Agenda

Presented by James "Jay" A. McKelvey, III, P.E.,D.GE, F.ASCE

Types of Retaining Walls, Soil Mechanics Review, Earth Pressures on Walls

Types of retaining walls
- Cut walls
- Fill walls

Soil mechanics review
- Soil classification
- Physical properties
- Shear strength
- Deformation properties
- Permeability
- Lateral earth pressures

Earth pressures on walls
- Soil and hydrostatic pressures
- Surcharge loads
- Influence of slopes
- Seepage
- Seismic

Modes of Failure, Retaining Wall Theory and Design, Geosynthetic Design

Modes of failure
- External failure modes
- Internal failure modes
- Serviceability failure

Retaining wall theory and design
- Overturning
- Eccentricity
- Sliding
- Bearing capacity
- Deformation

Geosynthetic design
- MSE walls and slopes
- Geosynthetic materials
- Allowable strength
- Anchorage capacity
- Geosynthetics in walls and slopes deformation

Retaining wall and slope software

Slope Stability and Slope Stabilization

Slope stability
- Theory
- Circular failures
- Wedge failures

Slope stabilization
- Types of failures
- Drainage relief
- Geosynthetic reinforcement
- Soil nails and rock anchors

Case Histories

Stabilization of failed slope
MSE failures
MSE stabilization with soil nails
MSE stabilization with buttress wall
Slope stabilization with piles
Shotcrete walls with tiebacks
Slope stabilization with shotcrete and soil nails
Geosynthetic reinforced slope

Retaining Wall Design and Slope Stabilization Techniques
Live, Interactive Webinar - Tuesday, August 22, 2023

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Learning Objectives

You'll be able to:

Review the soil mechanics of retaining walls and slopes and learn about the impact of soil types and the presence of groundwater and surface water.

Identify common modes of retaining wall failure.

Understand retaining wall stability theory, including the concepts of overturning, sliding, deformation and eccentricity.

Explore geosynthetic retaining wall design.

Understand types of slope failure, and explore stabilization techniques, including geosynthetic reinforcement, soil nails and rock anchors.

HalfMoon Education Live Webinars

Retaining Wall Design and Slope Stabilization Techniques

Live, Interactive Webinar - Tuesday, August 22, 2023

Examine types of retaining walls and review soil mechanics

Analyze earth pressures on walls, such as soil and hydrostatic pressures

Consider modes of failure, including external and internal failure modes

Explore retaining wall and slope software

Examine actual case studies on stabilization of failed slopes

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Break
12:15 - 1:15 pm CDT

Morning Session
8:30 am - 12:15 pm CDT

Afternoon Session
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Faculty

James "Jay" A. McKelvey, III, P.E.,D.GE, F.ASCE
Director- Geotechnical Design Division at Earth Engineering Inc.
Mr. McKelvey is the director of the Geotechnical Design Division at Earth Engineering Inc. in East Norriton, Pennsylvania. He is a registered professional engineer (P.E.) in California, Delaware, Maryland, New Jersey, Pennsylvania, Virginia, and the District of Columbia. Mr. McKelvey is also a Diplomate (D.GE) of the Academy of Geo-Professionals and a Fellow of the American Society of Civil Engineers (F.ASCE). Mr. McKelvey has extensive experience in geotechnical engineering including site assessment and field investigations; deep and shallow foundation design for buildings, bridges, and other structures; retaining wall design; embankment stability; mechanically stabilized soil structures; and subsurface hydrology. He also has significant experience in mitigating heavy construction claims and in litigation support pertaining to impacted heavy construction projects. Mr. McKelvey has also handled construction support and construction quality assurance projects. His environmental engineering experience includes technical contributions to the remediation of many Superfund sites and over 50 landfill design projects. Mr. McKelvey has published over 30 technical papers in journals, conference proceedings and trade magazines. He is currently the past chair for the Delaware Valley Geo-Institute (DVGI) and is a voting member in ASTM committees Soil and Rock (D18), and Geosynthetics (D35) and is an editorial board member of the *Geotechnical Testing Journal*. Mr. McKelvey also serves on two Geo-Institute committees; Earth Structures and Embankments and Dams, the latter of which he is a member of the subcommittee on landslide risk assessment.

Credit Information

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Soil-Structure Interaction (SSI)
- Tuesday, July 25, 2023 | 9:00 am - 4:00 pm CDT

International Residential Code 2021
- Wednesday, July 26, 2023 | 8:30 am - 4:30 pm CDT

Seismic Design and Construction
- Thursday, July 27, 2023 | 8:30 am - 5:00 pm CDT

The Usefulness of Drones for Civil Engineers and Land Surveyors
- Thursday, July 27, 2023 | 9:00 am - 4:00 pm CDT

Managing Construction Projects
- Monday, July 31, 2023 | 9:00 am - 5:00 pm CDT

Concrete Pavement Design, Construction and Maintenance
- Tuesday, August 1, 2023 | 9:00 am - 4:30 pm CDT

Complying with NPDES Industrial Stormwater Requirements
- Wednesday, August 2, 2023 | 8:30 - 11:45 am CDT
- Thursday, August 3, 2023 | 8:30 - 11:45 am CDT

Deep Dive into Pests and Diseases of Trees
- Wednesday, August 2, 2023 | 1:00 - 3:00 pm CDT

PFAS Remediation in City Water Supplies
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How to Estimate Construction Costs for Commercial Buildings
- Thursday, August 3, 2023 | 10:30 am - 12:30 pm CDT

Thermodynamics Fundamentals with Heating/Cooling Applications
- Monday, August 7, 2023 | 10:00 am - 2:00 pm CDT
- Tuesday, August 8, 2023 | 10:00 am - 2:00 pm CDT

Tiny House Design and Construction
- Wednesday, August 9, 2023 | 9:00 am - 5:15 pm CDT

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