

Agenda

Presented by Terry McCleary

Types of Retaining Walls

Traditional cantilevered retaining walls

- Reinforced concrete walls
- Reinforced concrete masonry walls

Soldier pile and lagging walls

Traditional timber walls

Traditional gravity walls

Reinforced soil retaining walls

Anchored retaining walls (tie-backs, soil nailing, etc.)

Temporary retaining walls

Over-steepened reinforced slopes

Gabion walls

Crib walls

Private-sector vs. highway retaining wall systems

Retaining Wall Design

Soil design parameters

Lateral earth pressure

External stability

- Sliding
- Overturning
- Bearing capacity
- Settlement
- Scour

Internal stability

Global stability

Special considerations for tiered retaining walls

Backfill

Groundwater

Service life

Design software

Slope Stabilization

Science of slope stability

Surficial vs. deep-seated slope stability

Long term vs. short term stability

Slope stabilization techniques

- Regrading
- Excavation and replacement
- Slope reinforcement/pinning
- Ground improvement
- Toe retaining walls

Retaining Wall and Slope Stabilization Case Histories

Various commercial, residential projects

Various highway and institutional projects

**Retaining Wall Design and
Slope Stabilization Techniques**
Lombard, IL - Friday, September 28, 2018

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Learning Objectives

You'll be able to:

Define the characteristics of and applications for different types of retaining walls including traditional cantilevered walls, timber walls and gravity walls.

Identify and quantify the forces that act on retaining walls.

Discuss the factors that impact slope stability and can lead to slope failure.

Evaluate crucial slope stabilization techniques including regrading, reinforcement and ground improvement.



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Identify types of retaining walls and understand when to use each

Review the forces acting on retaining walls including pressure from retained soil and the impacts of groundwater

Design retaining walls for interior and exterior stability

Analyze key factors that influence long term and short term slope stability

Use slope stabilization techniques such as reinforcement and ground improvement

Continuing Education Credits

Professional Engineers

7.0 PDHs

Architects

7.0 HSW Contact Hours

7.0 AIA HSW Learning Units

Landscape Architects

7.0 HSW Continuing Ed. Hours

7.0 LA/CES HSW PDHs

Floodplain Managers

7.0 ASFPM CECs

Contractors

Non-Credit Continuing Ed.



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Faculty

Terry McCleary, *McCleary Engineering*

McCleary Engineering specializes in geotechnical investigations and recommendations for foundation design, retaining walls, slope stability, embankments, pavement design and rehabilitation, subgrade treatments and other engineering services such as drainage studies. McCleary Engineering is Illinois Department of Transportation (IDOT) prequalified in the general geotechnical services, subsurface explorations, structure geotechnical reports and construction inspection categories.

Mr. McCleary has nearly 19 years of construction and geotechnical engineering experience with IDOT. Six years were spent on the front lines of contract administration in construction as a resident engineer on bridge and roadway projects which included construction layout, material inspection and construction practice inspection. For the last 13 years at IDOT, Mr. McCleary was the District #3 geotechnical engineer, working hands-on subsurface investigations, analysis, design, and inspection of geotechnical engineering projects and on the spot problem solving. He has served on numerous statewide committees involving abutment design, piling, aggregate subgrade, subgrade stability, pavement under drains and pavement rehabilitation. He served on a nationwide Federal Highway Administration (FHWA) pooled fund study on deep soil mixing technology. In 2009, Mr. McCleary left IDOT to work full time at his company, McCleary Engineering. Mr. McCleary is a licensed professional engineer in the states of Illinois, Indiana, Iowa, Georgia, Oklahoma and Wisconsin. He is a member of the Deep Foundations Institute, the Pile Driving Contractors Association and the Illinois Association of Highway Engineers.

Seminar Information

Hyatt Place Chicago - Lombard/Oak Brook 2340 South Fountain Square Drive Lombard, IL 60148 (630) 932-6501	Registration 8:00 - 8:30 am Morning Session 8:30 am - 12:15 pm	Lunch (On your own) 12:15 - 1:15 pm Afternoon Session 1:15 - 5:00 pm
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Tuition
\$279 for individual registration
\$259 for three or more simultaneous registrations.

Each registration includes a complimentary continental breakfast and printed seminar manual.

How to Register

- Visit us online at www.halfmoonseminars.org
- Mail-in or fax the attached form to 715-835-6066
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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 CD/manual package. You may also send another person to take your place.

Can't Attend? Order the CD/Manual Package:

An audio recording of this seminar is available for \$289 (including shipping). Allow five weeks from the seminar date for delivery. 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

- Foundation Damage and Repair**
- **Structure Loads, Soil Mechanics, Bearing Capacity and Geo-Environmental Hazards**
Wed., Aug. 15, 2018, 11:00 AM - 12:30 PM CDT
 - **Foundation-Wall Design and Construction**
Wed., Aug. 15, 2018, 1:00 - 2:30 PM CDT
 - **Assessment of Foundation-Slab Damage & Repair Alternatives**
Thurs., Aug. 16, 2018, 11:00 AM - 12:30 PM CDT
 - **Assessment of Foundation-Retaining Wall Damage & Repair Alternatives**
Thurs., Aug. 16, 2018, 1:00 - 2:30 PM CDT

For more information
and other online learning opportunities visit:
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Continuing Education Credit Information

This seminar is open to the public and offers 7.0 PDHs to professional engineers, 7.0 HSW contact hours to architects, and 7.0 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 for 7.0 HSW Learning Units (Sponsor No. J885) and the Landscape Architecture Continuing Education System for 7.0 HSW PDHs. Only full attendance can be reported to the AIA/CES and the LA/CES.

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, Maryland, New Jersey (Approval No. 24GP00000700), New York (NYSED Sponsor No. 35), North Carolina, and North Dakota. HalfMoon Education is deemed an approved continuing education sponsor for New York architects and landscape architects.

The Association of State Floodplain Managers has approved this activity for 7.0 CECs.

This seminar offers a non-credit continuing education opportunity to construction contractors. 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

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Complete the entire form. Attach duplicates if necessary.	Occupation: _____
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	Additional Registrants:
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	Occupation: _____
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	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 - **\$279.00**. Three or more registrants from the same company registering at the same time - **\$259.00** each.

() **I am not attending.** Please send me the CD manual package for **\$289.00**. (S&H included. Please allow five weeks from seminar date for delivery)

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