

## Training

### Design of green roofs and walls

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| <b>Date:</b>         | Thursday 12 March 2020   |
| <b>Registration:</b> | 8:30am   |
| <b>Time:</b>         | 9:00am – 4:45pm  |
| <b>Venue:</b>        | Sanctuary Adelaide Zoo, Frome Road, Adelaide   |
| <b>Cost:</b>         | \$300 + GST – Water Sensitive SA investment partners/corporate members<br>\$300 + GST - Stormwater SA, AILA, AIA Members, ASBN affiliates, BDAA<br>\$450 + GST – non-members |

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## Overview

In an increasingly dense urban form, green roofs and walls offer attractive green outdoor spaces that can deliver a cooler urban form. This training will provide participants with knowledge and skills in the conceptual and detailed design of green roof and wall systems, including construction details and plant selection, via presentations, site visit and a group exercise.

## Presenters

- Graeme Hopkins, Fifth Creek Studio
- Amanda Balmer, WAX Design
- Warwick Keates, WAX Design

## What to bring

Laptop computer or tablet for the group if you prefer to sketch in a digital format. Alternatively, designs can be hand drawn in group exercise.

## Program

| Time     | Topic   |                              |
|----------|---|------------------------------|
| 8:30 am  | <i>Registration</i>   |                              |
| 9:00 am  | Introduction  | Mellissa/Graeme              |
| 9:15 am  | <b>Intro to living architecture and future trends/developments</b>                                  | Graeme                       |
| 9:30 am  | <b>Drivers and benefits</b> , their design and function   | Warwick                      |
| 10:30 am | <i>Morning tea</i>  |                              |
| 10:45 am | <b>Living architecture</b> connection with planning reform  | Warwick                      |
| 11:00am  | <b>Detail design and construction issues</b> , including case studies, roof top greywater treatment | Graeme                       |
| 12:30 pm | <b>Case studies Adelaide Zoo green roof and wall</b>  | Graeme<br>Jeff Lugg, Zoos SA |
| 1:00 pm  | <i>Lunch</i><br>Incorporating a visit to the Adelaide Zoo green roof                                |                              |
| 1:30 pm  | <b>Plant, ecology and stormwater benefits</b>   | Graeme                       |
| 2:30 pm  | <b>Green roof case study:</b> educational facility, structural requirements, and landscape design   | Amanda                       |
| 2:45 pm  | Introduction to <b>group project</b>  | Graeme<br>Amanda<br>Warwick  |



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| 3:00 pm | Workshop in groups<br><b>Real life project</b> with plans, engineer's structural loadings and services, etc. | Graeme<br>Amanda<br>Warwick |
|         | <i>Afternoon tea</i>   |                             |
| 4:15pm  | <b>Presentation</b> of groups (5 minute presentation from each group)  |                             |
| 4:45pm  | <i>Close</i>   |                             |

### Group exercise (3:00-4:45pm)

All green roofs and walls are to be treated as a landscape design or an integral part of the built environment and to interact with the surrounding open space or vegetation. Part of this exercise is to integrate the green roof/walls design with the construction design of the building development so that a wholistic approach is developed for this project.

**Purpose:** To develop a quick preliminary design with typical construction details at a sketch plan development, for a green roof and a green wall including a small wetland for cleaning wastewater. This level of design will enable the building design to incorporate the various services and construction processes required for the living architecture development before detail design and budgets are finalised.

**Exercise:** Form groups of five people from different disciplines to work collaboratively to produce one design for the exercise. This is a quick design sketch methodology sufficient to enable:

- essential construction information
- project cost estimations and
- design concept

to be incorporated early in the planning and design process.

#### Information to be provided to participants:

- Plan of roof to scale in hard copy and digital format showing nearby buildings and open space.
- Loading information will be in table form and the structural supporting system shown.
- Services plan or connection points will be identified on plan.
- Handout notes and information from power point lectures

#### Requirements for roof top design:

- General site analysis for context
- General overall design theory and plan
- Loading layout and depths of soil or paving, etc.
- Drainage layout and typical detail
- Wetland location typical section
- Construction of green roof and wall, a typical section showing different layers
- Planting design with suggested species
- Safety issues

#### Presentation: (5 minutes for each group)

Hard copy ready to be pinned up, or digitally connect to projector or have a USB copy ready.

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| • Very quick design theory/layout                                      | 1 minute  |
| • Construction details – typical sections showing the different layers | 2 minutes |
| • Planting layout and suggested dominant species                       | 2 minutes |



## Learning resources

- Handout notes and information from power point lectures
- Fact sheet – Green roofs
- Fact sheet – Living walls

## Trainer's biographies



**Graeme Hopkins** B Sc (Arch), B Arch, FAILA, Churchill Fellow  
**Fifth Creek Studio**

Graeme Hopkins is a retired Registered Landscape Architect and Registered Architect. He was principal of Fifth Creek Studio (FCS), and since the 1980s he has developed expertise in WSUD design and implementation, and the use of landscape strategies and natural systems within urban environments to provide climate change adaptation, with a particular focus on micro climate modification through the use of living architecture technologies such as green roofs and walls. He received a Churchill Fellowship in 2005 to study green roofs and walls overseas.

His book *Living Architecture: Green roofs and walls* (co-authored with Christine Goodwin) was published by CSIRO Publishing in mid-2011. Fifth Creek Studio was awarded the AILA South Australia Medal for Landscape Architecture 2012-13 for the book.

His research has been recognised by various government bodies throughout Australia, by engaging FCS to peer review and provide cutting edge research and information to their guidelines and documents. His 40 years of practice and strong research credentials gives him a balanced sustainable focus.



**Amanda Balmer**  
**WAX Design**

As a director of WAX Design and a registered landscape architect, Amanda has extensive experience in the design and delivery of public, commercial and residential landscape design projects.

People and place are at the forefront of all of her projects, and she is skilled in the creation of spaces that champion communities, the environment and most importantly, nature. Education, play and sustainability are large components of Amanda's project portfolio, working with numerous schools, children's facilities and councils to create learning and play environments which deliver fun, engagement and inclusivity.



**Warwick Keates**  
**WAX Design**

With over 20 years' landscape architectural experience, Warwick has developed a diverse range of skills working on major projects in the United Kingdom, Middle East and Australia. This experience has allowed him to develop a detailed knowledge of the complex requirements associated with landscape projects as well as the need for appropriate, high quality design solutions.

As a director of WAX Design he has worked in all aspects of the profession, including master plans for urban and civic spaces, placemaking programs and open space strategies, as well as design for numerous parks and playspaces. He also offers specialised skills in visual impact assessments as well as community consultation and facilitation.