

CURRENT POSITION:Technical Director, Centra Australia Pty Ltd

QUALIFICATIONS:

Bachelor of Engineering (Honours Class I)

Master of Business Administration

MEMBERSHIPS:

Engineers Australia Member No 389870

Australian Society for Concrete Paving

AREAS OF EXPERTISE:

Customer Service Pavement Design

Asset Management

Risk Management

Project Management

Change Management

Construction Management

Traffic Engineering

Pavement Investigations

Pavement Dilapidation

Financial Management

Business Development

Quality Management

GREG WRIGHT

Career Overview

Greg is a Chartered Professional Engineer (CPEng) with a wealth of pavement engineering experience. He holds a Bachelor of (Civil) Engineering degree and a Master of Business Administration degree. He is listed on the <u>NER</u>.

Greg's leadership and technical expertise combined with his commitment to providing excellent customer service ensured the pavement design teams he led substantially contributed towards the successful delivery of large capex infrastructure projects such as the \$4.5B Brisbane Airport Link project, the \$3.8B Victorian Desalination Plant, the \$3.2B Clem 7 motorway project, the \$1.1B Lane Cove motorway project, the \$2.0B lpswich Motorway upgrade project and the \$1.5B Port Botany Expansion project.

Greg led the Thiess John Holland pavement design team during the tender design phase of the \$2.65 billion North Connex project and advised Queensland Department of Transport and Main Roads regarding aligning their asphalt, aggregate and bitumen technical standards and test methods with those of Roads and Maritime Services.

Greg prepared asset management plans for the \$60million M2 Motorway pavement resurfacing plan, the \$15 million Highland Highway pavement rehabilitation plan and the \$600 million Westgate Freeway project.

Greg also contributed to the successful development and delivery of several other major infrastructure projects, such as, the Sapphire to Woolgoolga Pacific Highway upgrade, Port Botany Expansion, E2U and M2 Motorway Upgrade projects.

Greg led the pavement design teams for the \$3.8B Victorian Desalination Plant, the \$2.7B Clem 7 tunnel project and \$1.1B Lane Cove project and verified the \$2.0B Ipswich Motorway upgrade and \$1.5B Port Botany Expansion projects.

Greg managed the delivery of road improvement projects such as the Pacific Highway carriageway duplication at Wyoming, the upgrade of the intersection of Lookout Road and McCaffery Drive, New Lambton Heights and the Hexham Contra flow Project.

Greg also project managed several other road improvement projects for the Roads and Traffic Management Section of RMS and ensured that each project was delivered on time, within budget and in accordance with stakeholder requirements.

Greg managed the delivery of six consecutive sealed road pavement management programmes for Hornsby Shire Council's between January 1995 and January 2001.

Career History

2013—Current	Centra Australia—Technical Director
2013—2013	HYDER Consulting—Associate Technical Director
2011—2012	AECOM—Associate Director
2005—2011	Parsons Brinckerhoff (PB)—Principal Engineer
2003—2005	Kellogg Brown & Root (KBR)—Project Supervisor
2001—2003	Connell Wagner (CW)—Senior Engineer
1995—2001	Hornsby Shire Council—Pavement Engineer
1989—1994	Cessnock City Council—Planning & Design Manager
1984—1989	Lake Macquarie City Council—Senior Engineer





Selected Project Experience (Centra Australia)

Holding Redlich (acting for Lake Macquarie City Council) Steelstone Pavements Project—Boolaroo, NSW January 2019 – Present

Greg assessed the effectiveness of risk mitigation measures implemented by Council to reduce the damage being caused by its expanding road pavements. Greg's initial role on the project was to research the likely cause(s) of and develop a risk management framework to minimise Council's 'Mix 3' risks. Greg has now been retained as Council's expert witness. He conducted an extensive literature review, inspected multiple sites (to observe and document the damage), designed and specified appropriate remediation works and authored expert reports.

Client: Transport for NSW Botany Road, Botany September 2020 – March 2021

Greg was retained by TfNSW to provide it with independent technical advice regarding the impact of traffic on a residential dwelling. The project required inspecting Botany Road and the subject residence, reviewing historical photogrammetric images, documents and preparing an expert witness report on the matter.

Client: Transport for NSW Forest Way, Belrose September 2020 – December 2020

Greg was retained by TfNSW to provide it with independent technical advice regarding flooding of a private school. The project required inspecting the school and Forest way, reviewing relevant road maintenance specifications and documentation and preparing an expert witness report on the matter.

Gilchrist Connell (acting for GT Insurance) Enfield Intermodal Terminal (EIT) Investigation March – April 2020

Greg documented the damage to the EIT pavement and specified and reviewed the geotechnical tests on the pavement and recommended works to remediate the pavement. Prior to commencing the on-site geotechnical testing work, Greg completed on and off-site mandatory safety training and implemented the applicable safety protocols to ensure that the risks that he had identified were minimised so far as reasonably practicable.

Client: Sparke Helmore Lawyers (acting for Transport for NSW) Snowy Mountains Highway Incident October – November 2019

Greg investigated and authored an expert report on an incident that occurred on the Snowy Mountains Highway in October 2017. The investigation work Greg carried out included assessing site geometry, vehicular speeds, sight distances, work procedures and warning signage. Prior to conducting his site inspection, Greg assessed the site risks and implemented measures to minimise those risks so far as reasonably practicable.

Client: Transport for NSW Old Northern Road, Dural October 2019 – March 2020

Greg was engaged by TfNSW to provide it with independent technical advice regarding the impact of the Old Northern Road pavement widening on an adjoining residential property. The project required three on site meetings with the landowners, one face to face meeting and a teleconference with TfNSW personnel, specifying and reviewing survey detail, calculating stormwater discharge and authoring an expert report detailing his findings on the matter.

Client: Transport for NSW Jounama Creek Culvert Repair Project October – November 2019

Greg walked Murray Jackson Drive from Talbingo to Snowy Mountains Hwy to document its distress in accordance with the procedure detailed in AGPT05-19, Section 3.3.2. Prior to commencing his inspection, Greg assessed all risks and proposed controls such as traffic control to minimise those risks so far as reasonably practicable.

Client: Roads Maritime Services, NSW <u>Barham-Koondrook Bridge Project</u>—Barham, NSW June 2017 – June 2019

The project involved routing construction and main road traffic onto local roads while the heritage bridge over Murray River was being repaired. Greg carried out the pre and post construction surveys of the local roads impacted by the project and reported his findings in four volumes. Prior to commencing those surveys, Greg assessed all risks and proposed controls such as traffic control to minimise the risks so far as reasonably practicable.



Client: Roads Maritime Services, NSW

Hume Motorway Maintenance Management Model—Yass, NSW

September 2017 - March 2018

Centra was engaged by Road Maritime Services to develop a new maintenance management model for the Hume Motorway. Greg's role was to analyse the maintenance data downloaded from RMS' REFLECT database, facilitate workshops and prepare a report that detailed the optimal maintenance strategy for the motorway.

Client: Arcadis (for Department of Main Roads, Queensland)

Toowoomba Second Range Crossing Project (\$1.6 billion)—Toowoomba, QLD

November 2015 - June 2018

The project involves constructing a 41km bypass of Toowoomba connecting Warrego Highway to Gore Highway. Greg's role on the project was to review Nexus' design and advise any departures from the Project Specification.

Client: Elringtons Lawyers

Oallen Ford Road, NSW Southern Tablelands

March 2018 - April 2018

Greg was engaged to provide his expert opinion as to whether Goulburn Mulwaree Council reduced the risk posed by pavement imperfections on Oallen Ford Road so far as reasonably practicable. The investigation involved assessing site geometry, vehicular speeds, stopping distances, warning signage and assessing whether the procedures Council implemented were consistent with industry standards and applicable legislation.

Client: CPB Dragos Samsung Joint Venture (CDS-JV), NSW

New M5 WestConnex Project (\$4.3 billion)—Sydney, NSW

December 2016 - December 2017

CDS-JV is designing and constructing the New M5 project. Greg's role in the project was to advise CDS-JV about the impact of the project on Canterbury's local roads during the construction phase of the New M5 project. The project involved inspecting the impacted roads, reviewing ARRB's report on those roads and reporting his findings.

Client: North Sydney Council (NSC), NSW

Woolworths Crow's Nest Project (\$40 million)—Sydney, NSW

April 2017 - May 2017

The \$40 million redevelopment of the Woolworths Crows Nest Shopping Centre included footpath paving works along Falcon St, Burlington St and Alexander St frontages. Greg undertook a forensic investigation into the paving works.

Client: NSW Department of Justice

Oallen Ford Road, NSW Southern Tablelands

November 2016

Greg's expert opinion on the road pavement imperfections was accepted by the Deputy State Coroner as prime facie evidence that the poor condition of the road pavement substantially contributed to the death of Mr Hughes. The investigation involved assessing site geometry, vehicular speeds, stopping distances and warning signage.

Client: ARUP (for Roads Maritime Services), NSW

M4 Smart Motorway Project (\$800 million)—Sydney, NSW

October – November 2016

The M4SM project involved widening the M4 between the M7 and Roper Rd and upgrading its interchanges at Church St, Mamre Rd and Mulgoa Rd. Greg developed ARUP's pavement designs from concept to detailed.

Client: Goulburn Mulwaree Council

Oallen Ford Road, NSW Southern Tablelands

November 2015 - February 2016

Greg was commissioned by Goulburn Mulwaree Council to prepare an expert report on the factors that may have contributed to the death of Mr Hughes when his motorcycle struck a pothole at Oallen Ford on 4 October 2015.

Client: ETTT Alliance (comprising Leighton Contractors, Lend Lease Engineering & Transport NSW)

Epping Thornleigh Third Track (ETTT) Project (\$265 million)—Sydney, NSW

October 2013 - April 2016

The project involved constructing a third rail line between Thornleigh and Normanhurst. Greg prepared dilapidation reports on the pre and post construction condition of local road pavements and rail bridge over the M2 Motorway.

Client: Thiess John Holland (TJH) Joint Venture NorthConnex Project (\$2.65 billion)—Sydney, NSW

September – November 2013

The NorthConnex project links the M1 Motorway to Sydney's M2 Motorway. Greg led TJH's pavement design team during the tender preparation phase.





Client: SSFL Alliance (comprising Leighton Contractors and Transport NSW)

<u>South Sydney Freight Line</u> (SSFL) Project (\$297 million)—Sydney, NSW

June - September 2013

The SSFL project involved adding a dedicated freight line between Birrong and Macarthur. Greg's role was to quantify the pavement damage sustained by the local road network during the SSFL project construction phase.

Client: Nationwide Experts

Downer EDI ats Fellows-Bylong Valley Way, Upper Growee, NSW

The case involved reviewing the information, inspecting the site and advising legal counsel regarding the factors that contributed to the 21 February 2014 motor vehicle incident approximately 16km north of Rylstone.

Client: North Shore Paving Company Southgate West—Banksmeadow, NSW

Greg prepared an expert report on the design and construction factors that led to the observed heavy-duty container pavement damage, designing feasible site configurations and pavement repair options.

Client: Nationwide Experts

Hawkesbury City Council ats Hodgkins—Londonderry, NSW

The case involved reviewing the available evidence, inspecting the site and preparing an expert report on the causal factors that led to the motor vehicle incident on Londonderry Road, Londonderry near The Driftway in February 2010.

Client: Nationwide Experts

Fairfield City Council ats Javor —Cabramatta, NSW

The case involved reviewing the available evidence, inspecting the site and preparing an expert report on the causal factors that led to the Plaintiff allegedly sustaining injury due to tripping and falling on a footpath irregularity.

Client: Nationwide Experts

Bannister & Hunter v Transition—Fern Bay, NSW

The case involved reviewing the available evidence and preparing an expert report that quantified and justified the extent, nature and cost of the rehabilitation works that would be necessary to bring the site into conformity.

Project Experience (Hyder Consulting)

Client: Department of Transport and Main Roads (DTMR)

Independent Catalyst Differential Cost Savings (ICDCS) Project—Brisbane, QLD Project 3.1 (National Asphalt Specifications Harmonisation Project) Catalyst

ICDCS is a program of cost savings projects for DTMR's Engineering & Technology Branch and the Program Delivery and Operations Branch. Hyder assisted DTMR to achieve departmental objectives by leveraging Hyder's local experience and global networks so that DTMR can achieve more from less. Greg was one of the ICDCS project catalysts. His role was to be the catalyst for and assist DTMR to redesign its asphalt procurement system.

Client: Lend Lease

Nambucca Heads to Urunga Project (\$500 million)—Northern NSW

The 22 kilometre Nambucca Heads to Urunga (NH2U) upgrade the Pacific Highway (A1) is part of the larger Warrell Creek to Urunga project. The NH2U project comprises dual, divided carriageways and includes nine twin bridges and multiple underpasses and overpasses as well as an interchange at Waterfall Way. Greg's role is to verify that the pavements designed by Lend Lease conform to the project SWTC.

Client: Lend Lease

Bonville Bypass Project (\$165 million)—Northern NSW

The Bonville project involved designing, constructing and maintaining the 9.6km of dual carriageway bypass of Bonville between Perrys Road and Lyons Road bypass. Greg's role involved verifying that the Bonville pavements are being maintained in accordance with the scope of work and technical criteria for the project (SWTC).

Client: Lend Lease

Brunwick to Yelgin Project (\$219 million)—Northern NSW

The project involves designing, constructing and maintain 8.6km of dual carriageway between Brunswick Heads and Yelgun. The B2Y section of the Pacific Motorway (M1) was opened to traffic in July 2007. Greg's role on the B2Y project was to verify that the B2Y pavements are performing and are being maintained by Lend Lease to the standard specified in the B2Y SWTC.





Client: Lend Lease

Kuruah to Buledelah Stage 1 Project (\$80 million)—Northern NSW

The first stage of the Pacific Highway upgrade between Karuah and Buledelah (K2B1) commences at the northern end of the Karuah bypass and comprises two lane divided carriageways, twin bridges over Bulga, Bundabah and Station Creeks and an improved at-grade intersection at Myall Way. Greg's role on the project was to verify that the pavements are performing and are being maintained by Lend Lease to the standard specified in the K2B1 SWTC.

Project Experience (AECOM)

Client: Transurban

M2 Motorway Upgrade project (\$550 million)—Sydney, NSW

Pavement Engineer

The project involved upgrading the M2 Motorway by adding one east bound traffic lane between Windsor Road and Lane Cove Road and to the west bound carriageway between Lane Cove Road and Pennant Hills Road. Greg reviewed the concrete pavement jointing at the Beecroft Road interchange and designed pavement repairs at Pennant Hills Road.

Client: Leighton Contractors

Pacific Highway Upgrade – Sapphire to Woolgoolga (\$700 million)—NSW, Australia Pavement Detailing

Sapphire to Woolgoolga involves upgrading 25km of the Pacific Highway to dual carriageways from just north of Coffs Harbour through to Arrawarra Beach Road, just north of Woolgoolga, in northern New South Wales. Greg provided pavement design advice to the site design team for inclusion in NCRs and RFIs.

Client: Roads and Maritime Services (NSW)
Hunter Expressway (\$1.7 billion)—Newcastle, Australia

Pavement Verification

The Hunter Expressway project is a 40km long dual carriageway that connects the M1 Motorway at Seahampton Greg verified the design of its pavement and advised the site team responsible for verifying its construction.

Client: Hinchinbrook Shire Council (Qld)
National Disaster Relief Project (\$125 million)—NSW, Australia
Pavement Design Verifier

The project involves repairing roads damaged by floods caused by tropical cyclone Yasi in February 2011. Greg verified the project team's pavement designs.

Client: NSW Department of Planning Ulan Road Upgrade project (\$45 million)—Mudgee, NSW

Pavement Engineer

The project involves upgrading 45km of Ulan Road from just north of the township of Mudgee to Cope Road. Greg reviewed the upgrade proposal and developed an improved pavement upgrade design and apportionment model.

Client: Department of Transport and Main Roads (Qld)
Transport Network Reconstruction Program (\$423 million)—Toowoomba, QLD
Pavement Designer

The project involved repairing main roads in the Darling Downs Region damaged by the January 2011 major flood event. Greg designed the pavement rehabilitations for several main roads damaged during the January 2011 major flood event.

Client: Roads and Maritime Services (NSW)
Old Wallgrove Road (\$100 million)—Sydney, NSW
Pavement Detailing

The Old Wallgrove Road project involves upgrading 1km of Wallgrove Road and 4km of Old Wallgrove Road to dual carriageways and associated connecting road enhancements including providing a new link road connecting the M7 ramps with Capicure Drive and Old Wallgrove Road. Greg detailed the pavements on the detailed design drawings.

Client: Newcastle Airport Limited Newcastle Airport Taxiway Hotel Upgrade (\$5 million)—Newcastle, NSW Technical Advisor

The project involves reconstructing Taxiway Hotel between the terminal apron and Taxiway Juliet. Greg provided technical advice to APP's project manager during the construction phase.





Client: Roads & Maritime Services NSW)
MR82 Intersections Upgrade Project (\$80 million)—Newcastle, NSW
Pavement Detailer

The project involved the preparation of drawings of the pavements and subsurface drainage for two of the intersections being upgraded by RMS along the 13km MR82 route between Lake Road, Wallsend and Griffiths Road, Lambton. Greg detailed the pavements on the detailed design drawings.

Client: PTP Sdn Bhd Port of Tanjung Pelepas—Johor, Malaysia Technical Advisor

This project involved determining the impact of solid rubber tyres on the performance of the port's pavements. Greg assessed the impact of the solid tyres on the design life of the port pavement and on its running surface.

Client: Sydney Ports Corporation Port Botany Expansion (\$1.5 billion)—Sydney, Australia Pavement Designer

The Port Botany Expansion project includes 5 new container berths, associated tug berths, Foreshore Road improvements and a grade separated interchange incorporating a rail over-bridge as well as public areas.

Greg reviewed the pavement design drawings for the AUD 55 million grade separated interchange and its approaches.

Client: Leighton Contractors Enfield Intermodal Facility (\$147 million)—Sydney, NSW Pavement Design Reviewer

The project involves redeveloping the Enfield Good Yards site into an intermodal road and rail freight terminal.

Greg designed the flexible pavement over the containment cells and reviewed the pavement design drawings.

Client: Energy2U Alliance (comprising Ausgrid, Leighton Contractors, AECOM Australia and PowerServe)
Overflow Infrastructure Project (\$8 billion)—NSW, Australia
Pavement Reviewer

The project involves constructing 49 new zone substations, replacing 1,263 panels of 11,000 volt switch gear and replacing 155 km of 33,000 volt cable and 141 km of 132,000 volt cable. Greg's role in the project was to review the concrete pavement jointing for the Medowie and Tighes Hill substations.





Project Experience (Parsons Brinckerhoff)

Client: Transurban

M2 Motorway Resurfacing Project—Sydney, NSW

Technical Advisor

The project involved developing a pavement resurfacing strategy for the 21km long, dual carriageway M2 motorway.

Greg planned and managed the joint deflection survey and designed the pavement resurfacing works.

Client: Transurban

CityLink Pavement Asset Management Study—Melbourne, VIC

Project Manager

The project involved collecting pavement deflection data on the western link between Bulla Road and Flemington Road.

Client: Thiess John Holland Joint Venture Brisbane Airport Link (\$4.8 billion)—Brisbane, Queensland Rigid Pavements Designer

The Airport Link is a 6.7km, multi-lane, mainly underground toll road located that connects Brisbane CBD to Brisbane Airport. The project involves a number of tunnels and grade separated intersections with the Inner City Bypass and Clem 7 tunnel at Bowen Hill and with Sandgate Road at Kedron and North West Arterial at Toombul.

Greg designed the rigid pavements for the tunnels and ramps during the pretender phase of the project.

Client: Leighton Bilfiger Berger Joint Venture North South Bypass Tunnel (NSBT) (\$2.7 billion)—Brisbane, Queensland Lead Pavement Designer (all zones)

The project involved designing and constructing 4.8 km of motorway between Bowen Hills and Woolloongabba and included designing and building the twin 3.2 km long tunnels below the Brisbane River and CBD and ramps to Shaftesbury Avenue, Lutwyche Road, the Inner-City Bypass, Ipswich Road and the Pacific Motorway.

Greg lead the NSBT pavement design team from completion of the concept design through to completion of final design and provided pavement design advice to the MPB surveillance team throughout the construction phase.

Client: Thiess John Holland Joint Venture Lane Cove Tunnel (LCT) (\$1.1 billion)—Sydney, NSW Pavement Designer and Reviewer

The Lane Cove Tunnel is a 3.6 km twin tunnel tollway in Sydney, Australia that connects the M2 Motorway at North Ryde with the Gore Hill Freeway at Artarmon. The project also involved upgrading Gore Hill Freeway between the Warringah Expressway and the Pacific Highway.

Greg developed the pavement design drawings for the Gore Hill Freeway upgrade and Willoughby Road ramps and designed the Longueville Road bus stop and the modifications to the M2 motorway and Epping Road pavements. He also reviewed pavement designs developed for other zones.

Client: Origin Alliance (TMR, Abigroup, Seymour Whyte, Fulton Hogan, SMEC and Parsons Brinckerhoff) Ipswich Motorway Upgrade – Dinmore to Goodna (AUD 1.95 billion)—Brisbane, QLD Pavement Design Reviewer (all zones).

The Ipswich Motorway project is an upgrade of 8km of extremely constrained and congested existing urban motorway between Brisbane and Ipswich from four lanes to a minimum of six lanes. The project includes grade separated interchanges and several exit and entry ramps to the motorway. Engineering details include 11 km of retaining wall, noise walls, 21 bridges, and various local roads servicing the adjacent suburbs of Goodna, Redbank and Dinmore.

Greg reviewed the temporary and permanent pavement designs for the entire project.

Client: Sydney Ports Corporation Port Botany Expansion (\$1.5 billion)—Sydney, Australia Pavement Verifier

The Port Botany Expansion project includes 5 new container berths, associated tug berths, Foreshore Road improvements and a grade separated interchange incorporating a rail over-bridge as well as public areas.

Greg verified the Foreshore Rd and Millstream car park pavement designs and as built pavements.





Client: C2HC Alliance (Thiess/PB/RTA)

Pacific Highway Upgrade Project (Coopernook to Herons Creek) (\$490 million)—North Coast of NSW Pavement Design team Leader (all zones)

The C2HC project was delivered by the Thiess/RTA/Parsons Brinckerhoff alliance. The project involved upgrading 33km of the Pacific Highway between Coopernook and Heron Creek to dual carriageways.

Greg was the pavement design team leader for the project from and including concept design to project delivery.

Client: Macmahon Contractors

Great Eastern & Roe Interchange (\$74 million)—Midvale, Perth, WA

Lead Pavement Designer

The project involves a grade separated interchange at the intersection of the Great Eastern Highway and Roe Highway. Greg designed and detailed the pavements for the Roe Highway and Great Eastern Highway.

Client: Thiess Degremont Joint Venture

Victorian Desalination Plant Project (\$3.5 billion)—Wonthangi, VIC

Lead Pavement Designer

The project involved designing and constructing a 150 Giga litre p.a. desalination plant and 85 km pipeline to Melbourne. Greg designed the pavements for the plant's internal access roads, hardstand areas and adjoining roads.

Client: Glenfield Junction Alliance (Macmahon, TCA, Bouygues Travaux Publics and Parson Brinckerhoff) Glenfield Rail Upgrade project (\$170 million)—Sydney NSW Pavement Designer

The Glenfield Transport Interchange is part of Sydney's South West Rail Link project. The project involved designing and constructing bus rail interchange at Glenfield Station on Sydney's South West rail line. Greg designed pavements for Railway Parade and the Rail Workshop access.

Client: Department of Transport and Main Roads

Bruce Highway Upgrade (Cardwell Range realignment) (\$115 million)—Cardwell, QLD Pavement Designer

The project involved realigning 4km of the Bruce Hwy through the Cardwell range approximately 15km north of Ingham, QLD. Greg designed the pavements during the competitive alliance tender design phase of the project.

Client: West Gate Freeway Alliance (VicRoads, Theiss, Baulderstone, Parsons Brinckerhoff & Hyder Consulting)

Tullamarine Calder Interchange (\$526 million)—Melbourne, VIC

Pavement Reviewer

The project involved widening the Westgate Freeway between Todd Road and Montague Street, redesigning the Montague Street interchange and providing an additional exit ramp from Bolte Bridge to the Freeway and a new elevated road structure connecting Kings Way to the Freeway. Greg's role was to develop an asset management plan for the project to justify its procurement and assist the state to maintain it following completion of the project.

Client: TCI Alliance (VicRoads, Baulderstone and Parsons Brinckerhoff)
Tullamarine Calder Interchange (\$150 million)—Melbourne, VIC
Pavement Reviewer

The project involved redeveloping the Tullamarine-Calder Freeway Interchange to reduce the travelling time for the 170,000 vehicles that pass through the interchange every day and was delivered ahead of time and below budget. Greg was involved in designing the Calder to Tullamarine ramp pavement using AASHTO's MEPDG software.

Client: Tulla Sydney Alliance (VicRoads, Thiess, Parsons Brinkerhoff and Hyder) M80 Ring Road Upgrade (\$2.25 billion)—Melbourne, VIC Pavement Designer

The M80 Ring Road is 38 km in length and extends from the Princes Freeway at Laverton North to the Greensborough Highway at Greensborough. The Tulla Sydney Alliance designed and constructed 9.7 km of the upgrade between Calder Freeway and Sydney Road. Greg reviewed the pavement rehabilitation designs.

Client: Thiess Baulderstone Joint Venture Gateway Upgrade Project (GUP) (\$2.12 billion)—Brisbane, QLD Pavement Reviewer

The project involved upgrading 27km of motorway and included a 800m viaduct over Kedron Brook, overpass structures Lavarack Avenue, Airport Drive, Kingsford Smith Drive, TradeCoast Central and the northern and southern bifurcation interchanges and duplicating the 1.6km long, six-lane, balanced cantilever Gateway bridge over the Brisbane River. Greg reviewed the tendered pavement designs.





Client: Boggabri Coal

Boggabri Coal Haul Road Rehabilitation Project—Boggabri, NSW

Pavement Engineer

The project involved assessing the condition of the haulage road pavement and developing a strategy to maintain the road for a period of up to 5 years. Greg inspected the haul road, mapped and reported its distress modes to the client and designed four pavement rehabilitation options and three new pavement options for the project.

Client: Thiess

Pacific Highway Upgrade Project (Karuah to Bulahdelah, Stages 2 & 3) (\$120 million)—North Coast of NSW Pavement Designer

The project involved designing and constructing 10 km of new carriageway and regrading and re-aligning 13 km of existing carriageway, extensive traffic switches and deep excavations beside the existing alignment. Greg designed the tendered pavement designs for the project.

Client: Barclay Mowlem

Rouse Hill Sewer Treatment Plant Upgrade Project—Western Sydney, NSW Pavement Designer

The project involved upgrading the Rouse Hill sewer treatment facility to service an additional 1500 residential dwellings. The sewer treatment plant is an integral component of Lend Lease's AUD 1.2 billion Rouse Hill project.

Greg designed the internal access road and hardstand pavements for the project.

Client: Xstrata

Mangoola Mine Project-Muswellbrook, NSW

Pavement Designer

The project involved upgrading Wybong and Denman Roads to cope with the traffic generated by the Bengalla mine.

Greg designed pavement rehabilitation options and heavy-duty pavements for the project.

Client: QBE

Gin Gin RAAF Base-Gin Gin, WA

Expert Witness

The project involved providing expert witness regarding the advice provided to the Department of Defence (DOD).

Greg reviewed the advice provided to the DOD regarding the internal access road and taxiway pavements.

Client: Xstrata

Liddell Colliery Expansion Project (\$15 million)—Liddell, NSW

Pavement Engineer

The project involved assessing the impact on Pike Gully Road of increasing the mine ROM production to 15 Mtpa.

Greg determined residual life of Pike's Gully Rd and recommended pavement works to negate the additional traffic.





Project Experience (KBR)

Client: The Hills Motorway Limited M7 Motorway (\$2.5 billion)—Sydney, NSW Independent Engineer

The Westlink M7 motorway project involved designing and constructing a 40 km two lane dual carriageway that connects the M5 Motorway and Hume Highway at Prestons in the south, the M4 Motorway at Eastern Creek in the west and the M2 Motorway at West Baulkham Hills in the north.

Greg reviewed the design and construction of the M2/M7 interface.

Client: AdRail (a joint venture between Halliburton KBR, John Holland, Barclay Mowlem, and Macmahon) Ghan Railway (Alice Springs – Darwin) (\$1.3 billion)—Northern Territory, NSW Pavement Engineer

The project involved constructing 1420km of single track between Alice Springs and Darwin.

Greg's involvement in the project was specifying the intermodal facility pavement repair works and supervising the construction of the reinforced concrete piers that support the locomotive turnaround at the northern end of the line.

Client: SACL

Sydney Airport Taxiway G Realignment (\$16 million)—Sydney, NSW Pavement Designer

The project involved relocating Taxiway G east of Taxiway D to accommodate the clearances necessary for the A380 wingspan and included designing the geometry and pavements for the new section of Taxiway Golf, relocation of the perimeter road and the construction of temporary Taxiways DOM 4 and GA1.

Greg designed the rigid pavement for Taxiway G and the flexible connections to Taxiways DOM4, GA1, D and E.

Client: AusAid Highland Highway Upgrade (\$15 million)—PNG Pavement Engineer

The project involved collecting pavement distress data on 245km of the Highlands Highway between Lae and Chuave and designing and implementing a 5 year rolling works program to maintain the highway.

Greg supervised the pavement distress data survey and developed the 5 year rolling works program to maintain the highway.

Client: Roads and Maritime Services (NSW) Standard Pavement Drawing Project— Sydney, NSW Project Supervisor

The project involved updating RTA's model rigid pavement and typical pavement subsurface drainage detail drawings and uploading PDFs of the drawings to RTA's web site.

Greg supervised the development of the RTA's CC, CF, CJ, CP, MP and PT model drawing sets.

Client: Bathurst Council Improvements to Pitt Lane, Mt Panorama Raceway—Bathurst, NSW Pavement Designer

The project involved designing new workshops and concrete pavement at Pit Lane.

Greg designed the jointed reinforced concrete pavement that abuts the workshops.





Project Experience (Road & Traffic Authority)

Client: Roads and Maritime Services (NSW)

Hume and Riverina Highway Single Invitation Contract—Holbrook, NSW

Project Delivery Manager

The project involved routine maintenance of the Hume Highway between the Sturt Highway and the Victorian border. Greg was responsible for site safety, environmental and traffic management, ordering materials and plant supervising day labour and preparing incident and achievement reports.

Client: Roads and Maritime Services (NSW)

Pacific Highway and New England Highway Cross- overs project (\$0.5 million)—Hexham, NSW Project Delivery Manager

The project involved constructing two cross overs and signalised intersections and a truck U turn bay to facilitate contraflow along the north bound bridge over the Hunter River while the south bound bridge was being repaired. Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub-contractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Lookout Rd (State Highway 23) and McCaffrey Dr Intersection Improvements (\$2.3 million)—Newcastle, NSW Project Delivery Manager

The project involved constructing a H-Pile retaining wall, lowering a section of 525mm ID CICL watermain and upgrading the intersection and its approaches. Greg prepared the site safety, environmental and traffic management plans, ordered materials and plant, developed the H-Pile, watermain and precast panel procurement plans and managed the drilling and watermain installation contracts.

Client: Roads and Maritime Services (NSW)

Golden Highway Intersection Improvements Project (\$0.45million)—Denman, NSW Project Delivery Manager

The project involved reconstructing and realigning the Golden Highway at the intersection of Palace and Crinoline Streets. Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing subcontractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Pacific Highway Carriageway Duplication (\$5.3 million)—Wyoming, NSW

Project Delivery Manager

The project involved constructing a concrete carriageway parallel to the existing highway and resurfacing the existing carriageway between Brookes Parade and Railway Crescent. Greg responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing subcontractors and supervising day labour and community liaison.

Client: Roads and Maritime Services (NSW)

Pacific Highway and Wisemans Ferry Road Intersection Improvements (\$0.375 million)—Kariong, NSW Project Deliver Manager

Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub-contractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Henry Parry Drive and Wells Street Intersection Improvements (\$0.475 million)—East Gosford, NSW Project Delivery Manager

Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub- contractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Nelson Bay Road and Moores Road Intersection Improvements (\$0.325 million)—Saltash, NSW Project Delivery Manager

Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub- contractors and supervising day labour.





Client: Roads and Maritime Services (NSW)

Pacific Highway Upgrade, Highfields (\$0.35 million)—Newcastle, NSW

Project Delivery Manager

Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub-contractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Main Road and Dunkley Parade Intersection Improvement (\$0.375 million)—Toukley, NSW Project Delivery Manager

Greg was responsible for site safety, environmental and traffic management, ordering materials and plant, developing tender documents, assessing tenders, managing sub-contractors and supervising day labour.

Client: Roads and Maritime Services (NSW)

Ferodale Road and Medowie Road Intersection Improvements—Medowie, NSW

Project Manager

Greg project managed the design and construction of the project by the Port Stephens Council.

Client: Roads and Maritime Services (NSW) Pacific Highway Bus Bay—Gateshead, NSW Project Manager

Crea project recovered the decima and construct

Greg project managed the design and construction of the project by the Lake Macquarie Council.

Client: Roads and Maritime Services (NSW) Brisbane Water Road Bus Bay—Point Claire, NSW Project Manager

Greg project managed the design and construction of the project by Gosford Council.

Client: Roads and Maritime Services (NSW)

Cumberland Road and Cooper Street Intersection Improvements—Cessnock, NSW Project Manager

Greg project managed the design and construction of the project by the Cessnock Council.

Client: Roads and Maritime Services (NSW)
Golden Highway Widening Project—Cassilis, NSW

Project Manager

Greg project managed the design and construction of the project by Merriwa Council.

Client: Roads and Maritime Services (NSW) New England Highway Guardrail Project—Tarro, NSW Project Manager

Greg project managed the design and construction of the project by Newcastle Council.

Client: Roads and Maritime Services (NSW) F3 Wire Rope Project— Kangi Angi Cutting, NSW Project Manager

Greg project managed the installation of the project by Hunter Road Services.

Client: Roads and Maritime Services (NSW)

Ocean Beach Road and Rawson Street Intersection Improvement Project—Umina, NSW Project Manager

Greg project managed the design and construction of the project by Gosford Council.

Client: Roads and Maritime Services (NSW)

Northcote Street and Boundary Road Intersection Improvements—Kurri Kurri, NSW Project Manager

Greg project managed the design and construction of the project by Cessnock City Council.





Project Experience (Connell Wagner)

Client: Roads and Maritime Services (NSW)

Pacific Highway (Sapphire to Woolgoolga) Upgrade Concept Design (\$4 million)—Coffs Harbour, NSW Project Engineer

The project involved developing the concept design for the 25km of the Pacific Highway upgrade between Coffs Harbour and Woolgoolga and was extended to include a strategic review of three Coffs Harbour Bypass options.

Greg designed the cross drainage and prepared strategic estimates of the cost of the S2W and Coffs Harbour bypasses.

Client: Roads and Maritime Services (NSW)
Third Hunter River Crossing (\$65 million)—Maitland, NSW
Project Engineer

The project involved developing the preferred route for the third Hunter River Crossing.

Greg designed the community questionnaire and supervised the issuing and collection of the questionnaire.

Client: Belmadar Tuncurry TAFE—Tuncurry, NSW Project Engineer

The Tuncurry TAFE project involved upgrading and signalising the intersection of Lakes Way and Grandis Drive at Tuncurry and constructing a new road (Northern Parkway) between Lakes Way and the TAFE.

Greg designed the flexible road pavement for Lakes Way, Grandis Drive and Northern Parkway, designed the drainage for the project and calculated the earthworks and pavement quantities.

Client: BHP Billiton
Newcastle Steelworks Site Redeve

Newcastle Steelworks Site Redevelopment (\$75 million)—Newcastle, NSW Project Engineer

The project involved redeveloping the Newcastle Steelworks site into a roll on/roll off container terminal.

Greg prepared the specifications for and a cost estimate of the One Steel rail loop component of the project.

Client: Becton

Newcastle Crowne Plaza and Breakwater Apartments (\$81 million)—Newcastle, NSW Project Manager

The Newcastle Crowne Plaza and Breakwater Apartments project involved constructing a 175 room, 4 star hotel and 82 residential apartments along Wharf Road Newcastle. The project altered existing overland flow paths.

Greg project managed the flood study and liaised with Newcastle City Council on behalf of Becton.

Client: Energy Australia Central Coast Electricity Feeder Project (\$30 million)—Gosford, NSW Pavement Engineer

The project involved installing 133kV electricity feeder lines between Gosford and Ourimbah.

Greg inspected eight non-arterial roads in Gosford LGA and prepared the dilapidation reports on those roads.

Client: Roads and Maritime Services (NSW)
Coonabarabran Bypass Feasibility Study (\$0.5 million)—Coonabarabran, NSW
Estimator

The study in investigated the feasibility of diverting the Newell Highway around Coonabarabran bypass and realigning the Newell/Oxley Highway intersection to reduce the frequency and severity of motor vehicle accidents.

Greg prepared the feasibility report on and a strategic estimate of the cost of the project.





Project Experience (Local Government)

Client: Hornsby Shire Council Hornsby Council sealed road pavement maintenance—Hornsby, NSW Pavement Engineer

Greg was responsible for managing Council's \$2.5 million p.a. pavement management program. Greg progressively improved the condition of Hornsby Shire's road network during his tenure as Pavement Engineer. He did so by implementing innovative sustainable pavement rehabilitation techniques such as in situ foamed bitumen and triple blend cement stabilization and hot in place asphalt recycling of asphalt pavements and rejuvenation of oxidized bituminous surfacings. Greg managed the delivery of approximately 180 individual in-situ cement and foamed bitumen stabilisation, resealing and resurfacing projects each year for a total of six years.

Client: Landcom Landcom Subdivision Road Upgrade Project—Hornsby, NSW Project Manager

Greg was responsible for managing a \$2.5 million contract to upgrade 53 Landcom subdivision roads to the standard that Council required before it would accept the dedication of the roads as public roads.

Client: Roads and Maritime Services (NSW)
Main Road 220 Upgrade Project, Cessnock (AUD 15 million)—Hunter Valley, NSW
Design Manager

The project involved upgrading 36.5km of MR220 between Brunkerville and Branxton. Greg was the design manager for the project and designed the flexible road pavements for several sections of the project.

Client: Cessnock City Council Rehabilitation of the Cessnock Aerodrome (\$1.5 million)—Pokolbin, NSW Project Position

The project involved strengthening and resurfacing the aerodrome runway. Greg designed the cement stabilised gravel pavement for the runway.



