



Name Jeffrey Reid **BALLARD**

Qualifications **30 years experience in the field of Civil and Environmental Engineering BE (Hons) MEnvEngSc RPEQ PMAWA**

Post Graduate – Diploma of Project Management 2010
 Post Graduate – University of New South Wales, 2001
 Undergraduate – James Cook University of North Queensland, 1993

Professional Associations **Certified Auditor - Water Quality Management Systems Auditor Program, Exemplar Global, 2017**

Professional Member, Australian Water Association, 2017
Registered Professional Engineer of Queensland (No. 6854), 2003
Chartered Member, Institution of Engineers Australia, 1999

Professional Member Australian Water Association No.47074 (PMAWA):

- Financial Member (since 1999)
- Qld Branch Committee Member (2013 – 2015, sub-committee from 2008)
- Organising Committee Member, NQ Regional Conference, 2008 – present
- Chair, NQ Regional Conference Organising Committee, 2014, 2015, 2016
- OzWater National Conference Organising Committee Member 2018

Professional Member of
AUSTRALIAN WATER
 ASSOCIATION

Professional Awards

- Australian Water Association – QLD Regional Service Award 2016
- John Holland Safety Award – Boyne Smelter Expansion Carbon Area and Infrastructure Contracts, 1996



Recipient of the Regional Service Award
 Australian Water Association
 Qld Branch 2016-17

Post Graduate Qualifications **Master of Environmental Engineering Science, UNSW**

- Environmental Engineering Science 1
- Environmental Engineering Science 2
- Water Treatment
- Wastewater Treatment
- Environmental Management
- Coastal Engineering Management
- Construction Contract Law
- Project Management - Conception to Completion
- Unit Operations in Water & Wastewater Management

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Notable Capabilities

- **Water quality management planning and auditing**
- **Asset management and auditing**
- **Dam safety**
- **Bulk water – large pipelines, pump stations, treatment plants**
- **Project Management – major water infrastructure projects including feasibility studies**
- **Stormwater / erosion and sediment control design**

Notable Projects **State Government, Project Manager and Designer - \$15M NPA Asbestos Cement Pipeline Replacement Project**

- Extensive project management plan to meet state government requirements;
- Detailed design and tendering of 16km of AC pipeline.

TCC Major Projects, Owners Engineer - \$215M Water Security Infrastructure - Haughton Pipeline Duplication

- Setting of engineering requirements
- Risk management monitoring included project efficiencies and cost savings
- Design and tender reviews
- Operations and maintenance interface

TCC Major Projects, Design Team Lead - \$220M Haughton Pipeline Duplication Project

- Overall management utilising a formalised project management framework

- Concept development
- Technical management of pipeline and pump station design
- Stakeholder management with:
 - Land holders / farmers along pipeline route
 - Surrounding land holders
 - SunWater
 - State government
 - Ergon Energy
 - Operational staff / contractors
- Management of environmental assessments
- Management of cultural heritage assessment with registered party.
- Management of land tenure management / legal settlement negotiations
- Management of cost estimation and program integration
- Reporting duties

TCC Major Projects, Coordinator - \$160M Water Supply Upgrade Project

- Management of compliance with Federal Government Funding Agreement including auditing requirements
- Management of compliance with State Government Subsidy Agreement
- Securing power supplies to Toonpan, Kinduro and Crystal Creek Stabilisation Facility sites
- Negotiating the Queensland Park and Wild Life Services Section 35 Authority and Regulation including the Indigenous Land Use Agreement
- Obtaining Access licences and easements
- ERA applications and IPA submissions for various sites including lot reconfiguration.

NQ Water, Client Side Project Manager - \$120M Ross Dam Upgrades Construction Phase

- Management of client requirements for both contractual and technical matters
- Establishment of the SunWater Operations and Maintenance Contract
- Upper Ross River Road Relocation
- Operational development of the dam safety management licence requirements

John Holland, Quality Manager - \$1B Boyne Smelter Expansion Project

- Builder's QA manager for the \$3.5M (1996) component of the Steel Framed Building Project
- Significant practical construction experience gained

NQ Water, Critical Infrastructure Management

- Development and implementation of national security measures for critical infrastructure to a medium alert level. This included:
 - Security Management Plan
 - Emergency Response Plan
 - Business Continuity Plan
 - Cyber Security Testing
 - Security Upgrades: Installation of various security improvements at key NQW facilities. Included procedural improvements
 - Security Audits

TRILITY, Author, Asset Condition and Performance Assessment Project

- Large audit project involving the assessment of treatment plant and bulk water pipeline assets
- Pin pointed report of infrastructure improvement needs
- SAP system improvement outcomes for optimisation of service
- Ongoing engagement for related process improvements to improve the bottom line

Townsville Water, Author, Drinking Water Quality Management Plan

- Significant and complex document required by the state government
- Lengthy liaison with the state government
- Pin pointed report of infrastructure improvement needs
- System improvement outcomes for optimisation of service

Summary of Competence

Water & Wastewater Engineering

- All aspects of Water and Wastewater infrastructure design, construction and operational coordination
- Technical project management
- Management of technical staff
- Bulk Water design and management
- Dam Safety design and management (Both Technically and Operationally) – Field inspections, compliance, design, construction, and operations
- Industry Compliance (NWI, SWIM, total management planning, IROs etc)
- Infrastructure development manuals
- Infrastructure refurbishment design

- Water Balance Models for effluent disposal
- Loan and subsidy applications
- Rates charges calculations
- Wastewater reticulation scheme design
- Sewerage pump station and rising main design including ERA 63 requirements
- River pump station design
- Post graduate studies
- Drafting services
- Tender phase services
- Superintendency services

Planning (Water and Wastewater)

- Water and Wastewater Planning including reports and modelling using WaterGEMS
- Headworks Charging and Priority Infrastructure Plans
- GoldSIM modelling for raw water supply availability
- Planning Reports
- Population density studies
- Total Management Plans for DERM (detailed plans)

Project Management

- Experienced Project Manager in Major Projects
- Effective communicator
- Post graduate studies
- Government Agency liaison
- Extensive contract management including the preparation of tender and contract documents, progress payments, and variations

Risk Management

- Critical Infrastructure (Security) Management
- Risk Management Plans
- Emergency Response Plans

Environmental Engineering

- Development Applications
- Section 35 applications
- Licencing applications for wastewater and solid waste

Roads & Stormwater

- Soil and water management reports an implementation
- Road and Pavement Design (Austroads and pavement design manuals)
- Traffic management planning using "Manual of Uniform Traffic Control Devices"
- Stormwater design using "Australian Rainfall & Runoff";

Geotechnical

- Geotechnical investigations, reporting and Technician experience

Asset Management

- Pipelines maintenance management strategies
- Asset condition and performance assessments using IPWEA-NAMS

General

- Considerable report writing experience
- Coastal engineering management and design qualifications
- Water chemistry and microbiology understanding through master's degree study
- Experienced Quality Assurance Manager and Auditor
- Subdivision design and construction supervision

Conference Papers

- A Review of Ross River Dam Gate Operations to Improve Downstream Flood Immunity, Bailey W.G, Ballard J.R, and Saunders R.E, SAIQ Conference, 2012
- Return on Net Assets – Not the Only financial Indicator for the Water Industry, The Institution of Engineers, Australia, Northern Engineering Conference, Townsville, June 2003

Academic and Sporting Awards

- Technical Drawing Academic Excellence Achievement Award, Year 12, 1989
- Australian National Chemical Analysis Class A Award, Year 12, 1989
- Technical Drawing Academic Excellence Achievement Award, Year 11, 1988
- St. Francis Junior Soccer Club – Soccer Player of the Year, 1985

Professional Development

- AWA QWater Conference Brisbane 2019
- AWA NQ Regional Conference Townsville 2019
- AWA QWater Conference Gold Coast 2018
- AWA OzWater National Conference, Brisbane 2018
- Exemplar Global DW Australia: Framework for Management of Drinking Water Quality, Auditor Certification, 2017
- AWA NQ Regional Conference Mackay, 2017
- QLD Water Directorate, mini conference, Mackay, 2017
- SunWater General Induction, 2017
- ANCOLD Dam Risk Assessment Short Course, GHD Office, Brisbane, 2017
- QLD Water Directorate, mini conference, Townsville, (July 2016)
- AWA NQ Regional Conference organising committee and attendance since 2008, and previously.
- AWA OzWater Conference attendance (2010, 2014)
- Dam Safety Spillways & Outlets Short Course, ANCOLD (2015)
- Dam Safety Emergency Plans Course, ANCOLD (2014)
- Erosion and Sediment Control Certification for Townsville City Council (2014)
- Lead Auditor Qualification (2014)
- RII20709 Certificate II in Civil Construction - RIIOHS202A Enter and Work in Confined Spaces, by Industry Training Queensland, Townsville Branch (2013)
- RII30611 Certificate III in Small Mining Operations - RIIOHS204A Work Safely at Heights, by Industry Training Queensland, Townsville Branch (2013)
- Distribution System Management for Safe Water by WIOA (2012)
- Diploma of Project Management (2011)
- Safe Work in Confined Spaces by Safetylec Management Solutions (2010)
- Planning & Performance Managing – Service Level Agreements (2009)
- Microsoft Project Advanced (2009)
- Time Management (2009)
- Mercer CED Job Evaluation (2009)
- Supervision and Management of People (2009)
- IWEA Short Course – Membrane Processes (2009)
- IWEA Short Course – Water Reuse for Urban and Industrial Applications (2009)
- 4WD Training Course by Advance Driver Training Centre (2007)
- ATV Driver Training by Yamaha Motor Australia (2007)
- Demand Management Course by IPWEAQ (2006)
- Pumping fundamentals Course by SA Strategic Achievement (2006)
- Advanced Pumping Course by SA Strategic Achievement (2006)
- IWEA Short Course – Potable Water Treatment (2006)
- Dam Safety Surveillance by DNR&M (2005)
- Water Industry Master Class – Water Systems Security Management (2005)
- Queensland Disaster Management Arrangement Course by QDES (2005)
- Introduction to Disaster Risk Management Course by QDES (2005)
- Townsville City Council Project Manager Development Program by Aqua Consulting (2003)
- Dam Safety Surveillance course by QDNRW (2005)
- 2 Day Contract Superintendent's Workshop by CCI (2003)
- 2 Day Risk Management Course by EEA (2001)
- Chlorine and Fluorine awareness Training (2003)
- Oracle, Proclaim and TCC Budgeting Training (2003)
- 7 Habits of Highly Effective People, Townsville City Council (2002)
- Risk Management Short Course, Townsville City Council (2001)
- Dataworks – Complete Information Manager Course, Townsville City Council (2000)
- Design & Specification of Reinforced Soil Structures Short Course (2000)
- NSW TAFE, Lismore - AutoCAD Version 12 (A Grade Pass) (1999)
- Central Queensland Institute of TAFE Safety Induction Course, 1999
- Quality Auditing Course (Internal & External Auditing) (1996)

Professional Experience

■ DIRECTOR Northern Water Management, June 2011 – Current

Management – Drinking Water Quality

- Drinking Water Quality Management Plan Audits:
 - Woorabinda Aboriginal Shire Council, 2022
 - Richmond Shire Council, 2022
 - Charters Towers Regional Council, 2022
 - Northern Peninsula Area Regional Council, 2022
 - Palm Island Aboriginal Shire Council, 2022
 - Kowanyama Aboriginal Shire Council, 2021
 - Mount Isa City Council, 2021
 - Weipa Town Authority, 2021
 - Burdekin Shire Council, 2021
 - Gladstone City Council, 2021
 - Aurukun Shire Council, 2021
 - Cloncurry Shire Council, 2021
 - Normanton Shire Council, 2021
 - Southern Downs Regional Council, 2021
 - Livingstone Shire Council, 2021
 - Townsville City Council, 2020

- Bundaberg Regional Council, 2020
 - Fraser Coast Regional Council, 2020
 - South Burnett Regional Council, 2020
 - Cherbourg Shire Council, 2020
 - Banana Shire Council, 2020
 - Palm Island Aboriginal Shire Regional Council, 2019
 - Charters Towers Regional Council, 2018
 - Richmond Shire Council, 2018
 - Pormpuraaw Aboriginal Shire Council, 2018
 - Northern Peninsula Area Regional Council Water Supply Scheme, TRILITY, 2018
 - 4 Burdekin Water Supply Schemes, Burdekin Shire Council, 2017
 - Glenlyon Dam Water Treatment Plant, Border Rivers Commission, SunWater, 2017
 - 7 Water Supply Schemes, SunWater, 2017
 - Douglas Water Treatment Plant, TRILITY, 2017
- Author, Carpentaria Shire Council Water Network Flushing Procedure
 - Author, Pormpuraaw WTP Business Case, 2022
 - Author, Water and wastewater procedures framework and writing documentation, Drinking Water Management Plan Update, Hinchinbrook Shire Council, 2021
 - Author, Pormpuraaw DWQMP Annual Report 2020, 2021
 - Author, Pormpuraaw DWQMP, 2020
 - Author, Giardia WaterVal – Water Validation Assessment, Tablelands Regional Council, 2018
 - Author, DWQMP Risk Assessment and Health Based Targets Review, Tablelands Regional Council, 2017
 - Author, Regional Drinking Water Quality Management Plan, QPWS, 2017
 - Expert review, Drinking Water Quality Management Plan, Burdekin Shire Council, 2013
 - Author, Drinking Water Quality Management Plan, Townsville Water, 2012

Management - Other

- Phosphate Hill STP
 - Author, Operating Manual, Maintenance Plan, Asset Register, Procedures, Training Package, 2022
 - Auditor, Operational Audits x3 and plant upgrade, 2020-2022
 - Author, Inspection Report, Incitec Pivot, 2019 and 2021
 - Designer, Capacity Upgrades, 2020
 - Design, Balance Tanks, 2021
- TWW Inflow Infiltration Plan, including procedural strategic review, 2022
- Geelong Biosolids Facility Asset Management Plan External Audit, TRILITY, 2022
- LGIP water and wastewater rates review, Townsville City Council 2020
- Wild River Dam Comprehensive Inspection, 2021
- Agnes Waters Asset Condition and Performance Assessment, TRILITY, 2021-2022
- Karumba Sewage Options Study, Carpentaria Shire Council, 2022
- Mundaring WTP Western Australia, Asset Management Effectiveness Review, Acciona TRILITY Joint Venture, 2021
- Drought Management Plan, Southern Downs Regional Council, 2020
- Author, SBMP & REMP Revision, Burdekin Shire Council, 2020
- Author, Burdekin Shire Council WWTPs Asset Register and Condition Assessment 2019
- Author, John Flynn College Water Tank Assessment, 2019
- Author, Asset Valuation – Infrastructure Assets, Townsville City Council, 2019
- Author, TRILITY WTPs Condition and Performance Assessment, 2019
- Author, Belgian Gardens Cemetery Irrigation Assessment, TCC, 2018
- Author, Ross Dam SOPs Review, TCC, 2018
- Specialist Advisor and Contract Manager, Dam Safety Management Services, TCC, 2018
- Author, Elliot Springs Irrigation Bore Suitability Review, TCC, 2018
- Author, Ross Dam DOMMs Review, TCC, 2018
- Paluma Dam Asset Hierarchy and Register creation and Report, TCC, 2017
- Haughton Pump Station Risk Assessment, TRILITY, 2017
- Charles Moroney Park Bore Feasibility Assessment, TCC, 2017
- Geelong Biosolids Facility Asset Management Plan External Audit, TRILITY, 2017
- Project Manager/Author, Asbestos Cement Pipelines Condition Assessment, TRILITY, 2017
- Author, Whole of Life Model for Water assets, Trility, 2016
- Project Manager/Author, Pipelines Maintenance Management Strategy – Field Study, Trility, 2016
- Author, Pipelines Maintenance Management Strategy Template, Trility, 2016
- Project Manager, Ross Dam O&M Contract Review, 2015 & 2016
- Author, Pipelines Maintenance Management Strategy, Trility, 2015
- Author, SBMP for Normanton Landfill and Karumba Waste Transfer Station Carpentaria Shire Council, 2015
- Author, SBMP and REMP for Burdekin Shire Council's 2 WWTPs, 2015
- Author, Paluma Dam 5 Yearly Governmental Compliance Inspection, Townsville Water, 2014
- Author, PATS Safety Management Plan, Townsville Water, 2013
- Author, Ross River Weirs Estimates of River Water Extraction Price, Townsville Water, 2013
- Author, Asset Unit Rates Report, Townsville Water Annually 2012 - 2022
- Author, Overall Program Management Programs & Technical Support, Townsville Water, 2011 and 2012
- Author, Internal and External Design Guidelines, Townsville Water, 2012
- Technical Advisor – Dam Safety Management, Townsville Water, 2011 – 2019
- Technical Advisor – Program and Project Management, Townsville Water, 2011 and 2012

Major Projects

- Project Engineer, Haughton Pipeline Stage 2, TCC, 2020
- Project Manager and Designer, Northern Peninsula Area Asbestos Cement Replacement, 2019
- Owners Engineer, Water Security Infrastructure - Haughton Pipeline Duplication, TCC, 2018-19
- Design Team Lead, Haughton Pipeline Duplication Project – Design Phase, TCC, 2015-2016
- Project Manager, Asset Condition and Performance Assessment Project, Trility, 2014
- Project Manager, Ross Dam 5 Yearly Comprehensive Dam Safety Review, SunWater, 2012-2013
- Project Manager, Aplins Weir Rehabilitation Project Design and Construction, Townsville Water 2012
- Project Manager, Upgrade of Ross River Dam Gate Operations, Townsville Water, 2012

Infrastructure Projects

- Designer, Palmetum Irrigation Project – Recycled, Potable, and River Water, TCC, 2020
- Author, Paluma Dam Operational Development Services, TCC, 2018
- Author, Paluma Dam Project Development Services – Various Contracts, TCC, 2018
- Superintendent, Paluma Dam Steel Weir Works Contract, TCC, 2018
- Project Manager, Paluma Dam Rehabilitation 2016-2017 Tender Document, Townsville Water 2016-2017
- Contract Administrator, Irrigation Network Audit, TCC, 2015
- Superintendents Representative, Paluma Dam Rehabilitation Project, Townsville Water, 2015-2016
- Author, Paluma Dam Rehabilitation Tender Phase Report, Townsville Water, 2015
- Project Manager, Paluma Township new Water Treatment Plant Scoping Phase, 2014
- Author, Paluma Dam Outlet Pipe Options Study Report, Trility, 2014
- Project advice, Gill Park Bore Feasibility, TCC Infrastructure Services, 2014
- Designer, Hervey Range and Stuart Land Fill Sites, Erosion and Sediment Control Plan, TCC Waste Services, 2014
- Author, Jensen Landfill Design Consultancy - Tender Evaluation Report Tender Review, TCC Waste Services, 2014
- Author, Rossiter Park Business Case, Parks Services, 2014
- Designer, Anderson Gardens Intake Structure, Parks Services, 2014
- Project Manager, Sewer Relining Program Scoping and Delivery Project, Townsville Water, 2014
- Author, Jacking Pump Concept Design, Parks Services, 2014
- Project Manager, Paluma Dam Infrastructure Program Scoping and Delivery Project, Townsville Water 2013 - 2014
- Project Manager, Western Outfall Pressure Main Rehabilitation Project, Townsville Water, 2013
- Designer, Cranbrook & Rossiter Parks, Parks Services, 2013
- Author, Cranbrook & Rossiter Parks, Parks Services, 2013
- Designer and Project Manager, Riverway Rock Repair, Parks Services, 2012
- Author, Planning Report – Ross River Raw Water Extraction Strategy for Irrigation Use, Parks Services, 2012
- Designer, Paluma Dam - Design of embankment and spillway repairs, Townsville Water, 2011
- Designer, Townsville Water – Serene Valley Mains Augmentation, Townsville Water, 2011
- Project Manager, Lotus Glen Pump Station Upgrade, Townsville Water, 2011 - 2013
- Project Manager, Mt Louisa Pump Station: Pumps Efficiency Investigation, Townsville Water, 2011
- Project Manager, Mt Low No. 2 Reservoir planning phase, Townsville Water, 2011

■ SENIOR CIVIL ENGINEER

Townsville Water, March 2008 – May 2011

Management

- Ongoing day to day management of staff, including interviewing for positions, and leading tool box talks, and section development and improvements
- Acting Manager for Planning Delivery and Quality, and Wastewater Operations on regular occasions
- Planning Delivery and Quality Works Program Management
- Townsville Water Liaison to many Departments of Council (Infrastructure Planning, Construction and Maintenance, Technical Services, Major Projects)
- Townsville Water Liaison to DERM on Strategic Planning issues
- TCC Project Management Framework Reference Group – Townsville Water Management representative
- Technical policy advice
- Risk management oversight
- Development technical interface
- Dam Safety Engineer (technical advisor) to Townsville Water

Major Projects - \$160M Water Supply Upgrade Project – Project Coordinator

- Management of compliance with Federal Government Funding Agreement including auditing requirements
- Management of compliance with State Government Subsidy Agreement
- Securing power supplies to Toonpan, Kinduro and Crystal Creek Stabilisation Facility sites
- Negotiating the Queensland Park and Wild Life Services Section 35 Authority and Regulation including the Indigenous Land Use Agreement
- Obtaining Access licences and easements
- ERA applications and IPA submissions for various sites including lot reconfiguration.

Dams Management

- Dam Safety Engineer (technical advisor) to Townsville Water
- Project Manager, Gleeson, Aplins and Black Weirs Data book – dam safety and surveillance
- Project Manager, Gleeson Weir Rehabilitation Project
- Project Manager, Black Weir Rehabilitation Project

- Project Manager, Aplins Weir Rehabilitation Project
- Project Manager, Ross Dam Upgrades: Construction Contract during maintenance period
- Operations Manager, Management of SunWater Contract at Ross Dam including operational releases
- Dam Safety Management: Ross and Paluma Dams
- Project Manager, Paluma Dam Seepage Weir design and installation
- Annual review of SunWater's update of the SOPs and EAP
- Implementation of NRW Audit findings
- Project Manager, Paluma Dam: Combined comprehensive inspection, Failure impact assessment, and structural safety review
- Paluma Dam: Final EAP and SOPs and DOMMs. Update Data book.

Projects

- Project Manager, Douglas Ring Road – 1050 mm Water Main Relocation
- Project Manager, Fulham Rd Water Main
- Project Manager, Forestry Rd Trunk Water Main
- Author, Site Decommissioning Plan for several STPs
- Project Manager, Nelly Bay Sewers – New sewers in a built up area
- Project Manager, Giru Water Treatment Plan upgrades planning report
- Project Manager, Giru Water Treatment Plan Fluoridation facility
- Project Manager and author, Unit Asset Rates Review 2010
- Project Manager and author, Design guidelines – creation of new guidelines for the water business
- Project Manager, Greenhouse Gas Assessment
- Project Manager, Mt St John Catchment Overflows Risk Assessment
- Project Manager, Security Upgrades - Continuation of program
- Project Manager, Mt Spec Pipeline Relocation - Woodlands to Mt Low, due to highway expansion by MRD. Includes Kulburn Chlorinator upgrades
- Project Manager, Telecommunications leases at numerous reservoir sites
- Miscellaneous Easements for trunk pipelines

Planning

- Author, Infrastructure Plan – establishment of a rolling program for infrastructure planning
- Author, Review of reservoir management practices
- Author, Horseshoe Bay Section 35 Application under the Nature and Conservation Act – Pipeline in National Park
- Project Manager, Cleveland Bay Purification Plant – reuse planning report
- Technical Advisor, Rocky Springs Development – infrastructure agreement negotiations for water and wastewater
- Project Manager, Feasibility report - Cleveland Bay Purification Plant wind power generation
- Project Manager, Feasibility report - Cleveland Bay Purification Plant biogas power generation
- Author, Water Source Management Plan
- Project Manager, Northern Area Water Supply Operations Planning Report
- Author, Water Source Management Plan
- Author, Drought Management Plan
- Author, Financial Management Plan
- Project Manager, \$350k Advanced Raw Water Model – Continuation of the development and implementation of new raw water hydrological yield model covering all raw water sources to aid in short, medium and long term utilisation of Crystal Creek/Paluma Dam, Ross River Dam, Haughton Pipeline and any other future resources

■ SENIOR INFRASTRUCTURE ENGINEER

NQ Water, January 2004 – March 2008

Major Projects

- Client Side Project Manager, \$120M Ross Dam Upgrades Construction Phase
 - Management of Client requirements
 - Establishment of the SunWater Operations and Maintenance Contract
 - Upper Ross River Road Relocation
- Project Manager, Magnetic Island Submarine Pipeline Replacement
 - Liaison with State government Agencies including EPA, GBRMPA, Fisheries
 - Consultation with Magnetic Island reference groups
 - Procurement of Construction Contractor
 - MI Pipeline Irrigation to Pallarenda Park

Dam Safety Management

- Spillway Adequacy - Ross Dam: Determination of how well the spillway can pass the Acceptable Flood capacity and Spillway design flood
- Spillway Adequacy - Paluma Dam: Determination of how well the spillway can pass the Acceptable Flood capacity and Spillway design flood
- Failure Impact Assessment - Paluma Dam - Assessment of downstream failure impact to categorise Dam
- IROL - Ross Dam
- IROL - Paluma Dam/Crystal Creek Data Report
- Flood Predication (URPS) Model for Ross Dam Catchment

- Enviromon Management
- Review of Water Restrictions and Levels
- Power to Flow Meter at Paluma Dam
- Paluma Dam Floating Intake
- Paluma Dam Destratification
- Paluma Dam Outlet Works

Dams Visited/Inspected

- | | |
|---|---|
| <ul style="list-style-type: none"> ▪ Ross River Dam (Townsville) ▪ Black's Weir (Townsville) ▪ Gleeson's Weir (Townsville) ▪ Aplin's Weir (Townsville) ▪ Clare Weir (Burdekin) ▪ Burdekin Falls Dam (Ravenswood) ▪ Peter Faust Dam (Proserpine) ▪ Eungella Dam (Mackay) ▪ Kinchant Dam (Mackay) ▪ Clary Hall Dam (Northern NSW) ▪ Lake Moondara (Mt Isa) ▪ Chichester Dam (Hunter Valley) ▪ Grahamstown Dam (Hunter Valley) ▪ No.7 Dam (Big Dam)(Mt Morgan) ▪ Clare Weir (Clare) ▪ Val Bird and Giru Weirs (Giru) ▪ Tinaroo Falls Dam (Atherton) ▪ Bedford Weir (Blackwater) ▪ Teemurra Dam (Mackay) ▪ Paluma Township Weirs (Paluma) ▪ Plane Creek Weir (Sarina) ▪ Wild River Dam (Tablelands) ▪ Neville Hewitt Weir (Dawson River, Baralaba) | <ul style="list-style-type: none"> ▪ Lake Julius (Cloncurry) ▪ Copperload Dam (Cairns) ▪ Hoover Dam (USA) ▪ Borumba Dam (Gympie) ▪ Hinze Dam (Gold Coast) ▪ North Pine Dam (Brisbane) ▪ Somerset Dam (Brisbane) ▪ Wivenhoe Dam (Brisbane) ▪ Rocky Creek Dam (Northern NSW) ▪ Warragamba Dam (Sydney) ▪ Lake Awoonga (Gladstone) ▪ Bowen River Weir (Collinsville) ▪ Mirani, Marian, and Dumbleton Weirs (Mackay) ▪ Paluma Dam (Paluma) ▪ Lake MacDonald / Six Mile Creek Dam (Cooroy) ▪ 10+ Tasmanian Dams ▪ Fitzroy River Barrage (Rockhampton) ▪ Burdekin Weir (Charters Towers) ▪ Koombaloo Dam (Ravenshoe) ▪ Sarina Golf Course Dam (Sarina) ▪ Fairbairn Dam (Emerald) ▪ Glenore Weir (Normanton) ▪ Chinaman Creek Dam (Cloncurry) |
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Project Management

- \$2M QDMR projects management
- Mt Spec Pipeline - Ergon Sub-Station access over the 900 mm Pipeline adjacent Woodlands Fire Station.
- Yanks Gully erosion investigation and management
- Energy Management – Bulk Electricity Tariffs Investigation
- Crystal Creek Intake Foundation Rehabilitation
- Waterway Gardens Point of Supply
- Bolger Bay Pipeline Replacement
- Bolger Bay Pump Station Water Hammer Investigation and Corrosion Investigation
- DWTP Emergency Intake Upgrades
- Riverway Drive Point of Supply
- Riverside Ridge Reservoir 1 ML Reservoir, Booster Pump Station & Rising Main at Riverside Ridge development in Douglas.
- Mt Spec Pipeline Relocation - Woodlands to Mt Low with QDMR
- Replacement Bulk Water Meters.
- Nelly Bay Reservoir Inlet/Outlet Pipework Upgrades
- Mt Spec Pipeline - New Valve on 475 at Woodlands
- Mt Spec Pipeline - Upgrade 600 offtake at Mt Low
- DWTP HV Equipment Replacement
- Reservoir Seals Replacement Project
- Noise Survey for DWTP
- Haughton Pump Station Risk Assessment
- Magnetic Island Distribution Pipeline
- Mt Louisa South Pipeline
- DWTP Module 4 Upgrades
- Brookhill Reservoir and Access Road
- DWTP Lab Extension
- Miscellaneous Works Package (Bolger Bay, Waterway Gardens, Possum Paddock, 2 valves on Mt Spec, Angus Smith valve pit, West End Reservoir Upgrades)
- Mt Spec Pipeline Chlorinator Building Upgrades
- Ross River Pipeline – River Crossing
- DWTP – Lagoon Lining Replacement
- DWTP – Lagoon Pumps Replacement

Planning/Reporting/Industry Compliance/Risk Management

- Regional Bulk Water (CAD) Model
- Infrastructure Development Strategy

- Strategic Asset Management Plan
- Total Management Plan Document
- SAMP Annual Reports
- SAMP Audit including SLMP and DMP
- Drought Management Plan
- System Leak Management Plan
- NWI - WSAF Facts Benchmarking
- SWIM Data gathering management/consolidation
- NRW Annual Water Statistics reporting (performance monitoring and benchmarking)
- NRW and ABS Storage Levels and Capacity Fluctuations reporting
- State-Wide Business Water Efficiency Program
- Critical Infrastructure Management (Ross Dam and DWTP)
 - Security Management Plan
 - Emergency Response Plan
 - Business Continuity Plan
 - Cyber Security Testing
 - Security Upgrades: Installation of various security improvements at key NQW facilities. Included procedural improvements
 - Security Audits
- Bulk Water Infrastructure Development Manual creation and maintenance
- Mt Low Reservoir Water Demand Projections and Capacity Report
- Magnetic Island - corridor in National Park from Nelly Bay to Horseshoe Bay
- Dercerto planning
- Mt Margaret Pump Station Capacity Investigation
- Horseshoe Bay Balance Tank Replacement
- Greencount Investigation
- Ponti Reservoir Chlorine Residuals
- NQ Water Bulk Water Supply Agreement
- DWTP Planning Report
- SCADA Upgrades Scoping Study
- Ross Dam Water Balance Model
- Haughton Pipeline Capacity Review

Management General

- 3rd Party Developer Management Provision of technical advice and review of construction activities undertaken by developers & other third parties that affect NQW interests
- DBYD establishment and management
- NQ Water Web Site build and Maintenance
- Contracts Management System – build and maintenance
- Land Tenure investigations
- Foreign Infrastructure management

Asset Management

- Asset Management
- Asset Register update/maintenance
- Drawing System management
- Geographic Information System management
- Asset Management Framework document
- Preventative Maintenance Management investigation
- Critical Spares Review Report
- Condition audits
- Cathodic Protection investigations
- Paluma Pipeline Condition audit
- Asset Management Renewals investigation

■ CONTRACT CIVIL ENGINEER

Citiwater Townsville, October 2000 – January 2004

Planning/Reporting/Industry Compliance/Risk Management/Asset Management

- Sewer Inflow-Infiltration Management Plan 2003
- Performance Management Plan 2003
- Discussion Paper – Recycled Water Charging
- Citiwater Performance Management Plan 2003
- Citiwater Infrastructure Plan 2002
- Paluma Dam Capacity Table 2002
- Unit Estimating Rates Report 2002
- Citiwater Total Management Plan Summary Document 2002
- Citiwater Financial Management Plan 2002
- Citiwater Operations Management Plan 2002
- Citiwater Environmental Coordination Plan 2002
- Rates Charges Calculation for Magnetic Island 2002
- Citiwater Risk Management Plan 2002
- Citiwater Emergency Response Plan 2002

- Infrastructure Charges Plan Project 2001
- EP/Ha Versus Zone Type Study 2001
- Headworks Charges Report 2001
- Citiwater Disaster Recovery Plan 2001
- Sewer Rehabilitation Project – Catchment 2A, South Townsville
- Various Planning Reports
- Loan and Subsidy Applications to DNR&M and DLG&P

Project Management

- Biological Nutrient Removal Pilot Plant, Cleveland Bay Wastewater Treatment Plant
- Paluma Dam Refurbishment Project
- Sewer Rehabilitation Contract 2002/2003, and 2003/2004
- Acting Contracts Engineer for 2 months, 2002
- Citiwater Project Manager, Mt St John Recycling report, 2002

■ **CIVIL ENGINEER**

Connell Wagner Pty Ltd, November 1999 – September 2000

Roads and Stormwater

- Stuart Drive Upgrade Planning Study
- Tully – Hull Road (raising), design and documentation
- Cannington Mine Workshop Sediment Holding Pit
- Boundary Street open level crossing Abolition Report and Planning Study
- Stuart Hotel Carpark Repairs Investigation and Contract Management
- Mornington Shire Council Roads and Drainage Contract Management

Water/Dams

- Palm Island Hospital Water Treatment Plant filter and bypass line
- Queensland Aluminium Limited Red Mud Dam Raising
- Comalco – Red Mud Dam, estimates for expansion

■ **CIVIL/ENVIRONMENTAL ENGINEER GeoLINK GROUP Pty Ltd, April 1998 – November 1999**

Subdivisional

- Broken Head Development Application
- Williams Subdivision Water, Sewerage, and Stormwater Management Strategy
- Goodwood Island Development water, sewerage and stormwater management design

Water and Wastewater

- Everglades wastewater management EIS and Engineering Site Works Report
- Evans Head Sewerage Transport Analysis
- Development Application for alterations and additions and Environmental Management Plan (EMP), Camp Eden
- On-site Wastewater Disposal Management
- Water Balance Modelling of Effluent Disposal for water quality and hydraulic loading
- Vacuum Sewer Design
- Cost estimation of dual water/tertiary treated wastewater treatment plants
- Bellingen Shire Council analysis of exiting water and sewerage system capacity
- Bangalow Palms Resort aerated wastewater treatment system audit

Roads and Stormwater

- Soil and Water Management Plan for Corndale Quarry
- Southern Cross University Entry Road
- Stormwater and structural design and project cost estimation
- Dee Why Town Centre audit of the existing stormwater system
- Campbelltown Town Centre Stormwater design

Environmental

- Yelgun Service Station Contamination Investigation and remediation report
- Environmental Site Assessment for Contaminated Sites

■ **Quality Assurance Manager and Project Engineer**

John Holland Construction & Engineering Pty Ltd, October 1995 – January 1998

Construction

- QA Engineer and Project Engineer on Logan Motorway Duplication Project (\$36 Million) at Brisbane from October 1995 to May 1996. Duties included full Quality Assurance management of civil and structural works, management of subcontractors, procurement of materials and writing and implementing maintenance and construction procedures that included traffic management systems and safety procedures.
- Project Engineer on Steel Framed Building Project (\$3.5 Million) on Boyne Smelter Expansion Project at Gladstone from May 1996 to October 1996. Duties included procurement of all materials and plant equipment, Quality Assurance management of all works including inspections, management of subcontractors, writing and implementing construction procedures and "Safety Hazard Analysis", compilation of client daily, weekly, and monthly reports, and general site administration duties including mobilisation and demobilisation.
- Project Quality Assurance Manager, Site Engineer, Project Environmental Officer, Civil Works Foreman, for Tweed City Shopping Centre Project (\$40 Million) at Tweed Heads South from October 1996 to present. Duties included full Quality Assurance for all works including subcontract works, procurement and management of all materials to site, namely reinforcement, concrete, and associated materials, inspection of all works including technical trades, and coordination of subcontractors.

■ CIVIL ENGINEER

Ullman & Nolan Pty Ltd, Mackay, February 1994 – October 1995

Water and Wastewater

- Compiling information for the Total Management Plan (TMP) for water supply and sewerage assets for Pioneer, Sarina, and Mirani Shires, and Mackay City Council
- Analysis of pipe networks using computer packages such as Netpac and Watham
- Sarina Sewerage Effluent Disposal Rising Main - Supervising Engineer, involvement from design stage to completion
- Sarina Beaches Sewerage Package Waste Water Treatment Plant - Supervising Engineer from tender stage to completion

Dams

- Sarina Effluent Storage Dam - Supervising Engineer, involvement from tender stage to completion

Structural

- Structural design verification on railway bridges and building extensions
- Supervision of structural and civil construction works including dams, foundations, and prestressed concrete girder bridges
- Mirani Elevated Storage Tank - Supervising Engineer from design to completion
- Mackay State High School Teams/Netball Courts - Supervising Engineer from design to completion

Geotechnical

- Geotechnical engineering design and investigation reports for geotechnical investigations ranging from house site foundations to residential, commercial and industrial foundations
- Compiling of soil/pavement testing programs for roadways and foundations/formations
- Soil technician duties
- Site contamination investigation reporting satisfying CHEM unit requirements

Undergraduate Experience

- George Populin Builders, Ayr, Builders Labourer, Jan 1993 - Feb 1993 (5 Weeks)
- Rowland Surveys Pty Ltd, Townsville, Chainman, Dec 1992 - Jan 1993 (6 Weeks)
- LC Johnstone & Associates, Townsville, Designer, Feb 1992 - Mar 1992 (4 Weeks)
- Inkerman Sugar Mill, Homehill, Computer Aided Drafts Person, Dec 1991 - Feb 1992 (8 Weeks)
- Townsville City Council, Trades Assistant, Dec 1990 - Mar 1991 (12 Weeks)
- Corica Civil Contractors, Homehill, Labourer, General Holiday employment (8 Weeks)

Computing Experience

- | | |
|---|-------------------------------------|
| ▪ Microsoft Office 2016 | ▪ Hec-Ras |
| ▪ Microsoft Project 2013 | ▪ IIsax/IIsin |
| ▪ Microsoft Visio 2013 | ▪ MYOB |
| ▪ Gold Sim | ▪ XP – SWMM |
| ▪ Visual Basic Programming | ▪ ArcView |
| ▪ Aqualm-XP | ▪ Mike11 |
| ▪ AutoCAD | ▪ Water Gems |
| ▪ Bill Quick 2013 | ▪ Adobe Photoshop and Elements |
| ▪ Micro Server Installation/Management | ▪ Software commissioning management |
| ▪ Various GPS mapping software | ▪ Cloud based systems |
| ▪ Various video/telephone conferencing software | |

Referees

Mr Rob Hunt

Former Coordinator – Dams and Catchments
Townsville Water and Waste
Townsville City Council

Mr Rob Saunders

North Qld Business Group
Manager, Water
GHD
Townsville Office

	Telephone: 0407 216 146		Telephone: 0429 074 173
Mr Jon Turner	Manager, Water and Wastewater Tablelands Regional Council Telephone: 0418 667 814	Mr Matt Gulliver	Asset Manager TRILITY Pty Ltd Adelaide Office Telephone: 0458 570 369

Interests

Adventure Sports: Hiking, active member of the Townsville Rockwheelers Mountain Biking Club, Kayaking, Camping, and fishing.

Family

Married with 2 children, extended family home is Townsville with links to SEQ and Canberra.