# Agenda

***Presented by Gary LaForge***

**Exploring Urban Hydrology and Environment**
Principles of urban hydrology
Separate versus combined storm sewer systems
Introduction to green stormwater infrastructure (GSI)
Establishing municipal goals and working towards a green future

**Reviewing Regulations and Doing Stormwater Modeling**
Local municipal private development stormwater regulations
Stormwater modeling: rational method curve number, continuous simulation

**Green Stormwater Infrastructure Implementation Case Study**
Parking lot design
Technical considerations
- Infiltration testing
- Basin design

Regulatory considerations
- Flood control
- Water quality
- Public health and safety

**Designing a Separate Storm Sewer System**
Reviewing drainage patterns
Locating and spacing inlets
Creating a system layout
- Choosing pipe materials and diameters
- Locating manholes
- Design discharge
- Gutter design
- Longitudinal slopes

Utilities conflicts
Construction concerns
Gutter design

**City-Scale Strategic Stormwater Planning**
Sewer system renewal and aging dynamics
Progressive flood mitigation planning

**Storm Sewer Design Case Study**

**Urban Storm Sewer System Design and Construction**
Springfield, IL - Thursday, December 5, 2019

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# Learning Objectives

***You'll be able to:***

***Discuss*** principles of urban hydrology and differentiate separate stormwater systems and combined stormwater/wastewater sewer systems.

***Reference*** local municipal stormwater regulations, and assist with stormwater modeling.

***Participate*** in the design of separate storm sewer systems by understanding drainage patterns, locating and spacing inlets and manholes, designing gutters and selecting materials.

***Describe*** green stormwater practices for parking lot design, stormwater basin design, and infiltration design.

***Explore*** city-scale strategic stormwater planning, including flood mitigation planning.

# Urban Storm Sewer System Design and Construction

*Springfield, IL - Thursday, December 5, 2019*

***Learn*** about urban hydrology and establish municipal stormwater goals

***Explore*** stormwater regulations and stormwater modeling techniques

***Get*** tips on designing separate storm sewer systems

***Examine*** a storm sewer design case study

***Discuss*** green stormwater infrastructure implementation

## Continuing Education Credits

***Professional Engineers & Land Surveyors***
6.5 PDHs

***Architects***
6.5 HSW Contact Hours
6.5 AIA LU|HSW

***Landscape Architects***
6.5 HSW Continuing Ed. Hours
6.5 LA/CES HSW PDHs

***Floodplain Managers***
6.5 ASFPM CECs

***Contractors***
Non-Credit Continuing Ed.

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# Faculty

**Gary LaForge** *President at LaForge & Associates, LLC*

Mr. LaForge primarily focuses on the areas of municipal services; road construction; stormwater management; flood control; hydraulics and hydrology; domestic water supply, distribution and treatment; and wastewater collection and treatment. His extensive experience includes all aspects of the above design areas, from collection of the initial raindrop through domestic use and wastewater treatment to recycling and reuse. Mr. LaForge has an extensive training background in all areas of capital improvement programs, municipal implementation programs, inspection techniques and stormwater management. His experience includes the use of geographical information systems (GIS) and modeling software to simulate the collection or distribution system of interest, and the experience to understand why the model does not match the actual system measurements. Mr. LaForge is registered as a professional engineer in Illinois and is a member of the American Public Works Association. He earned his B.S. degree in Agricultural Engineering from the University of Illinois at Urbana-Champaign.

# Additional Learning

## Webinar Series

**National Electrical Code**

- **National Electrical Code, Part I**
  Tues., Oct. 22, 2019, 11:00 AM - 3:30 PM CDT
- **National Electrical Code, Part II**
  Wed., Oct. 23, 2019, 11:00 AM - 3:30 PM CDT
- **National Electrical Code, Part III**
  Thurs., Oct. 24, 2019, 11:00 AM - 3:30 PM CDT

**Slope Stability and Landslide Prevention**

- **Slope Movement and Mechanisms**
  Thurs., Oct. 24, 2019, 11:00 AM - 1:00 PM CDT
- **Slope Stabilization Methods**
  Thurs., Oct. 24, 2019, 1:30 - 3:00 PM CDT
- **Landslide Hazard and Risk Assessment**
  Fri., Oct. 25, 2019, 11:00 AM - 12:00 PM CDT
- **Slope Stabilization and Landslide Mitigation**
  Fri., Oct. 25, 2019, 12:30 - 2:30 PM CDT

**HEC-RAS Webinar Series**

- **Hydraulic Principles and Applications**
  Tues., Oct. 29, 2019, 11:00 AM - 1:00 PM CDT
- **Working with the HEC-RAS User Interface**
  Tues., Oct. 29, 2019, 1:30 - 3:00 PM CDT
- **Water Surface Profiling**
  Thurs., Oct. 31, 2019, 11:00 AM - 1:00 PM CDT
- **Steady Flow Surface Profile Demonstrations**
  Thurs., Oct. 31, 2019, 1:30 - 3:30 PM CDT

**Distributed Batteries for Solar PV Systems**

- **Distributed Batteries for Solar PV Systems, Part I**
  Wed., Nov. 6, 2019, 11:00 AM - 2:15 PM CST
- **Distributed Batteries for Solar PV Systems, Part II**
  Thurs., Nov. 7, 2019, 11:00 AM - 2:15 PM CST

For more information
and other online learning opportunities visit:
**www.halfmoonseminars.org/webinars/**

# Seminar Information

**Crowne Plaza Springfield**
3000 South Dirksen Parkway
Springfield, IL 62703
(217) 529-7777

Registration
8:00 - 8:30 am

Morning Session
8:30 - 11:45 am

Lunch (On your own)
11:45 am - 12:45 pm

Afternoon Session
12:45 - 4:30 pm

## Tuition

**$289** for individual registration
**$269** for three or more simultaneous registrations.
*Each registration includes a 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.

**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.

## Continuing Education Credit Information

This seminar is open to the public and offers 6.5 PDHs to professional engineers and land surveyors, 6.5 HSW contact hours to architects, and 6.5 continuing education hours to landscape architects in most states, including Illinois. Educators and courses are not subject to pre-approval in Illinois.

This seminar is approved by the American Institute of Architects Continuing Education System for 6.5 LU|HSW (Sponsor No. J885) and by the Landscape Architecture Continuing Education System for 6.5 HSW PDHs. Only full attendance is reportable to the AIA/CES and LA/CES. Visit *www.halfmoonseminars.org* for complete AIA/CES information under this course listing.

Engineers, architects, and landscape architects seeking continuing education credit in other states will be able to apply the hours earned at this seminar in most cases. Refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida, Indiana, Louisiana, 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 activity for 6.5 CECs.

This seminar offers a non-credit continuing education opportunity to construction contracts. It has not been approved by any contractor licensing board of 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.

# Registration

## Urban Storm Sewer System Design and Construction

Springfield, IL - Thursday, December 5, 2019

### How to Register

**Online:**
www.halfmoonseminars.org

**Phone:**
715-835-5900

**Fax:**
715-835-6066

**Code:**

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

**Complete the entire form.** Attach duplicates if necessary.

### Registrant Information

Name: _____
Company/Firm: _____
Address: _____
City: _____ State: _____ Zip _____
Occupation: _____
Email: _____
Phone: _____

**Additional Registrants:**

Name: _____
Occupation: _____
Email: _____
Phone: _____

Name: _____
Occupation: _____
Email: _____
Phone: _____

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**. ☐ USB/Manual Package **$289.00.**
(S&H included. Please allow five weeks from seminar date for delivery)

**Checks:** Make payable to HalfMoon Education Inc.

**Credit Card:** *Mastercard, Visa, American Express, or Discover*

Credit Card Number: _____
Expiration Date: _____ CVV2 Code: _____
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City: _____ State: _____ Zip: _____
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