Hot Topics: Starting an Asset Register for Water Sensitive Urban Design

Findings from the Clearwater Hot Topics Workshop June 3rd 2011

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Introduction

Many municipalities across the greater Melbourne Region are currently obtaining increasing numbers and types of Water Sensitive Urban Design (WSUD) assets under their responsibility. In councils undergoing rapid development growth this influx is largely attributed to handover of WSUD assets from developers who are required to meet the water quality provisions of Clause 56.07 for new residential subdivisions.

To adequately plan for newly acquired WSUD assets and ensure they are managed to meet their intended design and function, a preliminary requirement is the appropriate collection of asset data. The establishment of a formal WSUD asset register that can house information necessary for effective management will help address knowledge gaps often associated with maintenance, costings and effective planning of WSUD.

Workshop Background

The findings outlined in this report are collated from participant feedback at a workshop held on June 3rd 2011. This workshop, held as part of the Clearwater series of Hot Topics forums was run in partnership with Melbourne Water and the Institute of Public Works Engineers Australia (IPWEA Victorian division).

This workshop stemmed from initial discussions held with local government employees as a part of a Melbourne Water needs analysis of local government conducted during 2010/ 11. Working with 36 participating councils across the Melbourne Water catchment the needs analysis involved each council making a self assessment on their capacity to manage stormwater quality.

Although not officially identified through the needs analysis process a recurring theme through discussions with local government practitioners was that that the majority of them were yet to formally use a register to capture WSUD information.

This Hot Topics workshop was developed to hear perspectives from industry practitioners on their current processes, needs and ideas that would help them establish an asset register for WSUD. The workshop objectives were to:

Encourage organisations to set up formal asset registers for WSUD
Identify advantages of setting up a WSUD asset register.
Showcase examples of processes in setting up WSUD asset registers.
Collect feedback from attendees on how successfully they are capturing data, current barriers, opportunities, needs and new ideas.

The workshop was designed to address the above objectives through a combination of discussion sessions and presentations from local government representatives, private consultants and industry bodies outlining their approaches to this issue.

Forty three people from 19 different organisations attended the workshop. Twenty six of the participants were local government employees from across 15 municipalities in both Melbourne and regional Victoria. Representatives from industry bodies including the Urban

Development Institute of Australia, Melbourne Water, Civil Contractors Federation, IPWEA Victoria and Stormwater Victoria were also present.

The current job role of workshop participants included 52% in Asset management, 36% engineering and 12% environmental practitioners. The majority of these participants (77%) occupied an officer level position in their organisation. The remainder (23%) occupied middle management positions.

Workshop Methodology

Two workshop discussion sessions were run prompted by the following key questions:

- Why do you feel it is important to capture WSUD data?
- What is currently happening in your organisation to capture WSUD data?
- How would you start a WSUD asset register in your organisation?
- Would it be useful sharing asset register data with other organisations? How do you see this working?

Participants working in groups recorded their collective responses on butcher's paper before reporting back their comments to the rest of the floor. These written responses were collated and reviewed to identify key findings. Additional workshop data was also drawn from anecdotal notes taken during open discussion sessions and formal evaluation feedback.

Workshop Findings

Feedback from the workshop participants is summarised under key themes outlined below.

Current situation

Participants indicated that the many of them were in organisations that were not adequately capturing data on WSUD assets. Current data capture was either non existent or inconsistent and only available to select organisational departments.

All participants recognised the need for WSUD data collection and were encouraged to develop a formal asset register. A common indication was that organisations were in the process of preparing a WSUD asset register, and seeking further guidance on asset data collection and management. This included hearing about processes from other councils that were actively recording data.

Understanding what data to capture and when

Participants indicated it would be helpful to have consistency about what WSUD data should be submitted and the level of detail necessary to inform understanding about current performance, valuation, lifecycle and maintenance requirements. Some respondents indicated that in their organisation, clarity was needed around identifying what constitutes a WSUD asset.

It was indicated that if a standardised format with basic data requirements were developed it would assist capture of WSUD information for assets developed through council capital works and also inherited through developer works.

Recommendations

Develop a guide outlining key data requirements to be included in a WSUD asset register

Integrating different data formats

A range of approaches are being used across different councils to collect and record WSUD data. Some councils indicated that WSUD assets are being manually mapped while other councils were recording this information as spatial information and GIS mapping. Integrating data through current systems including LIDER, 3D images, vegetation mapping and the use of digital data specifications such as A- spec was still perceived as a challenge. It was agreed that any established data systems needed to incorporate a link between an asset inventory with GIS minimising effort involved in duplication of data. Additionally data stored within a register was recognised as having to be stored in an accessible format that can be used by relevant departments.

Many participants acknowledged that current data systems within their organisation had the flexibility to include additional WSUD data as required and that further investigation was needed to see how well different systems integrate data.

Recommendations
Investigate different data systems available to identify how well they integrate and share information.

Asset responsibility and ownership

It was often not clear which council departments were responsible for the management of WSUD. Subsequently recorded data and communication was often fragmented between relevant departments. As WSUD incorporates hard drainage infrastructure and vegetation many participants indicated that council were yet to define how parks and drainage departments share management responsibilities.

Participants indicated that a central data register could be an effective tool to assist communication and learning between departments and breakdown silo approaches to management.

Recommendations
Identify existing gaps in WSUD management to help determine where responsibility sits.

Establish co-developed objectives on management of WSUD so that responsibilities between council departments are clearly defined.

Levels of service and maintenance

Participants indicated that data was needed to inform the level of service required for current and future scenarios. Retrospective and current data collection was seen as essential to better understand WSUD systems and cost effective maintenance measures that ensure assets perform as designed. Some councils indicated that current maintenance exercises are largely reactive and that a formal inspection and data collection regime would benefit management and planning.

Recommendations
Conduct an audit of WSUD assets including data on condition and performance to inform future maintenance. Processes and shared learning's from a number of councils actively collecting data for maintenance purposes can help inform an initial audit.

Integrate monitoring and data collection of asset condition as part of a formal WSUD maintenance regime.

Forecasting Budgets

The development of an asset register was recognised as a vital element in planning for costs associated with management of WSUD assets. By initially recording the location of each asset, follow up assessment on its condition, valuation and forecast maintenance spending could be achieved. It was recognised that long term capital expenditure factoring in costs associated with renewal, replacement and depreciation could also be more accurately scheduled if based on thorough data.

Participants indicated that an asset register should include financial information that could be accessed by relevant departments. Some participants also indicated that it could be useful for an asset register to incorporate formal templates used for budgeting and capital expenditure.

Recommendations

- Conduct an audit of WSUD assets to help assess value and future management costs.
- Ensure financial information on each asset WSUD is linked to a register accessible by relevant council departments involved in WSUD management.
- Co develop planning objectives and associated budgets for WSUD across relevant council departments.

Asset handover

An asset register was highlighted as a possible tool to clearly outline and communicate data requirements council require from developers during the handover process of WSUD assets. Rather than WSUD information being transferred from as constructed drawings, it was suggested that data entry into a WSUD asset register be incorporated as part of the data collection process by developers for handover.

A number of participants were from councils that were members of the A- Spec consortium. A-Spec provides a common specification for the supply of “As Constructed” electronic data between consultants and council which can be easily transferred to GIS. Although this eliminates duplication of data some participants indicated that WSUD design data using this system was not currently being provided to council. In this situation it was suggested that handover of data be tied into a statement of compliance from the developer outlining details of WSUD data requirements.

Further comments highlighted the importance of both developers and local government engaging early in the design process to establish a shared understanding of information requirements associated with handover. Some participants mentioned how products such as A-Spec can assist this process ensuring that a consistent standard is required for information of each asset.

Recommendations

- Council to engage the developer and consultants early in the design phase to define data standards required for handover of WSUD assets.
- Establish means for developers to access and enter data into an established asset register as part of the handover process.
- Developers and council agree on a “statement of compliance” outlining WSUD data requirements as part of handover.

Organisational support

Feedback highlighted organisational commitment across departments including upper managerial support as key factors to be addressed if a WSUD asset register was to be

effective for data collection and information sharing. Council departments identified as critical in supporting a WSUD asset register included planning and development, parks and maintenance staff, asset management, environment teams, GIS personnel and finance. Many participants added that effective management of WSUD required a more holistic approach to asset planning where agreement between departments is achieved through combined objectives.

Participants were particularly open to external assistance and information sharing between councils, government authorities and industry bodies indicating that any collaboration could result in a more consistent approach to data capture and management. Further benefits outlined through proactive information sharing included having a better understanding of WSUD treatment across each catchment, identifying ownership of assets and how these are being managed. The sharing of information with government agencies was also seen as potentially leading to research opportunities that could inform future initiatives and programs.

Recommendations

- Pursue funding for capacity building avenues and up-skilling of staff across relevant departments including executive management.
- Co develop planning for WSUD across relevant council departments, highlighting the role of an asset register in communicating updated information on WSUD.
- Involve local government representatives, private consultants, industry bodies and government authorities to seek agreement on developing a consistent approach for recording and sharing WSUD asset data.

Summary: Next Steps

Based on participant feedback this report has tried to accurately summarise how well local government organisations at the workshop are capturing WSUD information. In the workshop a range of issues common to many local councils were raised. Ideas put forth in the workshop about what would assist the development of a WSUD register informed many of the report recommendations. Further to these recommendations some of the key steps that could be taken to assist local government in the development of a WSUD register include:

- Development of a guideline outlining minimum data requirements for a WSUD register.
- Investigate existing training opportunities through local government associations and Industry bodies to incorporate a focus on WSUD asset management and data capture.
- Initiate further meetings with key industry stakeholders to seek agreement on developing consistency in recording and sharing WSUD asset data.

Useful links and resources

International Infrastructure Management Manual
http://www.lgam.info/international-infrastructure-management-manual

National Life Cycle Costing data and Tools for Water Sensitive Urban Design
http://www.clearwater.asn.au/content/life-cycle-costing-data-and-tools-water-sensitive-urban-design-assets

IPWEA: Institute of Public Works Engineering Australia – Victorian Division
http://www.ipwea.org.au/IPWEA/Victoria/Aboutus/Default.aspx

Clearwater
http://www.clearwater.asn.au/

Melbourne Water: Water Sensitive Urban Design
http://wsud.melbournewater.com.au/