

# Agenda

Presented by Bill Simpson, P.E.

## Types of Retaining Walls and Appropriate Applications

- Common types of walls commonly used in today's construction
- Best applications of a cast-in-place concrete wall
- Alternatives to cast-in-place retaining walls
- Advantages to using gravity retaining walls
- Different types of gravity walls
- Basic concepts of mechanically stabilized earth (MSE) systems
- Best applications of an MSE wall and/or slope

## Retaining Wall Design

- Defining "the wall"
- Identifying forces on a retaining wall
- How to account for and resist soil pressure
- How water pressure impacts a retaining wall
- The properties of the soil that contribute to the wall design
- Equations and examples

## Slope Stabilization

- Unreinforced slope stability analysis
  - Fundamentals of slope instability
  - Soil and geological mechanics related to slope instability
  - How geologic conditions affect slope stability
  - Observations of slope instability
  - Construction practices to improve or restore slope stability
  - Equations, calculations and example of an unreinforced slope
- Reinforced slope stability analysis
  - Geosynthetic properties for use in slope stabilization
  - Deep-seated stability analysis
  - Equations, calculations, and example of using geosynthetics to reinforce a slope
  - Soil properties and conditions that contribute to slope stability
  - Material required for the exposed face of the slope to maintain long-term stability

## Retaining Wall and Slope Stabilization Case Histories

- Preventing problems or failures of walls and slopes through improved site layout
- Commonly overlooked design code requirements related to retaining wall layout and design
- Roles and responsibilities of the design and construction team to ensure structure success
  - Typical causes of problems or structure failure
  - Recognizing and preventing a problem during construction
  - How water (both surface and below ground) effects an earth structure
  - What measures to take during construction to ensure long term earth structure success
- Case histories and examples of failed structures

# Retaining Wall Design and Slope Stabilization Techniques

Live, Interactive Webinar - Wednesday, August 7, 2024

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:**

**Discuss** applications for cast-in-place concrete walls, gravity walls and mechanically stabilized earth walls.

**Identify** forces acting on retaining walls, and consider the properties of site soils.

**Analyze** the stability of unreinforced and reinforced slopes.

**Get tips on** best practices for preventing failures of walls and slopes.

# HalfMoon Education Inc., Your LIVE Education Leader Presents Retaining Wall Design and Slope Stabilization Techniques

Live, Interactive Webinar - Wednesday, August 7, 2024



**Discuss** cast-in-place concrete walls, gravity walls and mechanically stabilized earth walls

**Identify** the forces that act on walls

**Analyze** the stability of unreinforced slopes and reinforced slopes

**Explore** retaining wall and slope stabilization best practices

## Continuing Education Credits

**Professional Engineers**  
7.0 PDHs

**Architects**  
7.0 HSW CE Hours  
7.0 AIA LU | HSW

**Landscape Architects**  
7.0 HSW CE Hours  
7.0 LA CES HSW PDHs

**International Code Council**  
.7 CEUs (Sitework)



# Webinar Information

Online - Wednesday, August 7, 2024

## Log into Webinar

8:30 - 9:00 am CDT

## Break

12:45 - 1:15 pm CDT

## Morning Session

9:00 am - 12:45 pm CDT

## Afternoon Session

1:15 - 5:00 pm CDT

## Tuition

**\$339** for individual registration.

**\$309** for two or more registrants from the same company at the same time.

**Included with your registration:** PDF seminar manual.

## How to Register

- Visit us online at [www.halfmoonseminars.org](http://www.halfmoonseminars.org)
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**Cancellations:** Cancel at least 48 hours before the start of the webinar, and receive a full tuition refund, minus a \$39 service charge for each registrant. Cancellations within 48 hours will receive a credit toward another webinar or the on-demand package. You may also authorize another person to take your place.

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# Faculty

## Bill Simpson, P.E.

*Geotechnical Structure Design Specialist at Gradelta Engineering*

Mr. Simpson founded Gradelta Engineering in 2020 with the intent to help clients better understand the combination of geotechnical and structural engineering that he has worked with for the past 20 years. He earned his B.S.C.E. and M.S.C.E. degrees from Georgia Institute of Technology. He currently provides engineering services to contractors and fellow engineers for earth structure pricing, along with the plans and calculations needed for construction. He frequently consults with clients regarding the optimal structure type and location on the construction site to minimize risk and maximize usable space. He also works in the education sector providing not just seminars such as this one, but also acting as a subject matter expert creating study guide and test prep content for the NCEES Professional Civil Engineer exam. Mr. Simpson has also worked with lawyers and insurance companies during forensic investigation and lawsuits surrounding retaining walls and slope failures. His hope is that through the instructional services that he currently provides, slopes will remain stable and retaining wall failure will be eliminated.

# Credit Information

This webinar is open to the public and is designed to qualify for 7.0 PDHs for professional engineers, 7.0 HSW continuing education hours for licensed architects, and 7.0 HSW continuing education hours for landscape architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

HalfMoon Education is an approved continuing education sponsor for engineers in Florida (Provider License No: CEA362), Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24GP00049300) and North Carolina (S-0130). HalfMoon Education is deemed an approved continuing education sponsor for New York engineers and 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 American Institute of Architects Continuing Education System has approved this course for 7.0 HSW LUs (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 the LA CES.

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

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

## On-Demand Credits

The preceding credit information only applies to the live presentation. This course in an on-demand format may not be eligible for the same credits as the live presentation; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request:

7.0 HSW LUs (AIA) 7.0 HSW PDHs (LA CES)

# Additional Learning

## Asphalt Pavement: Production, Placement and Preservation

- Friday, July 12, 2024 | 1:00 - 5:15 pm CDT

## Restoring Natural Spaces

- Friday, July 12, 2024 | 8:30 am - 4:30 pm CDT

## Introduction to Groundwater Modeling

- Tuesday, July 16, 2024 | 9:00 am - 4:00 pm CDT

## It Doesn't End in August - Extending Interest in the Garden

- Tuesday, July 16, 2024 | 8:30 - 11:15 am CDT

## Roadmap to Ethical Issues in Construction:

### A Primer for Design Professionals

- Tuesday, July 16, 2024 | 11:00 am - 1:00 pm CDT

## Shallow Foundation Design, Construction and Repair

- Tuesday, July 16, 2024 | 8:30 am - 4:30 pm CDT

## Brownfield Planning and Redevelopment

- Wednesday, July 17, 2024 | 10:00 am - 12:00 pm CDT

## Deep Dive into Cool Roofs and Cool Walls

- Wednesday, July 17, 2024 | 12:30 - 2:30 pm CDT

## Threats to Trees and How to Increase Their Survival

- Wednesday, July 17, 2024 | 11:00 am - 3:00 pm CDT

- Thursday, July 18, 2024 | 11:00 am - 2:30 pm CDT

## Introduction to Stormwater Modeling

- Thursday, July 18, 2024 | 9:00 am - 4:00 pm CDT

## Landscaping for Pollinators

- Thursday, July 18, 2024 | 10:00 am - 12:00 pm CDT

## Deep Dive into PFAS in Our Water

- Wednesday, July 24, 2024 | 9:00 am - 12:15 pm CDT

## Applying the Building Code to Cannabis Facilities

- Friday, July 26, 2024 | 8:30 am - 3:30 pm CDT

## Using the State Plane Coordinate System

- Friday, July 26, 2024 | 9:00 am - 1:30 pm CDT

## Historic Preservation, Restoration and Rehabilitation

- Monday, July 29, 2024 | 9:00 am - 4:00 pm CDT

## High-Performance Building Envelope Design and Construction

- Monday, July 29, 2024 | 8:30 am - 4:00 pm CDT

## Modular Construction and Prefabricated Components:

### Residential, Multi-Family and Commercial Buildings

- Tuesday, July 30, 2024 | 9:00 am - 3:50 pm CDT

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