

**NAME:** BERNARD MARTIN (Bernie)  
**DATE OF BIRTH:** 19<sup>th</sup> January 1981  
**NATIONALITY:** Australian  
**EMAIL:** bernie@tahlee.com.au  
**MOBILE:** 0428 437 982



**QUALIFICATIONS:**

- Bachelor of Engineering (Agricultural) Honours, University of Southern Queensland, Toowoomba, 2004.

**AFFILIATIONS:**

- Member, Engineers Australia
- Member, Irrigation Australia
- Member, NSW Farmers

**EMPLOYMENT HISTORY:**

**Tahlee Consulting Services, Narrabri, NSW**

**July 2011 to Present**

Engineer offering consulting engineering and project management services. Specialising in irrigation system design from feasibility studies to commissioning and testing, bulk earthworks design, and water resources engineering.

**Orlando Farms Pty Ltd, Bellata, NSW**

**May 2010 to July 2011**

Farm manager responsible for daily operations of 12,000 ha irrigation and dry land cropping enterprise employing up to 30 staff.

**Aquatech Consulting Pty Ltd, Narrabri, NSW**

**July 2004 to May 2010**

Project Engineer of consulting engineering practice, specialising in water resources and irrigation engineering.

**Department of Natural Resources and Mines, Longreach, QLD**

**November 2002 to February 2004**

Cadet Engineer on Great Artesian Basin Sustainability Initiative, specialising in survey, design and installation of pipeline systems for Artesian bores.

**University of Southern Queensland, Toowoomba, QLD**

**2000 to 2004**

Full and Part-time Study - Bachelor of Engineering (Agricultural)

**Tahlee Farming Partnership, Mullaley, NSW**

**1998 to 2000**

Operations Manager, Farmhand

## EXPERIENCE:

Eight years experience in Australia in engineering of water resources and irrigation development projects, including surveying, soil testing, evaluation, investigation, planning, detailed design and construction supervision. Four years experience with measuring and improving irrigation water use efficiency for clients and other consultants. Four years experience in flood modelling for river systems and flood plains using one and two dimensional modelling. Two years experience designing closed stock water reticulation systems from Artesian bores. Three years experience managing operations on an irrigated cotton farm including machinery operation, maintenance, infrastructure repairs and managing a large team of staff.

### · Irrigation Scheme Modernisation

- Prepare detailed funding proposal for modernisation of Private Irrigation Scheme including feasibility studies, design, costing and preparation of final application for Tenandra Scheme, Warren, NSW
- Prepare detailed funding proposal for modernisation of Private Irrigation Scheme including feasibility studies, design, costing and preparation of final application for Marthaguy Irrigation Scheme, Warren, NSW

### · Whole farm planning and flood modelling. Preparation of whole farm irrigation system designs including irrigation storage, supply, drainage and fields. Modelling of flooding effects using one and two dimensional models and preparation of detailed reports on flooding for Part VIII license applications.

Recent examples include:

- 208 hectares of irrigation "Wyangan", Mullaley, NSW
- 278 hectares of irrigation "Bourke's Block", Breeza, NSW
- 990 hectare of irrigation "Unffan", Narrabri NSW
- 180 hectares of irrigation "Prairie Station", Bourke, NSW
- 300 hectares of irrigation "Foley Vale" Duaranga, QLD

### · Whole Farm Water Management. Tasks included the joint development of software packages (WaterTrack™) to model whole farm water balance, testing seepage & evaporation measuring equipment, testing permanent storage volume meters and the commercial use of these products including installation and providing training for other users. Recent examples include:

- Provision, installation of equipment and software and training of farm managers for irrigated cropping properties located around Bourke including 7 farms totalling 11,000 hectares.  
(Clyde Agriculture, Bourke NSW)
- Installation of Seepage and Evaporation Meters and analysis of test pond losses to determine suitability for Coal Seam Gas water evaporation pond.  
(Queensland Gas Company, Chinchilla QLD)
- Installation of Seepage and Evaporation Meters and analysis of test pond losses to determine suitability for Tailings Pond.  
(Macarthur Coal, Coppabella QLD)
- Provision, installation of equipment and software and training of farm managers for irrigated cropping properties located in North West NSW for MDBA project.

- **Compacted earthfill dams.** Predominantly ring tank dams with zoned embankments 3 to 6 metres (m) high. Tasks included planning, runoff harvest modelling, soil investigation, embankment design and specification, construction supervision and check survey. Recent examples include:
  - 320,500 m<sup>3</sup> embankment storing 4700 ML at “Auscott Narrabri”, Narrabri, NSW
  - 71,000 m<sup>3</sup> embankment lined for storage of Coal Seam Gas water at “Biblewindi”, Narrabri, NSW
  - 71,100m<sup>3</sup> embankment storing 270ML at “Walla Wallah”, Forbes, NSW
  
- **Irrigation Feasibility.** Tasks include modelling of potential water supplies, on-farm losses and crop water requirements to determine viability of proposed irrigation developments. Recent examples include:
  - feasibility study and report for development of 700 ha of irrigation on the Flinders River, Richmond, QLD
  - feasibility study and report for development of 300 ha of irrigation on the Mackenzie River, Daringa, QLD
  - feasibility study and report for development of 400 ML storage on the Darling River, Bourke, NSW
  - preparation of water license applications and supporting documentation for 1350 ha of irrigation at Mataranka, NT
  
- **Sprinkler irrigation.** Tasks included determination of water requirements and availability, evaluation of existing systems, design and preparation of specification for installation and upgrade recommendations. Recent examples include:
  - review technical details of irrigation system design for tender selection for 610 ha of centre pivot irrigation for sewage effluent re-use, Tamworth, NSW
  - design and specification for 19 ha of solid set sprinklers for Effluent Reuse on pasture, “Llanglothen”, Bundanoon, NSW
  - hydraulic analysis of mini spray irrigation system for 18 ha of Pineapples, “Pikes Rd”, Glasshouse mountains, QLD
  
- **Canal Structures.** Hydraulic and structural design of flow control and access structures in earth canals up to 8 m<sup>3</sup>/s capacity. Recent examples include:
  - 1800mm reinforced concrete pipe culvert near Narrabri, NSW
  - Preparing a detailed report on measuring structures for 70km irrigation scheme near Warren, NSW
  - 50m wide concrete mattress weir at “Auscott Narrabri” Narrabri, NSW
  - 900mm reinforced concrete culvert under public road “Westella” Narrabri NSW
  
- **Complete pumping station design and specification** including conceptual and detailed design, pump and motor selection and construction supervision for canal re-lift and tailwater pumping stations. Recent examples include:
  - 3 x 650mm volute centrifugal pumps reservoir pumping station, 4200 L/s at “Auscott Narrabri”, Narrabri, NSW
  - 3 x 500mm axial flow pumps emergency pumping station, 3,500 L/s for State Water, NSW
  - 1 x 500mm volute centrifugal creek pumping station, 500 L/s at “Riverstone” Baan Baa, NSW

- **Coal Seam Gas Projects.** Tasks included measurement and modelling of water losses from water storage facilities, evaluation of existing irrigation systems for effluent re-use, design and preparation of specification for water storage facilities. Recent examples include:
  - 36,000 m<sup>3</sup> embankment lined for storage of Coal Seam Gas water at “Dewhurst”, Narrabri, NSW
  - Review existing infrastructure on 710 ha irrigation farm for irrigation with treated CSG water, Dalby, QLD
  - Design outlet structure for Earthen Storage supplying treated CSG water to 2 centre Pivot Irrigators, Dalby, QLD
  
- **Drip irrigation.** Tasks included determination of water requirements and availability, evaluation of existing systems and upgrade recommendations. Recent examples include:
  - hydraulic analysis of drip irrigation system for vine Nursery, “Dalton Rd”, Yenda, NSW
  - design review of proposed 250 ha drip irrigation system for Pecan nut trees, “Trawalla” Pallamallawa, NSW
  
- **On farm Irrigation Monitoring.** Tasks included measurement on farm of in-field water application efficiency for furrow irrigation. Measuring in-field application efficiencies included using and developing a system that measures the flow through the siphon, the advance rate down the field and tailwater at the end of the row. Soil infiltration characteristics, water distribution and the actual and potential application efficiencies are determined with computer models. Recent projects include:
  - Provision of equipment and technical support to local farm for Irrimate in-field irrigation evaluations in bay irrigated trees to identify and reduce water losses. (Stahmann Farms, Pallamallawa NSW)
  - 8 audits of pressurised irrigation systems in the Central West Catchment Management area
  
- **Complete Stock Water Reticulation Systems** including survey and selection of suitable watering points, hydraulic analysis of pipeline system, pump selection, tender analysis, cooling grid design and construction supervision. Projects include:
  - 64km scheme, 40,000 sheep capacity at “Patrisha Downs” Ilfracombe, QLD
  - 30 km scheme, 2,000 cattle capacity at “Carrum” Julia Creek, QLD
  - 14km scheme, 300 cattle cell grazing capacity at “Browning Vale” Manilla, NSW