City of Greater Dandenong Submission to

Better Apartments – Draft Design Standards

Department of Environment, Land, Water & Planning (DELWP)

Victoria State Government

September 2016

(Submitted on 16 September, 2016)

CGD GENERAL COMMENTS AND OVERVIEW

CGD supports the Victorian Government's Better Apartment – Draft Design Standards. The draft design standards are a necessary addition to the industry and will certainly provide Council with greater certainty in advocating for design excellence and decision making. The standards will contribute positively in improving the liveability and higher internal amenity standards for apartments.

No minimum size for apartment size

CGD ascertains that having no minimum standard for apartment sizes is a major gap in the draft design standards. The rationale for this decision has not been sufficiently explained as an outcome from the peak body reference group and local government working groups' testing of the range of potential design standards and approaches.

CGD supports the best practice standards such as those proposed by the Apartment Design Guide, NSW Planning & Environment, requiring a minimum size of no less than 50m2 for a 1 bedroom, 70m2 for a 2 bedroom and 95m2 for a 3 bedroom apartment.

Apart from the minimum size for the light well, storage, private open space, balcony, adaptable bedroom and bathroom, the Better Apartment draft design standards (DELWP, 2016) does not propose any prescriptive standard for the minimum apartment size or the minimum living room size. CGD are concerned that the design standards place greater emphasis on the secondary spaces such as storage and private open space, whilst the primary space such as living-dining rooms are left out with a lesser degree of certainty.

Based on CGD's experience, as a municipality with an emerging apartment market where costs to develop and sell are marginal, the majority of the developers will maximise their yield through providing undersized apartments. In the hands of less capable designers or profit driven developers this loose approach is likely to result in an undersized living-dining room, or the size of the living-dining room for the two and the three bedroom apartments not being bigger than the one bedroom apartment. This outcome can affect the overriding amenity and liveability for residents.

Ultimately, leaving this gap to the opportunistic approach of the developer can undermine the good work that has been achieved by the remaining greatly improved design standards. And most importantly, it can also be seen as a missing ingredient in achieving the Better Apartments vision and objectives for the standards.

PART A – IMPLEMENTING THE BETTER APARTMENT PROVISIONS

1A. Step 4 – Keeping design on track at building approval (design verification), p.9

The current procedure of the building surveyor issuing the building permit entails a check point that assesses whether the documentation is consistent with the endorsed Planning Permit plans. Adding another check point by a registered architect or a registered building designer would not add any value to the process other than additional time and cost.

1B. Apartments below five storeys, p.10

As the new apartment design standards will not apply to buildings of four storeys or less, how does the DELWP propose to address the discrepancies between the lower amenity requirements of Res Code and the higher amenity requirements of the Better Apartment Draft Design Standards?

CGD believes that, eventually, through another review process, Res Code will need to catch up with some aspects of the new Better Apartments design standards such as the maximum room depth, the minimum floor to ceiling height, the elimination of 'snorkel' windows, the increased balcony area and the increased storage capacity that are also relevant to buildings of four storeys or less. The Planning Scheme should have a more holistic approach in improving the quality of apartments in Victoria whether it is higher or lower than a four-storey building.

PART B – DRAFT DESIGN STANDARDS

2. BUILDING SETBACK (p.15)

How satisfied are you that the proposed standard addressing building setback will improve the amenity of apartments? – Satisfied

Support for simpler building setback standards

CGD supports the building setback standard applicable to all types of habitable room windows and all types of balcony. This will provide a more consistent interpretation across various design layouts (i.e. *primary* vs. *secondary* habitable room window) and across various building interfaces (i.e. an *open* balcony vs. an *enclosed* balcony).

CGD supports the gradual increase in setback standards of 6m-9m-12m applicable for the respectively 13.5m-25m-above 25m building heights.

- The setback standard will substantially enhance daylight access to habitable rooms of apartments, as well as allowing outlook and privacy of the residents.
- Furthermore, this setback standard will sufficiently address the common problem of an overdevelopment on the small suburban lot and allow the development of an apartment building only on larger consolidated lots.
- The setback standard set in this standard are consistent with those specified in the Moreland High Density Design Guidelines, which was tested through daylight modelling in order to achieve acceptable levels of daylight to habitable rooms. The separation distances were devised to achieve a daylight factor of 1.0 to living areas and 0.5 to bedrooms.

Should applicants wish to not meet the prescribed standards, a performance based approach (i.e. daylight modelling) should be another alternative to provide applicants with the option to demonstrate an acceptable outcome under the sought measurable building setback objective.

Support for delivering a better architectural outcome

When comparing the Better Apartments setback standards against B17 standard (Res Code), there will be an improved external amenity impact for the first two-storeys of the building massing,

although this will come at the expense of a greater overshadowing and visual bulk from the above third storey massing. Therefore for the Residential Growth Zone lots abutting to the five storey apartments of higher, CGD accepts that there will be an increased external amenity impact. On balance, CGD supports the building setback standard because it will deliver a better architectural outcome than the current B17 'wedding cake' building envelope standard.

Would you recommend any changes to the standard addressing building setback? Yes

Seeking more tangible/ measurable objectives (blue highlighted text, p15, 17, 19 and 21):

The first four standards relating to building setback, light well, room depth and windows have a common objective, which relates to allowing *adequate* daylight to an apartment building.

CGD questions whether the design standards should go further by explaining what it means by *adequate*?

- The Green Star Technical Manual makes reference to daylight factors and awards points based on % of Daylight Factor. The possible minimum of 1.5% Daylight Factor for living areas, for example, should be considered. This can either be modelled or calculated by hand – see Green Star Hand Calculation Guidance.
- In addition to daylight requirement, the NSW's apartment standard defines the good amount of daylight as a space receiving a minimum of 2 hours direct sunlight between 9am and 3pm at mid-winter in the Sydney Metropolitan and in Newcastle and Wollongong, or a minimum of 3 hours of direct sunlight in all other areas.

These types of tangible/ measurable objectives will provide more certainty around the relative value of *adequate* that can be interpreted differently by various stakeholders with diverse demographic backgrounds and interests.

Interpretations for laneway contexts

CGD suggests that the design standard provide an additional explanation with possibly an illustration on how to measure this building setback standard on the subject lot abutting to a rear/ side laneway. Should it be measured from the central axes of the laneway? This will provide a clearer and a more consistent interpretation for such a typical design context.

3. LIGHT WELLS

How satisfied are you that the proposed standard addressing light wells will improve the amenity of apartments? - Satisfied

The introduction of minimum areas and dimensions to light wells are supported from an internal amenity and sustainability perspective.

- The minimum areas and dimensions are consistent with the standards applied in the Moreland High Density Design Code, which underwent vigorous daylight modelling.

- The dimensions will result in a daylight factor of 0.5% to bedrooms, which is an adequate result for a bedroom. This further emphasises the need to include daylight factor standards or calculations to the guidelines.
- Lastly, the increased dimensions of the light well will further promote opportunities for increased natural ventilation flows and adequate space for landscaping. This approach was applied to the light wells of The Commons in Brunswick, resulting in a higher passive cooling outcome as a direct result of larger light wells, enabling evapotranspiration from the plants and increased air flows.

Would you recommend any changes to the standard addressing light wells? Yes

CGD supports the light well design standards subject to further provision of the decision guidelines.

The need to cite Moreland Apartment Design Code as a reference

CGD understands that the minimum area and dimension of the light well (Table 1, p.17) are based on the Moreland Apartment Design Code, which is based on rigorous daylight modelling. It will be useful to highlight this reference and its evidence to improve the transparency and credibility of these standards.

The need for decision guidelines

Furthermore, it would be useful to provide a set of decision guidelines on how the prescriptive standard fits in relation to the other design parameters. As many design parameters can influence the quality of light well, CCD anticipates that in some cases developers may challenge the prescriptive standards based on the logic that they may have improved the quality of the light well through one or more other means (i.e. north facing light well opening, northern window orientation, higher floor to ceiling height, large sized windows, the use of reflective wall material, the use of heliostat or even the particular 'low scale' urban context). The provision of decision design guidelines will help planners when making a discretionary judgement as to whether or not any departure from this prescriptive standard can be considered.

Alternatively, should these prescriptive requirements be challenged by applicants, the standards should allow for a performance based approach, through daylight modelling. This practice is becoming more common for high rise apartments that are located in municipalities where the ESD local planning policy is now enforced.

Avoiding overlooking across the windows facing the light well

CGD supports the recommended approach of staggering bedroom windows across two separate dwellings facing the light well (as illustrated on p.18). However, CGD acknowledges that this approach alone in most cases may not satisfactorily overcome the overlooking concern. In the first instance, it is more preferable to avoid direct overlooking by not placing one dwelling window at the opposite side of another dwelling window or by directing their view away from each other. If overlooking is unavoidable, then another more sophisticated architectural design solution (i.e. louvre screen or fins) may need to be incorporated to complement the recommended staggered bedroom windows approach.

4. ROOM DEPTH

How satisfied are you that the proposed standard addressing room depth will improve the amenity of apartments? – Very Satisfied

CGD supports the maximum 8m room depth standards, and the 2x floor to ceiling height ratio that is applicable for the single southern aspect.

- The floor to ceiling height standards will achieve an outcome that maximises a greater level of daylight and natural light to habitable spaces. The 2.7m standard is applied in the Moreland High Density Design Code, which was supported through daylight modelling. This modelling indicated an acceptable level of daylight is achieved so occupants do not need to rely on artificial lighting to complete general household tasks during the day.
- These standards well exceed the minimum requirements of the National Construction Code (NCC) for daylight provision, which is supported. The room depth standard applied replicates the standard set in the Built Environment Sustainability Scorecard (BESS) tool, achieving an industry best practice standard.

Would you recommend any changes to the standard addressing room depth? Yes

The balcony depth can influence the maximum room depth

It would be useful to explain that the maximum 8m room depth standard is based on the assumption of the minimum 2m depth of typical balcony, which makes the total depth of the north, west and east facing room amount to a maximum 10m depth. In some cases where the balcony's depth is greater than 2m, the maximum 8m room depth standard will need to be accordingly reduced or adjusted.

Ground level floor to ceiling height

CGD queries whether the standard of 2.7m minimum ceiling height should be increased to a minimum of 3m for a ground floor apartment located within or near a major activity centre? Will this extra 300mm higher floor to ceiling height offer a more robust and adaptable space for a potential home-office or mixed use conversion?

5. WINDOWS

How satisfied are you that the proposed standard addressing windows will improve the amenity of apartments? - Satisfied

CGD supports the hard-line approach of banning the 'snorkel' and the 'borrowed light' bedrooms.

- The installation of a window to all habitable rooms will also maximise potential for natural ventilation for that apartment.

- This together with the light well standards will change the way the architect and building designer current approaches the building footprint/ building massing.

Would you recommend any changes to the standard addressing windows? Yes

Emphasising window design objective for allowing outlook/ views

Apart from access to daylight another equally important objective of window location, design and consideration is to allow some outlook for the enjoyment and well-being of the occupants. This design objective has been overlooked by Res Code and the draft apartment design standards should not ignore this. It is important that all habitable windows are designed with some outlook and an ability to control outlook as well as sunlight in order to suit the changing occupant needs throughout the day/ the seasons.

Emphasising window design objective for allowing sunlight/ solar access

In addition to "daylight" CGD would like to see the objective of the standard be revised to include the term "sunlight" or "solar access" to further encourage developers to maximise solar access.

The standards should consider including a requirement for direct solar access to habitable rooms. This design approach is encouraged through application of the Built Environment Sustainability Scorecard (BESS), which sets 70% of dwelling living rooms to receive a minimum of 2-3 hours direct sunlight during mid-winter, whilst also limiting the number of south facing single aspect apartments to a maximum of 10-15% apartments within a building. However, it is acknowledged that achieving such a rule may not always be possible in all cases, where living rooms cannot always be orientated to the north/east/west due to the site constraints.

6. STORAGE

How satisfied are you that the proposed standard addressing storage will improve the amenity of apartments? – Satisfied

CGD supports the proportionally increased storage volumes (8m3 and 10m3) that are introduced for the respective two bedroom dwelling and the 3 or more bedroom dwellings.

Would you recommend any changes to the standard addressing storage? Yes

Discouraging above car bonnet storage as the sole or primary storage

CGD advocates to ban or strongly discourage the typical 'above car bonnet' storage being used as the sole or the primary storage for any apartment due to its limited functionality. It is also difficult to access for disabled people and the elderly. The above car bonnet storage is only acceptable when being used as a secondary storage to complement the floor-to-ceiling height storage cage that is proven more favourable from a flexibility and access point of view.

7. NOISE IMPACTS

How satisfied are you that the proposed standard addressing noise impact will improve the amenity of apartments? - Very Satisfied

CGD supports the quantified noise impact standards subject to further decision guidelines.

Would you recommend any changes to the standard addressing noise impacts? Yes

Decision guidelines for thresholds or design criteria for requiring the noise impact assessment

CGD would like to see clearer decision guidelines around the thresholds for requiring the noise impact assessment at the planning application process. This is to avoid applying a blanket approach to this noise assessment that can be expensive and time consuming for developers.

8. ENERGY EFFICIENCY

How satisfied are you that the proposed standard addressing energy efficiency will improve the amenity of apartments?

CGD supports the introduction of the design standard of energy efficiency and the intent to reduce the peak energy loads associated with apartment cooling.

- This design standard further reinforces the role the planning system plays in addressing energy efficiency, in particular thermal performance modelling for apartments.
- While thermal performance modelling is mandatory for new developments under the building code, the planning system allows for key physical design features (such as orientation, layout, massing, shading and other façade treatments) to be tested and modified prior to a permit being issued. This avoids any unnecessary design changes, amendments or increased specifications which are timely and cost prohibitive and transfers the burden onto building occupants.
- Despite the performance requirements listed in this standards, they are limited to the building envelop and passive design. Passive design requirements relate only to thermal comfort rather than energy efficiency which also require consideration.

Would you recommend any changes to the standard addressing energy efficiency? Yes

Heating/Cooling Load Targets

CGD supports a maximum allowable cooling load (MJ/M^2) for apartments. However, as Melbourne's climate is a heating climate, coupled with the fact the majority of heating/cooling systems for apartments is from air conditioners, we recommend a maximum allowable load target for heating also be applied to apartments.

Furthermore, the heating and cooling loads specified in the draft standard should be more stringent to encourage apartment design to reach a *best practice* performance standard. This standard is currently applied by a number of councils through the use of the Built Environmental Sustainability

Scorecard (BESS). BESS encourages applicants to achieve a 10% improvement on minimum energy efficiency requirements (6.5 stars) to reduce the issues associated with peak energy demand and dwelling cooling.

CGD recommends the following revised targets be applied:

Climate Zone	Maximum cooling Load	"Target" maximum heating load
Melbourne Central (Climate Zone 21)	25	73
Melbourne North and West (Climate Zone 60)	19	100
Melbourne South and East (Climate Zone 62)	18	90

As apartments are susceptible to heat gains, meeting any prescribed cooling target will be challenging. As such the standard will need to include guidance measures to assist designers meet the targets. This should include measures focussed on shading, appropriate window sizing, orientation and opportunities for natural ventilation. Glazing specification (i.e. low-e glass) is a simple solution to reduce apartment heat gain, however glazing treatments should be the last resort as they can be cost prohibitive and can impact on façade appearance due to their tint.

Lastly CGD recommends performance standards are broadened to include appliances, systems, lighting, hot water, clothes drying, car park ventilation and renewable energy systems. Alternatively broader energy efficiency measures could be addressed in a Statewide ESD Policy.

9. SOLAR ACCESS TO COMMUNAL OPEN SPACE

How satisfied are you that the proposed standard addressing solar access to communal open space will improve the amenity of apartments? – Very Satisfied

CGD supports the minimum solar access standard to communal outdoor open space (i.e. minimum 50% of the communal outdoor open space receives 2 hours of direct sunlight between 9am-3pm on 21 June). CGD recognises the social benefits provided by communal areas through the fostering of stronger community relationships and providing recreation areas. Therefore by ensuring they receive direct sunlight as per the standard will ensure the space is more likely to be occupied.

Would you recommend any changes to the standard addressing solar access to communal outdoor open space? Yes

Balancing provision of sunny and shady areas within communal open space

CGD welcomes the application of the winter solstice standards. However as this will result in a greater level of sunlight during other times of the year, in particular warmer months when communal outdoor spaces are more likely to be occupied, the standard needs to include further information about shading. If the communal space is not adequately shaded, it is unlikely to be occupied in the warmer months.

10. NATURAL VENTILATION

How satisfied are you that the proposed standard addressing natural ventilation will improve the amenity of apartments? - Satisfied

CGD supports the natural ventilation standard requiring 60% of apartments for dwellings up to 35m above the natural ground level (approx. 12 storey building) to have cross natural ventilation.

- The standard set is a welcome improvement that exceeds the minimum requirements set in the National Construction Code.
- As natural ventilation has a number of benefits for indoor environmental quality and energy efficiency of apartments, it is recommended the standard be retained as a minimum.

Would you recommend any changes to the standard addressing natural ventilation? Yes

Guidance around sizing and placement of windows

CGD recommends the application of the standard provide further guidance around the sizing and placement of windows.

- For windows adjacent to one another, there needs to be suitable distance between openings to ensure effective cross ventilation. We recommend a minimum distance of 3m between openings, which is consistent with the Built Environment Sustainability Scorecard (BESS) and expert witness recommendations from the Moreland High Density Design Code Panel Hearing.
- In relation to sizing, it is recommended the standard provide minimum sizes of the ventilation opening. A minimum of 2% of the total flow area is recommended as this is consistent with the Built Environment Sustainability Scorecard (BESS) tool.

The use of light well for cross natural ventilation vs. transmission of noise/ smell

The design standards will lead to the increased use of operable windows on the light well to meet this cross natural ventilation requirement. This needs to be carefully designed against its potential design implications in terms of transmission of noise and smell between adjoining apartments. For this reason, CGD rather accept the natural cross ventilation through the light well as the last resort, when all other alternative design solutions are unattainable.

11. PRIVATE OPEN SPACE

How satisfied are you that the proposed standard addressing private open space will improve the amenity of apartments? - Very satisfied

CGD supports the increased 10sqm and 12sqm private open space standards that are proportionally applied for the respective 2 bedroom and the 3 or more bedroom dwelling with a finished floor level of less than 35m height (i.e. 12 storey building).

Would you recommend any changes to the standard addressing private open space? Yes

2.4m minimum dimension for a 3 or more bedroom dwelling

CGD requests consideration of increasing the minimum dimension for the private open space of the 3 or more bedrooms dwelling to a 2.4m to be consistent with the best practice NSW guidelines. This additional 400mm is considered valuable for allowing a minimum of 500mm functional circulation spaces around the typical 6 seats outdoor dining table configuration.

12. COMMUNAL OPEN SPACE

How satisfied are you that the proposed standard addressing communal open space will improve the amenity of apartments? – Very satisfied

CGD supports the communal open space standard of 2.5sqm per dwelling or 100sqm, whichever is lesser, for the 20 or more apartments.

Would you recommend any changes to the standard addressing communal open space? No

13. LANDSCAPING

How satisfied are you that the proposed standard addressing landscaping will improve the amenity of apartments? -Satisfied

CGD supports the minimum deep soil areas as shown on the Table 1 p. 35.

From an urban design perspective, it is equally important to make these minimum deep soil areas integrate and complement the overall development layout in terms of:

- protecting existing mature trees;
- providing greenery and functional shades for the streetscape or communal open space;
- providing privacy screens and passive design control for the first floor units.

Although the Better Apartments design standard has no requirement for deep soil areas on lots less than 750sqm, this does not always mean that those smaller lots will not provide tree canopies or vegetation. In contrast to the Better Apartments draft design standards, CGD's local residential planning policy (Cl. 22.09) which is applicable to a four-storey development or less requires developers to provide some provision of tree canopy and typically minimum dimension of 3m width any one side of deep soil areas.

Would you recommend any changes to the standard addressing landscaping? Yes

Long term resilience and functionality of landscaping areas

CGD recommends that the standard includes information that addresses the long term resilience and functionality of the landscape after design and construction. This should include guidance around species selection, and the incorporation of water smart landscape design initiatives.

Roof top provision for a large scale development

Medium and high rise apartment buildings may also have an opportunity to create a green roof top garden, for communal open space or as private secluded open space. Although it is unreasonable to require this rooftop design element as a minimum standard, it may not be unreasonable to request this type of facility for a large scale development with a high number of units.

Stormwater management guidelines

The standard should make reference to stormwater management guidelines for these considering integrating stormwater treatment measures into the landscape. This is important considering Water Management is a key design standard. The *Urban Stormwater Best-Practice Environmental Management Guidelines* CSIRO 1999 should be included.

14. ACCESSBILITY

How satisfied are you that the proposed standard addressing accessibility will improve the amenity of apartments? – Very satisfied

CGD supports the accessibility standard requiring 75% or higher number of apartments to provide an adaptable design. CGD supports the requirement for an adaptable bedroom with the minimum 3mx3.4m size (excluding built-in robes) and its adaptable ensuite (with a hobless shower and a 1.2m x 1.2m clear accessible path) in each of the apartments.

Would you recommend any changes to the standard addressing accessibility? No

15. DWELLING ENTRY AND INTERNAL CIRCULATION

How satisfied are you that the proposed standard addressing dwelling entry and internal circulation will improve the amenity of apartments? – Very satisfied

CGD supports the dwelling entry and internal circulation standard including the minimum one source of natural light and ventilation to the common areas and corridors.

Would you recommend any changes to the standard addressing dwelling entry and internal circulation? Yes

Provision of windows on stairwells against fire rating requirements

CGD supports the provision of windows to lift lobbies and stairwells subject to a condition that they comply with the building regulation relating to the fire rating requirements. In its implementation, it may not always be viable to locate a window on any stairwells particularly when it functions as a fire exit route.

16. WASTE

How satisfied are you that the proposed standard addressing waste will improve the amenity of apartments? - Satisfied

CGD supports the design standards for waste management systems and facilities. The design guides are consistent with the standards, objectives and decision guidelines proposed by the *Moreland Apartment Design Code* (Standard D.2.10.3). And thus they are acceptable from an urban design and sustainability perspective.

Would you recommend any changes to the standard addressing waste? Yes

Greater emphasis on the importance of Waste Management Plan

The Waste Management Plan (WMP) should be an essential component in every planning application for an apartment building. CGD believes that the WMP should be mentioned as the first point under the Waste section (i.e. not the final two paragraphs of each of the sections).

The WMP must be prepared by a professional consultant who works in collaboration with the building designers/ architects during the planning permit pre-application and discussion stage. In this way the professional consultant and the responsible authority's feedback can be more effectively incorporated into the design of the waste facility and how the waste is dealt with.

17. WATER MANAGEMENT

How satisfied are you that the proposed standard addressing water management will improve the amenity of apartments? - Satisfied

CGD welcomes the need for apartments to address onsite stormwater management through collection and reuse of stormwater, in particular through rainwater collection.

- Rainwater tanks pose the most feasible and practical way for an apartment to address key planning requirements of on-site stormwater detention, stormwater water quality targets and water efficiency objectives for end-users.
- They are also a recognised measure that will help achieve the performance objectives set in the *Best Practice Environmental Management Guidelines* (Victorian Stormwater Committee 1999).

Would you recommend any changes to the standard addressing water management? Yes

Strengthening the objective by communicating the benefits of stormwater management including rainwater tanks

The objective should include the need for the site to meet "best practice" on-site stormwater management which is stated in the standard. The current draft design standards have not adequately communicated the benefits of water management to justify the application of the

standard. Furthermore the objective of the standard only refers to the displacement of potable water, yet the standards also refer to stormwater quality.

Removing requirements for a connection to non-potable mains water or grey water

The connection to a greywater or non-potable reticulated pipe network, while common for detached houses in new suburban estates, is uncommon for apartments. With apartment construction mostly occurring in established towns/activity centres serviced by existing infrastructure, it is unlikely to see recycled mains water made available to these locations for quite some time. Additionally, on-site grey water treatment systems to service an apartment is quite cost prohibitive and requires regular maintenance.

This may lead to applicants making commitments to connect to non-potable mains or greywater sources "once available", in lieu of implementing other on-site stormwater measures such as a rainwater tank. It is for this reason that we recommend connection to non-potable mains water or grey water be removed from the objective and placed as an "alternative measure for consideration" under the standards. This will provide a greater emphasis on rainwater collection and on-site stormwater management as a priority for this design standard.

Encouraging lower water usage

Lastly, this design standard only deals with the stormwater management. It does not cover any initiatives that encourage lower water usage such as the specification for water efficient fittings/fixtures or the requirement for a separate meter for every apartment. Water efficiency measures are a component of the recently gazetted ESD Local Planning Policy applied by 6 metropolitan councils. By increasing the scope of water efficiency to include these broader elements, it will ensure consistency between this document and other sustainability planning policy.

An integrated approach to Water Management

An integrated approach to water management is applicable for all development, not just apartment design, and that this issue would be better addressed in a state wide ESD Policy.

With the standard relating to both stormwater and reduction of potable water reductions, CGD recommends the heading title be changed to "Alternative Water Use and Stormwater Management" or "Integrated water use and stormwater management".

Lastly, the Guidelines should reference minimum standards for water efficiency and water reuse. These should be compatible with the Built Environment Sustainability Scorecard BESS planning assessment framework.

18. OTHER ADDITIONAL COMMENTS

Bike Parking

- Clause 52.34 needs to be revised to require at least one secure bicycle parking space per dwelling General storage provision should not be an acceptable substitute for bike storage. (Consistent with BESS) and that one visitor bicycle parking space be provided per 4 dwellings.

Parking

CGD recommends that the design standards make provision for low emission or alternative vehicle use. This includes the following recommendations:

- Electric vehicle charging infrastructure be incorporated into the development; and
- That 5% of total or at least 5 parking spaces be allocated for motorbikes and/or small vehicles.

End of comments