



## MEGAN WOOD

REGIONAL DIRECTOR,  
QUEENSLAND



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### QUALIFICATIONS

- Bachelor of Engineering (Civil) (Hons Class IIA), University of Queensland, 2000
- Master of Business Administration (Technology Management), La Trobe University (APESMA), Melbourne, 2008

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### PROFESSIONAL MEMBERSHIPS, REGISTRATIONS & APPOINTMENTS

- Member, Institution of Engineers, Australia
- Member, Professionals Australia
- Registered Professional Engineer (RPEng – Civil & Management), Professionals Australia
- Registered Professional Engineer of Queensland (RPEQ – Civil & Management)
- QLD Committee Chair, The Railway Technical Society of Australasia, a Technical Society of Engineers Australia

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### KEY SKILLS AND EXPERIENCE

- Railway Service Capacity Assessment and Design
- Estimating and Railway Cost Modelling
- Management System Development and Implementation
- Railway Regulation (both Economic and Safety) and Policy
- Business and Project Management

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### PROFESSIONAL EXPERIENCE

Megan Wood is a civil engineer with more than 16 years of experience in the international rail industry, with a focus on the commercial and operational aspects of railways and associated logistic chains. During this time, she has specialised in business development; project management of professional service delivery; regulatory auditing and analysis; railway cost modelling (including maintenance cost and access charging), railway network simulation modelling and stakeholder consultation.

Megan began her career with Plateway in Sydney, where she honed her skills in network and infrastructure cost modelling, as well as taking on a management role. Relocating to London in 2004, Megan spent four years as a lead business analyst and project manager with Halcrow, working on rail projects in the UK, Slovakia and South Korea. During this time, Megan was involved in a number of independent review roles for the UK Regulator, the London Underground PPP Arbiter and Transport for London. Each of these roles involved the analysis of scope, schedule and cost to assess the validity of financial claims and/or achievement of project stage gates.

On her return to Australia in 2009, Megan moved into the role of Operations Specialist with Aurecon, working on passenger and Heavy Haul Rail industry studies both in Australia and southern Africa, with particular focus on rail operations and feasibility of new rail infrastructure to support new mine developments.

Megan joined KBR in 2011 in the role of Industry Lead for Rail in Queensland. In addition to this role she took on project management and technical roles on a number of transport projects, including the Salisbury to Beaudesert Rail Corridor Study, Galilee Common Rail Corridors Review and Galilee Basin State Development Area Stakeholder Consultation.

In March 2016, Megan re-joined Plateway as Regional Director for Queensland.

In addition to her corporate experience, she has been an active committee member of the Railway Technical Society of Australasia (Queensland Chapter) since July 2012 and become the QLD Chapter Chair in July 2015. In this role, she has been responsible for arranging events including various technical presentations, the 2014, 2015 & 2016 AGM Dinners and a Women in Transport Breakfast. She is happy to give her personnel time to this cause, as she believes it encourages continued professional development and innovative thinking within the industry.

Megan's various roles have provided her with a holistic understanding of the whole of life performance of rail infrastructure projects. When this is combined with her analytical background, she is able to take a high level view of a situation, challenge the fundamental principles and quickly indicate areas requiring more details review and analysis.

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## PLATEWAY PTY LTD, BRISBANE, AUSTRALIA

### REGIONAL DIRECTOR, QUEENSLAND

March 2016 – Present

Megan re-joined Plateway in March 2016 as Regional Director for Queensland. In addition to this role, she has been involved in the following key projects:

**Beerburrum to Nambour Rail Upgrade Business Case, Queensland:** The Queensland Government, through Building Queensland engaged SMEC for the technical services (including engineering, environmental and stakeholder consultation) to support the development of the Beerburrum to Nambour Rail Upgrade Business Case. Specifically, the business case investigated the duplication of the North Coast Line on an improved alignment between Beerburrum and Landsborough. It also examined a range of other potential upgrades to the existing infrastructure from Landsborough to Nambour. Megan was seconded to SMEC as their project manager, responsible for overall project delivery and client relationship management. *(Client: SMEC Australia Pty Ltd for Building Queensland, 2016)*

**Galilee Common Rail Corridors Review and ongoing technical support, Queensland:** Megan had an ongoing role for KBR providing technical advice as required to the Office of the Coordinator General. *(Client: Department of State Development, Infrastructure and Planning; 2016)*

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## KELLOGG BROWN & ROOT (KBR), BRISBANE, AUSTRALIA

### INDUSTRY LEAD RAIL, QUEENSLAND

November 2011 – March 2016

Megan's role with KBR was the Industry Lead, Rail, Queensland in the Brisbane office, responsible for managing sales budgets and delivering required sales outcomes, KBR's external profile, client management and industry direction. In addition to this role, she was involved in the following key projects:

**Galilee Common Rail Corridors Review and ongoing technical support, Queensland:** KBR was appointed to undertake a review of the proposed Galilee Common Rail Corridors, to determine whether the identified preferred corridors are capable of supporting the states' objectives, namely the development of a common user rail corridor which enables the timely export of coal from the Galilee Basin. Megan was Project Manager, and lead reviewer responsible for overall delivery of the study and primary author of the study report. The initial study was completed in February 2013. Since this initial study, Megan had an ongoing role providing technical advice as required to the Office of the Coordinator General. This included:

- **Assessment of remediation costs for financial assurance:** The Queensland State Government's rail agreements with proponents planning on building railway infrastructure within the Galilee Basin State Development Area will contain a financial assurance figure. This amount would be held as a security deposit to ensure compliance with the conditions of the agreement and cover potential rehabilitation cost if the project was not completed. Megan developed and documented the methodology for determining the financial assurance figure and used this methodology to provide an indicative cost estimate based on the available information from one of the proponents. As one of KBR's deliverables was a cost estimate (with a value over a set limit), Megan was required to present her work to the internal KBR Global Cost Review Committee (teleconference to Houston, Texas, USA).
- **Options analysis and comparative cost assessment:** One section of the Galilee Basin State Development Area has a number of potential layout options. Megan developed a comparative cost estimate for each of the options which considered both capital and operational expenditures (including consideration of regulatory access charging).

*(Client: Department of State Development, Infrastructure and Planning; 2012–2016)*

**Salisbury to Beaudesert Rail Corridor Study, Queensland:** The Salisbury to Beaudesert Rail Corridor Study was undertaken to identify the requirements and constraints of a commuter rail link from Salisbury to Beaudesert. The rail link runs through the Acacia Ridge Intermodal Terminal at the northern end of the corridor, and has a major interface with the Beenleigh and Gold Coast lines at Salisbury Junction. KBR undertook the review of environmental factors and prepared an impact assessment report for the proposed rail corridor which considered conceptual alternative alignments and station locations, based on its engineering assessment of the concept for a dual track, narrow gauge, electrified system, approximately 55 km long, with up to 12 stations. Megan was Project Manager from November 2011, and was responsible for overall delivery of the study. *(Client: Department of Transport and Main Roads; 2008–2014)*

**Proposed Galilee Basin State Development Area Stakeholder Consultation, Queensland:** The Queensland Government implemented a State Development Area (SDA) to facilitate future railway infrastructure to be built from the Galilee Coal Basin to the Port of Abbot Point. KBR provided stakeholder consultation service to the Queensland Coordinator General's Office to support their public consultation for the SDA. KBR's involvement included the development of a communications and consultation plan, collateral development, meeting with stakeholders in regional locations (particularly directly affected landholders), monitoring feedback channels, managing database and risk/issues registers and collating, analysing and reporting on the submissions made during the consultation period. Megan was Project Manager, responsible for overall delivery of the services, and provided technical representation at meetings with directly affected landholders. (*Client: Department of State Development, Infrastructure and Planning, 2013–2014*)

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## AURECON GROUP, BRISBANE, AUSTRALIA

### RAIL OPERATIONS SPECIALIST

January 2009 – October 2011

Megan was employed as Operations Specialist in Aurecon's Brisbane office. Her key project experience is set out below.

**Gooneyella to Abbot Point Rail Project, Australia:** BHP Billiton identified that the development of a dedicated rail line is a key requirement in future growth of their Bowen Basin coal operations. The Selection Phase of the project investigated the development of the estimated 250–290 km rail line to identify the optimal alignment for operational effectiveness and to minimise impacts on landowners, communities and the environment. As Aurecon's Operations Interface Lead, Megan was responsible for interfacing with the above-rail consultant on whole-of-system issues, participating in whole-of-system trade-off studies and managing the required modelling activities. Specific studies and modelling activities Megan undertook includes:

- **Rail Alignment Options – Initial Economic Assessment:** Megan prepared a high level economic model and report which considered the Present Cost for multiple configuration options, including six different alignment alternatives and four different consist arrangements. The model considered:
  - Capital cost of rail Infrastructure, including bulk earthworks, track structure, major structures, signalling
  - Capital cost of rolling stock fleet, including locomotives and wagons
  - Operating costs associated with running trains, including drivers and fuel
  - Maintenance cost for above and below rail
  - Taxation effects for Capital and Operational Expenditure
- **Rail Alignment Options – Multi Criteria Analysis (MCA):** For the alternative alignments developed as part of the study, Megan undertook a non-cost MCA which considered 47 criteria across the following areas: track alignment; geotechnical; structures; hydrology; public utility protection; road interfaces; operations / maintenance; environmental; community & industrial; construction; and land use. She ran the MCA workshops with participation from key members of the project team (technical, environmental, legal, land use).
- **Trade-off Studies:** To inform the overall study a number of trade-off studies were conducted to understand the cost impacts of various alternatives. Megan undertook the cost analysis for the following areas of interest (including benchmarking of similar systems):
  - Narrow gauge vs standard gauge whole of life costs
  - Inland transfer station vs dual gauging to the port
  - Electrification vs diesel traction for various tonnage scenarios
  - Introduction of driverless technology
- **Technology Study:** The study was undertaken to identify, investigate, evaluate and decide on key above and below rail technology options that would cause a significant change to the selection of the go forward alternative for the project. The key value drivers for the project on which technology decisions were assessed included total project value, safety, schedule and other risks such as commercial, legal, regulatory. Megan led the below rail component of the study which considered track structure/ hardware (such as tubular track, plastic composite sleepers, ballast glue), alternative culvert materials, geotechnical stabilising methods, alternative maintenance practices and construction methods.

- **Below Rail Maintenance strategy:** Megan led the development of a high level rail infrastructure maintenance strategy, which outlined a maintenance approach to obtain a cost effective, high reliability and high availability maintenance solution. The strategy included an operational readiness plan, schedules and cost estimates to cover all aspects of rail infrastructure maintenance for 20 years including operational expenditure and sustaining capital. To support the strategy proposed, she conducted trade-off analysis between operating and capital expenditures for the various maintenance strategies under consideration.

*(Client: BHP Billiton; 2011)*

**Ore Line Expansion Project, South Africa:** Transnet, South Africa's state-owned transport utility, undertook an expansion of the Sishen-Saldanha rail corridor to increase output from 47 Mtpa to 60 Mtpa. During early 2010 Transnet consulted with Northern Cape iron ore and manganese miners about further expansion capacity beyond 60 Mtpa on this corridor. Aurecon was appointed as consultants to ensure that past thinking was excluded and a fresh approach adopted. Part of Aurecon's role was to ensure that future expansion was possible at an appropriate capital cost. Megan was employed as an Operations Specialist on the project. *(Client: Consortium of Miners and Transnet; 2011)*

**Moatize to Nacala alternative rail alignment study, Mozambique:** The project involved assessment of five alternative rail alignments through Mozambique from the Moatize coal mine in Tete Province to the port of Nacala Velha in Nampula Province. The study reviewed all aspects of the alternatives, including engineering, geotechnical, environmental, social, rail operations and the associated capital and operating costs. Multi-criteria analysis was used to review and compare the options. As Operations Specialist, Megan assessed the operational characteristics of each alignment, including detailed dynamic modelling using OpenTrack simulation software. *(Client: Vale; 2009)*

**Western System depreciated optimised replacement cost (DORC) peer review, Australia:** As part of QR Network's 2009 Access Undertaking with the QCA, Aurecon Hatch (a joint venture) was asked to peer review an assessment of the DORC put forward for the Western System to assist QR Network in their negotiations with the QCA. Megan was appointed as Lead Reviewer. *(Client: QR Network; 2010)*

**Technical investigation of the Brisbane inner city metro and busway conversion options:** The project involved the investigation of alternative options for a Brisbane inner city metro and conversion and/or colocation of the existing busway network to metro or light rail transit (LRT). As Operations Specialist, Megan was responsible for modelling of the proposed Brisbane metro lines to determine achievable runtimes and theoretical capacity. Analysis of these results allowed for the calculation of the rolling stock investment requirement to deliver the service. The South East Busway alignment was also modelled to determine maximum theoretical capacity for current buses only operation; co-location of buses and LRT; and conversion of the busway to LRT or metro. *(Client: Queensland Transport – ITP; 2009)*

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## HALCROW GROUP, LONDON, UK

### LEAD ANALYST AND PROJECT MANAGER

*June 2004 – December 2008*

Megan was employed as a lead analyst and project manager with Halcrow, specialising in the provision of professional planning, design and management services for infrastructure developments worldwide. She worked on the following projects:

**Regulator's Independent Reporter—audit of Network Rail's annual return, UK:** The project involved the auditing of Network Rail's annual returns, including assessment of the accuracy of asset management, operational and financial performance data formally reported by Network Rail and the reliability of the processes used for data collection/ reporting. The audits were conducted across the network by a team of around 13 auditors over a period of five months each year. As an Independent Reporter, Halcrow had a duty of care to both the Office of Rail Regulation (ORR) and Network Rail. Megan was Project Manager for all aspects of the delivery of the 2007 and 2008 audits and compiling and editing of the publicly available audit report. This role required regular contact and management of the clients at both ORR and Network Rail. Megan was also Lead Analyst jointly responsible for conducting the audits of measures related to track, signalling, civils, electrification, station and depot infrastructure, and authoring the relevant audit report sections. *(Client: ORR; 2005–08)*

**Regulator's Independent Reporter— review of cost variability for Network Rail's strategic business plan, UK:** The project involved undertaking an assessment of Network Rail's variable cost estimates for use in calculating the variable component of the access usage charges. This included assessment of the accuracy of the approach used by Network Rail to forecast the costs, the overall level of cost variability and the relative variable costs of freight and passenger traffic. Megan was appointed as Project Manager and Lead Analyst. *(Client: ORR; 2006–08)*

**Tube Lines Pre-Periodic Review Reference, UK:** The project involved the assessment of references made to the Public Private Partnership (PPP) Arbiter for the assessment of expected costs for Tube Lines (maintenance contractor for three underground lines) for review period 2 under the London Underground Ltd (LUL) PPP contract. This commission required the analysis and resolution of complex and interrelated issues in a robust manner. Halcrow's commission report addressed all asset areas. Megan was Lead Analyst for Halcrow's assessment of the signalling and rolling stock asset groups and the line upgrade program, and was also responsible for control of all modelling activities (including model auditing) and integration of results with the client's model. *(Client: Office of the PPP Arbiter; 2008)*

**Metronet BCV extraordinary review, UK:** The project involved the assessment of references made to the PPP Arbiter for the determination of Metronet Rail's (maintenance contractor for nine underground lines) claim for additional payment under the LUL PPP contract totalling approximately £1.2bn. Halcrow's commission report addressed all asset areas. Megan was Lead Analyst for Halcrow's assessment of the signalling and rolling stock asset groups, and the Victoria Line upgrade program. *(Client: Office of the PPP Arbiter; 2006–07)*

**Seoul Line 9 metro maintenance cost model, Korea:** Megan was the Financial Modeller developing cost estimates and a maintenance cost model over the proposed 10-year concession for maintenance and renewals of the new metro line for a potential maintenance provider. *(Client: Connex; 2005)*

**Metronet annual review, UK:** The project involved the technical evaluation of Metronet's performance under the London Underground PPP contract for the first three years from transfer up to March 2006. This involved assessment against the contractual measures of efficiency and economy and application of good industry practice. The review covered technical aspects of Metronet's performance across all disciplines. Megan was assigned as Analyst for assessment of the track assets and application of benchmarking data. *(Client: Office of the PPP Arbiter; 2006)*

**Infrastructure cost modelling and regulation, Slovakia:** The project involved analysis of infrastructure costs for Slovakian Railways for development of a track access and infrastructure charging model. As Lead Analyst, Megan developed an interactive model linking costs and charges to expected usage, projected efficiencies, investment and price sensitivities, allowing sensitivity analysis, cost optimisation and review. *(Client: CAIB Financial Advisors [Member of HVB-Group]; 2005)*

**Assessment of working on or near conductor rails in London Underground depots, sidings and reversing sidings:** The project involved assessment of all London Underground depots under the Tube Lines PPP contract to specify work required to comply with electricity at work regulations. This resulted in determining the optimal positioning and design of depot walkways to ensure compliance with the electricity at work regulations and London Underground standards. Megan was Client Manager liaising between Tube Lines' project managers and engineers. *(Client: Tube Lines; 2004–06)*

**Heathrow Express support contract, UK:** In her role as Works Planning Coordinator, Megan was involved in scheduling work carried out by contractors on Heathrow Express infrastructure and issuing weekly work programs; chairing weekly contractors' meetings; and reviewing the six-week work plan, including checking the requirements for possessions and isolations. *(Client: Heathrow Express; 2004–05)*

**Engineering access efficiency study on London Underground, UK:** The project involved a study of engineering access efficiency on the London Underground, which has wholly outsourced infrastructure management (PPP). This required the team to understand the processes involved in the planning, booking and use of access, in order to identify performance indicators to measure the efficiency of engineering access. Megan's position was Business Analyst. *(Client: Office of the PPP Arbiter; 2004)*

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## PLATEWAY PTY LTD, SYDNEY, AUSTRALIA

### GRADUATE CIVIL ENGINEER

January 2001 – May 2004

Megan began her career with Plateway specialising in contract management, railway operational modelling and asset condition assessment. During her final year at the company, she was responsible for managing the Sydney office. Project experience included:

**Preparation of Australian Rail Track Corporation (ARTC)'s NSW lease proposal:** Megan was seconded to ARTC as an Infrastructure Cost Modeller to assist with the preparation of a 60-year financial model and infrastructure maintenance and renewal budgets, as part of their bid to take over the state owned rail network. The detailed model incorporated varying environmental and operational factors across the state's approximate 3400 km of railway line, and all aspects of railway infrastructure, including track, civil, signalling, communications, property and power supply. *(Client: ARTC)*

**Port Kembla Railway and Terminal Capacity Study, New South Wales:** In her role as a Network Modeller, Megan prepared a model of the Moss Vale – Unanderra rail corridor using OpenTrack, assessed service alterations and infrastructure improvements required to obtain requested capacity levels, also considering the capacity restraints encountered at coal and grain terminals. *(Client: Pacific National)*

**North Coast Loop Modelling, New South Wales:** Megan was a Network Modeller for the NSW North Coast Rail Corridor modelling and analysis (980 km single line section with passing loops) which was then used to identify the requirement for passing loop extensions to allow for the pathing of 1750 m freight services. *(Client: Pacific National)*

**Tranzrail due diligence, New Zealand:** Megan was Inspection Engineer for asset examination and condition assessment including assessment of timber, steel and concrete bridges and minor structures. *(Client: Works Infrastructure)*

**Regional Fast Rail Tender, Victoria:** As part of the due diligence Megan undertook asset examination and condition assessment including assessment of track structure, bridges and minor structures. She also undertook operational modelling (using OpenTrack modelling software) to identify scope of works required to enhance the existing railway infrastructure to allow for higher speed train running.

**Jannali Platform Reconstruction, Sydney:** Megan was responsible for, programming, organization and planning of the construction phase, on site management of construction works including, quality safety and environmental issues and maintaining project cost control.

**Freight infrastructure maintenance contract management, administration and cost control:** Megan was employed as a Graduate Engineer undertaking track and civil auditing of contract compliance; contract administration; monthly reporting and cost control. *(Client: FreightCorp)*

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