

Tonkin Gap Project
- Perth, WA, Australia.

SECTOR BROCHURE

Roads & Highways



OPPORTUNITIES
THROUGH
EXCELLENCE

bgeeng.com

BG
&E

Introduction

BG&E is an international civil and structural engineering consultancy celebrated for its innovative, cost-effective, and award-winning designs.

With a dynamic team spanning 15 offices worldwide - including Australia, New Zealand, South East Asia, the United Kingdom and Middle East - we unite local and international professionals to deliver practical solutions with a strong focus on constructability.

Our Clients consistently return to us, attesting to our exceptional service, responsiveness, and track record for delivering tailored solutions for technically challenging projects. The quantity and scope of engineering awards we've received acknowledge our diverse industry contributions and the exceptional quality of the services we deliver across a host of regions, disciplines, and sectors.



Roads & Highways

At BG&E our expertise in road network development goes beyond infrastructure - we understand the vital role roads play in a country's present and future.

BG&E delivers comprehensive road and highway solutions through a focus on technical expertise and a Client-first approach. Leveraging our knowledge of construction, project management and asset maintenance, we excel in all stages of the project lifecycle - from initial planning and design to construction and ongoing support.

Efficient roads bridge communities, fostering social interaction, tourism and timely emergency response - contributing to a connected and resilient society. They also keep businesses connected, facilitate the flow of goods, and ensure accessibility of resources - driving national prosperity.

Looking ahead, we are prepared to address evolving transportation needs by incorporating innovative solutions for sustainable practices, safety enhancements, and adapting to new technologies such as electric vehicles and alternative transport modes.

*Narre Warren North Road Upgrade –
Melbourne, VIC, Australia.*



Our expertise spans the full spectrum of road infrastructure projects, from large-scale freeway extensions, interchanges and major highway upgrades to smaller-scale local road improvements.

We have successfully delivered complex projects, collaborating with diverse teams to overcome challenges and achieve exceptional outcomes.

Our civil and bridge teams are well-equipped to provide services in planning, design, construction management and maintenance of all elements of the road corridor - including freeways, highways, complex interchanges, toll roads, bridges and tunnels.

We understand the financial pressures our Clients face and prioritise cost-effective project delivery. Our experience with various contractual models, from direct engagement by road authorities to alliances and Design and Constructs (D&Cs), enables us to optimise project outcomes, accelerate timelines and mitigate risks.

BG&E stands out in the industry due to the responsiveness and flexibility afforded by our ownership structure, as a 100% employee-owned company, headquartered in Australia. Partnering with BG&E means dealing directly with decision makers - resulting in increased productivity and agility.



Pacific Highway (M1) Pimpama Interchange (Exit 49) - Gold Coast, QLD, Australia.

*Coomera Connector: Stage One -
Gold Coast, QLD, Australia.*



Road & Highway Projects

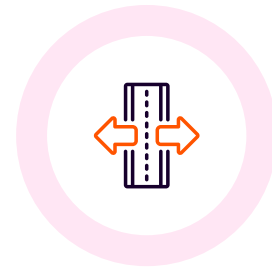
With over 40 years of experience in the delivery of civil works, we are passionate about transforming roads and highways into safe, efficient and sustainable networks.



URBAN FREEWAYS, ROADS & HIGHWAYS



RURAL ROADS & HIGHWAYS



ROAD WIDENING & DUPLICATION



INTERCHANGE & INTERSECTION UPGRADES



ROAD SAFETY ASSESSMENTS & IMPROVEMENTS



TRAFFIC IMPACT ASSESSMENTS



TRANSPORT PLANNING & TRAFFIC MODELLING



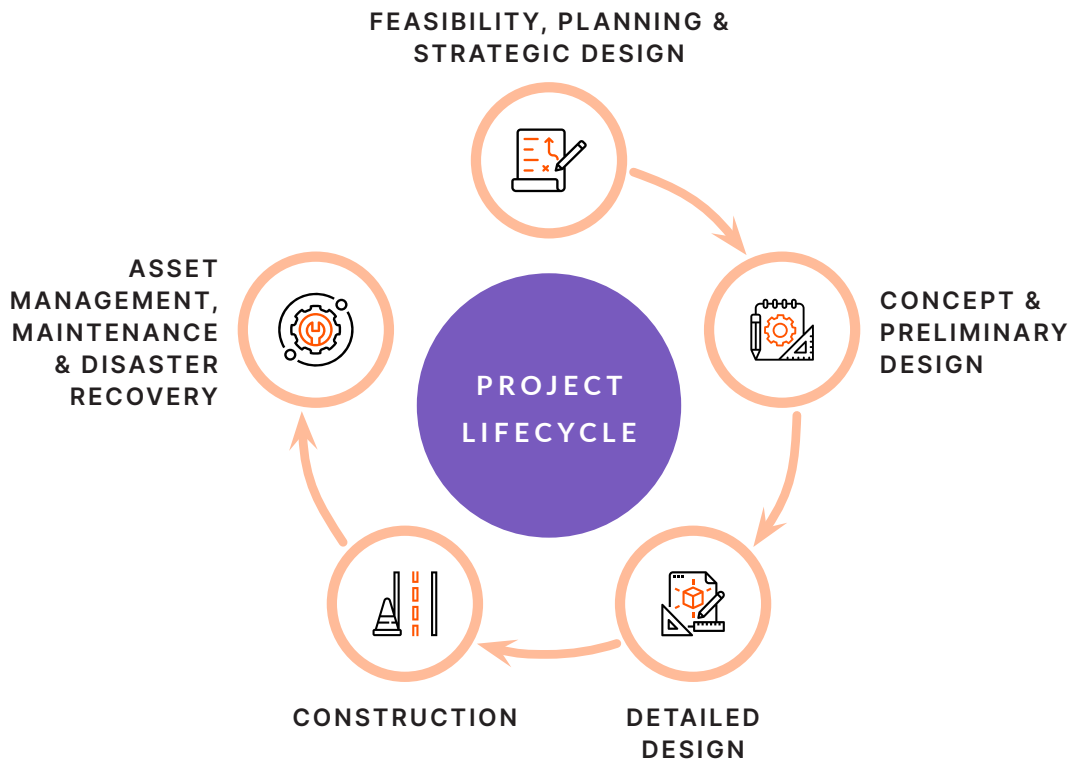
TEMPORARY WORKS



EMERGENCY DISASTER & RECOVERY MANAGEMENT

Project Lifecycle

We combine the knowledge and experience of our people with an innovative culture and robust systems to provide tailored road design solutions.



Leach Highway & Welshpool Road Interchange - Perth, WA, Australia.





Pacific Highway Upgrade, Woolgoolga to Ballina - Portion A - North Coast, NSW, Australia.

Technical Excellence

We provide comprehensive services in planning, design, construction management and maintenance across all aspects of road corridors, including freeways, highways, toll roads, complex interchanges, bridges and tunnels.

Our capabilities encompass:

- Bridge and structural design and engineering.
- Transport planning and traffic engineering.
- Active and public transport planning, activation and improvements.
- Geometric design and modelling.
- Earthworks design and modelling.
- Utility services coordination and design.
- Hydrology and flooding.
- Drainage and water quality design and modelling.
- Road safety barrier design.
- Signage and line-marking design.
- Pavement investigation and design.
- Design and project management.
- Support to land acquisition, environmental and heritage approvals.



*Pacific Highway Upgrade, Woolgoolga to Ballina - Portion A -
North Coast, NSW, Australia.*

Procurement & Contract Management

At BG&E, we have extensive experience with a variety of procurement models - both Client-side and for Contractors. This ensures we have the capability to operate in a range of diverse and often nuanced environments.

Our team has over 40 years of experience and extensive expertise in delivering civil roads and highways projects across a range of procurement models.

Common delivery models include:

- **Design & Construct**
- **Alliance**
- **Integrated Project Team**
- **Joint Venture**
- **Construct Only**
- **Early Contractor Involvement**
- **Delivery Partner**
- **Managing Contractor**
- **Incentivised Target Cost**
- **Private Public Partnership**
- **Pre-Qualified Panel**

We also bring significant Client-side experience, having been directly engaged by transport authorities, local governments, asset owners and other stakeholders to deliver planning and design services.

Our thorough understanding of Contractor risk enables us to advise on regulatory and compliance requirements to safeguard operations, effectively manage project risk and deliver positive and innovative outcomes.

*New Richmond Bridge: Stage One - The Driftway -
Richmond, NSW, Australia.*



Technical Excellence

Equipped with an extensive range of in-house engineering disciplines that complement each other, we are strategically positioned to provide top-tier design solutions for road and highway projects.



BRIDGE
ENGINEERING



CONSTRUCTION
ENGINEERING (TEMPORARY
WORKS)



DIGITAL ENGINEERING
& BIM



FLOODING &
HYDROLOGY



GEOTECHNICAL &
PAVEMENT ENGINEERING



MATERIALS &
DURABILITY



ROAD & RAIL
INFRASTRUCTURE



SUSTAINABILITY



URBAN CIVIL (INC.
STRUCTURAL ENGINEERING)

Why BG&E?



TECHNICAL EXCELLENCE

We are the go-to consultancy for technically challenging projects. Innovation is central to our service.



TRUSTED PARTNER

We deliver on what we promise - especially when it comes to resourcing.



RESPONSIVENESS & COMMUNICATION

We are recognised for our responsiveness and effective stakeholder consultation and management.



VALUE ENGINEERING

We deliver functional and safe designs that are practical and constructible, all while minimising cost.



SUSTAINABILITY

We embed social and environmental sustainability outcomes, including circular economy and material reuse principles, early in the design process.



EMPLOYEE OWNED

As an employee-owned, Australian-based consultancy - we maintain long-standing relationships with industry bodies and enable agile decisions.

Who We Work With



Prequalifications & Panel Contracts

PREQUALIFICATIONS

VICTORIA

Road and Bridge Design Group

- Road Design
 - Freeways (FD)
 - Rural Road (RR)
 - Urban Road (UR)
- Bridge Design
 - Structures - Complex (CS)
 - Structures - Simple (SS)
- Proof Engineering
 - Structures (PE)
- Hydrologic and Hydraulic Design
 - H&H - Complex (CH)
 - H&H - Simple (SH)
- Water Sensitive Road Design
 - Modelling and Design (WSRD)

Traffic Management Services (Consult) Group

- Traffic Transport Planning and Strategies
 - PAM - Access Management

SOUTH AUSTRALA

- Rail, Professional and Technical Services
 - Alignment and Track Infrastructure
 - Depots and stabling Yards
 - Light and Heavy Passenger Rail
- Structural Engineering
 - Bridge Inspections / Safety Audits
 - Structural Design and Structural Drafting
- Transport Planning and Design
 - Road Design
- Transport Modelling and Analysis
 - Traffic Modelling
- Stormwater
 - Stormwater Design and Modelling

QUEENSLAND

- Highway Engineering 3 (HE3)
- Hydraulic Design 3 (HD3)
- Traffic Planning 3 (TP3)
- Transport Engineering 3 (TE3)
- Bridge Design 3 (BD3)
- Data Analysis and Insights 2 (DAI2)
- Transport and Land Use Modelling 2 (TLUM2)

NEW SOUTH WALES

Transport for NSW - Technical Services Registration Scheme SCM8661

- Drainage Investigate and Design
- Standard Road Design
- Complex Road Design
- Standard Bridge Design
- Complex Bridge Design
- Bridge Rehabilitation Design
- Materials and Durability Services - Concrete Durability Investigations
- Materials and Durability Services - Corrosion of Steel in Concrete
- Constructability Services
- HSiD - Workshop Facilitation
- HSiD - Independent Verification
- HSiD - Document Review

Transport for NSW - Technical Assurance Organisation (formerly AEO)

TAO Certificate No: 107 issued 23 November 2022

- Corridor Infrastructure and Engineering
- Civil Engineering Infrastructure
- Interchanges and Buildings

PANEL CONTRACTS

WESTERN AUSTRALIA

Main Roads WA Panel Contracts

- Engineering and Technical Services Associated with Road and Bridge Design panel (ETS panel)
- Project Management panel (PM panel)

NEW SOUTH WALES

Transport for NSW Panel Contract

- Transport for NSW – Transport Modelling and Ancillary Services Panel 2021



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 1100 highly skilled people, in offices across Australia, New Zealand, South East Asia, 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.

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