project fit within any of the iCAP goals? If so, how does the project go beyond the university status quo standards and policies.**

The Bevier Hall Occupancy Sensors project will reduce energy consumption by providing better control of the air handling units which serve the spaces. When rooms in a zone are not occupied, the amount of air delivered to the spaces is reduced, saving the cost of heating, cooling, and moving the air. The sensors will also turn off lights when the space is vacant. It will help with two ICAP goals: reducing energy utilization and reducing energy emissions. While the project does not specifically exceed current standards, it will retrofit existing rooms to meet current standards.

**How will the environmental impacts of your project be measured in the near and long term? What specific monitoring and evaluation processes will you be using to track outcomes and progress?**

Normally we would compare the building energy use before and after, but since there will be air handling units replaced as part of this project, it would be difficult to tell how much energy reduction could be attributed to the sensors and how much to the new air handling units. Because the value of upgrading with occupancy sensors is well understood, we do not have monitoring or measurement built into the projet. It could be added if desired. Potential energy savings were calculated assuming a savings between 5% and 22% for the heating and cooling costs of the spaces impacted.

**What is the plan for publicizing the project on campus? In addition to SSC, where will information about this project be reported?**

Facilities and Services web sites and newsletters will be used to share information about SSC and the project, and our story will be shared with the College of ACES, the primary user of Bevier Hall. Additionally, each room improved by the project will have special signage indicating the amount of energy saved, cost reduced, and GHG eliminated.

**What are your specific, measurable outreach goals? How will these be measured?**

We will seek a commitment from F&S Customer Relations and Communications that an article about SSC and the project will be written and distributed via weekly email newsletter and monthly printed newsletter to over 1200 University employees. Our goal will be measured by whether the email and printed newsletters share our story. Additionally, we will see how many people receive emails from ACES which include our story.

**Do you have any additional comments or relevant information to aid in evaluation of this application?**

Many times a capital improvement project will have limited funds allocated to replace air handling units. This is an opportunity to supplement those funds to get a better system with improved control.