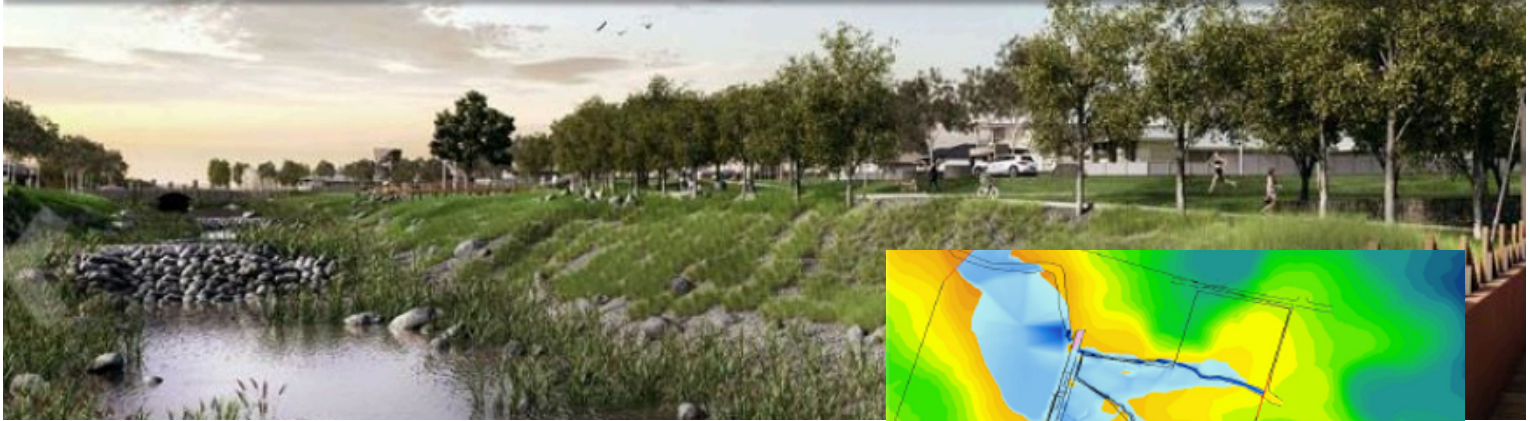


2D Flood Modelling



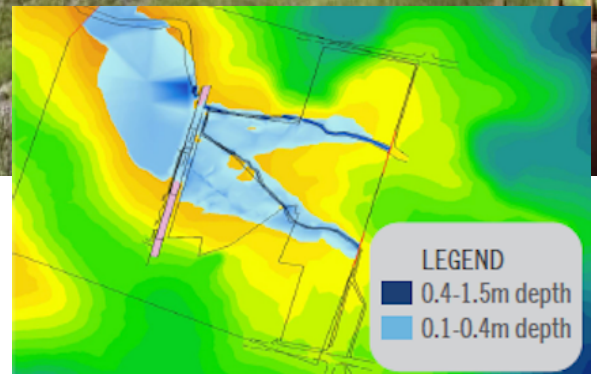
Axiom Consulting Engineers are proven specialists in Stormwater Analysis incorporating Hydrological Assessment of Catchments, Hydraulic Design of Stormwater Management Systems, Stormwater Quality Modelling and 1D/2D Flood Modelling.

2D Flood modelling is increasingly being requested by Authorities and clients to determine flood affected areas and how they may impact existing and future developments.

This type of modelling allows for far higher accuracy in its determination of flooding and enables Authorities and clients the option of being able to import the data directly into their GIS or Asset Management System. Typical outputs include depth, velocity, height and volume of flooding.

This data can then be utilised for any future permits or developments that may be required in that area.

Axiom Consulting Engineers offers expertise in this area Australiawide and can undertake 2D Flood Analysis for any client from the smallest developments to large scale river systems. If you have any questions regarding this matter, please call our office and we will be happy to talk further about the advantages of this advanced technology.



The Modelling

The modelling is a powerful computational engine that provides one-dimensional (1D) and two-dimensional (2D) solutions of the free-surface flow equations to simulate flood and tidal wave propagation. It also allows 2D/1D flood modelling with unparalleled 1D/2D linking, flexibility, robustness and a range of features no other product provides.

- Applicability
- River flooding
- Urban flooding
- Pipe network modelling
- Storm tide and tsunami inundation
- Estuarine and coastal tidal hydraulics

Ideally suited to modelling:

- flooding of rivers and creeks with complex flow patterns
- overland and piped flows through urban areas
- estuarine and coastal tide hydraulics
- inundation from storm tides and tsunamis

It offers 1D/2D and 1D/1D dynamic linking capabilities with other products. It has been merged with:

- XP Solution's XPSWMMM 1D engine and GUI for the xp2D product, and
- Halcrow's ISIS 1D engine using ISIS-TUFLOW or ISIS-TUFLOW-PIPE

The engine interfaces with GIS software such as MapInfo, ArcGIS or SAGA and/or via the Aquaveo SMS GUI. 12D Solutions are developing a customised interface and WaterRIDE displays, animates and post-processes its output.

2D Flood Modelling is offered in conjunction with the following Core Services by Axiom Consulting Engineers.

CIVIL ENGINEERING

- Project Feasibility Studies / Due Diligence
- Concept Planning & Reporting
- Development Approval Assessment Reporting
- Bulk Earthworks Design
- Urban Planning & Renewal
- Highway Engineering
- Roadworks & Drainage
- Water Supply Networks
- Gravity Sewer Mains, Pump Stations & Rising Mains

HYDRAULIC ENGINEERING

- Building Hydraulic Design Services
- Sanitary Drainage and Sewers
- Potable Water Supply Systems

PROJECT MANAGEMENT

- Project Briefs & Cost Estimates
- Project Programming
- Briefing of Consultants & Contractors
- Management of Consultants
- Tender Phase Services
- Contract Documentation & Administration
- Construction Phase Services

WATER ENGINEERING

- Erosion and Sediment Control
- Storm Water quality & Quantity Modelling & Management Plans
- Flood Studies, Analysis & Mitigation
- 1D & 2D Flood Modelling
- Storm Water Detention / Retention
- Storm Water Recycling & Reuse



An example of the modelling in action.



Chris Coughlan
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