

## Credit Information

### Stormwater Best Management Practices

This webinar offers 7.0 PDHs to professional engineers in all states, 7.0 HSW continuing education hours to architects in all states, and 7.0 HSW continuing education hours to landscape architects licensed in all states except New Jersey.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider No. 0004647), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00000700) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers, architects and landscape architects via its registration with the American Institute of Architects Continuing Education System (Regulations of the Commissioner §68.14(i)(2) and §69.6(i)(2)). Other states do not preapprove continuing education providers or courses.

The Florida DBPR Board of Landscape Architecture generally accepts courses approved by the Landscape Architect Continuing Education System. Landscape architects licensed in Florida are encouraged to review The 2021 Florida Statutes, 481.313(4) to determine course eligibility.

The American Institute of Architects Continuing Education System has approved this course for 7.0 LU | HSW (Sponsor No. J885). Only full participation is reportable to the AIA/CES.

The Landscape Architecture Continuing Education System has approved this course for 7.0 HSW PDHs. Only full participation is reportable to LA CES.

The International Code Council has approved this event for .7 CEUs in the specialty area of Sitework (Preferred Provider No. 1232).

This seminar has been approved by the Association of State Floodplain Managers for 7.0 CECs for floodplain managers.

Completion certificates will be awarded to participants who complete this event, respond to prompts and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

### Introduction to HEC-HMS Modeling

This webinar offers 7.0 PDHs to professional engineers in all states and 7.0 HSW continuing education hours to landscape architects licensed in all states except New Jersey.

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The Landscape Architecture Continuing Education System has approved this course for 7.0 HSW PDHs. Only full participation is reportable to LA CES.

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## Live, Interactive Webinars

- Stormwater Best Management Practices
- Introduction to HEC-HMS Modeling

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## Live, Interactive Webinars

### Stormwater Best Management Practices

- Thursday, January 27, 2022 | 8:30 am - 5:00 pm CST

### Introduction to HEC-HMS Modeling

- Monday, January 31, 2022 | 8:30 am - 5:00 pm CST

To register, view detailed presenter biographies,  
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## HalfMoon Education Live Webinars



### Stormwater Best Management Practices

Thursday, January 27, 2022 | 8:30 am - 5:00 pm CST

Credits: Professional Engineers: 7.0 PDHs      Architects: 7.0 HSW CE Hours  
AIA: 7.0 LU | HSW      Landscape Architects: 7.0 HSW CE Hours (No NJ credit)  
LA CES: 7.0 HSW PDHs      Floodplain Managers: 7.0 ASFPM CECs  
International Code Council: .7 CEUs (Building)



### Introduction to HEC-HMS Modeling

Monday, January 31, 2022 | 8:30 am - 5:00 pm CST

Credits: Professional Engineers: 7.0 PDHs  
Landscape Architects: 7.0 HSW CE Hours (No NJ credit)      LA CES: 7.0 HSW PDHs  
Floodplain Managers: 7.0 ASFPM CECs



# Stormwater Best Management Practices

Thursday, January 27, 2022 | 8:30 am - 5:00 pm CST (incl. a 60-min break)

**Tuition:** \$289 per registrant, \$239 per registrant for three or more

**Credits:** Professional Engineers: 7.0 PDHs      Architects: 7.0 HSW CE Hours  
AIA: 7.0 LU|HSW      Landscape Architects: 7.0 HSW CE Hours (No NJ credit)  
LA CES: 7.0 HSW PDHs      Floodplain Managers: 7.0 ASFPM CECs  
International Code Council: .7 CEUs (Building)

## Agenda

### Selecting Stormwater Best Management Practices

- Site topography, hydrology, and soils
- System sizing and design
- System performance
- Selection criteria

### Reducing Site Disturbance and Increasing Natural Landscaping

- Benefits of natural landscaping
- Choosing native species for plantings
- Cost considerations and maintenance

### Permeable Pavers

- Site criteria and product selection
- Preparation and installation
- Cost considerations and maintenance

### Vegetated Roofs

- |                              |                 |
|------------------------------|-----------------|
| Benefits and life cycle cost | Extensive roofs |
| Intensive roofs              | Maintenance     |

### Rain Barrels, Cisterns and Rain Gardens

- |                       |                          |
|-----------------------|--------------------------|
| Stormwater collection | Water storage            |
| Reuse                 | Garden sizing and design |
- Cost considerations

### Filter Strips and Drainage Swales

- Benefits and design considerations
- Choosing appropriate vegetation
- Cost considerations and maintenance

### Detention Basins and Ponds

- Benefits and site selection
- Sizing and design
- Choosing native vegetation
- Maintenance considerations

### Stormwater Best Management Case Studies

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# Introduction to HEC-HMS Modeling

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## Agenda

### Applications for Hydrologic Analysis

- |                       |                        |
|-----------------------|------------------------|
| Watershed studies     | Stormwater management  |
| Regional flood models | Stream flow assessment |

### Hydrologic Principles

- |                  |                                   |
|------------------|-----------------------------------|
| Hydrologic cycle | Watershed delineation methodology |
| Hydrographs      | Rational Method                   |
| SCS Methods      |                                   |

### History and Development of US Army Corps HEC-HMS Software

### HEC-HMS Application User Interface

- Program file and project management
- Data entry and editing

### Building a Small-Scale Watershed Model

- |               |                       |
|---------------|-----------------------|
| Data required | GIS data usage        |
| Model setup   | Analysis requirements |

### Model Output and Troubleshooting

- |                        |                      |
|------------------------|----------------------|
| Results and reporting  | Mapping capabilities |
| Results interpretation | Calibration          |
| Troubleshooting tips   |                      |

### Demonstration of Small Watershed Model

- Live demonstration of a small-scale HMS model

### Building a Large-Scale Watershed Model

- |               |                       |
|---------------|-----------------------|
| Data required | GIS data usage        |
| Model setup   | Analysis requirements |
| Modeling tips |                       |

### Demonstration of Larger Watershed Model

- Live demonstration of a larger scale HMS model

### Other Applications in HEC-HMS

- |                     |                     |
|---------------------|---------------------|
| Dam breach analysis | Irrigation design   |
| Stormwater routings | Urban flood studies |

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# Faculty

## Stormwater Best Management Practices

**Brad Flack, CPESC, CESSWI, QCIS** *President & CEO of Integrity Stormwater*

Mr. Flack has earned his designation, among select thousands in the world, as a certified professional in erosion and sediment control (CPESC) as well as his designation as a certified erosion, sediment and stormwater inspector (CESSWI) and a course instructor, lending his experience and training to his customers for all of their stormwater needs. Furthermore he is among the select few who are qualified compliance inspectors of stormwater (QCIS). He has served as the president and the administrative vice president of the South Central Chapter of the International Erosion Control Association (IECA). Mr. Flack was the Region 6 president for EnviroCert International and has served as the Region 7 representative for CPESC, Inc. He was technical vice-chair for the CPESC Council, and he is on the Education Committee: Stormwater Management Track for the International Erosion Control Association Region 1 which encompasses North America, South America and Europe, where he has served as chair. Mr. Flack was awarded Young Professional of the Year for 2014 by the IECA Region 1 and is also an IECA Mentor. He also served as a member of the Policies and Procedures Committee and the Certified Professional in Industrial Stormwater Management Committee for EnviroCert International.

## Introduction to HEC-HMS Modeling

**Mary L. Paist-Goldman, P.E.** *Principal and Owner of Rippled Waters Engineering, LLC*

Ms. Paist-Goldman has more than 20 years of experience in water resource engineering with a particular focus in hydrologic and hydraulic modeling. She is the principal and owner of Rippled Waters Engineering, LLC based in New Jersey. Her firm specializes in water resources engineering services for a variety of projects. Prior to starting Rippled Waters in 2018, she served for many years as principal engineer and director of Engineering Services at a Mid-Atlantic natural resources firm. She is an experienced modeler and has worked extensively on design and analysis using a variety of hydrologic and hydraulic programs including HEC-HMS, HEC-RAS, HydroCAD and XP-SWMM. Applications for her hydraulic modeling expertise include wetland restoration and mitigation; stream restoration; bridge repair and replacement; and dam repair, replacement and removal. Specifically related to riverine systems, Ms. Paist-Goldman has extensive expertise with stream restoration, natural channel design and stabilization. Throughout her career, she has designed dozens of projects with low impact development techniques, green infrastructure and with a focus on water quality – particularly in regard to TMDL compliance. She has designed rain gardens, cistern systems for water re-use in the form of landscape irrigation, bioretention islands, manufactured LID devices, infiltration basins and constructed wetlands.

# Additional Learning

## How to Design for Stormwater Management for Ground-Mounted Solar Arrays

- Wed, Dec 29, 2021 | 1:00 - 3:00 pm CST

## Managing Construction Projects

- Wed, Dec 29, 2021 | 8:30 am - 4:30 pm CST

## Structural Forensic Engineering

- Wed, Dec 29, 2021 | 10:00 am - 1:45 pm CST  
- Thurs, Dec 30, 2021 | 10:00 am - 1:45 pm CST

## Residential and Small Commercial Solar Photovoltaic Energy Systems

- Thurs, Dec 30, 2021 | 8:30 am - 4:00 pm CST

## Technical Writing Workshop for Design Professionals

- Wed, Jan 12, 2022 | 8:30 am - 5:00 pm CST

## IRC Significant Changes – Chapters 1-10

- Thurs, Jan 13, 2022 | 11:00 am - 3:30 pm CST

## How to Read a Geotechnical Report

- Fri, Jan 14, 2022 | 11:00 am - 2:15 pm CST

## Handling Ethical Issues in Construction

- Tues, Jan 18, 2022 | 3:00 - 5:00 pm CST

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