Long-term effectiveness of WSUD assets on private land

Private WSUD
Project E3

This research aims to identifying key factors that impact on the long-term effectiveness of individual WSUD assets on private land.

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Water Sensitive Urban Design (WSUD) features are increasingly used in Australia to mitigate the impacts of stormwater run-off on the health of urban waterways, whilst offering additional social and ecological benefits.

In the past, public or corporatised utilities have had almost sole responsibility for managing stormwater through large scale, centralised systems. However, to achieve the Healthy Waterways Strategy's (2018) objectives in relation to stormwater management, there is a need for substantial investment by Melbourne Water and partner organisations in WSUD systems on private land (residential and industrial).

This decentralisation of infrastructure clearly has implications for the management of stormwater assets, which may be especially challenging in relation to assets on private land, given the likelihood of changes in ownership and the relative lack of oversight beyond the planning process.

Numerous studies have identified a range of social, institutional, regulatory, biophysical and technical factors that impede the successful implementation of WSUD projects. However, less attention has been directed to considering challenges in the long-term effectiveness of these stormwater control assets, and the social, institutional and regulatory capacity, competencies and arrangements upon which this relies.

Methodology

This year, the project will undertake some critical, preliminary activities that will aid in the development of a broader research program for subsequent years.

These activities include:

- Case study analysis of large residential projects/developments with WSUD assets. The aim being to review outcomes of asset audits and draw links between asset condition, the stage at which residents were engaged, maintenance responsibilities and any other characteristics that are identified as being important.
- Meetings with key stakeholders in Melbourne with influence and perspective on different stages of the lifecycle of WSUD assets. This will further develop preliminary insights into this topic and to develop relationships for future investigations.

Future investigations for this research project may include:

- the challenges related to the coordination and management of these systems;
- the benefits and risks of different approaches to co-management and governance; and
- the unintended consequences of WSUD interventions and their maintenance. It will also seek to design experiments in co-management of decentralised infrastructure.

Expected Outcomes

- Identification of factors impacting on long-term effectiveness of WSUD assets on private land.
- Strategies for incentivising, engaging and capacity building with professionals and communities.