

Agenda

*Presented by Scott Southall, Abigail Rains,
and Blaine Early*

Stormwater Management System Objectives and Design Considerations

Regulatory requirements associated with stormwater water quality and quantity

- Clean Water Act
- Federal, state and local requirements

Complying with stormwater regulations

Preparing a stormwater quality management plan (SWQMP)

- Stormwater goals
- Design considerations

Stormwater Basin/Underground System Design

Site consideration and assessment

Selection criteria

- Site considerations
- Watershed and topographical considerations
- Stormwater contents
- Community and environmental factors

Choosing Basin Types

Detention basins

- Stormwater routing, sediment handling, outlet
- Pre-treatment
- Maintenance and operations

Retention ponds

- Stormwater routing, sediment handling, soils and vegetation
- Pre-treatment
- Maintenance and operations

Forebay infiltration basins

- Stormwater routing, sediment and chemical handlings, soils and vegetation
- Pre-treatment
- Maintenance and operations

Choosing an Underground Storage System

Detention/infiltration systems

- Type of storage – chambers, stone, custom design
- Pre-treatment
- Stormwater routing, infiltration, sizing, design criteria

Sustainable Best Practices in Stormwater Detention/Retention Green Infrastructure Practices

Naturalizing detention/retention basins

Small detention areas vs. large detention area

Rain gardens

Underground storage and water reuse options

**Stormwater Basins
and Underground Systems**
Louisville, KY - Friday, November 1, 2019

NON-PROFIT
U.S. POSTAGE PAID
EAU CLAIRE, WI
PERMIT NO. 2016

HalfMoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



Learning Objectives

You'll be able to:

Comply with stormwater regulations and assist with the preparation of stormwater pollution prevention plans.

Explain the criteria for choosing stormwater basins and underground systems, including impact area, watershed and terrain considerations and stormwater content.

Choose stormwater basin types, including detention basins, retention ponds and underground retention/infiltration systems.

Identify and describe stormwater best management practices, including rain gardens, naturalized retention basins and water reuse.



Find us on
Facebook

Stormwater Basins and Underground Systems

Louisville, KY - Friday, November 1, 2019



Understand stormwater management system objectives and design considerations

Examine how to choose basin types

Identify specifics in choosing an underground storage system

Learn about the best sustainable practices in stormwater retention/detention

Discuss stormwater routing, sediment handling, soils and vegetation

Continuing Education Credits

Professional Engineers

6.5 PDHs

Architects

6.5 Contact Hours (HSW)

6.5 AIA LU|HSW

Landscape Architects

6.5 Contact Hours (HSW)

6.5 LA CES HSW PDHs

Floodplain Managers

6.5 CECS

Contractors

Non-Credit CE Hours



HalfMoon Education Inc.
WWW.HALFMOONSEMINARS.ORG



**AIA
Continuing
Education
Provider**



Scott Southall *Principal at Earthcylce Design*
Mr. Southall, RLA, LEED AP BD+C, ASLA, AICP, is a principal with Earthcycle Design, LLC, a landscape architecture, urban planning and community resilience design firm, based in Lexington, Kentucky. He is a professional landscape architect in Kentucky and Ohio, a LEED-accredited professional BD+C with the US Green Building Council (USGBC), and a certified planner with the American Planning Association. Mr. Southall has over 25 years of professional experience in planning, design and project management. He has applied his sustainability design experience on a multitude of projects ranging in magnitude and complexity including: urban and site design for institute and community facilities with an emphasis on education and public outreach pertaining to green infrastructure (GI), low impact development (LID) and sustainable sites. Mr. Southall has presented on an assortment of sustainable practices and topics at statewide, regional and national conferences. In 2008, he shared the State of Kentucky Governor’s Award for Environmental Leadership. In 2009, he received an Environmental Commission Award from Lexington-Fayette Urban County Government for his environmental outreach and sustainable design efforts in Lexington. Mr. Southall graduated from the University of Kentucky with a bachelor of science degree in Landscape Architecture. Currently, he serves as one of 12 sustainable champions for the American Planning Association (APA), serves on the steering committee of Empower Lexington (a climate action plan to reduce CO2), and as treasurer for LFUCG’s Environmental Commission. In March 2017, Mr. Southall completed a three-day Climate Reality Leadership Corps training to become a climate reality leader and served as mentor in October, 2017. He is a past chapter president and trustee of Kentucky ASLA, past Board of Director member for Southeast Stormwater Association (SeSWA), and Market Leadership Advisory Board member (MLAB) for USGBC Kentucky. Mr. Southall is a member of the American Society of Landscape Architects and the American Planning Association.

Abigail Rains *Project Manager at Third Rock Consultants*
Ms. Rains is currently a project manager with Third Rock Consultants. Previously she had been with state government since May 2001, starting in the Division of Water’s Enforcement Branch where she issued notices of violations and negotiated/settled cases of noncompliance with municipalities and companies to return them into compliance with regulations. Ms. Rains became the state’s pretreatment program coordinator in July 2004, where her past experience in wastewater treatment plant operations was very useful in working with municipalities as they worked with industries to find a balance between successful commerce while still protecting the wastewater treatment plant. Prior to joining Third Rock, Ms. Rains had been the MS4 Coordinator for over 12 years where she worked with the MS4 communities to insure compliance with the KPDES Permit. She received a B.S. degree in Biology from Lincoln Memorial University.

Blaine Early *Attorney at Stites & Harbison*
Dr. Early has practiced environmental law at Stites & Harbison, PLLC, for over 20 years. His work with industry includes advice on compliance, permitting, transactions, response to enforcement actions, participation in regulatory development, and related administrative and civil litigation. In addition to the environmental statutory programs, Dr. Early also advises on sustainability and energy matters. He is the current chair of the Kentucky Chamber’s Energy & Environment Council. Dr. Early is former chair of the American Bar Association’s Water Quality and Wetlands Committee of the Section of Environment, Energy & Resources and is a past chair of the Kentucky Bar Association’s Environmental Section. Before law, he was a professor of biology and chair of the Biology Department at Cumberland College in Williamsburg, Kentucky. Dr. Early earned a Ph.D. degree in Biology from the University of Louisville, and a J.D. degree from the University of Kentucky.

Seminar Information

Hilton Garden Inn Airport
2735 Crittenden Drive
Louisville, KY 40209
(502) 637-2424

Tuition
\$289 for individual registration
\$269 for three or more simultaneous registrations.

Included with your registration:
Complimentary continental breakfast and printed seminar manual.

Receive a reduced tuition rate of \$101 by registering to be our on-site coordinator for the day. For availability and job description, please visit www.halfmoonseminars.org.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
- Call customer service at 715-835-5900

Cancellations: Cancel at least 48 hours before the start of the seminar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another seminar or the self-study package. You may also send another person to take your place.

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers and 6.5 HSW contact/continuing education hours to architects and landscape architects in most states, including Kentucky. Educators and courses are not subject to preapproval in Kentucky.

This event is approved by the American Institute of Architects Continuing Education System for 6.5 LU|HSW (Sponsor No. J885) and the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Visit www.halfmoonseminars.org for complete AIA/CES information under this course listing. Courses approved by the LA/CES are deemed approved for Kentucky landscape architects. Only full attendance can be reported to the AIA/CES and LA/CES.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York engineers, architects, and landscape architects.

The Association of State Floodplain Managers has approved this course for 6.5 CECs.

This seminar offers a non-credit continuing education opportunity to construction contractors. It is not approved by any state licensing entity for contractor continuing education credit.

Attendance will be monitored and attendance certificates will be available after the seminar for most individuals who complete the entire event. Attendance certificates not available at the seminar will be mailed to participants within fifteen business days.

Can’t Attend? Order the Manual and Audio from the Live Seminar as a Self-Study Package!
Audio recordings of this seminar are available for purchase starting at \$269. See registration panel for more information and please refer to specific state licensing rules or certification requirements to determine if this learning method is eligible for continuing education credit.

Registration

Stormwater Basins and Underground Systems

Louisville, KY - Friday, November 1, 2019

How to Register		Registrant Information
Online: www.halfmoonseminars.org		Name: _____ Company/Firm: _____ Address: _____ City: _____ State: _____ Zip: _____ Occupation: _____ Email: _____ Phone: _____
Phone: 715-835-5900		Additional Registrants: Name: _____ Occupation: _____ Email: _____ Phone: _____
Fax: 715-835-6066	Code:	Name: _____ Occupation: _____ Email: _____ Phone: _____
Mail: HalfMoon Education Inc., PO Box 278, Altoona, WI 54720-0278		Name: _____ Occupation: _____ Email: _____ Phone: _____
Complete the entire form. Attach duplicates if necessary.		Email address is required for credit card receipt, program changes, and notification of upcoming seminars and products. Your email will not be sold or transferred.
		() I need special accommodations. Please contact me.

Tuition
() I will be attending the live seminar. Single Registrant - \$289.00 . Three or more registrants from the same company registering at the same time - \$269.00 each.
() I am not attending. Please send me the self-study package: ☐ Downloadable MP3 Audio/PDF Manual for \$269.00 . ☐ CD/Manual Package for \$289.00 . (S&H included. Please allow five weeks from seminar date for delivery)
Checks: Make payable to HalfMoon Education Inc.
Credit Card: <i>Mastercard, Visa, American Express, or Discover</i>
Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
Cardholder Name: _____
Billing Address: _____
City: _____ State: _____ Zip: _____
Signature: _____
Email: _____

