

## Detailed design of constructed stormwater treatment wetlands

Registration: 8:30am

Time: 9:00am-4:30pm

Lion Hotel – Tower Room  
161 Melbourne Street, North Adelaide

### Presenters/trainers:

Dr Peter Breen, E2Designlab

Dr Dale Brown E2Designlab

### Program

| Time  | Topic  | Who                                    |
|-------|--|--|
| 9:00  | Introduction   | Melissa Bradley,<br>Water Sensitive SA |
| 9:10  | Wetland overview<br>Wetland types, functional elements, how they work  | Peter Breen                            |
| 9:25  | Design for multiple benefits<br>Pollutant removal, harvesting & re-use, integration with public open space, habitat  | Peter Breen                            |
| 9:40  | Wetland design process<br>Concept, functional and detailed design.   | Peter Breen                            |
| 10:00 | Sizing and design flows<br>Estimations using MUSIC, choosing rainfall period, catchment characteristics, soil parameters, input parameters for MUSIC                         | Dale Browne                            |
| 10:30 | Morning tea  | -                                      |
| 10:45 | Sediment basins<br>Sediment capture efficiency, clean out frequency/sediment volume estimates  | Dale Browne                            |
| 11:05 | Macrophyte zone<br>Role of: vegetation, open water zones. Ratio open water : macrophytes, wetland bathymetry, hydraulic effectiveness, planting regimes, mosquito management | Peter Breen                            |
| 11:35 | Planting selection<br>Botanic design, inundation tolerances, core species for each zone  | Peter Breen                            |
| 12:00 | <i>Activity 1 (in groups)</i><br>Undertake concept design, select an appropriate location for and size a wetland   | Peter Breen                            |



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|-------|---|-----------------------------|
| 12:30 | Lunch   | -                           |
| 13:15 | <i>Site visit – First Creek Wetland</i><br><i>Adelaide Botanic Gardens, Hackney Road</i>  | Dale Browne and Peter Breen |
| 14:25 | Structures and flow control<br>Inlet structures, inlet zone connection with macrophyte zone, macrophyte zone outlet, outlet details in MUSIC, high flow bypass structures | Dale Browne                 |
| 14:45 | Wetland hydrology<br>Inundation frequency analysis, MUSIC Auditor wetland analysis tool   | Dale Browne                 |
| 15:05 | Maintenance and monitoring<br>Maintenance regimes, access design requirements, water level controls, sediment dewatering areas  | Dale Browne                 |
| 15:25 | <i>Activity 2 (in groups)</i><br>Undertake calculations for sizing of wetland structures, and select plants for various wetland zones                                     | Dale Browne and Peter Breen |
| 16:00 | Questions and close   | Dale Browne and Peter Breen |
| 16:30 | Finish  | -                           |

For more information, contact Mellissa Bradley, Program Manager, Water Sensitive SA – [mellissa@watersensitivesa.com](mailto:mellissa@watersensitivesa.com), 0431 828 980.

### Location of training and site visit

