

## Water technology needs

### Challenge No 1. Supporting development in areas of shallow groundwater

- Large areas to the south of Perth have shallow depth to groundwater and drain to environmentally valuable wetlands and estuaries
- Traditional development uses subsoil drains and imported sand fill to allow development over shallow groundwater
- Groundwater often has elevated nutrient concentrations and there are concerns that urban development mobilises nutrients
- We are learning that the nutrient are typically complex organic forms



## Water technology needs

### Challenge No 1. Supporting development in areas of shallow groundwater

#### Monitoring technology

- Affordable auto-samplers and telemetry systems (spatial and temporal resolution)
- Water quality monitoring for organic nutrients (CDOM fluoro, proxies...)
- Groundwater and baseflow monitoring

#### Treatment technology

- Passive treatment trains for organic nutrients
- Subsoil drainage treatment

#### Innovative built form

- Foundations, buildings and infrastructure that cope with shallow groundwater



## Water technology needs

### Challenge No 2. Securing water for Public Open Space

- Perth has historically relied on groundwater to irrigate Public Open Space
- Large areas to the north of Perth have insufficient groundwater to meet irrigation needs



## Water technology needs

### Challenge No 2. Securing water for Public Open Space

#### Irrigation efficiency technology

- Instrumentation and control
- Low water use landscaping (especially turf)
- Soil amendment
- Irrigation methods (drippers, sprinklers,...)

#### Local water recycling technology

- Highly seasonal demand requires winter disposal or storage

#### Managed aquifer recharge

- Instrumentation, monitoring and control (where does the water go?)
- Clogging (suspended solids, microbial and geochemical clogging)

