Slope stability considerations in hilly regions for Northern Railways (Jammu-Udhampur Railway link, World’s highest railway bridge, Live National Project)
Prof. G. Madhavi Latha & Prof. T.G. Sitharam

- Geotechnical consultants and solution providers since 2004
- Involved in
  - Estimation of rock mass properties based on laboratory and in-situ tests
  - Design of slope profile based on rock mass properties, loads and earthquake conditions
Analyzing the bridge abutment slopes for wedge failure, planar failure, sliding, and toppling.
Complete dynamic analysis of the bridge slopes for site specific earthquake conditions.
Providing solutions for the stability of slope.

Fig: Planar sliding analysis using DIPS software
Fig: Wedge failure analysis using DIPS & SWEDGE software
- Static analysis of the rock slopes
- Pseudo-static analyses of rock slopes for maximum credible and design basis earthquake conditions
- Complete dynamic analysis of the bridge slopes for site specific earthquake conditions using FLAC software
- Monitoring the slope excavation
- Analyzing in-situ failures and providing real time solutions while changing the design to suit the real rock mass conditions emerging with excavation of slope profile – Design as we go approach.
- Providing solutions for the stability of slope: Grouting and rock anchors