
Peter Coughlan—

Director – International Operations



Experience Overview—

Peter has extensive experience in bridge and civil infrastructure engineering. He has experience in the design and analysis of prestressed concrete bridges, including incremental launch, reinforced concrete bridges, RC concrete & steel beam composite bridges, timber bridge refurbishment and culvert structures, and surface water engineering. Mr Coughlan is experienced in leading and managing civil infrastructure teams within the Transport Sector.

Civil Infrastructure Engineering

Peter managed BG&E's WA Bridge Group from 2011-2017 and worked closely with the Civil team on numerous major projects. He has significant experience in bridge design, maintenance, asset management and strengthening design, detailed inspection and structural investigation of concrete, steel, composite and timber bridges, preparation of detailed inspection reports and recommended remedial strategies.

- Director for the Bridges & Specialists Structures Group within Australia, managing a team of over 40 engineers and drafters. Working collaboratively with the Director Civil on numerous infrastructure projects involving a multi-disciplinary team approach.
- Project Director for the design of the Nepean River Green Bridge, an iconic footbridge over the Nepean River in Penrith, NSW. The main span consists of a 200m clear span steel Warren Truss for RMS.
- Project leader & design manager for 12 rail bridges for the Rapid Growth Project 5 (RGP5) for BHP Billiton.
- Project Leader for 2 rail and 1 road bridge as part of BHPB's Quantum 100 expansion project.
- Project leader & design manager for Robe River rail bridge for the MESA A Railway Project for Rio Tinto Iron Ore Expansion Projects
- Project leader for the design of 7 rail bridges on the Tunkawanna to Rosella Rail Duplication project for Rio Tinto Major Projects.
- Project leader for the design of the Canning River Rail Bridge for the Thornlie Rail Extension project, preliminary design of fixed abutment structure.
- Contract Manager/Consultants Representative for successive Main Roads WA term consultancy Contracts for the provision of specialist bridge and civil infrastructure design services, 2001 to present.
- Project leader for numerous bridge strengthening & replacement bridge designs, including innovative strengthening methods using Carbon Fibre Reinforced Laminates.
- Detailed engineering inspections of numerous timber, concrete and steel/concrete composite bridges throughout the State.

Position—

Director – Bridges & Specialist Structures, BG&E Pty Limited

Qualifications—

- BE (Civil)
Bachelor of Engineering
- CPEng
Chartered Professional Engineer
- FIEAust
Fellow of Institution of Engineers Australia
- NPER
National Professional Engineers Register
- National Engineering Register (NER)

Career Milestones—

- 2017 / Appointed Director International Operations
- 2011 / Appointed Director Bridges & Specialist Structures
- 2006 / Appointed Director of BG&E
- 2006 / Admitted as Fellow of IEAust
- 2004 / Appointed Associate of BG&E
- 2001 / Joined BG&E as Senior Engineer
- 1999-2000 / Managing Director Bridgecore Engineering Pty Ltd
- 1998 / Senior Engineer Bridges, Main Roads Western Australia
- 1992 / Engineer Bridge Loading, Main Roads WA
- 1985-1999 / Main Roads WA
- 1985 / Awarded Bachelor of Engineering, University of WA

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Detailed Project Experience—

Civil Infrastructure Experience

Director with BG&E as Contract Manager, Project Director, Design Manager and Project Leader on numerous bridge maintenance engineering repair and strengthening design and documentation projects; managing structural design teams, bridge inspection, structural investigation and reporting, waterways investigation & flood studies and management of multi-disciplinary bridge design teams for new foot, road and rail bridges. Some key projects include;

Lusail Expressway Footbridges – Qatar

- Project Director for the detailed design of twin footbridges as part of the Lusail Expressway project in Qatar. The project is within a brownfields site as part of the construction of the new expressway, which presented major constraints around foundation location and buried structures and services.

Nepean River Green Bridge

- Project Director for the detailed design of an iconic footbridge, involving a 200m clear span steel Warren truss & two steel box girder approach spans. The design included the approach pathways linking into the existing network, electrical, lighting and temporary works. Client manager for RMS for all contractual and commercial aspects.

Western Turner Syncline Project

- Project Leader for preliminary waterways and surface drainage studies. The project included investigation of the proposed new mine site, village site, access road and conveyor alignment.

Fitzroy River Catchment & GNH GoGo Upgrade

- Project Leader for detailed modelling involving 2D analysis techniques & digital terrain models as part of the preliminary design for the upgrade of the GoGo section of the Great Northern Highway in the Kimberley Region

Rapid Growth Project 5 (RGP5)

- Project Leader/Design Manager for 12 rail bridges, including major structures across the East Turner River, Whaleback and Homestead Creeks. All bridges are to be constructed with composite concrete-steel girders supported on steel headstocks & steel columns and concrete footings (small crossings) and steel piles (larger crossings). The project included the detailed waterways investigation and hydraulics design for all bridges, preliminary design during the selection phase study, and management of the geotechnical engineer sub-consultant. Constructability of the bridges within the narrow existing rail corridor and fast track design were key issues.

Exmouth Marina Footbridge

- Superintendent for the construction of the Exmouth Marina Footbridge. The bridge comprised a 90m clear span steel arch structure supporting a suspended precast, prestressed concrete deck. The bridge spans over the main canal of the new marina development in Exmouth.

Robe River Rail Bridge – MESA A Railway Project

- Project Leader and Design Manager for the design of the Robe River rail bridge. The bridge is 280m long single track bridge with precast prestressed concrete trough beams supported on reinforced concrete blade walls founded on steel-cased cast in place concrete piles. The project included the detailed waterways investigation and hydraulic design for the bridge & management of the geotechnical engineering sub-consultant. Constructability of the bridge due to the difficult ground conditions and heritage & environmental constraints were major issues to be managed.

Tunkawanna to Rosella Rail Duplication Project

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- Project Leader for the design and documentation of seven rail bridges. The bridges consist of innovative precast prestressed concrete beams on insitu concrete substructure and founded on spread footings. Concept design as part of the Preliminary Engineering Study & preparation of the PES Report on recommended bridge options.

MRWA Term Consultancy Contracts

- Contract Manager & overall management of contract & dedicated multi-discipline team for successive Main Roads WA three-year term consultancy contracts for the provision of specialist bridge design and maintenance services, including bridge repairs & refurbishments, strengthening, structural audits, inspection and replacement design & documentation & Superintendence of repair works replacement bridge designs.

Replacement Bridges

- Management of several design and document projects for replacement bridges in metropolitan and rural shires, including preparation of 15% Design Reports & review of technical specifications and tender documentation, tender briefings, tender assessment & recommendations to the Shire/MRWA.

Previous Project Experience—

Sep 1999 – Dec 2000

Bridgecore Engineering Pty Ltd – Managing Director

Managing Director and Senior Engineer for own consultancy business, specialising in asset management and engineering support services in the transport infrastructure field. Some key projects include;

- Preparation of Asset Management Position Paper for MRWA
- Development of structure data models for new MRWA Integrated Road Information System (IRIS) database.
- Design, documentation and supervision (part-Superintendent's Representative duties) of floodway repairs on Ripon Hills Road in the Pilbara Region near Marble Bar.
- Design, documentation, project management and Superintendent's Representative of new RC flat slab bridge for Water Corporation near Harvey, south of Perth.
- Numerous bridge inspections for Water Corporation and Shire of Harvey.
- Detailed engineering inspection of timber jetty at Dongara and reporting on condition, remedial options and associated costs. Presentation of report and results to local council.
- Feasibility study for widening & strengthening of two RC flat slab bridges in the Kimberley Region for BG&E.
- Inspection & preparation of Report on Gascoyne River BR 838 in Gascoyne Region for BG&E, including assessment of bridge condition, serviceability and maintenance requirements.
- Setting up of Pty Ltd Company, development of business plans, ATSI and ATO reporting obligations, including introduction of GST systems, office management.

1985 –1999

Main Roads Western Australia – Senior Engineer Bridges

Peter Joined MRWA as a graduate engineer in 1985 and worked as a design engineer and site engineer within the bridge branch. Peter worked across a range of sections and roles within the bridge branch, working his way to become branch Manager in 1998.

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Peter then became head of discipline for bridge and structures engineering for Main Roads WA. Management of multi-disciplinary teams of bridge engineering professionals engaged in bridge design and drafting (including refurbishment design), asset management, bridge inspection, heavy loads management and data management.

Skills and Competencies—

Leadership

- Extensive experience in leading and managing multi-disciplinary engineering teams with the ability to inspire and motivate all team members, excellent organizational and planning skills, with a practical and decisive management style able to implement decisions whilst taking care of routine details.
- Director for BG&E Pty Limited managing the engineering and drafting teams and responsible for the Bridge Engineering Group activities.
- Attended MRWA Leadership Development Program in 1997. Acting head of discipline for MRWA Bridge Branch from August 1998 to September 1999.

Structural Design and Analysis Skills, Specialising In Bridge Structures

- Experienced in the design and analysis of prestressed concrete bridges, including incremental launch, reinforced concrete bridges, RC concrete & steel beam composite bridges, bridge refurbishment and culvert structures and design of new structures and load rating of existing bridges for safe load capacity and management of heavy loads.

Waterways Investigation

- Experienced in the investigation and design of surface water projects, including hydrological and hydraulic analysis of bridges, culverts and floodway structures, flood investigations and flood damage remedial and protection works.

Project Management Skills

- Project Leader and management of many large bridge design and documentation projects, numerous bridge repair and strengthening projects as part of the Main Roads term consultancy contracts for bridge design services, responsible for the delivery of projects within time and cost constrained environments.

Contract Management Skills

- Experienced in managing bridgeworks contracts, from new urban Freeway and rural bridges to bridge refurbishment works. Projects include prestressing and piling operations, in-situ concrete works and associated earthworks for structures, footings and approach embankments. Superintendent's Representative duties carried out on site for several new bridge projects.

Specification Preparation

- Substantial experience in the preparation of technical specifications and tender documentation for bridge design and construction works, including special processes for piling, jacking and repair works. Preparation of Quality System Specifications and QS plans for bridge works, including Inspection & Test Plans.

Asset Management Skills

- Experienced in the development of asset management planning activities, including inspection, scoping reports, feasibility studies, strategic assessment and maintenance design and documentation over many years involvement with bridges in WA.

Bridge Inspection and Investigation Skills



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- Experienced in detailed inspection and structural investigation of concrete, steel, composite and timber bridges, preparation of detailed inspection reports and recommended remedial strategies, numerous detailed inspections of all types of bridge structures undertaken, including inspection and investigation of accident and flood damaged structures.

Communication and Negotiation Skills

- Well-developed written and oral communication skills, particularly technical report writing and development of technical specifications.