*Please submit this completed application and any relevant supporting documentation by the deadline listed on the SSC website to* [*Sustainability-Committee@Illinois.edu*](mailto: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*](mailto:Sustainability-Committee@Illinois.edu)*.*

# General Information

**Project Name:** Food Processing Plant – Hand Wash Sink Replacement

**Total Amount Requested from SSC:** ~$18,000

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

Land Water Transportation

# Contact Information

Applicant Name: Brian Jacobson

Unit/Department: Food Science & Human Nutrition

Email Address: bjacobs3@illinois.edu

Phone Number: (217) 300-5404

**Project Team**

|  |  |  |
| --- | --- | --- |
| **Name** | **Department** | **Email** |
| Patrick Reynertson | Agricultural Engineering | Email Address |
| Youngsoo Lee | FSHN | Email Address |
| Jedi Brown | FSHN/UIUC Dining Services | Email Address |
| Name | Department/Organization | Email Address |

# Project Information

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

The Food Science & Human Nutrition Pilot Processing Plant (FSHN-PPP) is the home of the Illinois Sustainable Food Project (ISFP), along with several classes, tours, and other student activities. A processing facility uses water in many ways, and we constantly look to improve on our utility usage/waste. One area of significant water usage is the handsinks.

Typically, a handsink is not thought of as a large use of water, but in a food production facility that requires near constant washing of hands, it quickly adds up. Employees must wash hands every time they enter or leave the facility, after touching any exposed skin, when switching tasks, after moving product, after working on equipment or making changes, etc. Studies show each employee typically washes their hands 16 times per 8 hour shift in a food production facility. Each handsink consumes roughly 3 gallons of water per every 60 seconds it is on. A proper handwash takes 40 seconds, so roughly 2 gallons per handwash, along with inaccurante amounts of soap, and typically overuse of paper towels for drying.

We are proposing to replace our handsink with an automated system that completely washes hands in 12 seconds, using 0.6 gallons of water per wash. This will greatly reduce water usage, while reducing soap waste, and improving productivity. A study of facilities using these automated systems show a savings of 5,824 gallons of water per employee per year, with an uncalculated savings of soap and productivity. The FSHN-PPP employs 2 FT staff, 4-6 PT student staff, 6-10 grad student users for research, over 100 students in classes that meet several days a week, and hundreds of visitors each year. It is difficult to calculate total time spent by all the different groups, but is quickly apparent that there is the potential to save well into the tens of thousands of gallons of water, if not higher.

The funds will be used to purchase the automated system and install it in lieu of the handsink, along with some signage indicating the avings provided by this unique system. In addition, it will be discussed during every orientation, tour, or open house in the facility.

Please provide a brief summary of how students will be involved in the project:

This project was envisioned by student employees of the FSHN-PPP, many of which work on the ISFP. The water wasted in the traditional hand sink, along with productivity delays caused by the long wash time caused concern among those working on the project. They asked that a solution be found so all future student employees, classes, and tours have the opportunity to have an innovative hand-washing sink in a facility that puts so much focus on sustainability and local food production.

Please provide a brief summary of the project timeline:

Upon receiving funding in Spring 2017, the equipment will be purchased and installed quickly. Necessary items are off the shelf, below bid limit, and easily installed with minimal F&S assistance.

Additional comments

Due to the code and facility requirements of this project, it is submitted under Brian Jacobson’s name, but all design and work will be completed by Patrick Reynertson, a student employee in the FSHN-PPP studying Agricultural Engineering. In addition, Jedi Brown, ISFP coordinator will oversee the sustainability messaging is provided to users of the facility.