



Kooragang Water Pty Ltd
WIC Act licence application
13 April 2022

Attachment 1:
Details of senior personnel

Details of senior personnel

Kurt Dahl, Chief Executive Officer

Craig Heidenreich, Chief Operating Officer

Adam Stevens, Chief Financial Officer

Brad Rea, Company Secretary and Risk and Compliance Officer

Peter Gordon, Manager Engineering

Jarrold Livingstone-Foggo, Manager Projects



Kooragang Water Pty Ltd
WIC Act licence application
13 April 2022

Attachment 2:
CVs of senior personnel

CURRICULUM VITAE

KURT DAHL

Professional history:

- ▶ **Permeate Partners (2008 to Current)**
Managing Director
- ▶ **ZENON Australia (2005 to 2008)**
Managing Director
- ▶ **Ludowici Environmental (2003 to 2005)**
General Manager
- ▶ **EIMCO Process Equipment (2001 to 2003)**
Process Engineer
- ▶ **SNF Australia (1998 – 2001)**
Process Engineer
- ▶ **Catherine Hill Bay Coal Preparation Plant (1996 – 1998)**
Process Engineer



Education and Professional Affiliations:

- > BE (Chemical) *First Class Honours* - University of Newcastle 1996
- > MBA – Deakin University 2002
- > Founding Member – Local Water Solutions Forum (Sydney Chapter)
- > Chair – WaterAid NSW Fundraising Committee
- > Chair – Membrane Operators Association (MOA) of Australia and New Zealand
- > Member – AWA, WIOA, SIA (NSW), AICD, AMTA

Specialisation:

- > Strategic planning and design
- > Integration of local and regional utilities
- > Local water infrastructure and membrane systems
- > Complex water solutions

Key strengths:

- > Taking projects from concept design through to long term operation
- > Clear and effective communicator at all levels – C suite to plant operator
- > Focus on sustainable infrastructure – social / financial / environmental
- > Commercial and technical negotiation
- > Working knowledge of private sector involvement in the water sector
- > Effective and efficient collaboration within multidisciplinary teams

Experience overview:

Kurt Dahl is a Chemical Engineer with over 20 years' experience in the design, approvals, construction and operation of water and wastewater infrastructure. Projects have ranged in size and complexity for Government and Private Clients. Kurt started his career in process engineering roles focussed on water treatment in the mining industry. These roles reinforced Kurt's understanding of the fundamental relationship between design, operation and maintenance. Kurt travelled throughout Asia to undertake process design, contract negotiations, process testing, commissioning and troubleshooting at various mine sites.

Over the past 15 years Kurt has been actively involved in the rapidly growing Australian markets for local water infrastructure and membrane technology. Kurt has led the development and realisation of a number of industry leading / award winning infrastructure solutions to multifaceted water challenges across Australia. He understands the importance of sustainable and resilient infrastructure which continues to deliver on utility, social, financial and environmental objectives over the long term.

Over the past 3 years, Kurt has led the design of a new 3.6MLD Recycled Water Plant (RWP) for Sydney Water. This new facility will treat sewage from and provide recycled water to Sydney Science Park – a \$5B mixed use smart City in Western Sydney. The RWP is in the final stages of procurement and expected to be online mid-2022.

Project experience :

Pennant Hills Golf Club

Introduced concept of sewer mining at Pennant Hills Golf Club (PHGC) in 2003. From 2003 to 2008 assisted PHGC with the investigation, approvals and procurement of one of Sydney's first sewer mining facility. Currently providing operational support with a focus on reducing long term operating costs.

Water
Wastewater
Investigation
Approval
Procurement
Operation

✓ ✓ ✓ ✓ ✓ ✓

Point Grey

Responsible for the design, approvals and procurement of a groundwater treatment plant for production of potable water and an MBR for sewage treatment / recycling to service a 3,500 lot subdivision. Particular focus on brine and nutrient management as site is bordered by RAMSAR wetland.

✓ ✓ ✓ ✓ ✓

Bray Park Water Treatment Plant

Oversaw the detailed design of the 100MLD membrane system. Responsible for commercial and technical negotiations. Implemented a change in membrane type mid project which saved the client over \$2M in reduced building costs.

✓ ✓ ✓ ✓

Curlewis Golf Club

Curlewis Golf Club will utilise sewer mining to produce Class B recycled water for irrigation. Responsible for all project phases including investigation, detailed design, approvals, regulator negotiation, procurement and operation.

✓ ✓ ✓ ✓ ✓ ✓

Central Park

MBR and RO will be used at Central Park to produce high quality recycled water for cooling towers make-up, toilet flushing washing machines and garden irrigation. Responsible for treatment plant detailed design and procurement.

✓ ✓ ✓ ✓ ✓ ✓

Royal Melbourne Golf Club

Responsible for design development, approvals, procurement, commissioning, validation and operational support of the 1.6MLD groundwater and stormwater treatment plant at Royal Melbourne Golf Club. Treated water will be used for golf course irrigation.

✓ ✓ ✓ ✓ ✓

Barangaroo

Site and export use of recycled water will enable the \$6B Barangaroo development to be water positive. Recycled water will be used for toilet flushing, irrigation cooling towers (export) and washing machines. Responsible for concept design, approvals and procurement documentation.

✓ ✓ ✓ ✓ ✓

Monkey Mia

A new infrastructure precinct will include potable water production, power generation and a wastewater treatment plant to produce high quality recycled water. Responsible for design, approvals, procurement and operation.

✓ ✓ ✓ ✓ ✓ ✓

Westfield Sydney

On site production of recycled water assisted Westfield in securing 5 green stars for their Centrepoint redevelopment. Responsible for technical advice during tender assessment, construction and operation. Secured S68 approval from the City of Sydney.

✓ ✓ ✓ ✓ ✓

Cairns Northern & Southern

Responsible for design and supply of a 60MLD membrane system to Client. Particular focus on technical / commercial negotiations and design review. Provided review of membrane condition including autopsy.

✓ ✓ ✓ ✓

Project experience :

	Water	Wastewater	Investigation	Approval	Procurement	Operation
<p>Royal Botanic Gardens Cranbourne Proposed treatment plant to process a mix of groundwater and recycled water for irrigation to reduce reliance on potable water. Responsible for concept design, costing and stakeholder consultation.</p>	✓		✓			
<p>Christies Beach Responsible for the design and supply of the 60MLD membrane system to project alliance. Particular focus on technical / commercial negotiations and design review. Management of early contractor involvement process.</p>		✓	✓		✓	
<p>Eastern Treatment Plant (ETP) Involved in the design and assessment of the option of membrane filtration for the proposed 760MLD tertiary plant at the ETP. This involvement resulted in the trialling of membranes in two locations of the demonstration plant. Responsible for technical and commercial negotiations in the delivery of the pilot plants.</p>		✓	✓			
<p>Ulan A 20MLD water treatment plant to process mine water prior to reuse and discharge. Responsible for developing rapid / interactive procurement strategy, membrane tender documentation, tender assessment and design review.</p>	✓		✓	✓	✓	✓
<p>Pitt Town One of Sydney’s first residential recycled water plants operated by a private water utility. Responsible for concept design, detailed design, technical information for approvals and ongoing operational support.</p>		✓	✓	✓	✓	✓
<p>Canada Bay The “Water for the Community” project will see treated stormwater delivered to two golf courses and 8 areas of public open space, ending their reliance on potable water for irrigation. Responsible for concept design, successful funding application, approvals and procurement.</p>	✓		✓	✓	✓	✓
<p>Cleveland Bay Responsible for the design and supply of the 75MLD membrane system to project alliance. Particular focus on technical / commercial negotiations and design review. Management of a potential membrane warranty claim.</p>		✓	✓		✓	✓
<p>SA Water – CWQIP Responsible for managing design and supply of a 9 membrane systems to Client. Particular focus on technical / commercial negotiations, design review and procurement. All 9 plants were designed, constructed and commissioned in less than 8 months.</p>	✓		✓		✓	
<p>Smiths Beach A community sewage treatment and recycled water plant to service a high profile 600 lot residential development in SW WA. Responsible for concept design, costing and stakeholder consultation.</p>		✓	✓			
<p>Couran Cove Responsible for the design and construction of ZENON’s first MBR in Australia. Plant is located in an environmentally sensitive area and therefore particular attention was paid to nutrient and pathogen removal in the during the development of the plant design.</p>		✓	✓	✓	✓	✓

CRAIG HEIDENREICH

GENERAL MANAGER – OPERATIONS AND GROWTH



YEARS OF EXPERIENCE

21

AREAS OF EXPERTISE

Wastewater Engineering
Project Management
Operations
Chemical and Process Engineering

PROFILE

With 21 years experience in the water industry, Craig has worked in R&D, Technical and Management roles across the spectrum of water, wastewater and recycled water operations including treatment and networks functions. With extensive experience in Regulatory, Customer and Key Stakeholder liaison, Craig manages all aspects of Water Utilities Australia's businesses.

EDUCATION

PhD (Engineering), University of Adelaide

Diploma of Project Management, Centre for People Development

Bachelor of Engineering (Chem), University of Adelaide

PROFESSIONAL ASSOCIATIONS

Australian Water Association

PROFESSIONAL EXPERIENCE

Senior Management

- ➔ Water Utilities Australia, General Manager (2013 – present)

Group General Manager – Operations and Growth, ensuring all aspects of delivery of the operations functions for the Water Utilities Australia group of businesses. Operations and Engineering due diligence during new business acquisitions and development of transition plans to on-board new acquisitions and align new businesses with the Water Utilities Australia management and reporting systems.

- ➔ Allwater, Southern Plants Manager (2011 – 2013)

Implementation of the Allwater business model to the Operation of the Christies Beach, Aldinga & Myponga Wastewater/Recycled Water Treatment Plants, and the Southern Adelaide Wastewater Pump Stations. Implementation of a new OH&S Management System and providing leadership in the establishment of an improved culture around OH&S. Reduction in Operational staffing levels across three sites through integration of work teams and cross fertilisation of knowledge between site personnel.

→ United Water, Glenelg, Christies Beach, Aldinga WWTP Manager (2009 – 2011)

Management of the Operation and Maintenance of the Glenelg, Christies Beach & Aldinga Wastewater/Recycled Water Treatment Plants. Design, construction and commissioning support to the Aldinga Wastewater Treatment Plant, Aldinga Recycled Water Treatment Plant and Glenelg-Adelaide Recycled Water Schemes. Transitioning of the Aldinga Wastewater Treatment Plant, Aldinga Recycled Water Treatment Plant and Glenelg-Adelaide Recycled Water Schemes from commissioning to full scale operation. Development and training of the process operational team for the Aldinga Wastewater and Recycled Water site. Facilitation of Department of Health, Safework SA and EPA approval for the Aldinga Wastewater Treatment Plant, Aldinga Recycled Water Treatment Plant and Glenelg-Adelaide Recycled Water Schemes. Achieving ISO9001, ISO14001 and AS4801 certification for the Aldinga Wastewater Treatment Plant, Aldinga Recycled Water Treatment Plant and Glenelg-Adelaide Recycled Water Schemes.

→ Veolia Water Australia, Bid Manager Adelaide Desalination Plant (2008 – 2009)

Management of Operations & Maintenance (O&M) Team during the Bid Phase of Adelaide Desalination Project. Management of preparation of the O&M Budget for the bid submission for the Adelaide Desalination Project. Management of preparation of technical submission and management plans for the bid submission for the Adelaide Desalination Project.

→ United Water, Bolivar WWTP Manager (2006 – 2008)

Management of Operations and Maintenance of the Bolivar WWTP site including 2 x wastewater treatment plants, recycled water treatment plant, solids dewatering and disposal facility, and 6 major wastewater pump stations. Performance review and optimisation of the Bolivar Recycled Water Treatment Plant including development of a business case and replacement of the rapid gravity filters resulting in increased plant output and deferred capital investment. Review and optimisation of Mawson Lakes Recycled Water Treatment Plant resulting in significant reduction in reportable health incidents. Assessment of downtime on power generation turbine resulting in identification of critical spares enabling improved operational reliability, increased on-site power generation and reduced operating costs.

→ United Water, Water Treatment Manager (2005 – 2006)

Contractual compliance with treatment and networks performance targets across six water treatment plants and associated networks servicing metropolitan Adelaide. Review and optimisation of Myponga Water Treatment Plant filter operation including implementation of filter inspection program to identify and proactively manage filter condition.

Engineering

→ United Water, Waste Treatment Process Engineer (2004 – 2005)

Process investigations and identification of asset management improvements to Adelaide metropolitan water treatment plants. Preparation of project briefs and justification documents for asset management improvements to Adelaide metropolitan water treatment plants.

→ United Water, Research and Development Engineer (2001 – 2004)

Construction, commissioning and operation of a water filtration pilot plant and optimisation of filter pre-treatment using particle counter technology. Evaluation of alternate wastewater treatment technologies for improved nitrogen removal.

→ University of South Australia, Project Engineer (1999 – 2001)

Development and evaluation of improved cleaning technologies for the food processing industry. Evaluation of options for improved removal of contaminants for the grain industry.

→ University of Adelaide, PhD Scholar (1996 – 1999)

Operation of a pilot scale low-rank coal gasification reactor and on-line measurement of exhaust gas concentrations. Modelling of the gas release during the pyrolysis phase of the coal gasification process.

CURRICULUM VITAE

PETER GORDON

Professional history:

- ▶ **Permeate Partners (2009 to Current)**
Technical Manager
- ▶ **GE Water & Process Technologies (2007 to 2009)**
Applications Engineer
- ▶ **Sasol Technology, Concept Development, Utilities and Environment (2005 to 2007)**
Principal Process Engineer / Technical Manager / Team Leader
- ▶ **Sasol Technology, Concept Development, Gas Processing (2001 to 2005)**
Senior Process Engineer
- ▶ **Sasol Technology, Water & Ash (1996 – 2001)**
Process Engineer
- ▶ **University of Natal, Pollution Research Group (1994 – 1996)**
Post-grad Research and consulting



Education and Professional Affiliations:

- > BScEng (Chemical) *Cum Laude* - University of Natal, Durban, South Africa, 1993
- > MScEng (Chemical) - University of Natal, Durban, South Africa, 1996
- > South African Institute of Chemical Engineers (SAIChE), 1994–2000
- > Member – AWA, WIOA, Stormwater Victoria
- > WaterAid – Victoria Branch Fundraising Committee
- > RPEQ (Registered Professional Engineer, Queensland)
- > Engineers Australia National Engineering Register (NER)

Specialisation:

- > Process design
- > Membrane systems
- > Design review and evaluation
- > Process optimisation
- > Technical risk assessment
- > Operational support
- > Process simulation

Key strengths:

- > Front-end engineering design and options evaluation
- > Experience in a wide-range of process technologies and integration
- > Combination of design and operations experience
- > Taking projects from concept design to completion
- > Process performance optimisation
- > Trouble-shooting
- > Good relationship building with client and plant operator

Experience overview:

Peter Gordon is a self-driven, experienced engineer in both the water & wastewater treatment and gas processing industries. During his 26 years work experience, Peter has held various roles on a variety of projects. He spent his first 11 years working for a Petro-Chemical company, where he was responsible for the development of both Gas-To-Liquids (GTL) and Coal-To-Liquids (CTL) technologies, and existing process optimisation; specialising in the water & wastewater treatment and environmental side of the operations. Within the operations of the facility, Peter was also responsible for process optimisation and the development of the future process and water technologies and strategies. Over the last fifteen years, Peter has been involved in numerous water and wastewater treatment projects within Australia, including Municipal, Water Utilities, Industrial and Private applications. He has been directly involved or responsible for the development of the design in several projects, including process and biological modelling, ensuring the correct basis for technology selection and equipment sizing. He has also gained experience in the operation of several different water and wastewater treatment technologies, including Membrane Bioreactors, Ultrafiltration and Reverse Osmosis.

Peter has a good technical understanding of water treatment technologies, with his design and operations experience allowing him to have a clear understanding of both the technical and operational aspects to consider during the design stage. His fundamental process understanding, and experience also allows him to be effective in problem solving and process optimisation. As part of his project exposure, he also has experience in working within multi-disciplined project teams.

Relevant project experience:

	Water	Wastewater	Investigation	Approval	Procurement	Operation
<p>Barwon Water</p> <p>Assisting with specialist consultancy services to the Northern and Black Rock Treatment Plants for UF and RO membrane related performance and validation requirements. Some key activities include UF and RO performance monitoring/optimisation, challenge testing, membrane autopsies, membrane cleaning study, data review, membrane replacement support and commissioning.</p>		✓	✓	✓	✓	✓
<p>TasWater Drinking Water projects: Ringarooma and Rosebery</p> <p>Design involves Hollow-Fibre Nano Filtration (HFNF), first full-scale plant of its type, to produce drinking water. Primarily responsible for the HFNF process of the final design, including review of water quality, membrane design and integration into the overall process design. Responsibilities also included primary contact with technology supplier, overall process functional description, development of the plant Operation and Maintenance manual and commissioning.</p>	✓		✓		✓	✓
<p>Pakenham Recycled Water Plant</p> <p>Responsible for the review of the operation TOC for South East Water (SEW) including benchmarking key operating parameters against other similar sites. The plant produces recycled water for unrestricted use (non-potable). The review included comparing operating costs against industry standards.</p>		✓	✓			
<p>HMAS Stirling WWTP</p> <p>Engaged by Guidera O'Connor to design the new Freshwater WWTP as part of site infrastructure redevelopment. The design involved Membrane Bioreactor (MBR) and solids handling, with the treated water used for irrigation and discharge via infiltration. Provided support during mechanical design and procurement as well as responsible for process validation information for approval. PP is responsible for the ongoing operations.</p>		✓	✓	✓	✓	✓
<p>Lilydale Class A Conceptual Design</p> <p>Engaged by Yarra Valley Water (YVW) to evaluate the opportunity for a Class A recycled water plant at Lilydale. The design involved UF + UV + Chlorination treatment of secondary treated effluent. Deliverables included PFD, General Arrangement, Capital Cost estimate, Operating cost estimate as well as defining the required LRV credits to achieve the necessary end-use water quality health targets.</p>		✓	✓	✓		
<p>Clarence Correction Centre (Grafton)</p> <p>Design of the wastewater system for a WWTP at a correctional facility near Grafton, including development of BioWin model as well as management of overall process design deliverables. Additional services included development of Recycled Water Management Plan and review of the required documentation. PP is responsible for ongoing operations.</p>		✓	✓	✓	✓	✓
<p>Sydney Science Park</p> <p>Sydney Science Park is a \$5B mixed use smart city in Western Sydney. The servicing of Sydney Science Park has provided an opportunity for Sydney Water to showcase a number of its industry leading initiatives in world-class water services, including a local Recycled Water Plant to provide a platform for broader learning, developer interaction and community engagement. Peter provided process design overview in the development of the reference design.</p>		✓	✓	✓	✓	
<p>Sydney Water GOP Concept Design</p> <p>Development of a concept design for local water solutions for the Greater Parramatta to Olympic Peninsula for different servicing scenarios and construction methods. Preparation of process design for the local water solutions.</p>		✓	✓			
<p>Curlewis Golf Club</p> <p>Curlewis Golf Club utilise sewer mining to produce Class B recycled water for irrigation. Involved in detailed design, approvals, and procurement. Presently responsible for operations support.</p>		✓	✓	✓	✓	✓

Relevant project experience:

	Water	Wastewater	Investigation	Approval	Procurement	Operation
<p>Aurora Class A Recycled Water Plant Fault and Performance Investigation Engagement by Yarra Valley Water (YVW) to undertake fault rectification and performance testing of the Aurora Class A RWTP. Responsible for the rewriting of the plant control philosophy, re-commissioning, performance evaluation and independent process validation testing of Critical Control Points.</p>		✓	✓	✓		
<p>Royal Melbourne Golf Club Responsible for design review, installation supervision, commissioning, validation, supporting documentation/drawings review and operational support of the 1.6MLD groundwater and stormwater treatment plant at Royal Melbourne Golf Club. Treated water is used for golf course irrigation.</p>	✓			✓	✓	✓
<p>Royal Botanic Gardens Cranbourne Developed reference design for proposed treatment plant to treat recycled water for irrigation to reduce reliance on potable water. The design focus is on achieving tight nutrient targets. Responsible for development of overall water balance, scenario evaluations, concept design, costing and final option proposal. Reference design recently completed. Recently responsible for tender specification, tender review and technical management of contract deliverables.</p>	✓		✓		✓	
<p>Ravenhall Alternative Water Production Facility Developed a functional design for City West Water for an ultimate 13 MLD facility to produce recycled water for residential and commercial customers. The design was based on a combination of sewer mining and stormwater treatment.</p>		✓	✓			
<p>Ulan Water Treatment A 20MLD water treatment plant to process mine water prior to reuse and discharge. Responsible for developing rapid / interactive procurement strategy, membrane tender documentation, tender assessment and design review. Presently providing technical support for ongoing operational support of all three existing water treatment plants, including review of the plant performance against expectations.</p>	✓		✓	✓		✓
<p>Barret Burston Malting Troubleshooting, optimisation, process support and operational monitoring for the wastewater biological treatment, MBR and RO process units. The plant provides treatment of the site wastewater for re-use within the facility.</p>		✓	✓			✓
<p>Stormwater Treatment viability review Responsible for the viability review of a stormwater treatment system, including UF + RO + UV + Chlorination. The review included comparing operating costs against industry standards and identifying opportunities for optimisation.</p>	✓		✓			
<p>Yarrabilba Development Responsible for the technical design of the Yarrabilba development sewage treatment plant reference design. The design included MBR, train staged installation along with the growth of the development.</p>		✓	✓			
<p>Arden Stormwater Harvesting Assessment Responsible for the options assessment, technical design and project CAPEX & OPEX for a new stormwater harvesting scheme for reuse as part of the new Arden precinct development. This included a number of presentations to different stakeholders.</p>	✓		✓			

CURRICULUM VITAE

JARROD LIVINGSTONE-FOGGO



Professional history:

- ▶ **Permeate Partners (2014 to Current)**
Senior Engineer, Manager of Projects
- ▶ **WorleyParsons (2011-2014)**
Project Engineer
- ▶ **BlueScope Steel (2001 to 2011)**
Mechanical Engineer, Maintenance Engineer

Education and Professional Affiliations :

- > BE (Mechanical) *Honours* - University of Wollongong 2007

Specialisation :

- > Project Management
- > Brownfield Installations
- > Contract management
- > Contractor negotiation
- > Operational support
- > Regulatory approvals

Key strengths :

- > Extensive experience in brown field and heavy industry projects
- > Focus on operations and maintenance in design
- > Taking projects from concept design to completion
- > Troubleshooting and analytical skills
- > Development of technical specifications
- > Ability to effectively communicate at all levels from CEO to plant operator

Experience overview:

Jarrold Livingstone-Foggo is Mechanical Engineer with over 19 years' experience in heavy industry and the water industry. Jarrold has worked on a large variety of projects including water and waste water treatment plants, piping, pressure vessels, civil works and complex multi-disciplinary installations.

Jarrold started his career as a Mechanical engineering cadet at the Port Kembla Steelworks and through a variety of roles and plant environments developed an excellent focus on plant operation and maintenance in design and excellent attention to detail. On graduation Jarrold filled the role of Maintenance Engineer driving continuous improvement in plant reliability through design and maintenance process. Later Jarrold filled the role as Mechanical Engineer, managing and completing, from design through to implementation, capital projects in the blast furnace area.

From 2011 Jarrold worked for WorleyParsons and was seconded to Orica's Kooragang Island manufacturing plant where he delivered from design through to operation numerous projects relating to plant improvements and upgrades. In this time Jarrold managed and led multi-disciplinary project teams to deliver a broad range of projects in challenging brown field sites in an aging continuous operating plant.

More recently Jarrold has been involved in many water, wastewater and recycled water projects in his role with Permeate Partners. This has included activities across the full project lifecycle from concept to full operation on a range of projects throughout Australia. These experiences include feasibility, design, technical reporting, project management, government approvals, commercial and procurement and operational support.

Jarrold's experiences have developed a driven customer focus with a strong appreciation for the requirements of operating plants with regards to plant uptime along with the importance of consideration of operation and maintenance in the design phase.

Project experience :

Permeate Partners – Operational Support

Provides ongoing operational support of several water treatment plants including online plant monitoring, technical and procurement support, membrane replacement, membrane autopsies, troubleshooting and plant optimisation.

Water	Wastewater	Investigation	Approval	Procurement	Operation
✓	✓			✓	✓

Permeate Partners – Clarence Correctional Centre

Mechanical and process design for the Clarence correctional centre recycled water plant. Inclusive of water balance modelling for the entire site, process design support, mechanical design, procurement support, regulatory approvals and construction technical support.

	✓	✓	✓	✓	✓
--	---	---	---	---	---

Permeate Partners – Rottnest Island WWTP Upgrade

Reference design for the upgrade of the waste water treatment plant including staging to maintain ongoing operation of the existing plant during the upgrade. Preparation of technical specifications and commercial documentation for implementation and tender evaluation. Preparation and submission of documentation for regulatory approvals including recycled water management plan. Technical and project management support throughout project execution and commissioning as well as the ongoing operational support for the WWTP

✓	✓	✓	✓	✓	✓
---	---	---	---	---	---

Permeate Partners – Western Sydney Airport

Feasibility study of the options for sewage and recycled water servicing for the new Western Sydney Airport. Inclusive of concept designs, capital and operating cost estimates and NPV calculations, detailed water balance assessment.

	✓	✓			
--	---	---	--	--	--

Permeate Partners – Sydney Water Sydney Science Park

Development and assessment of servicing scenarios for Sydney Science Park encompassing a full range of potable water and recycled water supply options including advanced water treatment options for direct potable re-use and stormwater to potable re-use. The work included a full water balance that integrated irrigation, stormwater and drinking water, concept designs for treatment options, capital and operating expenditure estimates and NPV calculations for numerous servicing scenarios. The assessment considered costs, footprint, regulatory hurdles as well as sustainability benefits. Preparation of the technical specification for the procurement and technical support through the tender assessment for the design and construction of the treatment plant

✓	✓	✓	✓	✓	
---	---	---	---	---	--

Permeate Partners – Sydney Water GOP Concept Design

Development of a concept design for local water solutions for the Greater Parramatta to Olympic Peninsula for different servicing scenarios and construction methods. Preparation of capital and operating expenditure estimates for the local water solutions.

	✓	✓			
--	---	---	--	--	--

Permeate Partners – Stoneville Development

Development of a concept design for a local water solution for the Stoneville development in Western Australia with expandability to encompass the adjacent Parkerville development. Development of water balance scenarios and capital and operating expenditure estimate for the whole of project costs. Further development of the design to support regulatory approvals and procurement. Preparation of regulatory approvals including the recycled water quality management plan and the nutrient and irrigation management plan.

	✓	✓	✓		
--	---	---	---	--	--

Permeate Partners – Rottnest Island Desalination Plant Upgrade

Reference design for the upgrade of the Rottnest Island desalination plant. Preparation of technical specifications and commercial documentation for implementation and tender evaluation. Technical and project management support throughout project execution, commissioning and ongoing operational support of the WTP

✓		✓		✓	✓
---	--	---	--	---	---

Project experience :

Permeate Partners – Yarrabilba Development

Preparation of technical report including water balance, detailed capital and operating costs, reference design and government approvals for large scale residential sewage treatment plant.

Water
Wastewater
Investigation
Approval
Procurement
Operation

✓ ✓ ✓ ✓

Permeate Partners – Honeywell Darwin Correctional Precinct

Darwin prison waste water treatment plant upgrade concept design, regulatory approvals support, plant upgrade technical specification and ongoing technical support for the client throughout design and construction and commissioning. Investigation and implementation of biosolids reuse on-site.

✓ ✓ ✓ ✓

Permeate Partners – Sydney Water Picton Reuse Opportunities

Development and assessment of recycled water reuse opportunities for the Sydney Water Picton Water Recycling Plant. The work included modelling of recycled water demands, consultation with regulators, council and potential customers and development of assessment criteria to determine the viability of reuse opportunities for the scheme.

✓ ✓

Permeate Partners – Sydney Water Elizabeth McArthur Creek Stormwater Harvesting

Development and assessment of stormwater harvesting methodologies to promote water sensitive urban design and provide beneficial outcomes for Elizabeth McArthur Creek with increased development activity. The scope of work included a concept design for a parallel pipe system for harvesting stormwater for treatment and beneficial reuse in the community.

✓ ✓ ✓ ✓

Permeate Partners – Sydney Water Macquarie Park

Development of concept servicing strategies for recycled water for the Macquarie Park area. Project included assessment of the area growth and development profile, water balance, treatment plant concept design, stakeholder engagement and capital and operating cost estimates.

✓ ✓ ✓

Permeate Partners – North Dandalup Development

Preparation of government approval documentation and recycled water quality management plan. Water balance for the North Dandalup residential development.

✓ ✓ ✓ ✓

Permeate Partners – Bullsbrook Development

Development of a concept design for a local water solution for the Bullsbrook development in Western Australia including potential construction staging and servicing scenarios. Development of water balance scenarios and capital and operating expenditure estimate for the whole of project costs.

✓ ✓ ✓

Permeate Partners – City of Canada Bay Stormwater Harvesting

Preparation of technical specification and commercial documentation for the tender process for the design and installation of the stormwater harvesting and treatment plant. Ongoing operational support.

✓ ✓ ✓ ✓ ✓

Permeate Partners – Barangaroo Development

Independent certifier role for recycled water plant for the Barangaroo development including review of design documentation, quality assurance and inspection of construction.

✓ ✓ ✓ ✓

Permeate Partners – Durham Green

Investigation, assessment and design of treatment plant upgrade for Durham Green Retirement Village recycled water plant upgrade. Technical and project management support throughout project execution including acting as contract superintendent on the client’s behalf. Section 68 approval.

✓ ✓ ✓ ✓

Project experience :

Permeate Partners – Jacaranda Ponds

Development of water balance and concept design including implementation staging for the recycled water plant for the Jacaranda ponds development.

Water
Wastewater
Investigation
Approval
Procurement
Operation

✓ ✓

Permeate Partners – TasWater

Preparation of the Operations and Maintenance manual for the Ringarooma Nano-filtration water treatment plant.

✓ ✓

Permeate Partners – Riverside Oaks development

Development of concept designs and regulatory approvals for the water and waste water treatment plants at the Riverside Oaks development. Inclusive of water balance and irrigation modelling, treatment plant designs, capital and operating costs and regulatory (Section 68) approval documentation.

✓ ✓ ✓ ✓

Permeate Partners – Monkey Mia Dolphin Resort Expansion

Preparation of gap analysis and concept design for the Monkey Mia Dolphin Resort expansion including water balance, assessment of existing infrastructure, risk-based approach gap analysis and regulatory approval mapping. Subsequent development of the upgrade reference design upon approval of the concept.

✓ ✓ ✓ ✓ ✓ ✓

Permeate Partners – DylDEM Leppington & Schofields

Prised water balance, concept design, and cost estimate for local water solutions for new high-density developments in Leppington and Schofields in order to enable increase the lot yield and optimise utilisation of existing Sydney Water assets. Included consultation with Sydney Water and regulators

✓ ✓ ✓

Permeate Partners – Witchcliffe Ecovillage

Development of concept design of recycled water scheme for Ecovillage development with recycled water re-use for a commercial fruit crop. Included dynamic water and nutrient balance, concept design and regulator consultation and assessment of supplier proposals.

✓ ✓ ✓ ✓

Permeate Partners – Alkimos Recycled Water Initiative

Developed cost models for the Concept Design of a water supply for irrigation of POS within the Alkimos development in WA. Included CAPEX and OPEX cost models for both a 4.5 MLD recycled water plant and groundwater bore options. Obtained detailed quotations for key unit operations and developed OPEX projections to compare with benchmarked OPEX costs.

✓ ✓

BRAD REA

COMPANY SECRETARY
RISK AND COMPLIANCE OFFICER



YEARS OF EXPERIENCE

16

AREAS OF EXPERTISE

Risk Management
Corporate Governance
Law

PROFILE

Brad has been the Company Secretary of WUA since 2016 and the Risk and Compliance Officer since 2014. Brad has management oversight of WUA's risk management and compliance framework. The Risk and Compliance Officer maintains a close working relationship with regulators, contractors and suppliers to ensure the operations of the business are delivered safely, with quality and that compliance with all laws and regulations are maintained.

Prior to joining WUA, Brad was a lawyer with Master Builders Australia providing advice to members in industrial relations law and construction contracts. Brad has also worked in the construction, mining and resources sectors as a quality, health & safety and environmental manager.

EDUCATION

Master of Business Administration, University of Adelaide

Graduate Diploma of Legal Practice, Australian National University

Graduate Cert OHS Management, Curtin University

Bachelor of Laws, Flinders University

PROFESSIONAL ASSOCIATIONS

Australian Water Association

Australian Institute of Company Directors

National Safety Council of Australia

PROFESSIONAL EXPERIENCE

- Water Utilities Australia, Company Secretary (2016 – present)

Brad supports the Board of Water Utilities Australia in corporate governance and is responsible for the company's compliance with its obligations under the Corporations Act 2001 (Cth).

- ➔ Water Utilities Australia, Risk and Compliance Officer (2014 – present)

Brad leads the company's legal, risk and compliance management functions and also provide support in the areas of mergers and acquisitions, strategy, and business integration.

- ➔ Master Builders Australia, Lawyer (2013 – 2014)

Brad developed national policy in the areas of work health and safety and industrial relations on behalf of the 33,000 member companies of the Master Builders Associations. Represented the construction industry on various governmental and industry group committees. Member of the Standards Australia committee responsible for updating AS4801.

- ➔ Mammoet Wind – Macarthur Wind Farm, QHSE Manager (2011 – 2013)

Brad was a member of the management team for the Macarthur Wind Farm project in rural Victoria and was responsible for managing the quality, health and safety and environmental functions for Mammoet Wind. Mammoet Wind employed 80 full time employees and up to 30 sub-contractors over the course of the project. Mammoet is the largest crane and heavy haulage company in the world with Mammoet Wind being based in Aalborg, Denmark.

- ➔ Cimeco – Kanmantoo Copper Mine Project, OHS Advisor (2011)

This project involved the dismantling and transportation of a processing plant from WA to SA and the reconstruction of the plant at Kanmantoo. Brad was a health and safety advisor for the principal contractor of this project responsible for the monitoring and management of OHS for the 60 employees and 80 subcontractors working on this project in civil, mechanical and electrical trades.

- ➔ Leighton Contractors – Newman Power Station, WHS Advisor (2009)

Brad worked as a health and safety advisor for the electrical trades on the installation of a gas fired turbine

at the Newman Power Station at BHP Billiton's Mt Whaleback mine in the Pilbara region of Western Australia.

➔ O'Donnell Griffin – Prominent Hill Gold and Copper Mine Project, QHSE Advisor (2008)

The OZ Mineral's Prominent Hill mine was constructed in 2008. Brad worked as a quality, health and safety advisor for O'Donnell Griffin, the electrical contractor responsible for the installation of all HV and LV cabling at the mine's processing plant.

➔ Leighton Contractors – Various Projects (2006 – 2008)

Brad worked on numerous short term construction projects with Leighton Contractors including AGL Torrens Island Power Station, SA; BHP Billiton Olympic Dam Uranium, Copper and Gold Mine, SA; International Power Australia Pelican Point Power Station, SA; and, One Steel Whyalla Steel Works, SA.

ADAM STEVENS

CHIEF FINANCIAL OFFICER



YEARS OF EXPERIENCE
23

AREAS OF EXPERTISE
Finance
Accounting
Taxation

PROFILE

Adam is the Chief Financial Officer of Water Utilities Australia, with management oversight of all facets of the business' corporate services function encompassing finance, treasury, information technology and human resources.

EDUCATION

Bachelor of Commerce, Flinders University
Graduate Diploma in Chartered Accounting, Chartered Accountants Australia and New Zealand
Graduate Diploma in Applied Corporate Governance, Governance Institute of Australia

PROFESSIONAL ASSOCIATIONS

Chartered Accountant, Chartered Accountants Australia and New Zealand
Chartered Secretary, Governance Institute of Australia

PROFESSIONAL EXPERIENCE

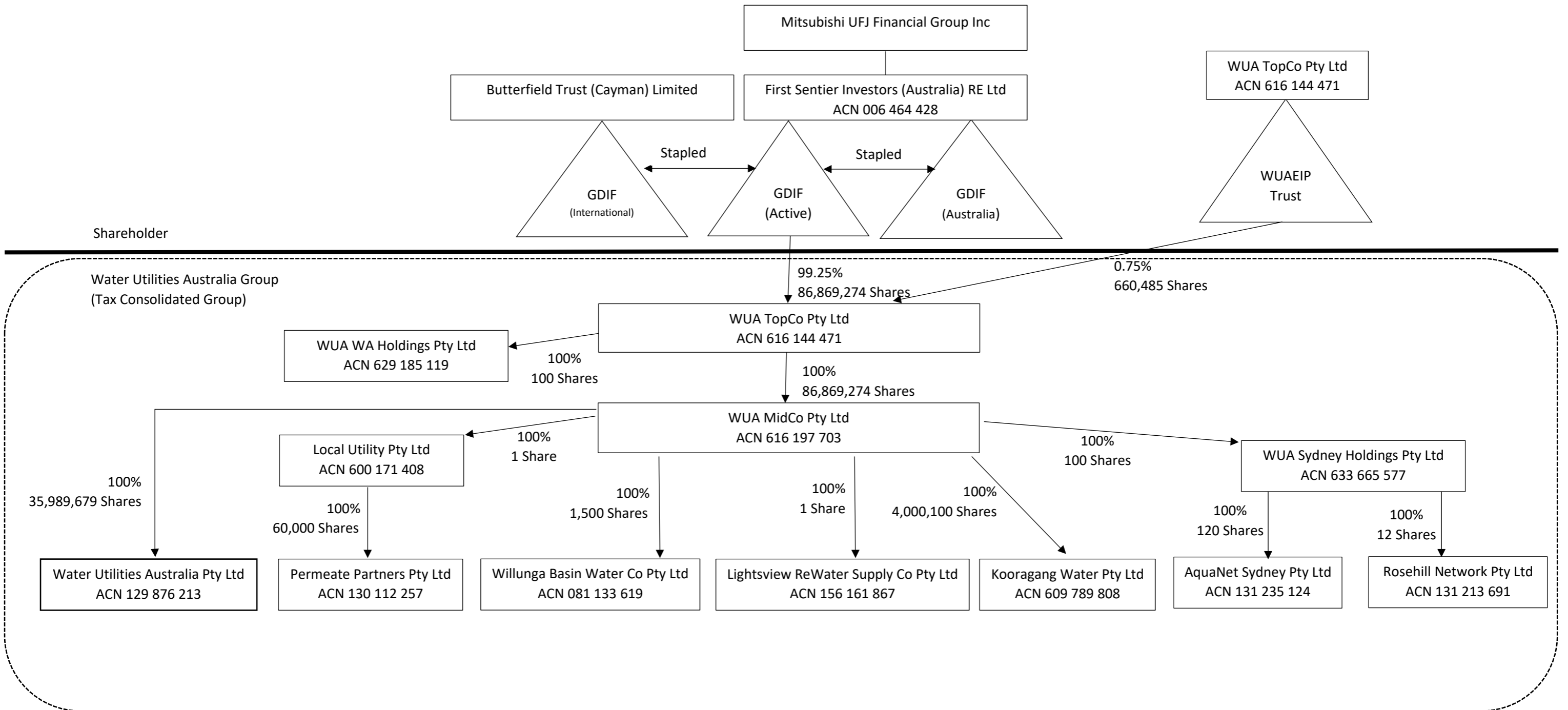
- ➔ Water Utilities Australia, CFO (2018 – present)
 - Financial Reporting, Budgeting and Forecasting
 - Cash and Debt Facility Management
 - Tax Compliance
 - Corporate Finance and Financial Modelling
 - Management of Finance Staff
- ➔ Osmoflo, CFO / Financial Controller (2010 – 2018)
 - Financial Reporting, Budgeting and Forecasting
 - Cash, Currency and Debt Facility Management
 - Tax Compliance (Domestic and International)
 - Corporate Finance and Financial Modelling
 - Management of Finance and IT Staff
- ➔ Boar's Rock, Finance and Administration Manager (2007 – 2009)
- ➔ Gibbs & Cox Australia, Chief Accountant (2006 - 2007)
- ➔ Bytecraft Entertainment, Commercial Manager / Accountant (2002 - 2006)
- ➔ Gerard Industries, Accountant (1999 - 2002)



Kooragang Water Pty Ltd
WIC Act licence application
13 April 2022

Attachment 4:
Corporate structure diagram

Water Utilities Australia Group Corporate Structure as at 13 April 2022



Abbreviations:

GDIF
Global Diversified Infrastructure Fund

WUAEIP
WUA Employee Incentive Plans Trust