



## **Development of an integrated software tool for strategic planning and conceptual design of water sensitive cities**

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### **ABSTRACT**

The management and use of water in urban environments to provide resilience to climate change is an increasingly critical challenge for cities and towns in Australia, and globally. Current trends of growing urban populations and increased urban densities heighten the importance of this issue, as well as increasing the need for accessible, high quality and multi-functional urban landscapes. There is currently no simple-to-use yet scientifically rigorous software tool to support the strategic urban planning and conceptual design decisions required to respond to these challenges. A tool to address this gap is currently being developed by the Cities as Water Supply Catchments Program – an inter-disciplinary Australian research program on stormwater management in water sensitive cities. The program incorporates: public health risks, water sensitive urban design technologies, climate change and urban micro-climate, aquatic ecosystem dynamics, environmental economics and urban water governance. This paper proposes a modelling framework to integrate research insights and outcomes delivered through the Cities as Water Supply Catchments Program, and develop a strategic planning and conceptual design tool to advance stormwater management as part of the transition to water sensitive cities.

### **KEYWORDS**

Stormwater, model framework, strategic planning, conceptual design, scenario generation, scenario assessment