

Agenda

Understanding and Applying the Science of Stormwater

D. Wright

Short history of stormwater modeling
Hydrology, soil science and drainage
Classifying storm events
Identifying consequences of storm events
Stormwater modeling
Modeling downstream impacts

Choosing Appropriate Stormwater Best Management Practices (BMPs)

J. Musil

Stormwater management planning
Sizing criteria
Green infrastructure practices

- Preservation of natural features and conservation design
- Reducing impervious cover

Green management techniques

- Conservation of natural areas
- Riparian buffers and filter strips
- Vegetated swales
- Disconnected runoff
- Stream daylighting
- Rain gardens
- Green roofs
- Stormwater planters
- Rain barrels/cisterns
- Proprietary practices
- Porous pavement

Municipal Stormwater Issues/MS4 Program

C. Mildner

Typical challenges for municipalities
Breaking down the permit requirements
Tasks you can do with internal staff
Tasks needing engineer assistance
Permit requirements commonly missed during the report preparation
Different methods to document the work
Enforcing your operations and maintenance (O&M) manual
Enforcing maintenance agreements for best management practices (BMPs)
Examples of IDDE inspections and violations
Examples of corrective measures

Stormwater Regulations, Permits and Approvals

M. Burack

Local ordinances and approvals of pre- and post-construction stormwater management plans
NPDES construction stormwater permits
Approval of post-construction stormwater management (PCSM) plans
Post-construction requirements for inspection, maintenance, record keeping
Additional requirements at sites with past industrial use or known environmental impact
Industrial stormwater permitting requirements

Stormwater Management

Scranton, PA - Tuesday, October 29, 2019



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Learning Objectives

You'll be able to:

Discuss hydrology, soil science and drainage principles as they impact the treatment and management of stormwater.

Identify stormwater best management practices (BMPs) including conservation of natural areas, filter strips, vegetated swales, green roofs, rain gardens and porous pavements.

Discuss typical stormwater challenges and MS4 programs for municipalities.

Comply with requirements for obtaining stormwater permits.

Comply with requirements for stormwater infrastructure inspection, maintenance and recordkeeping.



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Stormwater Management

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Understand the science of stormwater

Identify the appropriate stormwater best management practices

Examine municipal stormwater issues

Learn about stormwater regulations, permits and approvals

Explore industrial stormwater permitting requirements

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Dan Wright *Advanced GeoServices*

Mr. Wright is the director of operations for the Site Design and Geotechnical Engineering groups at Advanced GeoServices. He is a civil engineer and serves as project manager and senior project consultant for numerous land development projects. His duties include project planning; engineering analysis; municipal and permitting agency coordination; and production of land development plans, construction plans, and reports. Mr. Wright has been working in the site design field since 1984, working on large and small multi-disciplined private and public land development projects. Mr. Wright has developed a unified design approach that coordinates planning, architecture, and landscape architecture with the civil engineering design based on his experience working with various types of clients. This approach has enabled Mr. Wright to successfully manage projects from conceptual design through completion of construction on a variety of commercial, residential, industrial, and institutional projects. Mr. Wright's duties include project planning; engineering analyses; and production of land development plans, construction plans, and reports. Mr. Wright specializes in creating engineering designs that are efficient but that also enhance the project. Complex grading and utility coordination designs significantly contributed to several redevelopment projects in the City of Philadelphia. Mr. Wright is also the township engineer and township zoning officer for Charlestown Township in Chester County, Pennsylvania.

Joseph Musil *Urban Engineers Inc.*

Mr. Musil has diversified work experience in both the private and public sectors, including private consulting and ombudsman services for industrial and manufacturing facilities, engineering consultants, government agencies, and local authorities/municipalities. His responsibilities have included management of multi-million-dollar construction projects, environmental and OSHA site audits, and review of multi-million dollar government procurement centers' activities. He places emphasis on environmental program management, development of standardized contracting procedures and documents, long-range planning, and improvement of total quality management

Seminar Information

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within client operations. He has applied his expertise as an employee of Urban Engineers, Inc., of Philadelphia for the past 23 years as a NEPA specialist and regulatory compliance engineer.

Christine Mildner *Barry Isett & Associates*

Ms. Mildner works as Barry Isett & Associates' MS4 specialist and works to ensure that municipal clients are compliant with their NPDES permit requirements and stay informed on any changes that would impact their MS4 programs. Municipal assistance includes sharing resources between communities, conducting field inspections, identifying stormwater impact areas, conducting staff training and addressing permit violations. Ms. Mildner holds a master's degree in Landscape Architecture with an undergraduate background in Biology, which provides an understanding of a project's environmental impacts while balancing the need for sustainable, functional and attractive public landscapes. Ms. Mildner continues her community education and outreach efforts within the Lehigh Valley as a branch member of the Delaware Valley Green Building Council (DVGBC) and as a steering committee member of the Lehigh Valley Sustainability Network (LVSN).

Mitchell Burack *Burack Environmental Law Offices*

Mr. Burack has 40 years of environmental legal experience, including four years as an enforcement attorney with U.S. EPA in Washington, DC, and ten years as a partner with Pepper Hamilton, LLP, in Philadelphia. Mr. Burack has represented industrial and commercial clients in a wide variety of regulatory and enforcement matters including construction stormwater permitting and compliance. He also represents developers, property owners and local authorities in the transfer and redevelopment of brownfield sites. Mr. Burack is a 1976 graduate of University of Illinois (B.A., Psychology) with a law degree from Washington University (St. Louis) in 1979. He is admitted to practice in Pennsylvania, Illinois, and the District of Columbia, and he is an approved mediator pursuant to Rule 53.3 of the Federal District Court for the Eastern District of Pennsylvania. Mr. Burack has published articles in the *Pennsylvania Bar Journal*, *Philadelphia Business Journal* and *Legal Intelligencer*, and the *Route 422 Business Advisor*.

Additional Learning

Webinar Series

Wetlands Law and Compliance

- **Understanding Wetlands Laws and Enforcement**
Wed., September 25, 2019, 11:00 AM - 1:00 PM CDT
- **Identifying Wetlands and Streams**
Wed., September 25, 2019, 1:30 - 2:30 PM CDT
- **Obtaining Wetland Permits and the Certification Process**
Thurs., September 26, 2019, 11:00 AM - 12:30 PM CDT
- **Trends and Opportunities in Wetland Preservation, Restoration, Creation and Enhancement**
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Registration

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