

Waterways: Water Sensitive Urban Design Code Review  
Policy Branch  
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### **SUBMISSION ON ACT Water Sensitive Urban Design Review 2013)**

Thank you for the opportunity to comment on the ACT Water Sensitive Urban Design Review 2013. I make the following submission in my capacity as a private citizen of the ACT.

Water sensitive urban design is extremely important to me and into the future. It will become increasingly important because we are in the early stages of a climate change emergency and this:

- reduces frequency and reliability of rainfall
- increases magnitude and frequency of severe weather events
- places extra strain on biodiversity and ecosystems

As a result, increased emphasis is needed on:

- water saving, for human use and in the landscape
- water quality, particularly in water courses
- water retention on-site or nearby, for the landscape and for recharging ground water and, eventually, aquifers
- storm-water management

Water sensitive urban design is vital for:

- allowing as precipitation to soak into the ground, to provide water for vegetation that helps make Canberra more liveable, mitigate climate change and the heat island effect, and reduce energy consumption (which in turn helps reduce climate change, in our fossil-fuel based society)
- helping to maintain groundwater levels that reduce strain on built infrastructure (buildings, roads etc)
- reducing the threat of flooding, which increases as hard surfaces increase and water-permeable surfaces decrease (for example, compare the last two major Brisbane floods). Managing water in the landscape reduces the volume and frequency of stormwater flows and increases their quality.
- reducing land development and infrastructure maintenance costs (\$, greenhouse gas emissions, time, inconvenience) associated with continuous kerbing and underground stormwater piping because there is less concrete, smaller pipes, less digging and other soil disturbance for piping and kerbing, less downstream treatment needed to ensure good quality of water entering rivers, less likelihood of tree roots blocking pipes, less water flowing on roads etc undercutting tarmac and eroding sealed roads, etc. Managing water locally can potentially replace large reticulated systems for management of storm

water and provision of town water (a large proportion of which is currently used for watering vegetation).

- helping people maintain contact with the natural world
- improve water quality of urban water entering water courses, with resultant improved amenity
- reducing the threat to life posed to people being swept away - and possibly sucked through underground pipes - in flood waters (Canberra's latest incident of this was only a few days ago)
- reducing the need for reticulated water to water vegetation; this in turn helps Canberra to be more self-sufficient and reduces consumer costs and future capital costs for the government and water provider
- providing ecosystems and other habitats in closer proximity for the species that rely on them than would otherwise be the case with any remnant habitats. This will be vital for the survival of those species, particularly as they face increasing pressure from climate change. And it provides amenity and improves aesthetics for residents and visitors to Canberra...allowing it to retain its tag-line of The Bush Capital.

For these reasons, water sensitive urban design needs to continue – and increase – in Canberra.

The Water Sensitive Urban Design Code is a good start for implementing water sensitive urban design.

However, it needs to go further because:

- implementation has been patchy and inconsistent, even along the same roadway in new developments – see examples in photos sent separately
- with climate change increasing severe weather events, we need to retain and manage as much water on-site as possible.

And the Code needs to be applied to urban infill and re-development as well as greenfield development.

This could be achieved by such means as:

- putting a cap on impervious surfaces (buildings, impervious paving) for each block (eg 60%)
- increasing minimum roof areas required to be connected to rainwater tanks (eg to 100% for new buildings, possibly ramped up over a few years; introducing a requirement the requirement to existing housing, possibly with incentives) and increasing minimum tank sizes required
- encouraging composting toilets and self-contained on-site sewage treatment
- encouraging community involvement in planning, building and maintaining urban ponds, swales and wetlands – with associated education about their purpose and functioning

- requiring all new road development to incorporate broken kerbing (where kerbing is required) and rain gardens and swales to manage rainwater on-site and water street vegetation
- better coordination and control of work in new estates, redevelopments and urban infills, so that building on individual blocks does not compromise building erosion and sediment control measures.

Targets are good to aim for, and provide for some flexibility. Unfortunately, that same flexibility can result in a lot of additional work and allow for ‘working the system’ to avoid meeting the intended outcomes. It may be easier for most workers concerned, and provide more certainty of reaching the desired outcomes outlined earlier in this submission, if more requirements (such as those outlined immediately above) are mandated.

### **Conclusion**

I am happy to discuss these comments further, particularly specific changes to explicitly deal with groundwater, community partnership and planning for worsening climate change (and the few typographical and editorial errors I found).

Gillian King