Design of Soil Nail Walls - Methods and Software Application

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SnailPlus Software Features and Analysis Methods

More information:

Click here to learn more:
SnailPlus – Features and Capabilities
Examples and Videos
Slope Stability Analysis and Design of any Soil Nail Wall System

Slope Stability Analysis

- Slope Stability Analysis Methods:
  - Bishop Method
  - General Limit Equilibrium (Morgenstern-Price Method)
  - Spencer Method

- Critical Slope Surface Search Methods:
  - Circular Surface
  - Circular Surface with Active/Passive Wedges
  - Block Type Failure
  - Automatic Slope Search
  - Tri-linear Slope Search
  - User-Defined Slope Surface

- Stage Conditions:
  - Temporary Structure (short term)
  - Permanent Structure (long term)
  - Extreme Event (Seismic/High Water)

Soil Nail Walls Design

- Soil Nails:
  - Structural and Geotechnical Design
  - French Clouterre Recommendations

- Shotcrete Facing and Head Plates:
  - Full structural design
  - ACI and FHWA Methods
  - Two-Stage Facing (Permanent & Temporary)
SnailPlus - Soils and Stratigraphy

- Create multiple soil types and define soil properties
- Soil properties estimation tools (NSPT values - test data)
- Create multiple borings and define the horizontal stratigraphy
- Add CPT logs and SPT Records - Estimate properties from records
- Custom Layer mode: Create inclined soil layers
SnailPlus - Shotcrete Facing and Head Plates

- Use two-stage facing through stages (temporary-permanent)
- Define facing structural section (thickness, materials, reinforcement)
- Define the structural section for the headplates
- Draw additional facing/soil nail row configurations
- Select Stud sections
SnailPlus - Slope Stability Analysis Methods & Failure Surfaces

Slope Stability Analysis Methods:
- Bishop Method
- General Limit Equilibrium (Morgenstern-Price Method)
- Spencer Method

Critical Slope Surface Search Options:
- Circular Surface
- Circular Surface with Active/Passive Wedges
- Block Type Failure
- Automatic Slope Search
- Tri-linear Slope Search
- User-Defined Slope Surface
SnailPlus - Structural & Geotechnical Design

Soil Nails:
✓ Structural and geotechnical design
✓ French Clouture recommendations
✓ Design of each soil nail row for the most critical load

Shotcrete Facing and Head Plates:
✓ Full structural design
✓ ACI and FHWA methods
✓ Moment and shear checks for the facings
✓ Moment and punching shear checks for the head plates
THANK YOU!

DESIGN AND OPTIMIZE ANY SOIL NAIL WALL SYSTEM IN MINUTES AND GAIN A COMPETITIVE EDGE!

Learn tips and tricks of deep excavation design

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