

CURRICULUM VITAE

NEIL SMITH

GEOTECHNICAL CONSULTANT

Academic Qualifications

BSc (Eng) Civil Engineering 1966

MSc Foundation Engineering 1967

Professional Qualifications

CEng 1971

FICE 1991

Eur Ing 1992

UK Registered Ground Engineering Adviser 2011

Affiliations

Member, British Geotechnical Association

Senior Fellow, Geological Society



Employment history:

- Geotechnical Advisory Services – Director (1994 - Present)
- Terra Firma Ground Investigation – Consultant (2020 – Present)
- GDG/Venterra Group - Senior Consultant (2017 – Present)
- HKA – Technical Expert (2017 – 2019)
- Cadogans – Technical Expert (2014 – 2017)
- Applied Geotechnical Engineering – Director (1994 – 2017)
- Soil Mechanics Limited – Director, Soil Mechanics Associates (1989 – 1994)
- Terresearch Limited – Geotechnical Manager (1983 – 1989)
- Ground Explorations Limited – Chief Soils Engineer (1982 – 1983)
- Golder Associates Limited – Senior Geotechnical Engineer (1974 – 1982)
- WS Atkins and Partners – Geotechnical Engineer (1972 – 1973)
- Terresearch Limited – Soils Engineer (1967 – 1972)

Summary:

Neil has over 50 years' experience in geotechnical engineering during which time he has worked on a vast number of highly technical projects. Having originally undertaken a bachelor degree in Civil Engineering at UCL, he completed an MSc in Foundation Engineering at Birmingham University in 1967.

Neil is a Chartered Engineer, a Fellow of the ICE and one of the first UK Registered Ground Engineering Advisers. He is a member of the British Geotechnical Association and a Senior Fellow of the Geological Society.

Neil has acted as a technical expert providing claims advice, expert witness advice and forensic investigations on a wide range of projects. He has advised claimants, defendants and other parties to disputes and has been a court-appointed expert. He has taken part in several mediations and has experience of cross-examination in court. He has also been a member of a Dispute Review Board as the geotechnical expert on the tribunal.

Experience:

1994 to date – Geotechnical Advisory Services and others

Dispute Review Board member: Appointed by the International Chamber of Commerce (ICC) as a member of a tribunal to adjudicate on a major construction claim (c.£stg150m) in the Middle East.

Expert witness:

Excessive deflection of a basement retaining wall in North London, allegedly partially caused by a failure on the part of the ground investigation contractor.

Dispute relating to the settlement of a supermarket car park, northeast England.

Dispute relating to the failure of a pavement constructed within a port extension project in the northeast.

Disputes relating to excessive settlement of paved areas in two separate commercial developments resting on very soft to soft Alluvial deposits in the Thames Estuary.

Dispute over damage to newly-constructed houses from re-hydration of desiccated clay over a very long period.

Disputes regarding pavement design for a medium-sized housing development and the design of the hardstanding pavement for a commercial development.

Dispute over settlement damage to building constructed on backfilled open-cast coal mine & founded on ground improved by vibro stone columns, West Yorkshire.

Collapse of 19th century sewer, Glasgow resulting in the demolition of a house.

Slope failure in Chalk quarry caused by wrongly-sited soakaway.

Failure of car park pavement on stabilised soil layer, S Wales.

Properties damaged by slope failure and subsequently demolished, N Yorkshire.

Dispute arising from the failure of retaining walls, Forest of Dean.

Arbitration proceedings with regard to geotechnical matters relating to the tunnelled section of a main urban drainage scheme, Ireland.

Failure of construction plant platform, West Midlands.

Dispute over pavement construction, Windsor.

Damage to properties caused by slope instability, South Wales.

Dispute over damaged houses with piled foundations in ground heaving following tree removal, Essex.

Claim for damage caused by deep ground source heat boreholes to houses under construction.

Court-appointed joint expert in respect of dispute over land drainage, Hertfordshire.

Dispute over ground investigation for housing development, Bedfordshire.

Claims advice: Problem solving & claims advice for tunnel construction through soliflucted deposits, Kent.

Advice to two piling contractors on separate contracts in relation to problems of bored pile installation in rock, Swansea, South Wales.

Advice to diaphragm walling contractor on problems associated with trench collapse in London Clay.

Advice to piling contractor on problems during construction of bored piles in Karstic rock for motorway bridge, Drogheda.

Investigation & design: Investigation of residential basement extension projects in Central London, assessment of possibility of damage to neighbouring properties. Use of geophysical methods to obtain mass small-strain stiffness for estimate of settlement resulting from significantly increased loading of existing structure. Advice on foundation design and construction for several bamboo structures on remote sites in Bali, Indonesia.

Basement damage assessment evaluations on several basement extensions to properties in Central London.

Advice to main contractor on problem of heave caused by hydraulic fracturing of ground by sub-contractor, London.

Advice to Management Consultant on geotechnical aspects of the design & construction of both shallow & piled foundations for a large extension to a cement plant on the west coast of Saudi Arabia.

Interpretation of ground conditions & advice on foundation design for two large gas processing plants on the east coast of Saudi Arabia.

Investigation & advice on design & construction for several schemes to install basements below existing houses in Central London.

Investigation, design & supervision of construction of piled remedial works for failing tunnel portal, London Underground District Line.

Advice on foundation design & construction for large electricity sub-stations, various sites in Egypt, Dubai, Abu Dhabi & Kuwait.

Analysis & design of foundations & basement retention systems for construction of basement below existing Grade II structure in Mayfair, London. Assessment of monitoring data during construction.

Investigation & design for an art gallery Bermondsey, London, constructed on the floor of an existing warehouse building.

Site investigation & conceptual design for reconstruction of sewage treatment works on very soft alluvium using stone column ground improvement & soil reinforcement, Yorkshire.

Foundation design advice for tender designs for LNG tanks in Korea & Abu Dhabi.

Interpretation of ground investigation, design of driven piling & assessment of pile testing & installation data, Alexandria, Egypt.

Design of remediation works to failed pavement over backfilled chalk pit, including stone column ground treatment, Kent.

investigation & resolution of bored piling problems in chalk affected by solution activity, determination of ground properties for two large LNG tanks on heavily fractured & faulted limestone in Greece, assessment of the most suitable site for a proposed dry dock in Scotland

Advice on the design of the foundations of a proposed paper mill in Malaysia.

Design & independent checking: Advice to the Commonwealth War Graves Commission on slope instability threatening the Kohima War Cemetery, North-East India, caused by road construction works.

Advice on effects of tunnelling works on Docklands Light Railway.

Third party design checks on services constructed below railway lines & for various embankment & cutting stabilisation schemes for railway works.

Tunnel project, Gerrards Cross; third party design checks on temporary works, independent inspection of work in progress & assessment of monitoring data on behalf of Network Rail. Advice on various forms of investigation to measure stiffness of backfill around tunnel.

Design of restraint system for old retaining wall subjected to increased loading from CTRL.

Resolution of a sheet piling problem in London

Offshore/marine geotechnics: Assessment of soil behaviour below offshore gravity structure affected by gas infiltration into foundation soil; preliminary analysis & recommendations for precautionary measures.

Foundation analysis & design for oil production platform, Danish Sector, North Sea.

Investigation & design of remedial works for a failing 17m high Victorian quay wall.

Design & assessment of ground investigation for proposed deep water berth, River Mersey.

Preliminary foundation analysis & design for North Sea Gravity Base Structures at a number of potential sites.

1989-1994 - Soil Mechanics Limited

Responsible for the geotechnical engineering consultancy division of the company. The division (generally comprising some 20-30 professional staff) provided design & advisory services in engineering geology, rock engineering, mining & ground dynamics as well in geotechnics more generally.

Projects included geotechnical consultancy for a 17km long railway line in Indonesia, numerous road construction & upgrading schemes in the UK, coastal slope protection scheme investigation in North Norfolk, investigation & remediation of shaft failures in tunnelling works & development of a risk based slope stability analysis system. Stability analysis of large coal stacks on old filled ground at Liverpool Docks, including checking of contractor's design for ground improvement by vibroflotation.

Also responsible for the provision of pre-tender & construction advice to the parent company (John Mowlem Construction) on geotechnical aspects of construction, including emergency ground movement control measures during basement construction in central London.

Co-author of a report to the UK Department of Transport on the efficiency of site investigation practice in relation to road construction.

1983-1989 – Terresearch Limited

Responsible for the company's Geotechnical Department & the Soils Laboratory. Major projects undertaken during this period included the ground investigations for the Channel Tunnel Terminals at Folkestone & Ashford and for a large development at Royal Albert Docks, London. As part of a feasibility study undertaken by Taylor Woodrow into the shallow disposal of low to medium level nuclear waste, provided the outline design of a geotechnical investigation and a Specification for the work. A substantial investigation was carried out at Bury St Edmunds for a large silo proposed for a site immediately adjacent to existing silos which were showing signs of distress. An investigation for a trunk sewerage scheme at Tilbury, Essex was followed by a contract for ground monitoring and assessment of the sewer construction by pipe jacking techniques. This work included contributions from City University, the Building Research Establishment and the Transport & Road Research Laboratory. Other projects included work on the development of landfill sites & the reclamation of contaminated sites. Geotechnical consulting services related to a wide range of problems including construction, earthworks & open cast mining were also provided to other companies within the Taylor Woodrow Group.

1982 -1983 - Ground Explorations Limited

Full technical responsibility for all of this specialist independent ground investigation company's activities, represented by about 250 small to medium size contracts annually throughout the UK. The proposed developments included housing, industrial sites, land reclamation, sewers & roadworks; a major town centre redevelopment involved the design of rock socketed piles on a site underlain by old mine workings.

1974-1983 - Golder Associates Limited

Involved in a wide range of geotechnical work. Major projects included: ground investigation, analysis & design checking for the Ninian Oil Field Central Platform in the North Sea; industrial & academic collaborative research into offshore construction; the Port Said Urban Land Reclamation Design Study – on-site supervision of ground investigation and management of the on-site laboratory, interpretation and reporting; investigations for the Annacis Bridge, Vancouver, Canada; preliminary design studies for a 63 m high, 12.5 km long tailings dam for a proposed tar sand project in Alberta, Canada; and a study of the failure of two large LNG tanks at Das Island. Also responsible for the establishment of an offshore ground investigation capability for the Gulf of Suez Petroleum Company, Egypt and investigations for airstrips in the Western Desert of Egypt and in the West Indies, and for two alternative major port developments in Abu Dhabi.

1972-1973 - W S Atkins & Partners

Working in a small group serving other departments of the firm. Responsible for the ground investigation for a major steelworks development including design, specification, tender assessment and overall technical supervision of the work. Also responsible for the technical supervision of bored & driven piling contracts on the same project, working closely with the firm's Structural Engineers on the detailed design of foundations. Other work included drafting in-house standard specifications for geotechnical work.

1967-1972 - Terresearch Limited

Experience gained in a wide range of ground investigation works and geotechnical interpretation of ground conditions. Supervision of large and small bored piling works on site, acting as Site Agent for a piling sub-contract

in Lancashire. Other work included the design of piling schemes, retaining walls and ground anchors. The retaining walls designed included contiguous bored piles, diaphragm walls and in situ reinforced concrete. Supervision of construction of diaphragm walls and ground anchors; closely involved with the design of a deep well irrigation scheme for a site in Romania.

Membership of Committees

1985 – 1987	Elected Committee Member, British Geotechnical Society
1989 – 1992	Honorary non-voting Committee Member, British Geotechnical Society
1992 – 1995	Elected Committee Member, British Geotechnical Society
1996 – 2000	Honorary Technical Secretary, British Geotechnical Society
2000 – 2017	Honorary Secretary, British Geotechnical Association
2017 - date	Co-opted Committee Member, then Guest, British Geotechnical Association
1989 – 1992	Elected Committee Member, Association of Geotechnical Specialists
2010 – 2014	Member of the Governing Panel of the UK Register of Ground Engineering Professionals
2011 – 2015	Member, Organising Committee of the XVI European Conference on Soil Mechanics and Geotechnical Engineering, Edinburgh

Publications:

- Smith, N A, Welch, D E and Tunbridge, L W: Investigation of Recent Nile Delta Deposits, Port Said, Egypt. Conf. on Site Investigation Practice, Guildford. 1984
- Smith, N A and Wade, S J: The Conversion of Casagrande Standpipe Piezometers to Rapid Response Instruments. Conf. on Geotechnical Instrumentation in Civil Engineering Projects, Nottingham. 1989
- Mortimer, R N, Reading, P J and Smith, N A: Mundford Grades, the SPT and the Description of Chalk Cores at Bury St. Edmunds, Suffolk, England. International Chalk Symposium, Brighton. 1989
- Mott MacDonald and Soil Mechanics Limited (Principal authors, Smith, N A and Avgherinos, P J): Study of the efficiency of site investigation practices, Project Report 60, Transport Research Laboratory. 1994
- Smith, N A, Hislam, J L and Fowell, R J, 'A Note on the Strength of Flint Particles', 10th Congress of the ISRM, Technology Roadmap for Rock Mechanics, Co-ordinators M.Handley and R. Stacey, Published by: The South African Institute of Mining and Metallurgy, Symposium Series S33, Sept.2003, vol. 2, pp 1105-1108. ISBN 1-9919783-52-0
- Smith, N A 'Stiffness and cyclic response of clayey fine sands' Geotechnical Engineering Vol 159, Issue GE4, Thomas Telford, London, October 2006.
- Smith, N A, Hislam, J H, Turner, M J and Renaud, K 'Basements for existing residential structures' Proceedings of the DFI/EFCC Conference on Geotechnical Challenges in Urban Regeneration, London, May 2010.
- Turner, M J and Smith, N A: 'Managed remediation of a large Victorian gravity quay wall using the observational method.' Proceedings of the 18th International Conference on Soil Mechanics and Geotechnical Engineering, Paris, 2013.
- Smith, N A 'Two examples of structural damage caused by inadvertent hydraulic fracture' Proceedings of the XVI European Conference on Soil Mechanics and Geotechnical Engineering, Vol 6, pp 3607-3612, Edinburgh, September 2015. ISBN 978-0-7277-6067-8

Contributions:

Grant, M and Pallett, P, 'Temporary Works: Principles of Design and Construction', 2nd Edition, Institution of Civil Engineers, 2019. ISBN 978-0-7277-6338-9
Smith, N A Chapter 6 'Control of groundwater'
Brice, M G and Smith, N A Chapter 7 'Lime and cement stabilisation'
Hislam, J L and Smith, N A Chapter 8 'Jet grouting'
Smith, N A Chapter 9 'Artificial ground freezing'
Smith, N A Chapter 10 'Slope stability in temporary excavations'

Presentations and speaker engagements:

Twickenham College of Technology - Course of six evening lectures on Foundation Design, *1974 – 1978*
City University - Lecture on Field Investigation Techniques – part of 3-day Geotechnical Site Investigation course, *1984 – 1986*
University of Westminster – Lectures to the Retaining Walls and Foundations module of the MSc course in Structures and Geotechnics, *1996 - 1997*
South Bank University - Development and delivery of the Retaining Walls and Foundations module to the MSc course in Structures and Foundations, *1999 - 2000*
Lecture in Equipe Seminar on Advanced Geotechnical Laboratory Testing: Possible effects of test specimen inhomogeneity, *July 2009*
Presentation at the British Geotechnical Association Annual Conference announcing the launch of the UK Register of Ground Engineering Professionals (UKRoGEP), *June 2011*
Lecture at Geotechnica: Innovation and failure, *July 2011*
Lecture to a meeting of the British Geotechnical Association: Progress on UKRoGEP and related future developments, *December 2011*
Lecture at Geotechnica: TEMPORARY WORKS – What's the geotechnical difference? *July 2012*
Presentation of the paper on the Victorian Gravity Quay Wall to the 18th International Conference on Soil Mechanics and Geotechnical Engineering, *September 2013*