

BGA Evening Meeting

Wednesday 18 April 2018 at 18:00

GODFREY MITCHELL THEATRE, INSTITUTION OF CIVIL ENGINEERS,
ONE GREAT GEORGE STREET, WESTMINSTER, LONDON SW1P 3AA

Top-down Construction for deep excavations in urban areas - lessons from Hong Kong

John Endicott - AECOM



Deep excavations in urban areas need to limit ground movements for the protection of surrounding property and generally have limited space for construction. Top-down construction addresses both issues. Lateral earth support is provided by progressively excavating and constructing permanent robust supporting structures and the completed decks provide working space.

For the majority of underground railway stations bottom-up construction has been adopted. However top-down method can offer substantial savings with no temporary decks and eliminated or reduced temporary strutting. For buildings with basements, time for completion can be reduced by many months. Early construction of the ground floor can permit early commencement of construction of the super-structure in parallel with completing the underground structures.

Designs and planning for construction of deep underground structures that take account of the interaction between the structures, whether temporary or part of the permanent structure, and the ground, and the method and sequence of construction can be cost effective and efficient.

John Endicott has been based in Hong Kong for some 40 years and will illustrate his talk with examples of using top-down and bottom-up methods in challenging situations such as the West Kowloon High Speed Rail Terminus.

Biography of John Endicott overleaf

The event is free but registration is required at

John Endicott

Leonard John Endicott, an AECOM Fellow in recognition of more than 40 years of engineering excellence in ground engineering, heads their geotechnical practice in the Asia and Pacific Region. He studied at Cambridge University, completing a PhD in 1970 on the deformation of slopes, and is now a Fellow Commoner at St. Catharine's College.

Initially working in London, he worked on the design of steel box girder bridges, space frame structures, and a concrete platform for the North Sea. In 1975 he went to Hong Kong, to work on tender designs for MTR underground railway contracts pioneering soil/structure interaction which is now common-place, where he has been based ever since. He has continued to work on underground railway projects and contributed to the design of more than 100 underground station structures.



He established and has led a geotechnical practice which has grown to over 500 staff and is engaged in slope works, tunnels, reclamation, foundations and basements. His current responsibilities stretch from India to New Zealand.

He has contributed to the Hong Kong Institution of Engineers as a Member of Council and was a founder of the Geotechnical Division and of the Geotechnical Discipline. He has been a Member of the Town Planning Board in Hong Kong and is a Member of the International Panel of Experts advising the Urban Redevelopment Authority of Singapore.

He has been active at the University of Hong Kong and at Hong Kong University of Science and Technology in supporting and leading MSc programs, examining MPhil and PhD, and steering research, as well as being an Adjunct Professor at both Universities.

He is in frequent demand as a Keynote Lecturer and has authored or joint-authored some 60 technical papers on a wide range of geotechnical topics. Current interests are diverse and include soil/structure interaction, shear creep in soft clays, hydraulic conductivity of rock masses, and geological risk.

Please join us after the Lecture for drinks sponsored by

AECOM

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