



Dr A.R. Pickles
MA PhD MICE MHKIE RPE
Director

Key Experience

Andrew Pickles is one of the founding Directors of GCG (Asia). He has twenty five years experience in civil and geotechnical engineering on major projects in the UK, Hong Kong, South East Asia and Southern Africa. During this time, he has worked for consulting and contracting firms and client bodies. His experience includes the design and construction of reclamations, retaining walls, deep excavations, cut and cover and soft ground tunnels, piles and shallow foundations, earthworks and ground treatment. In addition, has acted as an expert witness in construction related disputes and mediations and he has wide experience interpreting site investigation and monitoring data.

Prior to starting GCG (Asia) he was the Geotechnical Manager for the construction of the new Hong Kong International Airport. Preceding this, he was the head of foundation engineering at Sir Alexander Gibb and Partners in the UK. His main expertise relates to the assessment of ground and structure deformations, performance of reclamations and associated facilities, design review of foundation systems, managing teams on the design and construction of foundations for major projects, numerical modelling of soil/structure interaction problems, design and interpretation of geotechnical instrumentation systems, high quality site investigation and laboratory testing techniques.

Career Summary

1998 – present: Director, GCG (Asia)

Founding Director of GCG (Asia) Ltd. Responsible for technical, financial and commercial aspects of approximately 60 projects requiring specialist geotechnical advice. Work to date includes:

- Value engineering studies leading to alternative designs for retaining walls, piles, ground improvement, soil nailing, reclamation construction on major construction projects.
- Review of diaphragm wall, ground and adjacent structure movements at Tseun Wan West Station
- Independent expert advice and provision of Expert Witness testimony on reclamation design, construction and settlement in relation to response of piled and shallow foundations
- Review of design method for deep cut and cover station for LTA Marina Line Contract 825
- Expert witness report for arbitration relating to differential settlement of 40 storey tower block on piled foundations in Hong Kong, pile foundation failure in reclaimed land in Korea and unforeseen ground conditions.
- Extensive use of back-analysis for determining design parameters
- Technical management of pile installation and full scale pile load testing on viaduct contracts in Hong Kong including advancement of alternative foundation designs
- Specialist advice relating to the settlement of various non piled facilities on reclamations at the Manjung 2100 MW power station in Malaysia and at the Siu Ho Wan MTR Depot in Hong Kong.

1995 –1998: Geotechnical Manager, Airport Authority, Hong Kong

Responsible to the Authority for all the geotechnical aspects of the new Hong Kong International Airport which was constructed on a 1280 Hectare reclamation. Managing a group of 20 engineers and geologists with associated technicians and administrative staff, the work included:

- Co-ordination of all geotechnical work on the airport project.
- Review of all geotechnical aspects of design work including foundations for structures, road and airfield pavements, cut and cover tunnels, effects of settlement and ground treatment.
- Preparation of expert witness reports and acting as expert witness in construction mediation.
- Responsible for all settlement related aspects of design and construction.
- Technical assistance to construction work, including assistance with claims and disputes
- Management, supervision and interpretation of two site investigation term contracts with a total value of HK\$120 M, including extensive above and below ground geotechnical instrumentation.



Geotechnical Consulting Group (Asia) Ltd

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1988 – 1995: Head of Foundation Engineering, Sir Alexander Gibb and Partners Ltd.

Leading teams of engineers in the design and construction of foundations and earthworks and design, supervision and interpretation of ground investigations. During this time worked on over 60 projects as either the Project Manager or the Project Geotechnical Engineer. Promoted to the position of Head of Foundation Engineering in 1992, responsible for the technical output of approximately 30 engineers as well as development of the foundation engineering discipline in Gibb. In particular, specialised in projects that made use of advanced site investigation methods and numerical analysis of soil/structure interaction effects. Examples of projects include:

- Design and construction of the deep diaphragm retaining walls and sub-structure for the Waterloo International Terminal in London, including extensive numerical modeling of soil/structure interaction
- Site investigation and seismic analysis of dry dock gravity walls for the Devonport Dockyard redevelopment for servicing nuclear submarines, including centrifuge modeling
- Design of 1.5km of 50m deep diaphragm retaining/cut-off walls, Sizewell Nuclear Power Station
- Design and construction of 3 km of diaphragm walls for the Batheaston bypass
- Site investigation, design and construction of the 6 km long Cleethorpes sewerage tunnel
- Review of design method adopted for Canary Wharf Station
- Expert Witness for the collapse of a building at Ransomes Dock, London

1986 – 1988: Research Assistant, Geotechnical Engineering Research Centre, City University.

Monitoring and back analysis of the construction and deformation performance of the Eastern Gateway Access Road, a 10 m high road embankment over very soft alluvial soils. The research work included surface and sub-surface geotechnical monitoring, very high quality laboratory soil testing and finite element modeling of the embankment construction.

1986: Engineer with Golder Associates (UK) Ltd.

This involved a variety of geotechnical projects including the design of earthquake resistant foundations for a major structure at the Sellafield Nuclear Reprocessing Plant in Cumbria, UK.

1984-1986: Engineer with Steffan, Robertson and Kirsten Ltd, Southern Africa

This work included site investigation, analysis, design and reporting. Examples of projects include the site investigation and design of a 10 m high road embankment on soft alluvial soils, design of road formations on collapsing sands and expansive clays and design of foundations for structures.

1982-1984: Assistant Resident Engineer, Scott and De Waal Inc, South Africa

Site supervision for construction of roads, storm water drains and water reticulation in Soweto. Engineer on the design and detailing of urban roads and highways.

1981-1982: Engineer, Costain UK Ltd.

Design of temporary works for a number of projects for both estimating and contract purposes.

1980-1981: Civil Engineering Production Studies Course at Lancaster University

The CEPS course was set up by the Institution of Civil Engineers in conjunction with Lancaster University specifically to accelerate the training of graduate engineers towards becoming managers in the civil engineering profession.

Education/Research

PhD in Geotechnical Engineering, City University, 1989

MA, Cambridge University, 1983

BA in Engineering (1st Class Honours), Cambridge University, 1980

Professional Qualifications

Registered Professional Engineer (civil and geotechnical), 1999

Member of the Hong Kong Institution of Engineers (Civil and Geotechnical), 1997

Member of the Institution of Civil Engineers (UK), 1986

Chartered Engineer (UK), 1986

Publications, Presentations, Service on Technical/Professional Bodies

Author or co-author of twenty refereed technical papers. Presentation of ten papers at conferences and seminars. Overseas corresponding member of the Geotechnical Engineering Advisory Panel. Hong Kong representative at speciality session on Reclamation Design and Construction at the 13th SEAGC in Taiwan. Part time lecturer in Geotechnical Engineering at Hong Kong University. Member of the Foundations sub-group of the HKIE Geotechnical Division.

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