
Donald MacMillan—

Director

Experience Overview—

Donald joined BG&E in 2003, initially as a Design Manager in our Dubai Office; he is now the BG&E Director responsible for the Perth Building Group.

With over 30 years of experience as a structural engineer, Donald has been involved in the design and project management of high rise, healthcare, commercial, residential, educational and industrial buildings and also marine structures.

Donald provides clients with cross sector technical knowledge across a range of project procurement packages including Traditional; ECI; Design and Construct and Managing Contractors' contract.

His expertise extends to working with multi-disciplinary teams from concept design through to contract administration.

Donald has maintained his role in supporting BG&E projects leaders in delivering engineering services; his attention to quality and detail ensures BG&E design teams deliver high standard engineering services.

Project Experience—

Civic

- New Perth Museum, Perth CBD, WA
- Perth Stadium, Burswood, WA
- City of Busselton Administration Centre, Busselton, WA
- Perth District Courts, Perth CBD, WA
- St Mary's Cathedral, Perth CBD, WA

Healthcare

- Fiona Stanley Hospital, Murdoch, WA
- QEII Central Energy Plant, Crawley, WA
- Midland Hospital, Midland, WA
- Busselton Health Campus, Busselton, WA
- Institute of Child Health, Service Tower, London, UK

Commercial

- Kings Square Stage 2, Perth CBD, WA
- The Grounds at QV1, Perth CBD, WA
- Channel 9 Redevelopment, Perth CBD, WA
- Perth Headquarters, Perth CBD, WA
- 167 Westralia Plaza, Office Development, Perth CBD, WA
- The Index Building Tower, Dubai, UAE
- Guildford Plaza Office Development, Greater London, UK



Position—

Director, BG&E Pty Limited

Qualifications—

- BSc (Hons)
Bachelor of Science -Civil and Structural Engineering (First Class Honours)
- MISTructE
Member, Institute of Structural Engineers, UK
- CEng
Chartered Engineer

Career Milestones—

- 2013 / Director of BG&E
- 2010 / Associate Director of BG&E
- 2007 / Associate of BG&E
- 2003 / Joined BG&E
- 2000 / Contract Engineer, London
- 1998 / Joined Penta-Ocean Const.
- 1995 / Associate - Ove Arup
- 1993 / Senior Engineer - Ove Arup
- 1990 / Design Engineer - Ove Arup
- 1986 / Joined Ove Arup as Graduate Engineer

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Mixed-Use/Residential

- Vetroblu Apartments, Scarborough, WA
- Park Avenue Apartments, Churchlands, WA
- Chelsea Apartments, Perth, WA
- The Corner by Psaros, Mt Lawley, WA
- The Edge Apartments, Perth, WA
- Burj Dubai “The Residences” Dubai, UAE
- Al Jaidah Tower / W Hotel, Doha, Qatar
- St George Wharf Development Apartment Towers, London, UK

Retail

- Innaloo Shopping Centre Redevelopment, Innaloo, WA
- Garden City Redevelopment, Booragoon, WA
- Direct Factory Outlet, Perth Airport, WA
- Warnbro Shopping Centre Expansion, Perth, WA
- Parkfield Street Shopping Centre, Islington, London, UK

Aged Care

- St Ives Carine Retirement Village, Jolimont, WA
- Swancare Bentley Park Stage 5, Bentley, WA
- Castledare Village, Wilson, WA

Education

- Yanchep Secondary School Stage 1, Yanchep, WA
- Seton College Gymnasium, Samson, WA
- Willetton Senior High School, Willetton, WA
- Bunbury Catholic College, Bunbury, WA
- Curtin University Engineering Pavilion, Bentley, WA
- Edith Cowan University, Ngoolark (Building 34), Joondalup, WA

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Detailed Project Experience—

2003 – Present

BG&E Pty Limited, Director

Healthcare

Fiona Stanley Hospital, Murdoch, WA

- Project Leader for the structural engineering component of this \$1.76B hospital. Responsible for leading the structural design team in the preparation of the technical engineering brief, development of schematic designs and delivery of final design documentation and construction support for the six buildings included in the Hospital Precinct. Structures include a range of construction materials including, in situ concrete, post-tensioned concrete, precast concrete and structural steelwork.

State Rehabilitation Centre, Murdoch, WA

- Project Leader for the structural engineering component of this \$220M development. Responsible for the preparation of the technical brief, schematic design and delivery of final design documentation. The structure includes a range of construction materials including in situ post-tensioned concrete frame with structural steel plant room.

QEII Central Energy Plant, Crawley, WA

- Project Leader for a \$200M new central energy plant for the Queen Elizabeth II Medical centre precinct. Building comprises structural steel frame with precast hollowcore floors.

SwanCare Group Stage 5, Bentley, WA

- A five story building and basement with the sole purpose of providing comfortable living for retirees. The apartment complex has been constructed using 2-way flat plate reinforced concrete slabs supported on load bearing Ritek walls.

Rosewood Aged Care Facility, Leederville, WA

- The facility comprises a single level basement with 3 levels of aged care accommodation. The building comprises in-situ reinforced concrete floor slabs supported on concrete columns and load bearing brickwork walls with reinforced concrete walls providing lateral stability. The roof is timber framed.

Busselton Health Campus, Busselton, WA

- The new Busselton Health Campus redevelopment in WA replaces the existing hospital facility which is aging and not flexible enough to match the future demand of the Busselton Catchment area. The redevelopment will comprise a full new build hospital, a Community Health Centre and a Community Mental Health centre. The new hospital will have a total floor area of 14,700m² and will provide 54 in-patient beds in two wards, an Emergency Department, Surgical and Surgical Support services.

St Ives Carine Village Development, Carine WA

- Currently providing structural and civil engineering services for stage one of the proposed St Ives Group retirement village in Carine. The proposed retirement village is on a site of 1.87 hectares and will comprise a mix of 2 and / or 3 bedroom units and other facilities in a mix of 3 to 6 storey apartment buildings. Several structural frame options have been investigated and a concrete framed structure has been selected with post tensioned flat slab floor plates.

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Commercial

Chevron Tower, Perth CBD, WA

- New high rise office building to be constructed as part of Perth's waterfront redevelopment project. Comprises a three storey basement to be used for parking and back of house activities. A large ground level extending across the whole site, including two external building, is the first of 4 podium levels. The podium levels include podium plant, lecture theatres, public space and common areas. Above level 6 are 24 office levels, a wellness centre and areas designated for roof top plant.

Kings Square Stage 2, Perth CBD, WA

- New \$70M office building located on the former Perth Entertainment Centre site. The development includes a single level basement, ground floor and mezzanine plus 11 levels of office space and a plant deck/terrace area. Each of the office levels has a gross floor area of approximately 2,000m². The current structural design uses post tensioned flat slab construction for all typical office floors.

Tassels Place Development, Innaloo, WA

- 6 storey office development with 7,800m² commercial office space and 4,500m² of car parking over two levels. The building comprises of a mix of conventionally reinforced two-way flat plate suspended concrete slabs, precast concrete shear walls for lateral stability and structural steel. In addition, it has a steel framed roof and steel framed plant room structure. It is founded on pad and strip footings.

167 Westralia Plaza, Office Development, Perth CBD, WA

- A 12-storey commercial building with 2 basement levels built on a restricted CBD site with difficult ground conditions. The structure consists of an in-situ concrete frame with reinforced and post-tensioned floor slabs to maximise ceiling zone efficiency

Mixed-Use/Residential

Lyall Street Development, South Perth, WA

- 38 level high end residential development with adjacent low rise hotel.

The Edge Apartments, Perth, WA

- 11 storey mixed-use development on Newcastle Street with basement and lower level car parking, ground floor commercial tenancies and residential units above.

Depot by Psaros, Perth, WA

- 6 storey multi-dwelling development at 65-67 Brewer Street, Perth. Comprises of 35 dwellings in a mix of 1, 2 and 3 bedroom apartments. The total area of the development is approximately 2,500m².

Sellenger Apartments, Perth, WA

- 5 storey mixed-use commercial/residential development, on Beaufort Street comprising of 40 luxury apartments, three commercial tenancies and 200m² of commercial car parking.

Barker Avenue Mixed-Use Development, Como, WA

- A mixed-use development comprising 1000m² of commercial space and 16 residential apartments over 3 levels.

The Index Building, Office/Residential Development, Dubai, UAE

- Comprises 85 levels with 5 levels of underground basement, 30 levels of office floors and 50 levels of residential floors. Building is 340m in height and typical floor 110m x 25m.

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Burj Dubai “The Residences”, Dubai, UAE

- Comprises 15 Residential Towers between 25 and 40 storeys and complimentary Podium structures. The project was delivered under a design and build contract.

Al Jaidah Tower / W Hotel, Doha, Qatar

- Comprises 30 levels of 5 star accommodation with 3 levels of basement car parking in the West Bay area of Doha. The façade is a glazed curtain wall, curved in three directions.

Retail

Warnbro Shopping Centre Expansion

- The expansion of Warnbro Fair Shopping Centre, located on Warnbro Sound Rd Warnbo, included the addition of 18,000m² of retail floor space comprising specialty shops and a major DDS. The key design requirements included high quality retail and pedestrian environments and a unified urban development.

Civic

Perth District Courts, Perth CBD, WA

- Production of Technical and Performance Specification and design drawings for perimeter basement walls

St Mary’s Cathedral, Perth CBD, WA

- Redevelopment of the existing 1865 / 1925 Cathedral to allow the incorporation of a multi-functional basement level and a new ground level Assembly area. Part demolition of the existing Cathedral required the use of complex permanent retention systems for both the existing foundation and wall elements.

New Perth MetroRail City Project, Perth CBD, WA

- Temporary works including designs for both the facade retention and facade dismantling of the Mitchell Building in William Street. Construction support included steelwork and concrete temporary works designs.

Previous Project Experience—

Nov 2002 – 2003

Sinclair Knight Merz, Consulting Engineers - Building Structures Group, London

- Institute of Child Health, London - Upgrade of clinical laboratory and office space including an 8-storey plant tower. (Project value £10m). Project Engineer: Structural steelwork frame - Corus Slimdeck concrete floor. Mini-piled foundation.
- Discovery Dock, London (Project value £34m). Design Engineer : 23 storey Residential Tower – RC frame, post tensioned floors. Responsible for design of piled foundations and three levels of concrete basement flat slab.

Apr 2002 – Nov 2002

Battle McCarthy, Consulting Engineers - Structures Group, London

- River Lane, Petersham (Project value £6m). Project Engineer – 3 No. luxury houses. Structural steelwork frame, precast concrete floor slabs on piled foundations.

Feb 2001 – Mar 2002

Connell Mott MacDonald, Consulting Engineers SE London, Building Division

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- Guilford Plaza - 7 Storey Office Development (Project value £14m). Project Engineer : R.C frame - two way spanning solid floor slab on beam/column frames on piled foundation. Lateral stability by stair core walls.
- Regional Music Centre, Gateshead (Project value £70m). Design Engineer: Three music halls comprising 2 auditoriums and rehearsal hall. R.C frame- flat/solid/ribbed floor slabs on beam/column frames on piled foundation. Lateral stability by shear walls.
- BAT Nigeria – Industrial Development for Tobacco production. (Project Value £12m). Design Engineer : Structural steelwork industrial sheds. 60m span lattice trusses with central support on R.C pad foundations.

Sep 2000 – Jan 2001

White Young Green, Consulting Engineers - SE London, Building Division

- St. George Wharf Development, London - 15 storey residential apartment block. (Project value £15m). Design Engineer. R.C frame - flat slab/column construction on piled foundation. Lateral stability–lift/stair cores.
- Parkfield Street, Islington, London - Retail/leisure development - shopping, cinema, music and bar venues (£22m). Design Engineer, R.C frame - ribbed /solid slab floors on beam/ column frames on piled foundation. Lateral stability - stair cores.

Feb 1998 – Feb 2000

Penta-Ocean Construction Co. Ltd (Japanese Civil Engineering Contractor), Kuala Lumpur, Malaysia

- Engineering Manager (April 1999 – Feb 2000) - Kertih Marine Facilities Expansion Project (Engineering, Procurement, Construction Contract). Expansion of existing offshore berth facility for Oil & Gas processing terminal including construction of four jetty heads and associated approach trestles (Project value US\$80m).
 - Overall technical responsibility for Engineering project office.
 - Leading design team of 4 engineers / 2 CAD operators in production of contract documentation (calculation reports/ construction drawings).
 - Liaison with project management consultant, site office and other design consultants.
 - Ensuring project milestones achieved on time
 - Resolution of construction/design interface issues
- Senior Design Structural Engineer (Team Lead) (Feb 1998 – Apr 1999) Kertih Marine Facilities Expansion Project
- Lead Engineer for design of approach trestles including piled piers supporting roadway (post-tensioned 20m span concrete double T beams) and Pipeway support trusses (20m span -structural steel)
 - Leading design team of 3 engineers and 2 CAD draughtsmen in production of contract documentation.
 - Co-ordination and interface of structural design with design team consultants.
 - Ensuring accuracy and quality of design documentation for submission and approval by project management consultant.
 - Ensuring submission of contract documentation on programme and preparation of progress reports.
 - Liaison with and visits to site to resolve construction/design interface issues.

Nov 1995 – Dec 1997

Ove Arup & Partners Pacific Pty Ltd, Consulting Engineers - Port Moresby, Papua New Guinea, Associate Structural Engineer

- Conceptual scheme design through to detailed analysis and design of building structures, typically for industrial, commercial and residential developments. Designing to seismic codes and in the following materials:
 - reinforced concrete
 - structural steelwork

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- reinforced masonry
- timber
- Co-ordination and interface of structural design with other design team consultants
- Leading design team engineers and CAD draughtsmen in production of contract documentation.
- Ensuring accuracy and quality of design and documentation.
- Project management, administration and budgetary responsibilities.
- Preparation of fee proposals
- Site inspections, attendance at site meetings and resolution of construction/design interface issues.
- Structural surveys, assessments and preparation of reports.
- Ensuring accuracy and quality of design and documentation.
- Project management, administration and budgetary responsibilities.
- Preparation of fee proposals
- Site inspections, attendance at site meetings and resolution of construction/design interface issues.

May 1993 – Nov 1995

Ove Arup & Partners - Consulting Engineers Industrial Engineering Projects, London - Power Station Group, Senior Design Structural Engineer

- Conceptual scheme design through to detailed analysis and design of power station structures within Asia Pacific region. Principally responsible for coal handling structures including:
 - unloading jetties berthing up to 60,000 DWT vessels.
 - coal handling conveyor foundations
 - ancillary building structures
- Designing to seismic codes and in the following materials:
 - in-situ and precast reinforced concrete
 - composite steel/concrete elements
- Team leader responsible for coordinating team of engineers and CAD draughtsmen in production of design documentation.
- Co-ordination and interface of structural design with requirements of client and other design team consultants.
- Checking and approval of engineering design documentation.

May 1992 – May 1993

Arup Botswana, Consulting Engineers - Botswana, Southern Africa, Structural Design Engineer

- Detailed analysis and design of building structures, typically for commercial and residential developments. Design in the following materials:
 - reinforced concrete
 - structural steelwork
 - unreinforced masonry
- Co-ordination and interface of structural design with other design team consultants
- Preparation of contract documentation.
- Site inspections, attendance at construction meetings and resolution of construction issues

May 1991 – Feb 1992

Ove Arup & Partners Scotland, Consulting Engineers - Aberdeen, Scotland – Assistant Resident Engineer

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- Francistown Bridges - two (120m long) multi-spanned reinforced concrete road bridges and approach roads (project value UK £5m).
 - Supervision and checking of construction works to ensure compliance with contract documentation.
 - Attendance at construction meetings and resolution of construction issues.
 - Supervision and co-ordination of technicians responsible for material testing and control.
 - Maintaining site records and progress reports.

Mar 1990 – Apr 1991

Ove Arup & Partners Scotland, Consulting Engineers - Aberdeen, Scotland - Structural Design Engineer

- Structural analysis and preparation of structural design calculations for building structures for residential and commercial developments (project values up to UK £10m including office buildings and multi-storey car-park). Designing in the following materials:
 - reinforced concrete
 - structural steelwork
- Preparation of contract documentation.
- Site inspections including full-time site supervision of piling contract for multi-storey car park.

May 1989 – Mar 1990

Ove Arup & Partners Scotland, Consulting Engineers - Aberdeen, Scotland – Assistant Resident Engineer

- Ravenspurn Offshore Gas Production Platform – concrete gravity substructure.
 - Site supervision and checking of construction works (including in-situ, post tensioning and slip-forming concrete works) to ensure compliance with contract documentation.
 - Supervision and co-ordination of technicians responsible for material testing and control.
 - Maintaining site records.

Aug 1986 – May 1989

Ove Arup & Partners Scotland, Consulting Engineers - Aberdeen, Scotland - Graduate Engineer

- Structural analysis and production of design calculations for topside facilities on offshore oil production platforms.
- Finite element modelling and analysis of Oil Production platform for Shell UK – concrete substructure and steel deck.