

ASCE Seminar on Slope Stability Analysis

DATE, TIME AND VENUE

Date: 30 August 2003 (Saturday)
Time: 9:30a.m., Finish around 12:30pm
Place: Theatre E, Hong Kong University of Science and Technology

PROGRAMME HIGHLIGHTS

The seminar will be divided into two parts:

Part 1: SLOPE STRESS DISTRIBUTION AND THE METHOD OF SLICES

By Ir Dr Mark H. C. Chan

Abstract

General considerations for slope stability analysis. Using Boundary Element, Finite Element and Conformal Mapping techniques to determine slope stress distribution and to compare it with inter-slice force assumptions.

Part 2: A RECENT DEVELOPMENT IN SLOPE STABILITY ANALYSIS AND DESIGN

By Ir Dr Y. M. Cheng

Abstract

The difficulty in locating the critical failure surfaces will be discussed with examples and case studies and the new technique in Slope 2000. The impact of locating the critical failure surface on the actual design will be highlighted.

Many problems which fail to converge with the existing programs can converge with Slope 2000. This is due to the fact that in the classical analysis, the inter-slice shear force has been assumed to be zero in the first step of iterative analysis. This approach can work in most cases, but fails to do so in other cases, particularly for Morgenstern-Price method. Case studies will be used to illustrate this.

A true three dimensional (3D) slope analysis method has been developed with inclusion of the transverse loads. This new true 3D non-symmetrical method can be used for Janbu's



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simplified, Bishop and Morgenstern-Price's methods. This model is the first model which can consider true asymmetric 3D slope stability with unique sliding direction. The importance of this new method will be illustrated.

The applicability of the traditional approach of analysis which depends heavily on engineer's experience will be illustrated with case studies.

SPEAKERS

Dr Mark H. C. Chan obtained his Bachelor (with academic award), Master and Doctoral degrees from MIT and has wide international work experience as academic, researcher, engineer and contractor in the U.S.A., U.K., Canada and Hong Kong. He is presently a geotechnical engineer of the GEO with duties including R&D and geotechnical control. His researches include stress analysis and fracture mechanics (at MIT and at British Petroleum Research Center), and he has worked on the development of a portable triple-tube soil sampler at GEO, which was nominated for the Innovation Awards.

Dr. Y. M. Cheng initially worked as consulting engineer on the design and construction of the MTRC Island Line, Eastern Harbour Crossing and the viaduct designs of the Island Eastern Corridor. He then joined HK PolyU in 1986 and has been working mostly on geotechnical research and has been promoted to Associate Professor. He occasionally participates in construction projects providing specialist advice in areas including pile foundation, deep excavation and slope stability.

REGISTRATION

Free of charge. ASCE members (all classes) have priority.

Please pre-register by 20 August 2003 if possible.

Registration details:

Please send your name (in full), fax and email to asce@ust.hk