



**Country of Citizenship:** Australia

**Educational Qualifications:** Bachelor of Civil Engineering (Hons)  
University of New South Wales, 1992  
Master of Engineering Science,  
University of New South Wales, 1997

Strath graduated with an honours degree in Civil Engineering from the University of New South Wales in 1992, and completed his Master of Engineering Science degree 5 years later. He worked for nine years with Coffey Geosciences, before leaving for Pells Sullivan Meynink in 2001.

He has enjoyed a wide experience in geotechnical investigation and design in Australia and also for several major projects in South-East Asia, including investigations for the My Thuan bridge in Vietnam, and Taipei 101, which is currently the world's tallest building.

Recent major projects include design and construction supervision for a rail tunnel in Sydney, a comprehensive design review for Burnley Tunnel in Melbourne, geotechnical design for a resort on reclaimed land in Fiji, design of foundation treatment for coal stockpiles constructed on poor ground in Gladstone, and investigation of the collapse of a section of the Old Pacific Highway near Gosford.

**FIELDS OF SPECIAL COMPETENCE:**

- Site investigation for civil engineering projects.
- Analysis and design of geotechnical structures, including cut and fill slopes, structural foundations, industrial pavements, retaining structures, and excavation support systems.
- Installation and design of geotechnical instrumentation and interpretation of data.
- Piezocone and pressuremeter analysis and testing.
- Numerical analysis of soil-structure interaction.
- Forensic geotechnical investigation

**EXPERIENCE:**

**December 2007 - Present**

Pells Sullivan Meynink Pty Ltd, Sydney, Principal

**December 2003 – December 2007**

Pells Sullivan Meynink Pty Ltd, Sydney, Associate

**February 2001 – December 2003**

Pells Sullivan Meynink Pty Ltd, Sydney, Senior Geotechnical Engineer

**1996 – January 2001**

Coffey Partners International Pty Ltd, later Coffey Geosciences Pty Ltd, Sydney, Senior Geotechnical Engineer

**1992 – 1996**

Coffey Partners International Pty Ltd, Sydney, Geotechnical Engineer

**1988-1991**

R.A. Young & Associates Pty. Ltd., Canberra, Civil Engineer, (total of six months during university vacations)

## FOUNDATIONS AND RETAINING STRUCTURES

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Failed Retaining Wall, Wallsend, Newcastle	Investigation of two adjacent failed retaining walls as part of legal dispute
Stockpiles 19 to 21, R G Tanna Coal Terminal Expansion, Gladstone	Design of foundation treatment for coal stockpiles constructed on soft soils of former dredge pond
Commercial development, Charmhaven	Design of 300 m length of retaining structures of up to 12 m height.
Hilton Resort, Fiji	Geotechnical design of foundation treatment for resort constructed on land reclaimed overlying soft soils
New Hill Grandstand, Sydney Cricket Ground,	Design of retention for 6 m high heritage listed sandstone wall founded on loose sand adjacent to basement excavation
Caustic Storage Tanks Gladstone, Queensland	Detailed design of two geomembrane-lined compacted earth bunds, each capable of storing 60,000 tonnes of sodium hydroxide.
Industrial Subdivision Wetherill Park, Sydney	Analysis of two adjacent retaining structures as part of expert advice in legal dispute.
Supa Center Development Alexandria, Egypt	Analysis and design of "rigid inclusion" foundation treatment for proposed shopping centre building to be built on reclaimed land.
State Office Block Redevelopment Macquarie Street, Sydney	Pad footing assessment, ground support design and construction supervision, assessment of temporary rock columns.
Wharf No. 8 Darling Harbour, Sydney	Assessment of proposed shallow footings to be constructed over uncontrolled fill.
Mobile Telephone Towers Throughout Australia	Site investigation and foundation assessment for monopole, lattice tower, and guyed mast towers.
Woollahra Council Chambers Double Bay, Sydney	Design and analysis of anchored walls for basement excavation in sand.
State Athletic Centre Homebush Bay, Sydney	Site investigation, construction monitoring and load testing (up to 540 tonne) of rock anchors.
Sewage Treatment Plant Fort Bonifacio, Manila	Assessment of seismic loads on buried tanks in area of high seismic activity, and driven pile analysis.
Emirates Complex Dubai, United Arab Emirates	Numerical analysis of piled raft footings for 300 m high buildings
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait) Port Kembla	Investigation (including 1000 tonne plate bearing tests), design, and costing of temporary hardstand overlying soft alluvium for 2200 tonne crane
Shoalhaven Starches Nowra	Analysis of tank settlement on soft ground. Site investigation, analysis and design of pile and shallow foundations for factory buildings.

## TUNNELS AND UNDERGROUND STRUCTURES

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Buranda Busway Tunnel, Brisbane	Post-construction forensic numerical analysis of arch
Tugun Rail Link, Gold Coast, Queensland	Concept stage design for preliminary works for future rail tunnel beneath airport runway.
Chatswood Decline, Epping to Chatswood Rail Link, Sydney	Tunnel design and construction supervision and monitoring for twin rail tunnels excavated in soft ground and shallow cover beneath operating rail lines.
Epping to Chatswood Rail Link, Sydney	Construction monitoring and design verification during construction of station caverns.
Waihi Mine Site, New Zealand	Numerical modelling of effect of historic underground mine workings on current open pit.
Burnley Tunnel, Melbourne	Forensic investigation, design of remediation measures, design review.
Energy Australia Cable Tunnel, Sydney	Tender stage investigation and design
Parramatta Rail Link, Sydney	Specialist pressuremeter testing and analysis of in-situ permeability tests in rock.
Northside Storage Tunnel, Sydney	Geotechnical investigation for surface infrastructure. Analysis of in-situ permeability tests in rock
North West Sewer Tunnel, Melbourne	Regional groundwater modelling and tunnel inflow modelling during tunnel construction.
Geelong Rail Tunnel, Melbourne	Analysis of tunnel lining stresses due to surface loading.
New Southern Railway, Sydney	Geotechnical investigation, including specialist piezocone and pressuremeter testing.

## INSTRUMENTATION

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413 George Street, Sydney	Installation of instrumentation within rail tunnels. Design of portable digital crack meter.
Cataract Tunnel, Sydney	Design and development of large displacement inclinometer.
Epping to Chatswood Rail Link, Sydney	Design and installation of instrument clusters to monitor background soil movement and tunnel-induced movements along rail corridor.
East Arm Wharf, Darwin	Interpretation of inclinometer and survey data.
Burnley Tunnel, Melbourne	Interpretation of piezometer data during remedial works.
Lock 15 and Weir, Murray River, Euston	Installation of standpipe and vibrating wire piezometers connected to a remotely operated datalogger.
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait), Port Kembla	Installation, monitoring, and analysis of pneumatic and standpipe piezometers, and magnetic extensometers for plate bearing tests.
Lock 15 and Weir, Murray River, Euston	Installation of standpipe and vibrating wire piezometers connected to a remotely operated datalogger.
New Southern Railway, Airport and Tempe Reserve, Sydney	Installation and monitoring of total pressure cells, wire extensometers, data logger, and inclinometers in two instrumented plots along TBM route.
Sydney Aquatic Centre, Homebush Bay, Sydney	Installation of vibrating wire piezometers and inclinometers in reinforced earth embankment.

## SPECIALIST TESTING

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Replacement Research Reactor Lucas Heights, Sydney	Large scale plate load testing to measure rock mass modulus
Burnley Tunnel, Melbourne	High Pressure Dilatometer testing as part of expert advice in legal dispute.
Lock 15 & Weir, Murray River, Euston	Piezocone testing within cofferdam in base of Lock chamber.
Golden Cross Mine, Waihi, New Zealand	Piezocone and dissipation testing of very soft tailings.
Mining World, Mt Isa, Queensland	High Pressure Dilatometer testing for proposed tunnels for tourist development.
Taipei 101, Taiwan	High Pressure Dilatometer testing for proposed 540 m high building.
Olympic Dam Mine, Roxby Downs, South Australia	Piezocone and dissipation testing of soft tailings.
My Thuan Bridge, Mekong River, Vietnam	Piezocone and dissipation testing for approach embankments, over-water pressuremeter testing to 90 m depth for bridge piers.
Capital Place Development, Manila	Pressuremeter testing.

## SLOPE STABILITY

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420 Pitt Street, Sydney	Underpinning design for heavily loaded pad footings on poor rock at edge of deep vertical face
Walkway and Viewing Platform, Lane Cove National Park, Sydney	Detailed design of elevated walkway and viewing platform along overhanging rock ledge above Lane Cove River
Frazer Street, Collaroy, Sydney	Analysis of potential slope instability on retaining structure and development of methodology for assessing maximum possible load.
Soil Nail Wall, Auckland	Tender stage design of large soil nail wall for freeway cutting.
Kelian Mine, East Kalimantan, Indonesia	Stability assessment and numerical modelling of final waste dump geometry.
Former Snowy Mountains Scheme Sites, Kosciusko National Park, New South Wales	Assessment of stability of abandoned quarries and spoil piles.
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait), Port Kembla	Geotechnical investigation, design, and construction monitoring of slopes excavated in soft alluvium during rapid drawdown of casting basin.
Mt Leyshon Gold Mine, Queensland	Design of tailings dam embankment raising.
Warren Levee Upgrade, Warren, New South Wales	Analysis and remedial design for levees adjacent to steep river bank.
Ferntree Gully Landfill, Engadine	Analysis and remedial design for landfill above major water supply pipeline.

## SITE INVESTIGATION

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Industrial Development, Old Bathurst Road, Emu Plains, Sydney	Geotechnical and salinity investigation
Kwinana Freeway Extension, Perth	Test pit and borehole investigation along proposed road alignment.
Warren Levee Upgrade, Warren, New South Wales	Extensive test pit and borehole investigation of existing levees and proposed alignments, including in-situ permeability and density testing.
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait), Port Kembla	Borehole investigation.
Multi-Function Pollis, Adelaide	Borehole, electric friction cone, and vane shear investigation.
Billion Court, Genting Highlands, Malaysia	Site supervision of geotechnical site investigation for several multi-storey apartment buildings on a very steep weathered granite site.

## ROADS AND PAVEMENTS

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Collapse of Old Pacific Highway, Piles Creek, Somersby	Forensic geotechnical investigation of road collapse that killed 5 people
Westgate Freeway Extension - Gateway No. 2, Brisbane	Tender stage design for freeway embankments constructed on deep deposits of soft soil, including detailed preload analysis to achieve strict differential settlement constraints
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait), Port Kembla	Investigation, analysis, and rehabilitation of pavement submerged for several years.
Western Ring Road, Melbourne	Pre-tender pavement design.
East Swanson Dock Redevelopment, Melbourne	Design check of industrial pavements for straddles and fork lift trucks.
Patrick Port Botany Terminal Redevelopment, Sydney	Investigation, analysis, and remedial design of terminal pavements for straddles.
International Broadcast Centre, Homebush Bay, Sydney	Investigation and design of low-cost temporary pavement.

## CONSTRUCTION MONITORING

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420 Pitt Street, Sydney	Rock face support and underpinning design
Chatswood Decline, Epping to Chatswood Rail Link, Sydney	Tunnel support assessment and design advice, assessment of instrumentation
Village Cinema Site Redevelopment, George Street, Sydney	Site retention, underpinning, rail tunnel monitoring.
Joint Research Facility, North Ryde, Sydney	Bored pile and pad footing assessment, and advice on ground retention during construction.
State Office Block Redevelopment, Macquarie Street, Sydney	Pad footing, rock bolts, soil nail walls, underpinning.
Retaining Wall Collapse Wyagdon Street, Neutral Bay	Rock face mapping and support.
Printing Press Complex, Chullora	Assessment of 400 bored piles.
Esso Concrete Gravity Structures Project (oil rigs for Bass Strait), Port Kembla	Monitoring of sheet pile wall driving.
Pacific Highway, Rainbow Flats, Taree	Earthworks control testing.

## NUMERICAL MODELLING

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Redevelopment of Segal site, Darling Harbour, Sydney	3D modelling to assess effect on proposed basement excavation on electricity cable tunnel.
Proposed Basement Excavation 157 Liverpool Street, Sydney	3D modelling to assess effect on existing buildings and telecommunication tunnels of proposed basement excavation.
Chatswood Decline, Epping to Chatswood Rail Link, Sydney	Modelling of sequential installation of tunnel support systems in 3D on surface settlement.
Tugun Rail Link, Gold Coast, Queensland	Concept stage design to assess settlement caused by shallow TBM on airport runway.
Transmission Towers, Perth	Analysis of existing enlarged base pad footings for increased lateral loads.
Replacement Research Reactor Lucas Heights, Sydney	Modelling of full scale loading test comprising a loaded plate and cable anchor to back-calculate rock mass modulus.
Proposed Basement Excavation 710 George Street, Sydney	3D modelling to assess effect on existing rail tunnels of proposed basement excavation.
Waihi Gold Mine, New Zealand	Analysis of underground mining on surface settlement.
Village Cinema Site Redevelopment, George Street, Sydney	Design and analysis of bolt retention of joint swarm over vertical rock face.
Burnley Tunnel Melbourne	Design and analysis of structural dowel to strengthen arch toe joint.
Proposed Residential Development Frazer Street, Collaroy, Sydney	Analysis of landslide forces against a retaining structure.
Caustic Storage Tanks Gladstone, Queensland	Design and analysis of an fill embankment constructed over a sensitive pipe.
Delhi Road Station Epping to Chatswood Rail Link, Sydney	3D analysis of tunnel cavern to predict pillar loads.
Industrial Subdivision, Wetherill Park, Sydney	Analysis of interaction between two adjacent retaining structures.
Supa Center Development Alexandria, Egypt	Analysis and design of "rigid inclusion" foundation treatment for proposed shopping centre building to be built on reclaimed land.
Emirates Complex Dubai, United Arab Emirates	Numerical analysis of piled raft footings for 300 m high buildings.