



CAPABILITY STATEMENT

Creating stronger foundations

CGC provides geotechnical engineering services for critical transport, energy and civil infrastructure projects across Australia.

Established in 2015 by three forward-thinking engineers, Civil Geotechnical Consultants (CGC) emerged with a shared vision: to pioneer a company that not only tackled geotechnical challenges with ingenuity but also left an enduring positive mark on the community.

At the core of CGC's mission is a resolute commitment to forging robust partnerships, devising innovative solutions for clients, and building strong foundations in both engineering and the lives of vulnerable young people within our community.

In 2019, CGC achieved a significant milestone by attaining certification as a social enterprise from Social Traders - the first engineering company in Australia to do so. CGC invests half of its profits into initiatives designed to improve opportunities for young people.

With strategically located offices along the Eastern Seaboard, CGC is well-positioned to deliver intelligent, practical, and cost-effective engineering solutions across all project phases in the service areas shown below.

- Transport geotechnics
- Detailed design
- Design management
- Construction support
- Temporary works
- Site investigations
- Bulk earthworks
- Foundations and retentions
- Materials assessments

- Slope risk assessments
- UAV aerial mapping
- Geotechnical risk modelling
- 3D photogrammetric mapping
- Geotechnical interpretation
- Engineering opportunity analysis
- Contract management
- Ground Improvements
- RPEQ certifications



WHY CHOOSE CGC?

Through our geotechnical expertise and unwavering dedication to social impact, CGC creates stronger foundations through engineering solutions and commitment to community.

Geotechnical specialists in transport, energy and civil infrastructure

With the highest level of geotech engineering qualification with TMR (GE3), our business and people have extensive experience managing geotechnical investigation and design teams for complex hard dollar projects.

Major Project Track Record

We have been selected as partners on many of SE Qld's most important infrastructure projects such as Coomera Connector, Bruce Highway upgrades and Cross River Rail.

Australia's only certified engineering social enterprise

We are proud to be Australia's first and only certified social enterprise, committed to investing half our profits into supporting young people in our community. When clients work with us, they directly contribute to lasting and positive social change.

Leaders in geotechnical aerial mapping

To achieve the smartest engineering solutions, you need the best possible information. Using our aerial mapping technology, we can provide 3D imagery, data modelling, and expert analysis to inform the successful delivery of even the most challenging project.

A trusted partner

Clients trust us. Over 90% of our projects are sole sourced from clients who want a collaborative partner that will get the job done to the highest engineering standards. Our client partnerships range from tier 1 contractors to TMR and local councils.

Highest-level accreditations

- TMR (Qld Dept of Transport and Main Roads) GE3 – Geotechnical Engineering
- TMR Specialist Services Panel – Geotechnical / Geology
- Qld Government Engineering Consultants Scheme – Geotechnical
- Transport for NSW Technical Services Scheme - Geotechnical
- Quality Management Systems ISO9001:2015 certified
- Environmental Management Systems ISO14001:2015 certified
- Occupational Health & Safety Management Systems ISO45001:2018 certified
- CASA Remote Operations Certificate (ReOC) holder



Design and Analysis

Our experience in geotechnical design and analysis spans major nation-building infrastructure to smaller ground improvement designs. Our project portfolio comprises more than 250 bridges and retaining walls, tunnels, culverts, cuttings, embankments, foundations, pavements and earthworks. We offer specialist skills in geotechnical interpretation, parameter derivation, soft-ground engineering, and numerical and analytical design methods. Our work is underpinned by our detailed knowledge and application of TMR, RMS and relevant Australian standards.

- detailed design
- design management
- temporary works design
- soft soils
- ground improvements
- foundations
- pavements
- retaining structures
- earthworks, levees and cuttings
- geotechnical interpretation
- numerical methods



Construction Services

We are always looking for opportunities to give our clients more than they expect. This mindset, coupled with our experience in construction support for civil and transport infrastructure projects, means we can find smart solutions and cost savings within hard-dollar environments. Our team has supported a range of major development and infrastructure projects, including numerous upgrades of the Bruce Highway and Gateway Motorway.

- RPEQ certifications
- temporary works
- working platform design and certification
- pile inspections and certifications
- foundation design and inspections
- earthworks and materials management
- slope and batter assessments
- ground treatments
- back analysis and preload release
- instrumentation and monitoring



Site Investigations

Our geotechnical engineers and geologists have extensive experience in the planning and execution of geotechnical investigations to support feasibility studies, business cases, tenders, and the detailed design and operational phases of transport, civil, disaster recovery and urban infrastructure projects. Our experience extends to field geomorphology, terrain, tunnel, shaft and cut mapping, geotechnical interpretation, ground characterisation, and supervision of construction validation tests for geotechnical elements.

- earthworks
- scoping
- mapping
- slope risk assessments
- CPTs
- embankments
- ground characterisation
- site supervision and management
- construction validation
- procurement



Advisory and Value Engineering

We want our clients to enjoy the peace of mind that comes from knowing that our geotechnical expertise equips us to deliver smart, practical and cost-effective solutions. Our team has a track record of finding unrealised value in hard-dollar contracts through opportunity reviews and risk assessments.

- tenders
- feasibility studies
- root cause analysis
- risk assessments
- opportunity reviews
- constructability reviews
- forensic geotechnical investigations
- supporting submissions for disaster relief
- team leadership and integration



Aerial Mapping

Our recognised in-house aerial mapping capability means we can identify geotechnical risks early, recommend practical solutions, and work alongside clients to help them deliver the best possible outcomes for their projects.

Using the latest software, our in-house licensed pilots and drone capability, we can provide 3D imagery, data modelling, and expert analysis to deliver detailed and accurate mapping and modelling to meet even the most difficult geotechnical challenges. We use mobile-mapping systems to collect high-resolution data from areas previously considered inaccessible, giving our clients the data they need to identify risks and opportunities within the site domain.

- 3D design and modelling
- risk assessments
- slope hazards
- terrain and surface mapping
- volumetric analysis
- UAV mobile mapping systems

OUR COMMITMENT TO POSITIVE SOCIAL CHANGE

Evidence tells us that young people facing disadvantage often have fewer professional role models, support networks and career opportunities. These barriers can lead to lower levels of engagement, confidence and reduced educational and employment pathways.

That is why **we invest half our profits** into programs designed **to improve learning opportunities for young people** facing disadvantage. Our investment is based on the 3 pillars of building confidence, knowledge and pathways to create opportunities for young people to thrive.

Building Confidence	Mentoring & Support Programs	<ul style="list-style-type: none"> • Mentoring programs for 35 young people • Schools breakfast & youth surfing programs • Financial Hardship Funds supporting 150 young people
Building Knowledge	STEM Workshops	<ul style="list-style-type: none"> • STEM for Everyone program at UQ for 220 young people • Regional Schools STEM roadshow across QLD • Interactive drone & science workshops
Building Career Pathways	Scholarships Pathways programs	<ul style="list-style-type: none"> • University scholarships for 10 young people • Career pathways scholarships for 28 young people • Step into Success job readiness program

To date we have invested over \$700,000 in programs and initiatives to support young people through our partner schools, universities and not for profit groups.



Business for good

SELECTED PROJECTS

PROJECTS	CLIENTS	SERVICES DELIVERED	HIGHLIGHTS
<p>Coomera Connector Central Stage 1</p> <p>\$2.2b, Gold Coast, Qld</p> <p>2022 - Present</p>	<p>Fulton Hogan Hull Mcllwain Joint Venture</p>	<ul style="list-style-type: none"> • Geotechnical Designer for the detailed design • Delivering the geotechnical site Investigations - to inform the detailed design • Construction support services including certification 	<p>Qld's largest road infrastructure project. The central package will deliver a 6-lane, 8km section.</p> <p>Includes 22 new bridges, a new service interchange, modifications to overpasses, hydraulics and complex geotechnical improvements.</p>
<p>Slope Risk Assessments Regional Qld</p> <p>Ongoing</p>	<p>Qld Dept of Transport and Main Roads (TMR)</p>	<ul style="list-style-type: none"> • Slope risk assessments • Aerial (UAV) mapping • Advisory • Concept design • Asset management 	<p>Assessment and designs for 75+ slopes from Mt Isa to Roma. Plus 450+ slopes across regional SE Queensland</p> <p>Aerial mapping optimised slope stability assessments, improving understanding of construction risk</p>
<p>Bruce Highway: Caboolture to Steve Irwin Way (package 2)</p> <p>\$150m, Sunshine Coast, Qld</p> <p>2021 - 2023</p>	<p>Fulton Hogan TMR</p>	<ul style="list-style-type: none"> • Tender advice • Construction support • Geotechnical certification • Temporary works design • Pile certification to MRTS63 • Geotechnical investigation and laboratory testing • Earthworks and materials • Management advice 	<p>Collaborative partnership providing geotechnical advice for successful tender through to ongoing investigation and construction services</p>
<p>Asset Management Consultancy Services Panel</p> <p>Townsville, Qld</p> <p>Ongoing</p>	<p>Townsville City Council</p>	<ul style="list-style-type: none"> • Slope risk assessments • Aerial (UAV) mapping • Advisory • Geotechnical investigations • Risk assessment • Concept design documentation 	<p>Geotechnical slope risk mapping program for over 100 sites in and around Townsville</p> <p>Pavement and geotechnical investigations, technical advice for various TCC sites/ aseets</p>
<p>Tamborine Mountain Landslide Remediation</p> <p>\$12m, SE Qld</p> <p>2021 - 2022</p>	<p>SEE Civil TMR</p>	<ul style="list-style-type: none"> • Geotechnical design • Options assessments • Slope risk assessments • Aerial (UAV) mapping • Stakeholder Management • Construction certification 	<p>Developed in-house UAV photogrammetry platform to fast track design</p> <p>Multi-criteria analysis to optimise design</p>
<p>NSW Great Artesian Basin Bores</p> <p>\$25m, Western NSW</p> <p>2021 - 2022</p>	<p>NSW Dept of Planning and Environment</p>	<ul style="list-style-type: none"> • Hydrogeological and Geotechnical advice • Construction advisor using GC21 contract • Certification of construction works 	<p>Key technical advisor for nationally significant ground water bore cap and pipe program to improve water efficiency and pressures within the Great Artesian Basin</p>

SELECTED PROJECTS

<p>Cloncurry Airport Pavement Investigation</p> <p>Cloncurry, Qld</p> <p>2023</p>	<p>Ramboll Constructions</p>	<ul style="list-style-type: none"> • Pavement site investigations alongside an airstrip 	<p>Collaborative investigations to inform the airside pavement design works for the Cloncurry Regional Airport Masterplan</p>
<p>Brisbane River Slope Mapping</p> <p>Brisbane, Qld</p> <p>Ongoing</p>	<p>Brisbane City Council</p>	<ul style="list-style-type: none"> • Slope Hazard Assessments • Aerial (UAV) Mapping • Asset Management • Advisory 	<p>Established cloud-based platform to facilitate ongoing cliff monitoring, modelling and assessment of rock slopes</p> <p>Produced photogrammetric mapping outputs, reports and orthoimage imagery</p>
<p>Bruce Highway: Maroochydhore to Mons Rd</p> <p>\$200m, Sunshine Coast, Qld</p> <p>2020 - 2021</p>	<p>John Holland - Seymour Whyte JV</p> <p>TMR</p>	<ul style="list-style-type: none"> • Advisory • Tender support • Geotechnical design • Construction support • Subgrade Inspections • Temporary works design • Earthworks and materials • Instrumentation and monitoring 	<p>Identified cost savings through preload assessments, creating opportunity for early preload release of 6 weeks from planned date</p>
<p>Cross River Rail</p> <p>\$4.5b, Brisbane</p> <p>2018 - 2020</p>	<p>Arcadis</p> <p>Cross River Rail Delivery Authority</p>	<ul style="list-style-type: none"> • Geotechnical verification 	<p>Independent verification of the design for the tunnelling, deep excavations settlement assessments, retention and deep foundations</p>
<p>Bruce Highway: Caloundra to Sunshine Motorway</p> <p>\$812m, Sunshine Coast, Qld</p> <p>2018 - 2020</p>	<p>Fulton Hogan - Seymour Whyte JV</p> <p>TMR</p>	<ul style="list-style-type: none"> • Advisory • Value engineering • Construction support • Subgrade inspections • Temporary works design • Earthworks and materials • Management advice 	<p>Geotechnical design advisory for the permanent design</p> <p>Realised significant cost and sustainability improvements by optimising the subgrade design, increasing materials reuse, reducing imported material, and optimising the project risk profile</p>
<p>Gateway Motorway North Upgrade</p> <p>\$1.1b, Brisbane, Qld</p> <p>2017 - 2019</p>	<p>Lend Lease</p> <p>TMR</p>	<ul style="list-style-type: none"> • Geotechnical and pavements design management • Site investigation • Value engineering • Construction certification • Temporary works • Stakeholder management 	<p>Managed geotechnical and pavements design, drilling program, instrumentation and monitoring and temporary works design</p> <p>Stakeholder interface between the client, TMR, BCC, Transurban and the IV</p>

OUR CLIENTS



OUR ACCREDITATIONS AND AFFILIATIONS



OUR PRINCIPALS



David Carson

Principal Geotechnical Engineer
Experience: 25 years +
Qualifications: CPEng | FIEAust | RPEQ
NER | RMS Slope Risk Assessor
TMR Pile Assessor | IRATA-1 | MAICD
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David has extensive experience in roads, rail and tunnelling across NSW, Queensland and Sri Lanka. He is a Fellow of Engineers Australia, an accredited slope risk assessor and is on the Individual Expert Panel with TMR (Geotechnical Engineering and Engineering Geology).

David's in-depth knowledge of geotechnical design, along with his track record in analysing risk and identifying opportunities, has resulted in project cost savings and helped him build trusted client relationships.



Barry Land

Principal Geotechnical Engineer /
Engineering Geologist
Experience: 27 years +
Qualifications: CPEng | MIEAust | RPEQ
NER | RMS Slope Risk Assessor
TMR Pile Assessor
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Barry's expertise in managing projects and delivering geotechnical content across feasibility, design and construction has resulted in CGC's involvement in many of Queensland's nation-building projects.

Barry is on the Individual Expert Panel with TMR (Geotechnical Engineering and Engineering Geology) and has led large, complex teams, bringing an intimate understanding and robust knowledge of geotechnical investigation, design and construction requirements to the delivery of his projects.



Ian Thompson

Principal Geotechnical Engineer
Experience: 20 years +
Qualifications: CPEng | MIEAust | RPEQ
NER | RMS Slope Risk Assessor | RePL
Chief Remote Pilot | TMR Pile Assessor
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Ian manages CGC's Sunshine Coast office and is an industry leader in UAV (drone) applications. Ian has proven capability for developing practical and cost-effective engineering solutions across geotechnical site investigations, design and construction in Australia, Asia and the Pacific.

Ian has developed bespoke design and risk management monitoring portals to manage high-risk slopes for clients such as Brisbane City Council and TMR.

CONTACT US

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