

Agenda

Presented by Bill Simpson, P.E.

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
- Pressure on foundation of wall
- Characteristics of soil
- Loads on retained 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

Exercise

- Learn to visually identify geosynthetics as to type, method of manufacture, relative strength, relative permeability, and relative cost

Slope Stabilization Techniques

Examining slope failures

Slope stability analysis

Stabilization techniques

- Unloading
- Drainage
- Reinforcement
- 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

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

Retaining Wall Design and Slope Stabilization Techniques

Albany, NY - Friday, March 29, 2019

Halfmoon Education Inc.
PO Box 278
Altoona, WI 54720-0278



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Learning Objectives

You'll be able to:

Identify and quantify the forces that act on slopes and retaining walls, including pressure from soil, and consider the impacts of ice and water.

Discuss types of retaining walls.

Review calculations and explore software options.

Evaluate geosynthetics and other reinforcements as to type, method of manufacture, relative strength, and relative cost.

Examine typical causes of retaining wall/slope failures.

Learn about crucial slope stabilization techniques including unloading, drainage, reinforcement and mechanical stabilization.



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

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

Utilize slope stabilization techniques such as unloading and mechanical stabilization

Understand typical causes of failure for slopes and retaining walls and learn to prevent them

Get tips on fixing slope and retaining wall failures

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