Stormwater Harvesting for Multiple Benefits –
Moving from Theory to Practice through Collaboration

Don Begbie (Chair) and Brian McIntosh (Facilitator)

Tuesday 4th December 2012, Brisbane
Alliance Overview

- Cooperative funding and research alliance between:
  - Queensland Government
  - National Research Flagships
  - CSIRO
  - Griffith University
  - The University of Queensland Australia

- Research and development focus on urban water security
- and capacity in South East Queensland (SEQ)
- Research to inform and support implementation of the SEQ Water Strategy

- Commenced 2007 - 5 year life (2 year extension option)
  - Research program due to finish in June 2012

- Budget - $10m / year ($5m State + $5m Research Partners)

- Stormwater – a major untapped water source. SEQ urban runoff 245-750 GL and urban consumption ~ 450 GL/yr.
Decentralised Systems
Ashok Sharma

Health Risk of Local Source Waters
Simon Toze

Stormwater Harvesting & Reuse
Brian McIntosh

Total Water Cycle Planning
Shiroma Maheepala

Water Smart Cities
Sharon Biermann

Conceptual model source: Healthy Waterways Partnership
Workshop Objective

An improved understanding of the collaborative thinking and approaches necessary for successful stormwater management in urban areas – for a wide range of benefits.
<table>
<thead>
<tr>
<th>Timing</th>
<th>Component</th>
<th>Leader</th>
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<tbody>
<tr>
<td>9:00am</td>
<td>Registration—Coffee-on-Arrival</td>
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<tr>
<td>9:30am</td>
<td>Welcome and Introduction</td>
<td>Don-Begbie (Chair) Director, UWSRA</td>
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<td></td>
<td>Water Supply, Costs and Energy</td>
<td>David Hamlyn-Harris, Principle Engineer, Water and Environment, Director, Bligh-Tanner, Brisbane</td>
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<td>Ecology</td>
<td>Fran-Sheldon, Griffith University</td>
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<td>Urban place and liveability</td>
<td>Adrian Crocetti, Brisbane City Council</td>
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<td>Health and risk management</td>
<td>Jantindar Sidhu, Simon Toze, CSIRO Land and Water, Brisbane</td>
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<td>Governance, regulatory requirements and monitoring</td>
<td>Greg Jackson, Director, Water Program, Health Protection Unit</td>
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<td>Group discussion</td>
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<td>11:00am</td>
<td>Morning tea</td>
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<td>11:30am</td>
<td>Overall sustainability, energy use, resilience and urban</td>
<td>Steven Kenway, (The University of Queensland)</td>
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<td>performance evaluation</td>
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<td>Integrated Water Cycle at Sydney Olympic Park—Stormwater</td>
<td>Andrzej Listowski, Manager Water, Energy and Remediated Land, Sydney Olympic Park Authority</td>
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<td>Harvesting Benefits</td>
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<td>Group work briefing—pre design activity</td>
<td>Brian McIntosh, Senior Lecturer (Integrated Water Management)</td>
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<td>12:45pm</td>
<td>Lunch</td>
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<tr>
<td>1:30pm</td>
<td>Group work briefing—The proposed development</td>
<td>Brian McIntosh, Senior Lecturer (Integrated Water Management)</td>
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<td>1:45pm</td>
<td>Stormwater Design Activity</td>
<td>Teams</td>
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<td>3:00pm</td>
<td>Working afternoon tea</td>
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<td>3:30pm</td>
<td>Group presentations and panel review</td>
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<td>4:30pm</td>
<td>Implications, messages and wrap up</td>
<td>Brian McIntosh / Don-Begbie</td>
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Pre-design activity: Stormwater speed dating
Thinking alone isn’t much fun
It’s much better together
Stormwater speed dating

• Get yourself into pairs
• Decide who looks best in a party hat and put the hat on that person

How to stormwater speed date
• You have 2 minutes to say hello, who you are and what you do AND MOST IMPORTANTLY to gestate your one best idea for addressing a stormwater issue

Between dating
• People with hats stay where you are
• People without hats find someone else to stormwater speed date!
Stormwater speed dating – stormwater issue categories

• Urban planning - multiple benefits
• Water supply system design and cost
• Health risk identification and management
• Operations and maintenance
• Ecological impact
• Broader sustainability objectives
Stormwater speed dating

• At the end, take a few minutes to look over the grouped ideas
• Decide which idea is best and vote for it by placing a pen mark on the notelet

We’ll then total up the votes to determine which pair are our top stormwater speed dating couple!
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Collaborative urban design work briefing
Design brief

• Develop a brownfield site of approx. 55ha
• Provide housing for around 4,000 people
• Envisioned density of 30 dwellings/ha, but not a rigid criteria

• Design a next generation urban development incorporating extensive stormwater management and harvesting measures

• To complete this task you have:
  • An A0 aerial photograph, an information pack, lots of Lego, pipe cleaners and pom-poms
  • … and 75 minutes!
Hypothetical development site
Judging criteria

1. the achievement of multiple outcomes and benefits
2. that health risks associated with stormwater have been identified and appropriately managed, including fit for purpose treatment and monitoring
3. that stormwater has been managed effectively and cost effectively as a water source
4. that ecological systems have been enhanced, or at least that degradation in ecological systems has been minimised or avoided
5. that operation and maintenance issues have been identified and appropriately managed
6. that the design contributes to broader sustainability objectives
7. imagination and innovation in approach
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Collaborative urban design work presentation, judging & feedback
Summing up and next steps

• Lessons learnt from the workshop

• Outcomes / participant feedback

• Performance evaluation
  ➢ And the winning design is.....
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THANK YOU

www.urbanwateralliance.org.au