



Online Stormwater Core Curriculum

Developing Leadership Capacity in Collaboration and Civic Engagement for Collective Action

Background

Excessive stormwater runoff, generated when rain or snowmelt flow over land without infiltrating, can cause flash flooding, significant water quality degradation, and loss of property. Given the documented negative effects of stormwater discharges, there is a growing need for water resource managers and stormwater professionals to learn how to adopt and maintain proven methods, techniques, and practices to minimize and combat the negative environmental impacts of excessive stormwater runoff.

Recently, there has been expanded growth in the number of publicly available stormwater educational programs for professionals and communities that focus on green infrastructure tools. However, much of the growth is home-based and addresses specific local needs and issues. There has been a need for a publicly available, regionally uniform stormwater fundamentals, practices, and inspection and maintenance training to aid early career stormwater professionals and educators in improving and optimizing their stormwater operations.

Goals

The goal of this project was to develop a stormwater training with regionally uniform content and locally-specific research that can be readily used by educators, local governments and stormwater professionals to optimize their stormwater operations.

Course objectives are learner-based, such that participants:

- Learn stormwater basics and gain skills to teach others

- Learn both broad, regionally uniform and local, state-specific content
- Establish networking and local contacts or advocate in small communities through course participation
- Gain a better understanding of multi-state stormwater issues and gaps
- Increase skills of area Extension professionals in developing online courses with national and regional exposure

Addressing the Challenge

Stormwater Practices Core Curriculum (SWCC) is a five-module online tool to address stormwater management education for early career professionals. The online course, which began with a seed grant from the North Central Region Water Network and was completed with a Technology grant from the University of Minnesota Extension, is a publicly available, regionally applicable and comprehensive stormwater training that can be used by stormwater professionals to help them to meet their community's clean water goals. The five modules are:

1. Introduction and Foundation
2. Stormwater Practices Planning and Selection
3. Specific Stormwater Practices: Life Cycle: planning, siting, design, construction, operation and maintenance
4. Stormwater Practices Construction & Maintenance

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5. Regulatory Modules

The SWCC ultimately aides stormwater professionals and educators in improving and optimizing their stormwater operations. All five modules have been developed, tested, and implemented into the online course with numerous professionals utilizing the resource to sharpen their skillset.

Program Outcomes and Impacts

The course is currently being shared through the 7,450 Municipal Separate Storm Sewer System (MS4) programs that convey and discharge stormwater to waters of the U.S. The course helps MS4s achieve permit compliance by meeting required education goals and improving water quality.

Graduates and course workshop participants are encouraged to share success stories, lessons learned, and emerging stormwater issues. The participants' experiences are integrated into developing and creating new storytelling messages and course resources and activities. This feedback mechanism creates a continuously improving curriculum system.

In the process of developing this course, the project team also created a larger stormwater network of content experts, local contacts, and pilot testers who came together to aid in creating each course module.

"I would like to use this course for my junior year engineering students, they don't get this kind of information otherwise."

"This course would have been extremely valuable early in my career."

Moving Forward

The project was awarded additional funds in 2017, by North Central Region Water Network to enhance the current course materials. A 2-day Stormwater Core Course Collaboration Workshop is planned for the April, 2018 to bring together stormwater practitioners to develop innovative, engaging learning experiences using a variety of methodologies, including enhanced media and technology content. Participants will work with professionals to create storytelling messaging, course resources, and interactive activities. The workshop participants will review and revise existing stormwater course content as well as recommend multi-media enhancements for the online course.

You can participate in the process by becoming a beta tester of the course. Or, if you are a veteran professional you can help evaluate the feasibility of using this course to train staff or colleagues. Experience for yourself and take advantage of this great course!

RESOURCES

The online course can be accessed at <http://campus.extension.org>, by searching for Stormwater Practices and Maintenance Core Curriculum.

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The North Central Region Water Network comprises 12 Land-grant colleges and universities:

