

DISCIPLINE BROCHURE

Geotechnical Engineering

**BG
&E**
Part of SYSTRA

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BG&E is an international civil and structural engineering consultancy recognised for delivering **innovative, award-winning designs** that prioritise practicality and constructability.

With a team of more than 800 people across 16 offices — spanning Australia, New Zealand, South East Asia, the United Kingdom, and the Middle East — we deliver the highest standard of service across our disciplines.

Clients consistently return to us for our responsiveness and proven ability to provide tailored solutions on complex and challenging projects. This is reflected through industry recognition, client commendations, and numerous awards.

In 2025, BG&E joined forces with SYSTRA, a global leader in public transport and mobility engineering. This partnership expands our technical capability, strengthens our international networks, and support long-term growth across major infrastructure markets and the complex buildings sector.





Sydney Metro Inspection —
Sydney, NSW, Australia.

Geotechnical Engineering

Geotechnical engineering plays a crucial role in the successful design, delivery, and whole-of-life performance of structures that are cost effective, sustainable, safe, and resilient.

BG&E's Geotechnical team is an integral component of our multi-faceted engineering consultancy operations — working alongside our structural and civil engineering teams in the building, rail, and bridge sectors. They also collaborate with our various specialist technical disciplines — including Water Infrastructure, Flooding and Hydrology, and Materials and Durability.

Accredited by TfNSW as a Technically Assured Organisation for the geotechnical design of rail projects, our expertise spans continents, from Australia to Europe and South East Asia.

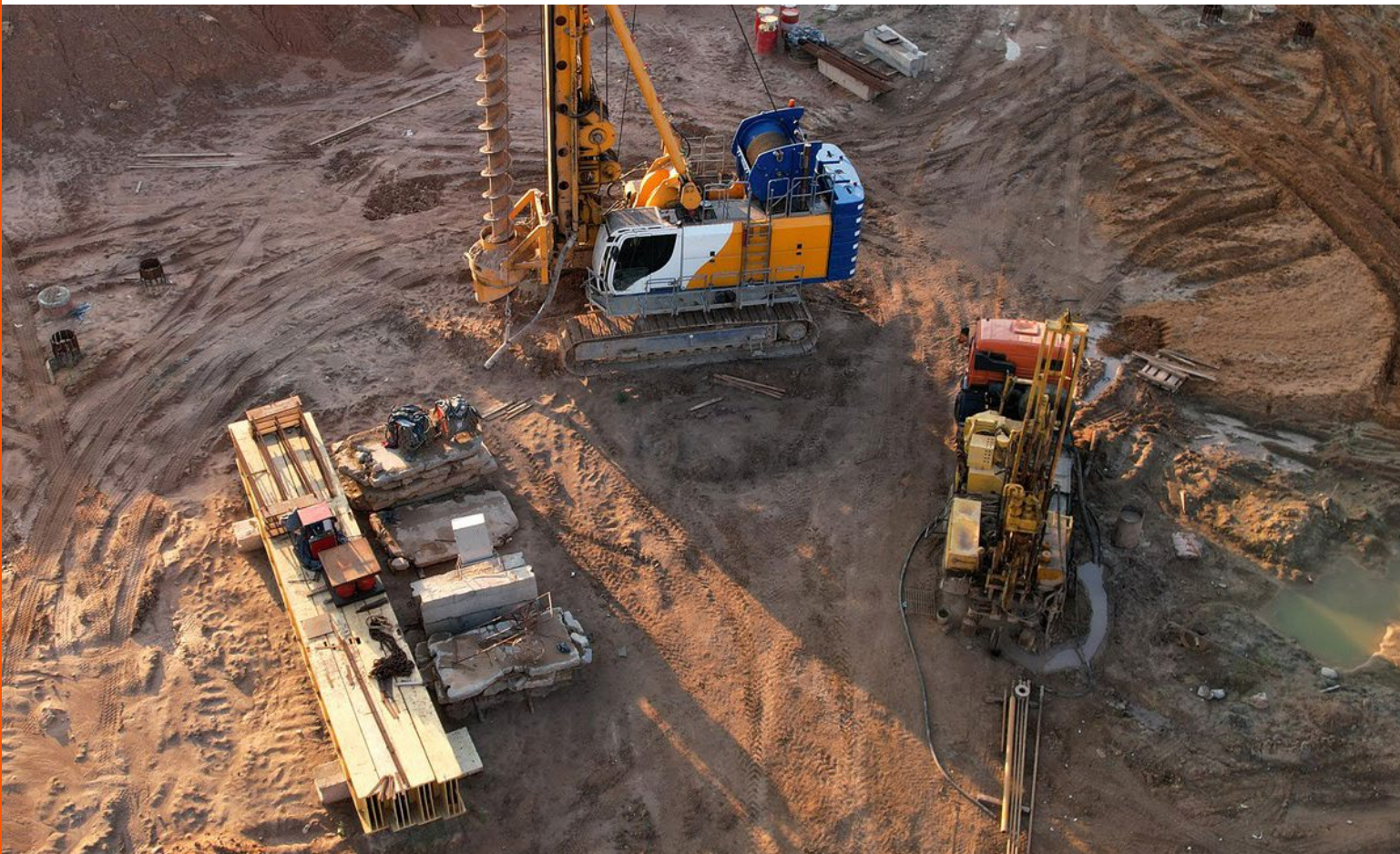
We work closely with planners, engineers, and scientists from project inception through to the detailed design and construction. Our geotechnical services include desk studies, investigation scoping, field inspection, site formation, slope and foundation design, deep excavation and numerical assessment. Our mobile team is skilled in soil-structure interactions, utility impact assessment, and government liaison.

Operating under ISO9001 for Quality Assurance, we maintain rigorous standards in geotechnical design, ensuring excellence in every project.

Our Capabilities

BG&E's suite of geotechnical engineering services enables us to meet our clients' needs and ensure successful project delivery by considering sustainability, risks, and ground conditions.

- Geotechnical desk study.
- Planning on geotechnical investigation.
- Geotechnical interpretation.
- Site formation, earthworks and ground treatment.
- Slope design and maintenance assessment.
- Soft ground engineering and embankment design.
- Foundation design.
- Deep excavation and support design.
- Soil-structure analysis and numerical analysis.
- Impact assessment for building structures and utilities.
- Interface with government authorities on development application.
- Site supervision.
- Pavement design.
- Track formation design.



Why Work With Us?



**Responsiveness
& Availability**



**Strong Industry
Relationships (inc.
Equipment, Suppliers, &
Laboratories)**



**Effective & Professional
Communication**



Practical Solutions



**Licenses, Accreditation
& Training**



**Wide Range of Software,
Equipment & Tools**

*Sydney Metro — Western Sydney Airport Station —
Sydney, NSW, Australia.*



Sectors We Service

Our comprehensive understanding of geotechnics and ground behaviour enable us to provide site-specific, practical ground engineering solutions to projects across varied industry sectors.



Bridges



Tall Buildings
(inc. Basement
Excavation)



Energy &
Renewables



Ports & Marinas



Rail, Stations
& Over Rail



Roads &
Tunnels



Water
Infrastructure



At BG&E, we are united by a common purpose — we believe that truly great engineering takes curiosity, bravery and trust, and is the key to creating extraordinary built environments.

Our team of more than 800 highly skilled people, in offices across Australia, New Zealand, Singapore, the United Kingdom and Middle East, design and deliver engineering solutions for clients in the Property, Transport, Ports and Marine, Water, Defence, Energy and Resources sectors.