

**COMPLETE**

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Page 1: Planning and Design Code for South Australia

**Q1** Which part of the Planning and Design Code would you like to make a submission about?(Please click the circle to select which part of the Code you wish to comment on. You can also see which council areas are included in the rural and urban code via the links below.)

**My submission relates to Urban code. (click here for council areas)**

Page 2: Planning and Design Code for South AustraliaPersonal Details

**Q2** Please provide your contact details below (Name, Postcode & Email are mandatory)Please be advised that your submission will be made publicly available on the SA Planning Portal.

Name	<b>Peter J Dillon</b>
Company	<b>Honorary CSIRO/NCGRT/WGA</b>
Address	[REDACTED]
Your Council Area	<b>Mitcham</b>
Suburbs/Town	<b>Kingswood</b>
State	<b>SA</b>
Postcode	<b>5062</b>
Country	<b>AU</b>
Email Address	[REDACTED]

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**Q3** Which sector do you associate yourself with? **General Public**

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**Q4** Would you like to make comment on **General comments**

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**Q5** Enter your feedback for Rules of Interpretation

Respondent skipped this question

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**Q6** Enter your feedback for Referrals

Respondent skipped this question

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**Q7** Enter your feedback for Mapping

Respondent skipped this question

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**Q8** Enter your feedback for Table of Amendments

Respondent skipped this question

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**Q9** Please enter your feedback for overlaysclick next at the bottom of the page for next topic

Respondent skipped this question

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**Q10** Please enter your feedback for zones and subzonesclick next at the bottom of the page for next topic

Respondent skipped this question

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**Q11** Please enter your feedback for general policyclick next at the bottom of the page for next topic

Respondent skipped this question

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**Q12** Please enter your feedback for Land use Definitionclick next at the bottom of the page for next topic

Respondent skipped this question

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**Q13** Please enter your feedback for Admin Definitionsclick next at the bottom of the page for next topic

Respondent skipped this question

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**Q14** Please enter your general feedback here

Submission on the Planning and Design Code, Phase 3 (the Code)  
From Peter Dillon, retired CSIRO Land and Water research engineer

Purpose of this Submission

This submission focusses on Environmental Performance Outcomes for all development relating to urban stormwater and urban greenspace, and in particular infill developments and land subdivision. (PO 10.1, 10.2, 10.3, 11.1, 11.2, 20.1, 21.1, 21.2, 22.1, 22.2, 22.3, 41.1, 41.3)

The three objectives: increased population density, increased tree canopy cover and no increase in flooding are jointly achievable, but not under the code as formulated. This satisfies only one of the three objectives, population density, to a highly constrained degree.

Observations

1. Cities such as Shenzhen in southern China have used multi-storey apartments to achieve much higher population density (the population of Australia in the area of Adelaide) with 75% open space, mostly green space, because parking is under the buildings.
2. The current housing stock of Adelaide that is being subdivided into 2 or more dwellings per current residential block is more than doubling the impervious area on that block and reducing the area on which trees can be grown to less than one quarter of the current area of trees.
3. The provision of 15% to 25% open space on a development as proposed is manifestly inadequate to adsorb rainfall runoff from the expanded impervious surfaces, will increase the temperature on hot days due to lack of shade and reduced evapotranspiration, and will remove natural aesthetic features that are highly valued by communities.
4. Doubling the impervious area will require a doubling of investment in the stormwater management system (more with climate change). This is currently valued at \$4.5 billion for Adelaide metropolitan area. If impervious area doubles someone needs to pay for it. We can increase the population with no increase, even a decrease, in impervious area through multi-storey developments. These are being currently frowned on by neighbours because there is not enough space between developments done by dividing typical residential blocks.
5. The concept of owning your own land is appealing, but if there is no useable outside space, the appeal is not very different to a strata title. Soil and land resources are being consumed for minimal benefit through micro-scale subdivision.
6. Builder-subdividers claim that they need to build-out blocks in order to make housing affordable. In fact the proportion of 3 and 4 bedroom homes is increasing while average occupancy rates are declining. It makes sense to increase the stock of smaller homes, but give people room for gardens and trees, and it will cost the builder less and hence the buyer less, and the value of the dwelling will increase at a higher rate than impervious, heat-trap developments that are becoming increasingly common. It will also eliminate the need for massive scale investment in expanding stormwater systems, and avoid going backwards on Greening Adelaide targets.
7. Streams in urban areas will continue to be relied on for stormwater drainage because the costs to do otherwise would be huge, and they contain the highest remnant natural biodiversity. Full value can be gained from these by reserving land each side of ephemeral streams and perennial streams for recreation and biodiversity corridors within the planning code. While we aim for flood protection for 100 year average recurrence interval storms, the change in the urban landscape and climate change has potential to greatly expand the size of the storm, and there needs to be a buffer adjacent streams, and in flood detention storage, that reflects forethought of Adelaide planners to avoid what would otherwise inevitably become a major problem.
8. Rainwater tanks, as mandated, need to be installed, connected and inspected prior to occupation of new developments.
9. More basic solutions are needed than are evident in the current draft code of practice which appears to provide more of the same unsustainable development but with streamlined approvals.

Possible Solutions

1. Prescribe maximum impervious area and minimum greenspace proportion

Set a maximum impervious proportion of residential property to be 50-60%, and a minimum proportion of greenspace to be 30% for all residential developments of 2 stories or less. As has been shown in examples discussed at community workshops run by Water Sensitive SA, the infill housing example with the highest population density was judged to be the best and most preferred development and also had the highest proportion of greenspace and the lowest proportion of impervious area of the cases considered, that all accorded with the new planning code. For multi-level dwellings of 3 or more stories the proportion of total built plan area above the first floor should be reduced to about 25% of the allotment to allow visual amenity and avoid excessive shading. A minimum greenspace

roof should be reduced to about 25% of the allotment to allow visual amenity and avoid excessive shading. A minimum greenspace area of 60% of the allotment is recommended for residential developments of 3 or more stories, to provide accessible outdoor relaxation and recreational opportunities for all residents.

### 2. Prescribe the minimum size allotment for subdivision

Effective developments to meet the three objectives (increase population density, meet greenspace targets, and no increase in flooding) require larger land parcels, than typical current individual blocks. That is, there needs to be amalgamation before subdivision if we are to achieve all objectives. Simply put, ban subdivisions of current residential allotments. The new land owner will not have enough land when the time comes to rebuild to achieve the objectives, without impinging excessively on neighbouring properties. The greater the degree of land tenure subdivision, the greater the difficulty there will be in future amalgamations to give flexibility in design to achieve the essential objectives. The Shenzhen high rise example is at one end of this spectrum but there is much that can be done with two and three story developments, so long as the land area is sufficient for good urban design. See for example the design used in the WSSA Planning Code Community Workshops. Maximum heights of residential buildings should be zoned, accounting for allotment size, transport and amenities, topography and existing cultural and heritage values, and buffer distances from existing residential properties.

### 3. Stormwater and greenspace offsets

For new developments that exceed these impervious area targets, there should be a plan developed for managing stormwater on the block, and if this is not viable then the land owner needs to reimburse their council for the cost of managing their excess stormwater for them. Measures could include treenet inlets in road-side kerbs to water street trees on the council verge, building wetlands or multi-purpose stormwater detention basins, including purchase of land to do so, on the expectation that these may be less than the costs of expanding the stormwater system capacity, and less than the costs that would be incurred by the householder to implement and monitor measures that have the same impact on site, if that were possible. Similarly greenspace offsets need to be paid to council to support increased plantings of street trees where possible, or otherwise to allow purchase of land that enables greenspace targets to be met in the nearby locale. There are synergies between stormwater and greenspace offsets that can be achieved with the same land purchase.

### 4. Urban stream corridors

In new developments there should be no development within 10m of ephemeral or perennial streams. In places that are already built up, there should be an embargo on further development within 10m of the stream, and provision to caveat properties with a drainage reserve for the strip of land containing the stream. On the change of ownership of the property such caveat can be activated, with compensation if required or release of the property holder from responsibility to maintain the condition of the stream bed. Properties adjacent streams when offered for sale would be high priority targets for stormwater and greenspace offset actions by councils, purchased directly by the council or through a land bank and subsequently paid for by councils through offset charges collected. Reserves such as these would also make good targets for adjacent amalgamated higher density developments.

### 5. A land bank

In order to bridge the gap between amalgamating properties and subdividing, and to cushion changes in development rules, it is proposed that the government operate a land bank, or allow a land bank to operate. This allows householders to sell their properties indirectly or directly to developer organisations capable of multi-allotment scale developments. The homes could be rented out until sufficient contiguous land had been purchased to allow a planned development that met stormwater and greening objectives and improved amenity and would house many more people than could be accommodated on the same land sold block by block to infill developers.

**Q15** Do you have any attachments to upload?(pdf only)

**Submission on the Planning and Design Code-Dillon.pdf (689.5KB)**

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