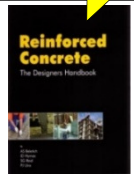



PAUL UNO
BE MBdgSc MIE(Aust) CPEng NER RPEQ

- Over 40 years of experience.
- UNSW Sessional Senior Lecturer.
- Inspected structures and written reports on why structures have failed.

Recommended Text:
Reinforced Concrete: The Designers Handbook

(2015 Revised Edition)

Beletich, Hymas, Reid and Uno


WORKSHOP SUMMARY

This one-day workshop is primarily aimed at civil and structural engineers who wish to design against the potential failure of sloping sites. This can be done by either determining the likelihood of the existing soils and slopes on site or designing retaining walls to resist any potential soil slope failures.

Australian Design Standards such as AS4678 and their requirements as well as Eurocode provisions will be addressed. A whole series of slope stability methods will be addressed and compared.

All sessions provide worked examples, tutorial exercises and solutions.

PROGRAMME (8.30 - 9.00 Registration)

9.00 - 10.30 Session 1

- SOIL CLASSIFICATIONS, TESTS & SOIL MECHANICS

- Soil Basics – Bulk vs Dry vs Saturated vs Submerged Density
- Angle of Repose vs Angle of Internal Friction
- Cohesion vs Shear Strength
- Proctor Density Test and Unit Weights of Various Soils
- HILF Density Classification
- Clay vs Sand Basic Soil Type Classification to AS1726
- Shear Box Test vs Oedometer Test vs Triaxial Test
- Cracked vs Uncracked Soils
- Active vs Passive Pressure
- Coulomb vs Rankine Theory
- Pore Pressures
- Drained vs Undrained Soils
- Atterberg Limits (LL PL PI)
- Factors of Safety – Ultimate vs Serviceability
- Tutorial

10.30 - 11.00 Morning Tea

11.00 - 12.30 Session 2

- SLOPE STABILITY I (Basic Principles)

- Australian and Overseas Examples of Wall and Soil Failures
- Soil Pressure Theory – active vs passive
- Causes of slope failures eg rainfall, inadequate drainage, poor construction, soil properties
- Modes of Slip Failure eg toe, base, slope
- AS4678 information regarding Slope Stability Failure
- Australian Standards vs Eurocode
- Tutorial

12.30 - 1.30 Lunch (Provided at Venue)

1.30 - 3.00 Session 3

- SLOPE STABILITY II (Basic Design Methods)

- Method of Slices
- Swedish (Fellenius) Method
- Determination of Safety Factor
- Effects of Water Table on Slope Stability
- Phreatic Water line effects
- Drained vs Undrained
- Tutorial

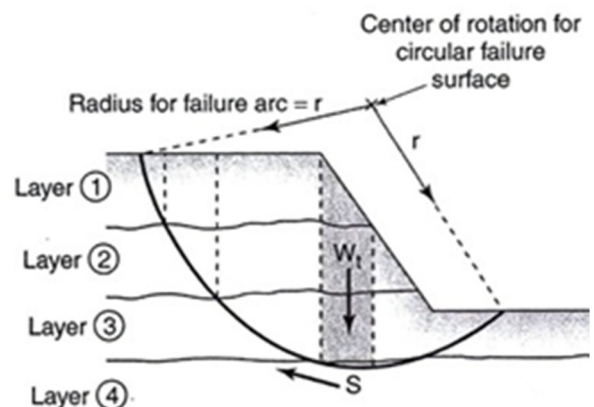
3.00 - 3.30 Afternoon Tea

3.30 - 5.00 Session 4

- SLOPE STABILITY III (Advanced Design Methods)

- Total vs Effective Stresses vs Pore Pressures
- Effects of Water Table
- Force Equilibrium vs Moment Equilibrium
- Soil over Rock situation
- Vertical Cuts vs Tension Cracks in Soils
- Bishop method vs Janbu method vs Spencer Method
- Morgenstern-Price method
- Stability Charts and Friction Circle Method
- Taylor Charts
- Slope Stability Method Comparisons
- Eurocode provisions
- Slope Stability Software packages
- Tutorial

5.00 - 5.15 Certificate of Attendance & Feedback sheets



(a) Selection of slices so base arc passes through only one soil type

CALCULATORS REQUIRED

COURSE COST

- 1 day course – \$660 pp

DATES, VENUES & REGISTRATION

- Registration form (back of catalogue)
- Visit our website www.etia.net.au

FURTHER INFORMATION

- Office (02) 9899 7447
- Mobile 0413 998 031
- Email registrations@etia.net.au