Deep Foundations Institute

S3: Slopes, Slides and Stabilization

Presented as a Virtual Event

August 5, 2020 | 11:00 a.m.-2:00 p.m. EDT | www.dfi.org/S3-2020

2020 Conference Program

In Cooperation with:
ADSC - The International Association of Foundation Drilling
International Society for Micropiles
PDCA - Pile Driving Contractors Association
U.S. Federal Highway Administration

Media Partner:
PileBuck International, Inc.

www.dfi.org/S3-2020
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DEEP FOUNDATIONS | SHORING | GROUND IMPROVEMENT
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Deep foundations are commonly used to prevent or stabilize existing landslides, deriving resistance to slope movement through embedment in bearing material below the slide plane. A variety of design methods are used in practice to incorporate piles into limit-equilibrium method slope stability analysis, some of which fail to adequately capture the pile resistance mechanism or correctly identify the critical pile failure mode, leading to false interpretation of factors of safety. Of particular concern is the common practice of assigning the shear strength of the pile material, e.g., the shear strength of concrete or steel multiplied by the cross sectional area of the pile, as a resisting force in slope stability analyses. Without performing separate laterally-loaded pile analyses, this approach fails to identify whether shear failure is in fact the controlling pile mechanism; more often than not, analyses show that the pile would actually fail in flexure prior to shear. As a result, the shear strength approach may drastically overestimate the pile contribution to stability, inflating the calculated factor of safety.
REMEDIATION DESIGN SERVICES

- Forensic evaluations of failed slopes and retaining walls
- Design of landslide stabilization using deep foundations
- Practical construction solutions
- Instrumentation of deep foundations

ECS is known for innovative and practical solutions. This includes challenging slope and landslide repairs using deep foundations. A great remediation plan on paper has very little value if it isn’t practical when it comes to construction.

“Setting the Standard for Service”
OPTIMIZING EFFICIENCY. ELIMINATING COMPLEXITY.