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PURDUE JOURNAL OF SERVICE-LEARNING AND INTERNATIONAL ENGAGEMENT

Urban Water Project at Food Finders

Abby Zielinski, College of Engineering

Abstract

Abby Zielinski is a sophomore in environmental and ecological engineering. In this article, she describes her community experience at Food Finders Resource and Education Center, which was associated with a course called Urban Water Projects.

Student Introduction

I had the opportunity to participate in an engaging service-learning project this semester with a community-based partner called Food Finders Foodbank. The experience was made available through the semester-long course titled Urban Water Projects (EEE 495), taught by Dr. Lindsey Payne. In this course, students design stormwater best management practices (BMPs) in order to help improve the quality of the Wabash River, a primary landmark in our surrounding community. Stormwater BMPs are features such as rain gardens or rain barrels that collect stormwater runoff on-site to reduce the amount of polluted runoff that would otherwise flow over impervious surfaces into storm drains.

This class was divided into three groups. Each group worked with a specific community partner throughout the semester. This provided each group with a unique opportunity to make a direct, positive impact on the community. Our project team chose to work with the Food Finders Food Bank because we were able to identify opportunities to improve their new site, Food Finders Resource and Education Center. We knew that it would be challenging to design BMPs at a site primarily covered in pavement, but we were excited to help

improve the natural environment and the surrounding neighborhood. We predicted that our project had the potential to create a more sustainable community, promote Food Finders as a pleasant and welcoming place, and encourage neighbors to consider using BMPs around their own homes.

Community Partner Descriptions

Food Finders Food Bank's mission is to distribute food to those in need in 16 Indiana counties. The new site at 1204 Greenbush Street in Lafayette, Indiana is the first Resource and Education Center that features a food pantry, classes, and a demonstration kitchen. The center is located three blocks away from the Food Finders warehouse. Food Finders serves a variety of people, most commonly families who visit a food pantry one or two times per month, according to a report by Purdue graduate students Talisha Morrison and Trinity

Food Finders site prior to construction of BMPs. Courtesy of Google Earth.

Overmyer, who conducted research for Food Finders (Morrison & Overmyer, 2015). More information about Food Finders can be found on the organization's website.

Activities and Impact

My project team worked directly with the Food Finders CEO and president, Katy Bunder. Our primary goals were to capture stormwater on the site and design space for Food Finders to grow edible plants. Our team communicated with Katy on a weekly basis throughout the semester to remain on track with these goals, which were established at the beginning of our collaboration. Primary considerations in meeting these goals included the need to design our project around the existing plans for the parking lot and ensuring that BMPs could be maintained. Additionally, we had to consider the high risk of theft and vandalism at the site due to its location in a low income, high crime area. Katy remarked, however, that if this were to occur, at least it would align with the mission of the organization to feed the community.

The design and planning process for this project required collaboration with several parties. This included our student team and professor; Food Finders employees; the construction company, Kettelhut, whose employees were working on the new site; GreenVision landscaping company; and the Wabash River Enhancement Corporation (WREC), which assisted us with project funding. We also received guidance from a native plant expert at Purdue and maintenance tips from city engineers.

As a design team member, I was involved in communication and the creation of deliverables throughout all aspects of the project. This included choosing the most appropriate BMPs and their most appropriate locations, planning specific layouts of plants, creating a maintenance plan, organizing a plant installation day with over 50 volunteers, and other tasks along the way. Overall, our student team served as grant writers, designers, and planners, and worked with several stakeholders to accomplish our project goals.

Through creative problem solving and collaboration to overcome the challenge of extensive paved, impervious surfaces, our team was successful in implementing four BMPs. We installed two rain gardens, a bioswale, three rain barrels, and several native plants around the building. Overall, we created about 2,240 square feet of vegetated area that will significantly reduce the amount of polluted stormwater runoff that enters the Wabash River. Without these vegetated areas, a higher volume

of water would be flowing over paved surfaces, picking up a variety of pollutants from cars and nearby homes such as oil, fertilizer, soap, and sediment, and carrying it down the storm drains to the river. Collecting stormwater on-site also reduces the frequency of combined sewer overflows, which result in the dumping of raw sewage into the river after large rain events. Our team also designed educational signs for Food Finders. These signs will highlight our BMPs and encourage the community to consider what they can do to help improve the quality of the Wabash River.

Led by our professor, our team actively planned and executed all aspects of the project. Dr. Payne provided us with checkpoints and resources, and the student teams made major decisions throughout the design and implementation of the project. Unfortunately, our team was not able to create edible gardens at the site due to funding restrictions. With the group of stakeholders, we decided to use our grants to implement BMPs to reduce stormwater runoff, but we left Food Finders with landscaping designs for edible gardens. They plan to create these with additional grant funding, which they recently received.

Reflection and Conclusion

Throughout this project, I have had the pleasure of contributing to improvements at Food Finders and to the communities surrounding the Wabash River. Our team also learned how to work in a transdisciplinary setting on a complex project to meet specific goals. My experiences have helped prepare me as a future environmental engineer who will collaborate with a variety of stakeholders, using critical thinking to produce quality results. Stormwater management projects are essential in improving the quality of local bodies of water, and thus, the health of our communities. My new knowledge and experiences will assist me in advocating for stormwater BMPs and make a positive impact in our community. I hope to spread this knowledge and encourage impactful action through my involvement with Purdue's student organization Boiler Green Initiative, and also with peers throughout my future education and career.

Reference

Morrison, T. H., & Overmyer, T. (2015). *Food Finders demonstration kitchen report*. Report presented to Food Finders Food Bank, September 17.

Acknowledgment

To my writing mentor, Dr. Lindsey Payne.

Rain garden (top left), bioswale (top right), rain barrel (bottom left), and native plantings (bottom right) installed at Food Finders Resource and Education Center. Courtesy of Meghan Adams.