



Christian Leah

Profession Civil Engineer MIE Aust

Qualifications BEng (Civil) Leeds, UK

Position Principal Project Manager

Christian Leah is the Principal of Cleah Consulting and leads complex infrastructure projects for our clients. He has worked in Project Delivery for over 20 years and has extensive professional experience in complex construction, municipal works, water resource assessment and planning, investigation of dilapidation, remediation of large Dams, and the devising of project delivery strategies. He also has specialist expertise in Project procurement, facilitating design reviews, construction management and development servicing.

Key Projects

Commonwealth Avenue Bridge Upgrade - Detailed business Case

National Capital Authority 2019-2020

Commonwealth Avenue Bridge is a critical north-south arterial link in Canberra's transport network and forms an integral part of the urban domain and heritage fabric of Canberra. Originally constructed in the early 1960s, the Bridge was designed to be an elegant, slim line structure with modern architectural design features befitting of the nation's capital. The bridge was constructed in the 1960's using the then advanced technique of post-tensioned segmental Construction.

The Bridge is one of the busiest active transport links in Canberra and has seen substantial increases in traffic flow since construction. The Commonwealth Avenue precinct also forms the ceremonial entrance to Parliament and is the preferred route for the ACT governments light rail extension.

Christian led a diverse team of Business case writers, Architects and Bridge Engineers to develop a comprehensive Business Case for the structures redevelopment. Responsibilities included procurement, Client and Stakeholder Liaison, Technical Direction and co-ordination of investigation works.

John Gorton Building Carpark Upgrade Project.

National Capital Authority 2015 - 17

The John Gorton Building is a landmark Government building located in the heart of the Parliamentary Triangle in Canberra in the ACT. The project involves the demolition and reconstruction of a parking area incorporating WSUD principles, reconstruction of a service road and building entry forecourt as well as the creation of a new multi use public plaza. Additionally one third of the site is constrained by below ground office accommodation which required a replacement waterproof membrane. The Project impacted 3 Commonwealth Government Departments as Building owner, Tennant and open space manager requiring extensive stakeholder liaison and co-ordination.

Christian performed the role of the Clients Project Manager throughout the Design and Construction phase of the Project. Responsibilities included development of the procurement strategy, tendering, facilitating interactions between the Client, Designer, and the Contractor, budget management and contract payments, stakeholder liaison, construction Superintendence and surveillance.

Capabilities

- Proven Project Leader experienced in uniting diverse teams of professional collaborators and stakeholders.
- Skilled communicator able to translate technical concepts for a diverse Stakeholder audience.
- Optimised project delivery strategies to suit client and stakeholder context delivering value for money outcomes.
- Leadership of Business Case and other development studies to produce resolved Project definitions with a clear risk profile.
- Investigation of dilapidated assets and structures leading to cost effective remediation strategies maximising the value of existing assets.
- Collaborative approach to Contract Administration and Superintendence leading to improved quality and safety outcomes.

Scrivener Dam Anchor Bolt Remediation Project.

National Capital Authority 2012 - 14

Scrivener Dam forms Lake Burley Griffin in Canberra defining the character and setting of Australia's National Capital. The project involved the replacement of 120 gate hinge anchor bolts across all 5 of the Dam's overflow 'fish-belly' flap gates with 60 modern equivalents. Corrosion to the original anchor bolts was discovered which was of uncertain extent, challenging the designer to develop options which would not rely on the original bolts and could be installed within the site context without impact the structure heritage values. The worksite was constrained requiring significant temporary works to install the design whilst the Dam remained in service. The Project was delivered on time and significantly below initial budget expectations.

Christian performed the role of the Clients Project Manager throughout the Design and Construction phase of the Project. Responsibilities included development of the procurement strategy, facilitating interactions between the Client, Designer, Technical Review panel, and the Contractor, Budget management and contract payments, stakeholder liaison, construction Superintendence and surveillance.

Highlands Source Project

Goulburn Mulwaree Council, NSW 2009 - 2012

The Highlands Source Project involved the Design and Construction of an 80 km pipeline and pump station between Wingecarribee Reservoir and Goulburn, NSW. The project impacted 150 properties, numerous public roads and river crossings and traversed myriad terrain types and land uses. The \$50M project was jointly funded by the Australian Government, NSW Government and Goulburn Mulwaree Council and was a major initiative to secure Goulburn's water supply. The Project was delivered on time and within budget exceeding the expectations of the community and Government. Industry recognition came with an Engineering Excellence award in 2012 in the Engineering for Regional Communities Category.

Christian performed the role of the Client's Project Manager and the functions of the Superintendent in the contracts for the design and construction of the Project. Responsibilities included; procurement strategy development, tendering, technical direction, co-ordination of the land acquisition and statutory approvals process, financial management and contract payments as well as managing relationships with Government and Corporate Stakeholders.

Pay Parking on National Land**National Capital Authority, ACT 2014**

The Australian Government announced as part of the 2013 Budget that pay parking would be introduced on National Land from 1 July 2014. The National Capital Authority was responsible for the implementation of pay parking across 45 car parks comprising 9000 parking spaces on National Land containing nationally significant institutions and monuments.

Christian was responsible for the delivery of civil works to support the implementation of pay parking and the upgrade of other car park areas. Responsibilities included the development of a 'modular' delivery model comprising standard designs and specifications, multiple work packages and simplified contracts to allow rapid mobilisation of multiple contractors across the worksites with common administration and surveillance.

Wagga Wagga Water Treatment Plant**Riverina Water County Council 2016-2018**

The Wagga Wagga Water Treatment Plant supplies approximately 30,000 customers in the NSW Riverina. The treatment plant was originally constructed in the early 1930's and required replacement. A new treatment facility was designed and constructed on the site with a treatment capacity of 55 ML/day. The treatment process includes:- chemical dosing and mixing, inclined plate clarification, dual media filtration, chlorination and clear water storage works.

Cleah provided contract advice, payment processing and meeting facilitation throughout the tendering and construction phases.

Yass to Murrumbateman Pipeline Project**Yass Valley Council 2016 - 2018**

Murrumbateman village is supplied by local bore water sources and experiences poor water quality and demand restrictions in the summer months. Significant growth potential for residential development is constrained in part by these water supply issues.

The Yass to Murrumbateman Pipeline Project will connect the village of Murrumbateman to the Yass water supply via a 20km pipeline. The project impacts approximately 20 properties, numerous public roads and river crossings and traverses myriad terrain types and land uses.

Christian developed the Land Acquisition Strategy and undertook negotiations with landowners on behalf of council whilst also finalising the route selection.

Rural Trunkmains Strategy**Riverina Water County Council, NSW 2010 - 2011**

Riverina Water operates an extensive rural water supply system supplying a population of 7000 distributed in villages across 15,000 square kilometres to the south and west of Wagga Wagga, NSW. Much of the infrastructure supplying the villages was built in the 1940's and 1950's to supply water from a single source at Wagga Wagga. Over time new sources have been added and changing demographics have seen consumption shift from village centres to direct trunkmain connections. Riverina Water had concerns about maintaining Security of supply due to asset life and also source water security to meet growing demand.

Christian developed a project delivery framework which allowed the use of existing sources to be optimised and identified high risk assets for replacement. An analysis of existing consumption patterns was carried out and used to project future growth and identify service level modifications to reduce stress on the network under peak day conditions.

Wastewater Treatment and Effluent Management Masterplan**Bundaberg Regional Council, Qld 2009**

The Coastal region of Bundaberg faces significant growth pressure for residential development and existing communities with onsite treatment systems unsuitable for the areas climate and geology. Regulatory pressure to improve the effluent quality of river discharges and a local irrigation district with a readily available water supply further complicated the development of a strategy.

Christian facilitated a number of stakeholder workshops to establish the value of recycled effluent in the region. The Masterplan was developed using a flexible framework to allow Council the opportunity to investigate and evaluate reuse and disposal options before implementing a final strategy.

Secure Yield Investigation**Goulburn Mulwaree Council, NSW 2006 - 2008**

Christian was Councils project manager for this project which involved the assessment of a range of water supply options, requiring consideration of demands, environmental flow regimes, climate change and environmental and community impacts. Christian was able to improve Councils understanding of the communities water security and advise on the potential benefit of future augmentations and the potential risk from both regulatory and climate change.

Wastewater Treatment Capacity Augmentations**Goulburn Mulwaree Council, NSW 2006 - 2009**

Christian was Councils project manager for this project which looked at future augmentation options for Goulburns wastewater treatment system. Following a least cost planning approach, Christian developed a strategy that maximised the benefit from existing infrastructure and recent investment, whilst still incorporating high quality effluent for recycling.

Dual Reticulation Planning**Hunter Water Corporation, NSW 2005 - 2006**

Christian was Project Manager for this project with the responsibility of developing the Corporations position on dual reticulation in new developments. Firstly reviewing similar schemes nationwide, and then developing planning and design criteria to be applied to schemes in the Hunter. Christian also developed a modified cost recovery model for developer contributions and a policy framework for comparing the total community cost of BASIX and Dual Reticulation.

Integrated Water Cycle Management Plan**Goulburn Mulwaree, NSW**

Christian was involved in the development of Goulburn's water strategy which followed the NSW governments IWCM principles. The study was undertaken in a time of critical water shortage and heightened community sensitivity on the towns water security necessitating increased community consultation, a Premiers taskforce and a Project Reference Group of state government stakeholders. Christian was involved in improving the understanding of the underlying causes of the water shortage, providing technical advice on recycling issues, and presenting technical matters to the community and government stakeholders.

Water Model Development**Shoalhaven Water, NSW**

Shoalhaven Water had a number of in-house water models of discrete parts of a more

extensive, linked network. The organisation also has well organised GIS, asset and billing data which was under utilised in strategic planning decisions.

By working closely with Shoalhaven Water Christian was able to develop a model building framework linking asset, billing and GIS information in a way which reduced model development time and allowed a system wide view of the network for the first time.

Career History

Feb 2012 - Sep 2013

Principal Project Manager GHD Canberra

Whilst with GHD Christian combined a leadership role within the operating centers Water and Environment Group with the Project Management of a number of complex infrastructure Projects. He provided a mentoring role for juniro colleagues in relation to technical approach and delivery of a wide range of Projects.

Feb 2008 – Feb 2012

Senior Civil Engineer, Hunter Water Australia

Whilst at HWA Christian carried out model development work and provided strategic advice to a number of Councils across NSW and Queensland. He primarily focused on assisting regional Councils in a Project Delivery role helping them to achieve quality outcomes by understanding their needs and developing achievable project delivery frameworks.

Sep 2006 – Feb 2008

Investigation and Design Engineer, Goulburn Mulwaree Council

Among the projects Christian managed for Council were a Secure Yield Investigation which improved Councils understanding of the towns secure yield and covered potential climate change impacts and environmental flow challenges. Christian was also the Principals Representative and Project engineer on an \$8M augmentation of Councils effluent transfer, storm attenuation and effluent irrigation systems; delivering infrastructure that exceeded expectations and was below budget.

Operationally, Christian was responsible for the day to day supervision of Councils wastewater treatment plant and implemented process improvements and minor upgrades. He also provided Engineering advice on the performance of water and wastewater pumping stations, development servicing, design review, meter reading, data logging and a range of operational issues.

June 2004 – Sep 2006

Senior Engineer Assets Development, Hunter Water Corporation

Christian was tasked with planning the Hunter's first dual reticulation scheme, being implemented in a 5000 lot development area. Responsibilities included co-ordinating infrastructure delivery, developing appropriate design standards, developing demand profiles for dual reticulation schemes, hydraulic modelling of recycled water networks, analysing impacts on water resources, and mentoring project team members.

Christian also developed a Dual Reticulation Policy framework that facilitated decision making about supporting Dual reticulation or BASIX in proposed developments.

Early Experience

Following Graduation Christian started out in the Water Industry on a significant GIS upgrade project for Yorkshire Water in the UK. Subsequently he became involved in investigating failing sewer systems for Yorkshire Water and designing solutions.