Retaining Wall Design and Slope Stabilization Techniques
Norfolk, VA - Thursday, February 27, 2020

Review the forces acting on retaining walls, including pressure from retained soil, and consider the impacts of groundwater.
Understand typical causes of failure for slopes and retaining walls and learn to prevent them.
Identify geosynthetics as to type, method of manufacture, relative strength, permeability and cost.
Get tips on preventing retaining wall/slope failures.
Utilize slope stabilization techniques such as unloading and mechanical stabilization.

Continuing Education Credits

<table>
<thead>
<tr>
<th>Professional Engineers</th>
<th>Floodplain Managers</th>
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<tbody>
<tr>
<td>6.5 Continuing Ed. Hours</td>
<td>6.5 ASFPM CECs</td>
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<tr>
<td>Architects</td>
<td>Contractors</td>
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<tr>
<td>6.5 Continuing Ed. Hours (HSW)</td>
<td>Non-Credit Continuing Ed.</td>
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<tr>
<td>6.5 LA/LU/HSW</td>
<td>Landscape Architects</td>
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<tr>
<td>6.5 Continuing Ed. Hours (HSW)</td>
<td>6.5 LA/CE/HSW PDHs</td>
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Learning Objectives

You’ll be able to:

**Identify** and quantify forces that act on retaining walls.

**Explore** different types of retaining walls and applications for each.

**Identify** geosynthetics as to type, method of manufacture, relative strength, permeability and cost.

**Analyze** slope stability and evaluate slope stabilization techniques, including unloading, reinforcement and mechanical stabilization.

**Review** case studies of retaining wall and slope failures and repairs.

Slope Stabilization Techniques

Examining slope failures
Slope stability analysis
Stabilization techniques
  - Unloading
  - Mechanical stabilization
Slope Stabilization Case Histories
Fundamental soil characteristics and slope instability
Engineering mechanics underlying slope instability
Geologic conditions and construction practices
Field observations to distinguish types of instability
Construction practices to improve or restore stability

Slope Stabilization

Unloading
Drainage
Reinforcement
Mechanical stabilization

Retaining Walls: What They Do and How They Do It

Identifying and quantifying forces acting on retaining walls
- Weight of the wall
- Pressure from retained soil
- Characteristics of soil
- Impacts of water—liquid and frozen
- Vibration
- Expansion/contraction

Equations and examples

Geosynthetics and Retaining Walls, Embankments and Slopes

Calculations and software
Types of retaining walls
Embankments
Slopes
Materials
Alternatives
Exercises
  - Learn to visually identify geosynthetics as to type, method of manufacture, relative strength, permeability and relative cost

Retaining Wall/Slope Failures and Fixes

How to prevent a potential problem or failure
How to recognize a potential problem or failure in the field
Typical causes of problems or failures with geotechnical structures
Case studies/examples of failures and repairs

Find us on Facebook
Bill Simpson, PE  Engineered Earth Solutions, LLC

Mr. Simpson is a geotechnical structure design specialist at Engineered Earth Solutions, LLC. He has designed and reviewed shop drawings for construction and repair of earth structures in the public and private sectors in over 30 states, and he consistently works on more than 1,200 projects and 10 million square feet each year. He performs site visits for new project reconnaissance, construction verification, and construction assistance. Mr. Simpson manages, supervises, instructs, and mentors a team of staff engineers to ensure strict deadlines are met for construction schedules while maintaining design and analysis accuracy. He works with owners, site designers, and contractors to provide designs which are not only structurally sufficient but also financially responsible. Mr. Simpson earned his B.S.C.E. and M.S.C.E degrees from Georgia Institute of Technology.

Here’s what past attendees have to say about the program and speaker Bill Simpson: “Love seeing the case studies (photos). Helps bring theory to life.” – Architect
“he kept us thinking. Relates very well to participants. Very personable.” – Architect
“The best seminar - great on theory and application.” – Civil Engineer
“Great seminar to understand retaining wall/slope stabilization.” – Landscape Architect

Continuing Education Credit Information

This seminar is open to the public and offers 6.5 continuing education hours to engineers, architects and landscape architects (HSW) in most states, including Virginia. Educators and courses are not subject to preapproval in Virginia.

This event has been 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. Full attendance is required for course attendance reporting to AIA/CES and LA/CES. Visit www.halfmoonevents.org for complete AIA/CES information under this course listing.

Halfmoon Education is an approved continuing education sponsor for engineers in Florida, Indiana (License No. CE21700059), Maryland, New Jersey (Approval No. 24000000700), 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 event for 6.5 ECs.

This course offers a non-credit continuing education opportunity to construction contractors. It has not been preapproved in any state with contractor continuing education requirements.

Attendance will be monitored, and attendance certificates will be available after the seminar for most individuals who complete the entire program. 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.

Additional Learning

Webinar Series

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<tr>
<th>Topic</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
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<tr>
<td>Foundations in Cold Regions</td>
<td>Thurs., Feb. 20, 2020, 11:00 AM - 12:30 PM CST</td>
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<tr>
<td>• Introduction to Foundations in Cold Regions</td>
<td>Thurs., Feb. 20, 2020, 1:00 - 2:50 PM CST</td>
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<tr>
<td>• Shallow Foundation Design in Cold Regions</td>
<td>Thurs., Feb. 20, 2020, 11:00 AM - 12:30 PM CST</td>
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<td>• Deep Foundation Design in Cold Regions Fri., Feb. 21, 2020, 11:00 AM - 12:30 PM CST</td>
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<tr>
<td>• Foundation Construction in Cold Regions Fri., Feb. 21, 2020, 1:00 - 2:00 PM CST</td>
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<tr>
<td>Soil Mechanics and Slope Stability</td>
<td>Tues., Feb. 25, 2020, 11:00 AM - 1:00 PM CST</td>
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<tr>
<td>• Reviewing Hydraulic and Mechanical Properties of Soils Tues., Feb. 25, 2020, 11:30 - 1:30 PM CST</td>
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<tr>
<td>• Determining and Increasing Bearing Capacity Wed., Feb. 26, 2020, 10:00 AM - 11:00 AM CST</td>
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<tr>
<td>• Determining and Increasing Slope Stability Wed., Feb. 26, 2020, 11:30 - 1:30 PM CST</td>
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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:

Ten (10) MP3 Audio/Printed Manual Package After Feb. 28, 2020, 3:00 PM CST
Three or more $269.00 each.

Qi need special accommodations. Please contact me.

Checks: Make payable to HalfMoon Education Inc.

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

Credit Card Number: ________
Expiration Date: ______/______
CVV2 Code: ________

Billing Address: ________
City: ________
State: ________
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Signature: ________

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