

Curriculum Vitae

Deepika Jaduram

Profession:	Civil Engineering
Qualifications:	Bachelor of Engineering (1st Class Honours) (Civil and Environmental Engineering) – University of Auckland, New Zealand, 2009 Bachelor of Commerce (Double Major in Economics and Commercial Law) - University of Auckland, New Zealand, 2009
Position in GHD:	Civil Engineer (currently in the Water Resources Group, previously in the Water Technology Group)



Recent Experience

GHD Pty Ltd, Melbourne 2011 – Present

Civil Engineer - Water Resources Group (January 2014 – Present)

- Goulburn Murray Water (2014).
Job manager and engineer on various projects for Goulburn Murray Water (GMW) including work for the Connections Project (GCP) which provides for the modernisation of the irrigation network in the Goulburn Murray regions. Including preparation of reports in regards to water savings, pondage test adjustment factors, upper bank leakage data review, and zeroing outfalls. On the Project Management Team for the SIR SWBP, the Southern Irrigation Region Salt Water Balance Project. Involvement in STAC, the Salt Technical Advisory Committee (GMW, GBCMA, NCCMA, and DEPI). Has worked on various water savings projects including reviews and investigation of elements of the Technical Manual for the Quantification of Water Savings.

Key projects:

- Phase 4 (long term) Metering Error review of Water Savings calculations and theory.
- General Advice for Stage 1 and Stage 2 of the modernisation project.
- Review of current Durability Factors contained in the DEPI Technical Manual for determining Water Savings (operational and long term).
- SIR SWBP development of preliminary design and specification for Salinity Management Tool including a mapping tool using bore data, hydrographs, and a website for use by farmers/landholders.
- GMW Meter Cost Review and Audit

Civil Engineer – Water Technology Group (2011 – 2014)

- **Metropolitan Planning Authority (MPA) – East Werribee Employment Precinct (EWEP)** Integrated Water Management Strategy and Concept Design (2013).
MPA has set a water vision for the EWEP to transition towards a water sensitive city model. Provided quality and treatment input to the draft concept report to outline the

Key Experience Areas

- Water Resources
- Irrigation
- Desalination
- Water and Wastewater Treatment
- Integrated Water Management
- Recycled Water
- Asset Management
- Strategy & Economics
- Job Management
- Concept and Preliminary Design
- Stakeholder Engagement & Communications
- Contracts
- Tender Documentation & Tender Review
- Client Relationship Management
- Schematics, Diagrams, Infographics and Communications

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EWEP Integrated Water Cycle Management (IWCM), namely research into guidelines and regulations for the treatment of stormwater, rainwater and grey water for various end uses including potable re-use at a residential and community scale. Provided recommendations based on this work to the client to determine the most effective means of water recycling/saving taking into account the water quality risks and treatment implications of those risks.

- **Barwon Water Alliance – Blackrock STP Inlet Works Upgrade Concept Design (2013).**

Concept design options and cost estimates, and recommendation, for a new band screen inlet screenings facility at Blackrock STP as part of a wider project to upgrade the entire Inlet Works including improved hydraulic capacity for future.

- **Rosarito Desalination Plant, Mexico – Minimum Functional Specification and Concept Design (2013).**

Draft Minimum Functional Specification (MFS) for a proposed seawater reverse osmosis (SWRO) desalination plant in Rosarito, Mexico (380 MLD). Co-ordinated discipline input and developed MFS documentation and technical submittals sheets in accordance with the relevant standards. Also co-ordinated and developed the concept design and documentation. Project manager.

- **Places Victoria - Fisherman's Bend Development Planning of Integrated Urban Precinct (2013).**

Provided assistance and research in exploring and determining appropriate technologies to integrate services in the new Fisherman's Bend precinct. This included undertaking mass balance calculations of use of essential services such as energy, water etc... and generation of waste (wastewater, stormwater, hard rubbish etc...). Worked towards producing targets that are sustainable and environmental for use of water, energy and waste production of the precinct. Collated information from different disciplines within GHD to determine the feasibility of different technologies for generation of and recycling of demand and waste streams in and out of the precinct e.g. looking at tri-generation for heating and generating electricity or using biomass from recycling sewage to produce biogas.

- **Murrumbidgee Irrigation – Asset Management (2013)**

Development of an AMP (Asset management Plan) and an AM Improvement Program for Murrumbidgee Irrigation (MI).

- **Places Victoria - The Nicholson Water Recycling Plants (October 2012- June 2013).**

The Nicholson is an apartment building that currently has three recycling system in place, namely a greywater, a rainwater, and a stormwater, recycling system. The greywater and rainwater systems include small on-site treatment plants. Review of the as-built plants, provide commentary on the status of the plants and recommendations for any modifications/updates required, and update selected documents from the original Water Quality Risk Management Plan (WQRMP) based on the audit recommendations using the appropriate water quality regulations and guidelines. Project manager.

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- **Murrumbidgee Irrigation Area Renewal Alliance – Hanwood Modernisation Project (2011-2012).**
Set up fundamental principles and systems for a quality management system for the Alliance. Created quality procedures, and forms, to support the communication, and management, of information for the Hanwood Modernisation Project. Produced the design management plan for the Hanwood Modernisation Project. Set up the initial safety in design procedures for the Alliance, and coordinated safety in design aspects for the Hanwood Project. Produced systems for the collection of information and implementation into design and construction. This included coordinating GIS, customer issues, land, environmental and heritage issues.
Produced hydraulic design checks for the pipeline design. Design of the civil components of the transition structures including ancillaries (trash racks, head walls etc.). Designed 20 transition structures (including ancillaries and head loss calculations). Designed escape structure details.
Involved in stakeholder engagement. Produced one-page informative fact sheets explaining some of the technical design aspects for the customers. Engaged in a series of one on one customer/stakeholder meetings for design progression, this also included site work obtaining existing infrastructure information.
Gained an understanding of the Network Service Plan (NSP) and worked with Murrumbidgee Irrigation's NSP for discussion with its customers in Hanwood.
- **Western Water, Victoria - Water Supply Demand Strategy (2011).**
Developed options relating to recycled water, water conservation, water supply, storage increases, pipelines and infrastructure. Developed and implemented Triple Bottom Line (TBL) Assessment Criteria including risk/impact descriptions and analysis. Produced cost estimates, Net Present Cost (NPC) and Benefit Cost Ratio (BCR) for each option, including determining normalised yield for each.
- **Riverwalk Advanced Stormwater Treatment Concept (2011).**
Developed concept design of advanced treatment of stormwater for a new development in Werribee, as part of the ongoing focus on water recycling and re-use. Produced concept design, drawings, cost estimates, and additional input required under the funding criteria.
- **Wannon Water - Warrnambool Brine Management Project (2011).**
WRP Upgrade functional design. Procured and collated information on process equipment. Functional design of pipelines, recycled water facility (incl. provision of UV treatment), methanol dosing facility and the new IDEA tank (including provision of decanter and aeration equipment), and miscellaneous buildings. Produced cost estimates, civil drawings, and report.
- **Heathcote WRP Options Assessment (2011).**
Produced a range of options for treatment and reuse for increased wastewater volumes. Evaluated the current capacity and operation of the existing facilities (including a lagoon system and evaluation of backlog schemes) and developed an augmentation plan. Reviewed existing asset information and procured additional information required. Produced a briefing memo outlining hydraulic capacities and immediate improvement options. Produced summary sheets outlining various options under present and future scenarios (providing high level CAPEX and outlining risks and opportunities)

Beca Pty Ltd, Melbourne 2010 – 2011 (Civil Engineer - Water Section)

- **Melbourne Airport Asset Management Project (2010)**
- **Melbourne Airport Operations Road Development (2011)**
- **Tender documentation and specifications for Leitchville Water Treatment Plant Upgrade & Gunbower Water Treatment Plant Upgrade (Coliban Water) (2010-2011)**

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- **Safety in Design (SID) workshops for the Victorian Desalination Project (2010)**
- **HAZOPs, CHAZOPs, and SIDs for WRA Alliance Project (Melbourne Water) (2010)**
- **Rosebery Mine Stormwater Management Feasibility Study Project (2010-2011)**
- **Beca Business and Strategy** - strategic planning and business development for Water Industry (specifically Water Reform in Tasmania)

Professional and Community Involvement and Memberships

- Assistant Organiser of the GHD Smart Seeds Program (external and internal participants) (2013-2015)
- Volunteer on the media team for non-profit NCDFree The Face campaign (2014) - <http://www.thefaceofncds.org/>
- GHD internal Intraprenuer group (2014)
- Mentor for GHD Smart Seeds Program (2013) - <http://www.ghd.com/smart-seeds/>
- Engineers Without Borders Member (2013-2014) (various involvement)
- Past Committee Member on GHD Young Professionals Committee (2012-2014)
- Past Committee Member for AWA Victorian Young Professionals Committee (2013)
- Member Australian Water Association (2012-2014)
- Graduate Member of Engineers Australia GradIEAust (2010-2014)
- Committee Member of Young Engineers Australia Victoria Division (2011-2012)
- Member of the Auckland Chapter of the International Honour Society Beta Gamma Sigma
- University of Auckland Alumni