Education Tools for Landscape Performance

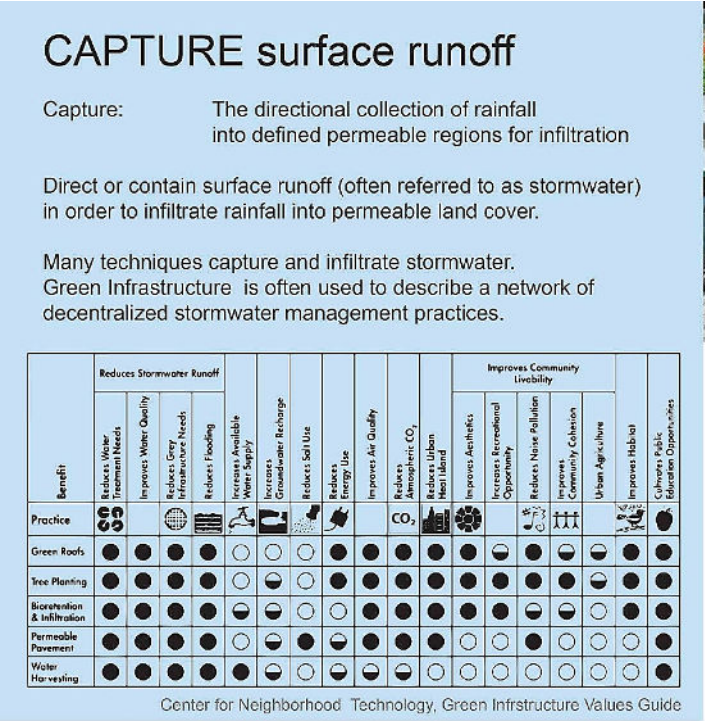
Recipient: Landscape Architecture Foundation
Grant: $25,000 PI: Heather Whitlow
Completion: 2015
Project Summary: 8

icpi
Foundation for Education and Research

Background and Need

The Landscape Architecture Foundation maintains a website with tools and models that assist practicing landscape architects in measuring economic, environmental and social performance of landscape systems. In addition, the LA Foundation maintains a growing stable of project case studies demonstration how performance is measured.

Objectives



SW 12th Avenue Green Street Project
Portland, Oregon
Kevin Robert Perry, ASLA

Determinate Variables:

rain event data
area in sq ft of infiltration permeability
types of runoff surfaces
% coefficient contaminates
capactity
maintanence of system
landscape capacity

With a grant from the ICPI Foundation, the LA Foundation sponsored ten grants, each at $2,500 awarded to university landscape architecture faculty. During the 2013-2014 academic year, grants were awarded to:
Arizona State University
Boston Architectural College
Mississippi State University
Temple University
University of Idaho

During the 2014 and 2015 academic years, grants were awarded to:

2014
Arizona State University
Boston Architectural College
Mississippi State University
Temple University
University of Idaho

2015
Arizona State University
California Polytechnic State University, San Luis Obispo
Kent State University
Rhode Island School of Design
Texas Tech

The grants helped develop, deploy, test, and evaluate teaching models to integrate landscape performance into a variety of standard landscape architecture course offerings such as site planning and analysis, research methods, and communications courses. This helped accelerate the adoption of landscape performance in the academia and give students the awareness and skills they need to design for, assess, and communicate landscape performance. This contributed to student skills and

exposure to resources to help them as practitioners to design, select materials, and prescribe maintenance practices that optimize performance.

Deliverables included documentation of instructional processes for replication among landscape architecture professors in universities. Participating faculty produced new syllabi, assignments, and other content for the “Resources for Educators” section of the LA Foundation website. The grants also allowed participating faculty to their teaching methods (pedagogy) through regular interactions and support from LAF staff, the LAF Education Committee, and each other.

The ten grant proposals were reviewed and evaluated by an independent committee of educators. Selection criteria included innovative teaching methods, geographic diversity and a variety of course types (e.g., research and methods, lecture courses, studio courses, seminars, and thesis/capstone work). Consideration was given to proposals for instructional resources that use segmental concrete paving systems as a vehicle for landscape design performance assessment. All students were introduced to the LA Foundation Performance Series Case Studies which provide various performance measuring tools.

Outcomes

The deliverables from the universities, Resources for Educators, are available to landscape architecture faculty and students. Deliverables that directly benefitted the ICPI Foundation include landscape performance evaluation tools applicable to segmental concrete pavements. Some of these tools include:

- USDA Technical Release 55 – A well-known runoff calculation model applied to permeable interlocking concrete pavements.
- Pedestrian environmental quality index (PEQI) – A survey tool that can measure the visual and social impact and preference of segmental concrete pavements compared to other pavements. The tool measures differences in perception between segmental and monolithic pavements as shown below:

- Water Harvesting Calculator by Wahaso Water Harvesting Solutions estimates the volume of water required for toilet flushing in a building and compares it to the amount of water that a rainwater harvesting system could capture from roofs and parking lots which could come from permeable pavements.