ASCE | CONTINUING EDUCATION

Low Impact Development (LID) Applications for Water Resource Management

Purpose and Background

Low Impact Development (LID) is an innovative approach to stormwater management that is being implemented by federal agencies, state, and local governments for aquatic resource protection and regulatory compliance. LID is a site level stormwater management design approach with an objective of maintaining the hydrologic cycle or meeting targeted watershed objectives. This is accomplished by a combination of planning and design strategies that use conservation approaches and techniques to reduce site development impacts in combination with Integrated Management Practices (IMPs).

The use of LID is being explored by transportation agencies, the Department of Defense, and many large institutions because of the potential life cycle cost savings, superior environmental protection, and ability to leverage funds from other programs, such as maintenance budgets, to construct IMPs.

This two-day seminar will focus on the engineering and technical issues associated with the planning, engineering, construction, and determining the effectiveness of LID. It will give the practicing engineer a foundation to begin to design LID projects and incorporate LID into local stormwater programs.

This training includes many design concepts and case studies, but does not include detailed design procedures for LID practices.

Seminar Instructors

Rod Frederick, P.E., D.WRE, F.ASCE, works as a Senior Technical Consultant for Michael Baker International providing advice on planning and designs to protect and improve water resources. He develops storm water pollution prevention plans at any level of government, and provides technical assistance for watershed planning and controls, conservation management, and storm water management. Rod has contributed to the primary and secondary drinking water regulation of public water supplies, best available technology regulation and pretreatment regulation of industrial discharges, national pollutant discharge elimination system permit programs for municipal, industrial, and stormwater discharges, the Nationwide Urban Runoff Program, the Nonpoint Source Urban Program, and the Coastal Zone Act Reauthorization Amendments of 1990 Management Measures for Control of Nonpoint Sources of Pollution.

Anna Lantin, P.E., C.P.E.S.C., CPSWQ, is a Vice President with RBF Consulting, a company of Michael Baker Corporation and is focused on stormwater program development, TMDL compliance, BMP research and design. She has 23 years of engineering experience on stormwater quality management, hydrology, hydraulics, watershed studies, program development, and NPDES permit implementation. She has extensive experience in stormwater management projects including stormwater quality research studies, Best Management Practices (BMP), Low Impact Development (LID) design, construction oversight, BMP implementation, water quality monitoring, operation and maintenance, and BMP performance data analysis. She is a Trainer of Record on stormwater compliance (State Water Resources Control Board and California Stormwater Quality Association) and Chair of the CASQA BMP Subcommittee.

- **For group training, contact John Wyrick (JWyrick@asce.org) or Stephanie Tomlinson (STomlinson@asce.org)**

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Seminar Benefits

- Gain an understanding of the general concepts and benefits of LID, including insight into the economic and environmental benefits of the approach
- Find out how communities are successfully implementing LID
- Gain additional tools to address WWF flow problems
- Learn alternative sustainable approaches to conventional end of pipe controls
- Obtain new perspectives on stormwater management and design
- Receive information on state-of-the-art research in modeling, monitoring, and management approaches
- Gain exposure to new LID modeling techniques and design manuals

Who Should Attend?

- Site Designers
- Hydrologists
- Modelers
- Road Designers
- Program Managers
- Landscape Architects
- Architects
- Watershed Planners
- Environmental Groups

Summary Outline

DAY 1

- Introduction/Overview of LID
- LID Hydrology
- LID Monitoring
- Bioretention / Raingardens
- Retrofit Case Studies

DAY 2

- Permeable Pavements
- Water Harvesting
- LID Planning and Ordinances
- LID Feasibility/Desirability Factors
- Local Site Investigation
- Green Roofs
- Land Development Case Study
- Examples of LID and Resources
- Wrap-up Questions and Answers

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