

## PERFORMANCE TESTING OF BEST MANAGEMENT PRACTICES



### IMPACT STATEMENT

The U.S. Environmental Protection Agency (EPA) lacks robust data documenting the performance of best management practices (BMPs) regarding stormwater management, and a clear understanding of the performance changes associated with conditions. By generating these data, the National Risk Management Research Laboratory's Water Supply and Water Resources Division (WSWRD) of EPA's Office of Research and Development can facilitate the adoption and implementation of effective BMPs for stormwater management. States, local utilities, governments, and other decision-making bodies are looking to EPA for these data in order to establish preferred stormwater management practices.

### BACKGROUND:

WSWRD undertook field investigations attempting to document the performance of selected stormwater controls. These efforts demonstrated the difficulties of collecting valid data in sufficient quantity to establish statistical confidence in the reported performance. While the results strongly support the presumptive performance, they fail to establish the capabilities at a known level of certainty. WSWRD concluded that it would only be possible to collect these data if the management practice was designed and constructed to be monitored. The devices are in various stages of completion at EPA's Edison Environmental Center (EEC), in Edison, New Jersey.

### DESCRIPTION:

This project performs controlled-condition engineering evaluations documenting the performance of commonly selected stormwater runoff BMPs, including rain gardens, permeable pavement and swales. WSWRD constructed working examples of these BMPs at the EEC to facilitate performance monitoring as part of the design.

EPA GOAL: Goal #2 - *Clean & Safe Water*; Objective 2.1.1- *Water Safe to Drink*

ORD MULTI YEAR PLAN: Water Quality (WQ), Long Term Goal – *WQ-2 Protection and Restoration of Aquatic Systems*

#### RESEARCH PARTNERS:

*Contractors:* PARS Environmental, Inc.

*Collaboration:* Dr. Chris Obrupta, Rutgers University

### EXPECTED OUTCOMES AND IMPACTS

This experiment is expected to produce data that will provide EPA with the ability to guide and support the states, local utilities and governments, and other decision-making bodies in the design and performance evaluations of stormwater management controls. The performance data from these stormwater management controls is necessary in considering

the more cost effective distribution in the watershed to meet water quality objectives and the total maximum daily load (TMDL).

## **OUTPUTS:**

Current and expected project outputs include conference presentations, newsletter articles, science briefs, and journal articles.

## **RESOURCES:**

National Risk Management Research Laboratory (NRMRL): <http://www.epa.gov/nrmrl/>

Urban Watershed Management Research: <http://www.epa.gov/ednrmrl/>

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Water Quality