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20 December 2019

Craig Moss
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Institute of Public Works Engineering Australasia Queensland
Unit 4/43-49 Sandgate Road
Albion QLD 4010

BY POST/EMAIL – Craig.Moss@ipweaq.com

Dear Mr Moss,

RE: Feedback on draft Street Design Manual

The Urban Development Institute of Australia Queensland (the Institute) writes to the Institute of Public Works Engineering Australasia Queensland (IPWEAQ) on the draft Street Design Manual (draft Manual). The Institute is supportive of an update to Queensland Streets and Complete Streets and appreciates the opportunity to provide these comments.

The Institute is the peak industry body for the development industry in Queensland. Our members are responsible for the production of the vast majority of new communities in Queensland. The Institute's objective is to assist our members to create excellent communities. As such, the Institute is well placed to lend our expertise during this consultation phase.

The draft Manual is a positive contribution to the delivery of livable, affordable, and diverse communities and has been well researched and presented. In consultation with members, the Institute believes we have identified some opportunities for enhancement of the draft Manual and would like to take this opportunity to outline these as part of the comments below and the attached. The Institute is concerned that some of the Objectives and Strategies within the draft Manual overlap with existing provisions and recommended that consideration should be given to their removal. These include:

- Provision of neighbourhood open space
- Retaining wall heights
- Lot size, shape and housing diversity
- Tree retention within lots.

The Institute is of the view the above points have been adequately addressed in other material, including local government planning schemes. Separately, identifying these provisions in the draft Manual could potentially result in duplicating existing provisions and create unintended consequences for housing affordability. Despite the Institute's recommendation to remove the Objectives and Strategies outlined above, feedback is still provided to assist in to ensuring the workability of the draft Manual in delivering residential communities.

We are also concerned about the potential for excessively rigid application of the draft Manual by local authorities across the state. The Institute highlights that the best and most successful outcomes are often not standard. Therefore, greater reflection should be given to the importance of qualitative performance outcomes.

The Institute has provided a range of detailed recommendations to ensure the provisions of the draft Manual are relevant and avoid unintended consequences. Our members are highly supportive of residential developments which promote good outcomes for the community in a manner that is practical to deliver affordable housing for homebuyers.

The Institute supports the draft Manual and welcomes its contribution in designing residential communities in Queensland. Please find attached a schedule of Institute comments on draft Manual. Thank you for the opportunity to comment, should you have any wish to clarify or discuss this matter please contact Manager of Policy, Martin Zaltron (mzaltron@udiaqld.com.au) or (07) 3229 1589.

Yours sincerely,
Urban Development Institute of Australia Queensland



Kirsty Chessher-Brown
Chief Executive Officer



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STREET DESIGN MANUAL
Walkable Neighbourhoods
Urban Development Institute of Australia Queensland Comments

The draft Manual does contain some items that will negatively impact residential development and should be reconsidered. Broadly they are as follows:


- The lot retaining, where carried out by a developer, is extremely problematic and must be amended.
- For earthworks not carried out by a developer the nominated heights of walls and cross falls negates the development of outlook style homes, split and stepped home construction typologies
- Requiring narrow lots opposite larger lots makes developing on slopes likely impossible, more so if the retaining and cross falls are enforced.
- Street trees at 100 litre minimum (to promote survival during construction) is at odds with studies that many native trees perform better when planted smaller.

The draft Manual should also consider:

- Service locations (relocation and possible joint locations) to ensure more space for street trees
- Thresholds in implementing the provisions within the draft Manual
- Information on how to water and ensure street trees perform better and provide shade
- Driveways and footpath extent (i.e. does the footpath extend through the driveway?)
- Information on guidance on cul-de-sac length and shape i.e. to ensure sightlines from one end to the next, and pedestrian connection at the end
- Site cover be considered in Element 4 - Lot Design (if maintained within the draft Manual)
- More images would better support data i.e. street offset distances.

| No. | SECTION | PAGE | ACTION | ISSUE | OUTCOME |
|-----|------------------------|------|---|-------|---------|
| 1.1 | SITE RESPONSIVE DESIGN | | | | |
| | Strategy 1.1.3 | 9 | Include "prioritise walking and cycling where possible" under the 'Tips' section to improve best practice structure planning. | | |
| 2.2 | CYCLISTS | | | | |
| | Strategy 2.2.1 | 15 | Quantify the categorisation of "high medium and low demand volumes" to avoid confusion and provide certainty. | | |

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| | Strategy 2.2.2 | 15 | Define where recreational and commuter cyclists and on-road and off-road cycle paths are within the <i>principal, secondary, and local</i> categories to improve and encourage active transport infrastructure and ensure it is appropriately located. |
| | Strategy 2.2.3 | 15 | Include “safe and attractive” in addition to “to encourage cycling trips over motor vehicle trips it is desirable for cycling connections to be more direct than motor vehicle routes” under the ‘Tips’ section to help improve and encourage outcomes for active transport. |
| | Strategy 2.3.4 | 18 | 400m catchment (for 90% of people) for existing or potential bus route is too small. Consider increasing the catchment to 800m walk. |
| 2.4 | MOTOR VEHICLES | | |
| | | 19 | Include images to better support and explain the intent for the Objectives and Strategies for Motor Vehicles to improve clarity and better translate outcomes sought. |
| | Recommended Neighbourhood Street Hierarchy | 21 | Include Vehicles Per Day (VPD) range and threshold treatments between street typologies Better communication is required in order to ensure correct street/road hierarchies are located in the appropriate locations. |
| | Local access streets | 21 | Remove “typically represents a <i>cul-de-sac</i> ” in order to broaden the scope beyond <i>cul-de-sac</i> for local street types. |
| | Laneway | 21 | Consider noting if parking is excluded. Need to ensure all aspects are considered for laneway street typologies. |
| | SECTION B – CONCEPT DESIGN OF NEIGHBOURHOOD STREETS | | |
| | Overview | 22 | To improve direction and acknowledgement for people in designing streets include “Streets should perform a place for people to meet, to socialise....” |
| 2.5 | SITE RESPONSIVE DESIGN | | |
| | Objective | 22 | To improve the design and orientation of allotment to better manage climate and weather, include that street layouts also determine the orientation and therefore liveability of homes. |
| | STRATEGY 2.5.4. | 23 | Include a note that vegetation retention is subject to tree health, species, arborist report, etc within the ‘Tips’ section to provide help and guidance around vegetation retention. |
| 2.6 | SENSE OF PLACE, COMMUNITY AND SAFETY | | |
| | Strategy 2.6.4 | | Improve wayfinding with additional sign for residential streets: |

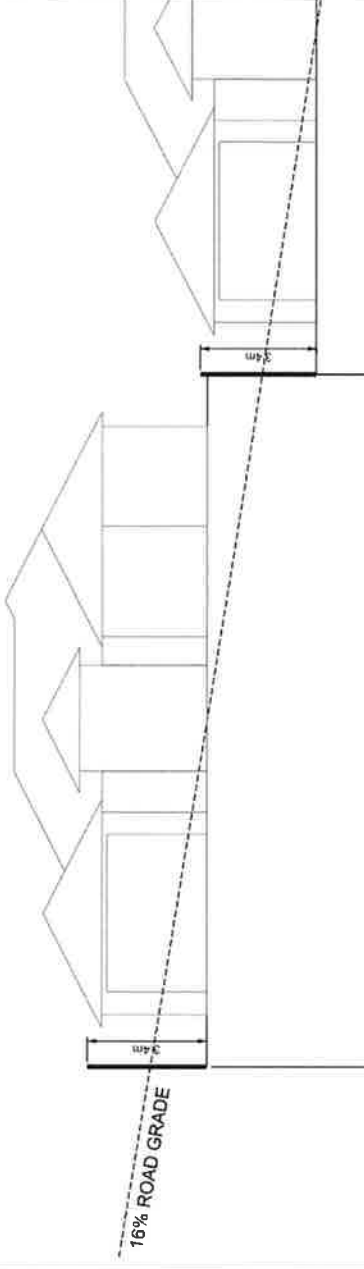
| | | | |
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| | | | <p>MORE WORK COULD BE DONE HERE TO ASSIST PEDESTRIAN THROUGHFARE. EXAMPLE: OF STREET SIGNAGE THAT SHOW THE LINKING OF STREETS.</p>  |
| | Strategy 2.6.7 | 25 | <p>Suggested solution to improve wayfinding for pedestrian traffic. Confirm if target speed is the same as posted speed to ensure speed environment is aligned with street type.</p> |
| 2.7 | FIT FOR PURPOSE | | |
| | Objective | 26 | Include "lighting" to point (f) – utility services infrastructure, as it impacts streets to ensure street design is considered and thereby appropriately located. |
| | Strategy 2.7.1. | 26 | Include amenities, shops, and public transport to places where pedestrian and cycling infrastructure should connect to enable passive pedestrian movements. |
| | Strategy 2.7.5. | 27 | Consider controlling the length of cul-de-sac to ensure they work efficiently. |
| | | 27 | Consider including a connection at the end of a cul-de-sac to ensure pedestrian connectivity where appropriate and purposefully (efficient movement of pedestrian or leads to a destination). |
| | Strategy 2.7.8 | 28 | Under 'Tips' include a point advise that laneways or t-head laneways should not include a dead-end. Laneways to push through to street where possible. |
| 2.9 | CLIMATICALLY RESPONSIVE | | |
| | Strategy 2.9.1 | 30 | Include development parcel shape as a constraint that impacts street alignments as it is a consistent factor to consider in street design. |
| | Strategy 4.1.2.2 | 43 | Include "planting in corner truncations must ensure sight lines are achieved" under the 'Tips' section. |
| 4.3 | LOT ACCESS, ON STREET PARKING AND INFRASTRUCTURE | 45 | |

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| | Strategy 4.3.1.2 | 46 | Where guidelines are enforced unilaterally it is important to note that there are exceptions i.e. "avoids mismatch in back property boundaries..." On flat land where variance of product is required, this is acceptable if the offset is 1m or more. Reword accordingly. |
| 5.1 | NEIGHBOURHOOD AND CENTRE DESIGN INTERSECTION AND INTERGRATION | 48 | Include information regarding public transport including car sharing (eg: Uber) stops in centres to ensure we appropriately cater for alternative forms of mobility. |
| | DETAILED DESIGN GUIDELINES | 49 | Add a legend to support diagrams. |
| PART 2 | 1.12 Turning areas | 80 | Add an image and dimensions showing the head and dimensions of a cul-de-sac. |
| | PRACTICE NOTES | | |
| | Walkable and legible Neighbourhoods Examples of street patterns | 106 | It would be worth adding a note that street patterns are informed by orientation, topography, land parcel shape, ownership, existing trees, cultural heritage etc to better support officers, as the examples of grid patterns do not reference the reasons. |
| | Impact of increasing connections | 107 | The diagrams included are poor examples with close 4-way intersections onto a collector. Amend diagram to provide greater clarity. |
| | 3. TREES IN LOTS | | |
| | Examples of increasing large street tree opportunities | 115 | Include image of medians, truncated lots / nodal parks and mid-block connections as additional places where larger trees can be included to maximise opportunities of greening residential communities. |
| 4 | Designing for small lots | 120 | With regard to bioretention pods, consider noting that they are impacted by street grade and require greater consideration of small lot frontages. |
| | 2. Lot levels and retaining | 126 | More detail and description around the diagram to assist in on how the drainage will be undertaken. This is a great opportunity to address this matter. |
| 5 | REAR LANE DESIGN | 136 | While it notes that rear lanes "provide for significant increase in density and housing choice opportunities with rear loft product", it should also note that they result in additional land and therefore costs. |
| | Lane definition | 137 | Should include that a lane may be concrete as an alternative material to use in sealing laneway. |
| | GENERAL | | |
| | Consider including a glossary, including street name definitions – Drive, Circuit, Place. Local government rules around street naming differ greatly and consistent definitions would ensure some level of consistency can be achieved. | | |
| | Some of the images are hard to read / poor quality and require some work to better portray messages. | | |
| | Consider allowance for technologies and future proofing to allow this draft Manual to be responsive to current and emerging trends in designing residential communities. | | |

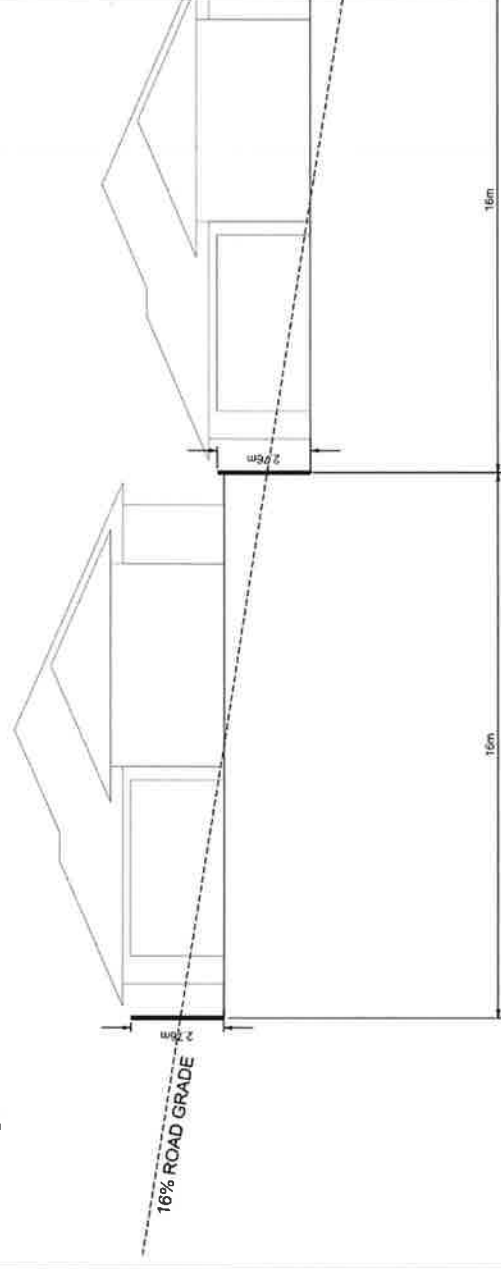
| | | |
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| | This draft Manual provides a great platform to include examples of how to provide water to sustain tree growth in streets. As this is a vital element in our neighbourhoods it would be beneficial to include some notations within the draft Manual. | |
| B | Intent is not clear | |
| PART 2 1.1 | GENERAL DESIGN REQUIREMENTS | 52 53 |
| | The 'Tips' notes that: " <i>Above the acceptable limit of traffic volume, direct frontage of residential lots to the street should be avoided.</i> " It is unclear if 'direct frontage' is referring to pedestrian i.e. letterbox and front door and / or vehicular? Some local governments argue for letterbox and front door (direct frontage) to non-access roads. Note this can only be achieved if parking is available for visitors and emergency vehicles. | |
| C | Incorrect reference | |
| | ELEMENT 2 – MOVEMENT NETWORK | 11 |
| | Refers to Part 2, but not Part 1. | |
| 2.4 | MOTOR VEHICLES | |
| | Strategy 2.4.2. | |
| | There is no "Practice Note x". Needs to be included. | |
| | PRACTICE NOTES | |
| 5 | REAR LANE DESIGN | 135 |
| | Text notes the " <i>maximum 6.5 m reserve width</i> ", when it should read " <i>minimum</i> " - as it is difficult to conceive a lane any narrower. | |
| D | Disagree with content | |
| 2.6 | SENSE OF PLACE, COMMUNITY AND SAFETY | |
| | Strategy 2.6.2 | 24, 27 |
| | Concern arises where the "Access street length is 150-220m" as it could be interpreted incorrectly. It is anticipated that local government could potentially prescribe 150m maximum, which is undesirable and too short for residential street design. This will impact housing affordability due to increased road areas and percentages. A note is required to clarify that the range is acceptable in all instances using carparking as the trigger. | |
| | Strategy 2.7.5. | 27 |
| | Cul-de-sac is not just used as " <i>an outcome of topographical constraints</i> " as noted, but also as a result of land parcel shape and to create special pockets / streets. They are a preferred road typology leading to healthier neighbourhoods when designed appropriately. | |
| | Suggested qualitative performance outcome: " <i>cul-de-sac are located and designed in a way that doesn't hinder the walkability and connectivity in the neighbourhood</i> " | |
| 3 | ELEMENT 3 – NEIGHBOURHOOD OPEN SPACE NETWORK | |
| 3-1 | ADEQUATE PROVISION OF NEIGHBOURHOOD OPEN SPACE | 33-39 |
| | While the data is well thought through the draft Manual does not need to regulate or function open space provisions. | |
| | Strategy 3.4.1. | 36 |
| | Requiring 90% of local recreational open space to be " <i>zoom for a residential density >25 dws/ha</i> " is excessive. It is noted that the 'Tips' allows public open space to be delivered via small embellished local | |

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| | | | | <p>parks, incidental open space areas within infrastructure corridors, or district and regional open space areas and corridors which is very desirable. Performance criteria is essential to prevent authorities from being unnecessarily rigid in the application of these provisions.</p> <p>This section should be removed from the draft Manual. For example, getting a lake approved as well as meeting the water quality requirement is almost impossible. Remove entirely as enabling both 'blue' and 'green' spaces is very difficult to achieve in practice.</p> <p>The draft Manual does not need to regulate open space provisions.</p> |
| 3.6 | MULTIPLE USE | | | |
| 4.1 | ELEMENT 4 LOT DESIGN SITE RESPONSIVE DESIGN | | | |
| | Strategy 4.1.1.1. | 42 | | <p>It notes that: "<i>where lot retaining works not carried out by a developer and less than 450m2 shall have slope that does not exceed 10% side slope and 5% longitudinal slope.</i>"</p> <p>As not all developments are large scale and not all developers conduct extensive earthworks, this negates the outlook style home, split and stepped home construction typologies (in conjunction with retaining). Remove as this limits the delivering of diverse dwelling typology.</p> <p>The provisions referring to lot retaining works where carried out by a developer are extremely problematic and must be amended.</p> <ul style="list-style-type: none"> - '<i>For lots < 450m2 to 1m height...</i>' This is not practical. If road grades are at 16% or 1:6.25 achieving this is impossible. Refer images below - This does not support tree retention - This means that small lot subdivision cannot occur on land with slope and would negate an increasing market - This will impact affordability if walls are terraced in this form - '<i>A max. of 2.4m where combined with a boundary fence.</i>' This means that the retaining wall is only 600mm high if the fence is 1800mm high. It should be noted that in this circumstance this is usually battered, not a retaining wall. Further clarification is required on retaining walls up to 2.4m and measurements for retaining walls and fences. |
| | Strategy 4.1.1.2. (Refer also to Practice Note 4 – Designing for small lots) | 42 (& page 120) | | |

For a flat 20m wide lot on a 16% road the side retaining wall is 3.4m high (with 200mm freeboard for landscaping)

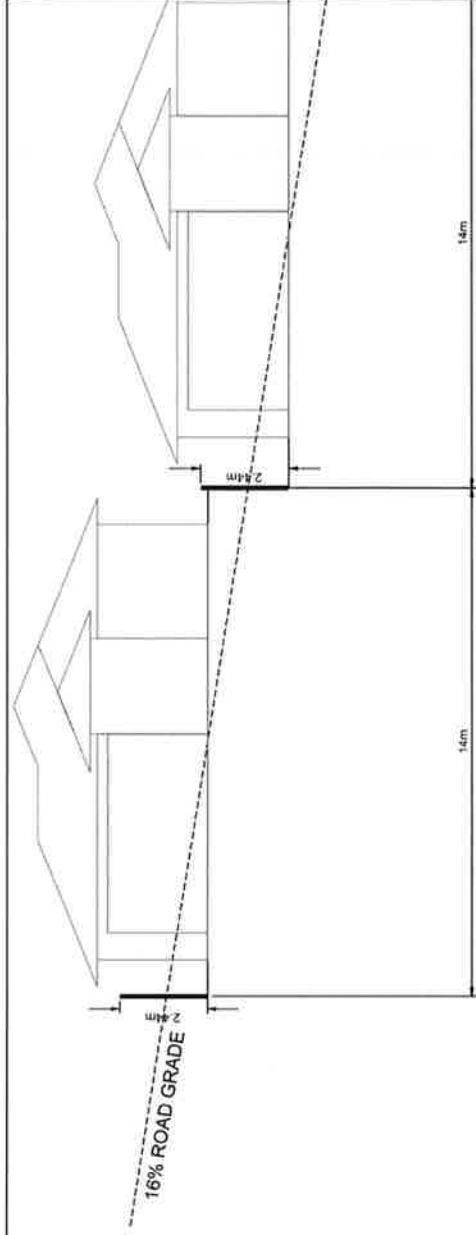


For a flat 16m wide lot on a 16% road the side retaining wall is 2.76m high (with 200mm freeboard for landscaping)



For a flat 14m wide lot on a 16% road the side retaining wall is 2.44m high (with 200mm freeboard for landscaping)





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| | | | <p>Retaining existing vegetation within the road reserves needs to be cognisant of the services in the areas and not create an ongoing service issue. CSIRO has produced a white paper that identifies the distances that are required between structures the mature height of vegetation which may convey ideas of best practice.</p> <p>The increased setback if vegetation exists in the first 3m of the front lane requires rewording. Depending on the tree species, this provision can this could cause structural damage to the slab if near the dwelling. Structural engineers can provide distance/height ratio. Removing later is costly and landscaping in rear lanes is dependent on product, lane length and width.</p> <p>Consideration needs to be given to the Tree Protection Zones of the existing trees. Greater thought is required in relation to level of encroachment. In the 'Tips' section potential risk of sight lines needs consideration as to not obstruct view lines.</p> <p>The lot shape and size and location of private open space is outside the scope of the draft Manual and should be removed.</p> <p>This is outside the scope the draft Manual and should be removed.</p> |
| | Objective 4.1.2 | 42 | |
| | Strategy 4.1.2.1. | 43 | |
| | Strategy 4.1.2.2 | 43 | |
| | Strategy 4.1.3. and Strategy 4.1.3.1. | 44 | |
| 4.2 | LOT SIZE, HOUSING DIVERSITY AND STREETSCAPE | | |
| | Objective 4.2.1 | | |
| | Objective 4.3.2 | | |
| Part 2 | Strategy 1.5.2 | | |
| | Strategy 1.8.1. | 67 | |
| | | 71 | |

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| | | | <p>Show tree in the 'front of verge' space to demonstrate intent that this width must be wide enough for large shady street trees.</p> |
| | Strategy 1.8.6 | 70 | <p>2m pathway in the verge seems wide for a 'typical' diagram shown – recommend showing the minimum SV typology (SV12) where the pathway is 1.2m to maximise areas for trees and planting</p> |
| | PRACTICE NOTES | | |
| | Walkable and legible Neighbourhoods | 102 | <p>Under loops and cul-de-sac title, it notes poor connectivity. If a pedestrian link is used this is not the case for pedestrians. The length of the cul-de-sac can be used to control this with minimal impact for vehicles with the advantages well outweighing any perceived negatives. Consider revision where if designed appropriately and facilitates pedestrian mobility.</p> |
| | Examples of street cross sections. Length of connection | 105 | <p>Length is noted at 30m maximum. This is not usually possible as the majority are providing connections through an entire block width which is typically anywhere between 50 and 64m. Revision around appropriate lengths is necessary.</p> |
| | Width of connection | 105 | <p>While the diagrams show a variety of connections widths including 3m, 4m, 15m, 20m and 30m. This is subject to length, amenity, and density and should be noted as such. 10m wide is generally acceptable for a typical block width of 64m at 12-20 dwg/ha. Revision is required to acknowledge this is determined by other factors.</p> |
| | Increasing trees in neighbourhoods | 108 | <p>It notes that: <i>"the raw land price has increased so market competition is leading to an increased focus on minimisation of open space and road reserve to maximise saleable lot area"</i>. It is worth also noting that road percentages have continued to increase greatly with density, impacting housing affordability. This needs to be addressed and acknowledged in order fully understand the state of new residential communities.</p> |
| | | 108 | <p>That trees: <i>"do not grow to full height due to damage and/or poor planting practices during the subsequent building phase."</i> Should also add lack of water, maintenance and room for their roots as major contributors of poor street tree performance. This needs to be addressed if residential communities aspire to enhance street tree coverage.</p> |
| | | 108 | <p>Add a note to the effect that retention of existing trees is subject to species, conditions, arborist report.</p> |
| | CONTEMPORARY LOT TYPOLOGIES | 116 | <p>It notes that: <i>"Below 12.5m frontages on-street parking becomes increasingly restricted or precluded."</i> An on-street carpark can be provided in front of a 12.5m lot.</p> |
| 4 | Designing for small lots | 120 | <p>It notes <i>"no gully pits in front of small lots."</i> In the pretext notes, small lots are defined lots with frontages less than 15 metres. This will need to be amended / clarified.</p> |
| | | 121 | <p>It notes that: <i>"narrow lots should be opposite larger lots where possible"</i>. This is problematic for two reasons:</p> <ol style="list-style-type: none"> 1. Market demand calls for similar style housing typologies to be near and across from each other and lots are generally 'graded' within the streetscape 2. More importantly on slope, narrow lots take up the slope better than wide products and therefore keep the retaining wall heights lower |

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| | | | <p>3. Note narrow lot definition also needs clarification. Greater consideration is requested on this point.</p> |
| | | 1.21 | <p>It notes: "<i>use substantial trees, 100 litre minimum, to promote survival during construction.</i>" Native trees which are most often required by the local government usually perform better if planted smaller. Many tests have been undertaken that a tree planted in a smaller pot will outperform a larger one in a healthy state, shape, and height within a few years. Greater research is necessary to adequately inform this provision.</p> |