ADDENDA 6
Amendment GC81
Fishermans Bend
Expert Urban Design
Evidence: Response
to expert witness reports

Prepared on behalf of DELWP
24 April 2018
Scope

1) This addenda has been prepared in accordance with the following instructions from Harwood Andrews:

‘Your addenda are to respond to the expert witness reports of:

- Mark Sheppard of DLA (Tabled Documents 177b to 177e);
- Catherine Heggen of Message Consultants (Tabled Documents 177h and 177f);
- Stuart McGurn of Urbis (Tabled Document 177f).

Specifically, they should respond to the following questions:

1. Are the alternate 3D models presented in the evidence statements of Mark Sheppard, Catherine Heggen and Stuart McGurn (the alternate models) accurate?

2. Do the alternate models respond to the preferred character for the various precincts in the Fishermans Bend Urban Renewal Area as articulated in the draft MSS?

3. Are Mr Sheppard’s proposed changes to the draft built form controls (including height controls) in draft Amendment GC81 supportable by reference to the preferred character as articulated in the draft MSS?

2) These three questions are answered within this Addenda in relation to the Montague and Sandridge precincts.

1. Accuracy of the alternate 3D models

3) The term accurate is taken to mean correct in all details.

4) The expert witness reports have modelled the controls as follows:

- Mr Sheppard - (original evidence) the total GFA shown is equal to the maximum FAR in the CCZ (e.g. Montague core 6.1:1) plus the minimum commercial requirements (e.g. Montague core 1.6:1); (updated evidence - presentations to panel) the total GFA shown is equal to the maximum FAR in the CCZ with the commercial requirement included within this maximum FAR.
- Mr McGurn - the total GFA shown is equal to the maximum FAR in the CCZ (e.g. Montague core 6.1:1). Additional potential commercial FAR is illustrated up to the preferred height limit.
- Ms Heggen - the maximum potential building envelope is modelled and then the floor area that is delivered within the maximum FAR (e.g. Montague core 6.1:1) is noted within the model.

5) As the 3D conclave with the two Councils demonstrated the assumptions that are built into the model are critical in determining the development outcomes. The importance of these are discussed for each expert report below.

Mr Sheppard Expert Evidence Report - Montague and Sandridge

6) Mr Sheppard has explicitly noted his modelling assumptions within his report, including:

- Tower width - minimum 15m, maximum 25m (double loaded)
- Tower floor plates (maximum 900m² for buildings up to 15 storeys high, 1250m² for taller buildings)
- Apartment orientation: The longer side of a tower
floorplate is assumed to have habitable room windows, the shorter side is assumed to have non-habitable windows or secondary habitable room windows.

- 100% site coverage for all core areas; 70% in Wirraway and Sandridge non-core areas except where the gross developable site area is less than 1200m².
- Car parking: 1 space per 100m² of non-dwelling use, and 0.5 spaces per dwelling
- Car parking GFA: 30m² per space

7) This is generally in line with the modelling within Addenda 2 of my expert witness report. The key differences being:

- I have modelled residential floorplates with a maximum depth of 26 metres, not 25 metres, and with a total floor area of 1,500m², not 1,250m².
- I have modelled a minimum tower depth of 12 metres, however this only occurs on one site. In general the tower depths have been modelled to a minimum of 18 metres.
- I have modelled a greater range of site coverage within core areas to respond to the preferred character as outlined in the draft MSS.

8) Mr Sheppard has determined the height of the podium (where included) by calculating non-dwelling and all car parking GFA, divided by podium footprint, + 0.5 then rounded up (to allow for sleeving).

9) In addition to the individual site modelling, Mr Sheppard includes three types of ‘alternate high density modelling’ demonstrated at a block scale - 'Barcelona', 'Vancouver' and 'Hybrid' models.

Individual sites

10) In general, Mr Sheppard’s individual site modelling is an accurate reflection of the planning controls, with minor exceptions:

- 30-38 Thistlethwaite Street (original and updated) should have a mandatory 4 storey control applied [9 storeys has been modelled - p43 of Mr Sheppard’s report]
- 91-93 Montague Street (original) which indicates a 7 storey street wall onto Gladstone Place [p47] - a maximum of 15.4m (4 storeys) is included in the proposed DDO. I have recommended increasing this to 23m maximum (6 storeys) in my original statement. In Mr Sheppard’s revised modelling this has been reduced to 5 storeys.

11) The approach Mr Sheppard takes to locating laneways varies:

- 248-254 Normanby Road - it appears that the laneway along the western boundary has not been accommodated on this site although it is unclear from the drawings (p58)
- 256-262 Normanby Road - it appears that the laneway has been modelled completely within this site, not across this site and the adjacent site although it is unclear from the drawings (p64)
- 228-238 Normanby Road - it is assumed that the laneway is on the adjacent site, not within this site (p74)
- 235-239 & 241-243 Normanby Road - it appears that the laneway has been modelled completely within this site, not across this site and the adjacent site although it is unclear from the drawings [p91]

12) This varied response is not inaccurate but rather reflects the need for a consistent approach for the delivery of laneways. I have assumed in my modelling that a new laneway is always split across two adjacent sites to facilitate staged delivery regardless of which site develops first. This would result in a minimum of 3m ground level setback to accommodate half of the laneway. If primary frontages are addressed to this laneway I have increased to 6m as required by the DDO.
13) Mr Sheppard has modelled a 10 metre upper level street setback on towers up to 20 storeys. This is not inaccurate, however this setback can be reduced to 5 metres which would make the FAR fit more ‘loosely’ on many sites. In some instances he notes that the FAR is only just accommodated within the proposed building envelope. As Mr Sheppard’s revised modelling demonstrates the fit would not be so tight if the reduced setbacks were adopted.

‘Alternate high density’ block models

14) The block model that demonstrates the ‘Barcelona’ example [refer page 25] is accurate in so far as it represents an overall block FAR of 3.5:1 as noted by Mr Sheppard (paragraph 64).

15) It does not, however, represent a site FAR of 3.5:1 which is implied as Mr Sheppard compares this FAR to the proposed FAR of 3.0:1 in the DDO for Montague non-core areas. The delivery of the Barcelona model would result in an inequitable outcome with some land owners being prescribed a low FAR, while others would benefit from a higher FAR. Refer to figure 2.

16) The Barcelona model delivers the same average FAR as proposed in my Expert Evidence report of 3.6:1, however without:

• any relationship to existing property boundaries
• any realistic means of staging its delivery as sites develop over time
• any consideration to equitable development outcomes
• reference to the preferred interface to the City Road and the adjacent low-scale developments

17) The same conclusions would apply to the ‘Hybrid’ model and ‘Vancouver’ models.

18) Ms Heggen Expert Evidence Report - 90-96 Johnson Street and Goodman sites

19) Ms Heggen has not noted any assumptions adopted for her modelling. This is consequential in regards to development outcomes and preferred character:

• No maximum tower depths or floorplates are nominated - the floorplates drawn do not consider the internal layouts of the building
• The composition of uses within the podium is not considered. The podium is modelled to the maximum street wall height, regardless of whether this delivers a realistic, useable building.

20) The modelling of 90-96 Johnson Street includes an apartment tower with a residential floorplate of 2,624m2 floor plate - 42m x 63m. This is a deep floor plate for an apartment building.

21) This floorplate depth significant exceeds the maximum depths assumed in Mr Sheppard’s modelling and in my modelling. The built form testing undertaken by Hayball for Amendment C270 also assumes a maximum floorplate depth of 25 metres.

22) The tower setback shown on the northern boundary in this 20 storey option is 5 metres on both side boundaries. This assumes that both facades do not contain habitable rooms which is not realistic considering the depth of the tower.

23) The modelling includes an 8 storey street wall on the corner of Munro Street and Johnson Street. This is incorrect. As the overall building height exceeds 10 storeys the maximum street wall height is 23 metres (6 storeys).

24) The modelling does not include the requirement to deliver a maximum of 70% site coverage.

25) The Hayball report also includes assumptions about the depth of ‘sleeved’ residential and commercial uses in a podium (refer Figure 1 - 10 metres for residential and 15 metres for commercial).

26) Together, the lack of assumptions in regards to tower width and uses within the podium result in a building being modelled for 90-96 Johnson Street that is not realistic (refer to Figure 3).

27) This model is not an accurate representation of the proposed controls. This means that the difference between the floor area that can be delivered by the
1.0 Introduction
1.4 Development Assumptions

**RESIDENTIAL TOWER ENVELOPE ASSUMPTIONS**
- Minimum shell depth of 10M

**COMMERCIAL TOWER ENVELOPE ASSUMPTIONS**
- Tower slenderness ratio
- Maximum shell depth of 25M x 50M

**PODIUM SLEEVING ASSUMPTIONS**
- Maximum shell depth of 30M x 80M
- Podium sliving assumptions

Based on benchmark research, the following building envelope assumptions were adopted for design testing where possible.

- A maximum height to depth ratio of 10:1 was adopted as a building envelope assumption to allow for structural efficiency.

\[ \frac{h}{d} : \leq 10 \]

**Figure 1** Development assumptions from Architectural Testing of Built Form Controls: Melbourne Hoddle Grid/Southbank, Central City Built Form Review, Hayball, 2016

**Figure 2** (below) Barcelona model applied to Montague non-core area. The FARs range from approximately 2.8:1 (yellow) to 4.5:1 (red)
2.2 What are the implications for the CitiPower landholding?

The particular issues that relate to the CitiPower site in part go to the interrelationship between the FAR and FAU.

A 3D modelling exercise was undertaken by my office to explore and test these techniques on a relatively unconstrained site in terms of the proposed statutory control regime.

The CitiPower site is located on the eastern edge of the Sandridge Precinct in a non-core area. The FAR for the Sandridge non-core area is 3.3:1. The DOO specifies a preferred building height of 67.8m with a combination of nominated street wall height, setbacks and building separation dimensions depending on the ultimate overall height of a building. There are no nominated district, precinct or neighbourhood parks in the vicinity of the CitiPower site that would influence the shape of any building volume by virtue of a consequential shadow impact on any such park. Similarly there are no street or laneway widenings proposed that would reduce the developable area.

On this basis two potential 3D options were modelled to test firstly the allowable FAR outcome and then what the extent of the possible FAU might look like.

The two 3D options are depicted in Figure 4.

What can be seen from these 2 examples is that by comparison to the preferred overall building height, the FAR allows for only 25%-33% of the potential development outcome if an FAU is taken up.

Acknowledging that the selected category of FAU public benefit would have an impact on the balance 66%-75% development yield where say affordable housing was to be delivered on site, the 3D models do demonstrate the significant divergence between the nominated FAR and the potential FAU outcomes.

In terms of a built form solution there appears to be no obvious reason why the FAU outcome would not be considered acceptable particularly given it accords with other built form controls.

I note that Ms Hodyl’s Addenda 2 includes massing studies (at pages 18 and 19) of 2 blocks at the western end of the Sandridge precinct. Her modelling also confirms that in a number of other instances there is a considerable divergence between density and built form outcomes between the mandatory FAR and discretionary FAU. This position is not just merely ensuring that a variety in skyline profiles is created.

A threshold question that this disparity raises is, “Is it an appropriate planning practice that there is such a great divergence between the mandatory FAR and discretionary FAU built form outcomes even if extremely valuable infrastructure is extracted?”
**EXISTING CONTROLS**

**MASSING CONTROLS**

- **Site no:**
- **Site area:** 3,234 sqm
- **Max building height:** 40 storeys
- **Max street wall height:** 20 m or 5 storeys
- **Min tower setback from street:** 10m
- **Min tower setback from side and rear boundaries:** 10m
- **Total GFA:** 62,009 sqm

**PROPOSED CONTROLS**

<table>
<thead>
<tr>
<th>Boundary</th>
<th>Podium</th>
<th>Building envelope</th>
<th>Open space</th>
<th>Max building height scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>MONTAGUE ST</td>
<td>MUNRO ST</td>
<td>NORMANBY RD</td>
<td>MUNRO ST</td>
<td>WOODGATE ST</td>
</tr>
<tr>
<td>5M 10M</td>
<td>5M 10M</td>
<td>10M</td>
<td>10M</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FAR Scenario</th>
<th>Max Building Height Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Building height</td>
<td>26.2 m (approx.)</td>
</tr>
<tr>
<td>Street wall height</td>
<td>23 m</td>
</tr>
<tr>
<td>Street wall upper level setbacks</td>
<td>3 m</td>
</tr>
<tr>
<td>Side and rear upper level setbacks</td>
<td>9 m</td>
</tr>
<tr>
<td>GFA</td>
<td>19,701 sqm</td>
</tr>
</tbody>
</table>

**Figure 4** Modelling for 235-239 and 241-243 Normanby Road (McGurn Site 6)
EXISTING CONTROLS

MASSING CONTROLS

235-239 AND 241-243 NORMANBY ROAD, SOUTH MELBOURNE

- Site no: 
- Site area: 3,234 sqm
- Max building height: 40 storeys
- Max street wall height: 20 m or 5 storeys
- Min tower setback from street: 10m
- Min tower setback from side and rear boundaries: 10m
- Total GFA: 62,009 sqm

PROPOSED CONTROLS

- FAR: 6.1:1
- Site area: 3,234 sqm
- Maximum GFA: 19,725 sqm

| Boundary | Farmland
| --- | --- |
| Podium | Building
| Envelope | Open space
| Max building | Height scenario

- Building height: 26.2 m (approx.) 67.8 m
- Street wall height: 23 m 23 m
- Street wall upper level setbacks: 3 m 5 m
- Side and rear upper level setbacks: 9 m 10 m
- GFA: 19,701 sqm

**Figure 5** Modelling for 235-239 and 241-243 Normanby Road (McGurn Site 6) with potential uses within the podium illustrated according to the Hayball report (prepared for Amendment C270, 2016)
FAR and a potential building that can be delivered on this site is greatly exaggerated by Ms Heggen's modelling.

**Mr McGurn’s Expert Evidence Report - 3 sites in Montague**

28) The assumptions in Mr McGurn’s modelling (paragraph 65) are:

- The potential floor area permissible in the FAR is assumed to occupy the maximum street wall height - for ‘consistency’ a 23 metre streetwall has been used
- The side setbacks have been modelled assuming that building face each other (with balconies/windows directly opposite each other)
- Allows for widened and new streets but not the new laneways

29) Mr McGurn does not note key assumptions in his modelling that have consequential outcomes in regards to development outcomes and preferred character:

- No maximum tower depths or floorplates
- Composition of uses within a podium is not considered.

30) This means that Mr McGurn’s modelling, in the same way as Ms Heggen’s, does not include realistic building floorplates. For example, applying the assumptions from within the Hayball report, over 60% of the podium floorplates above ground would be useable office or residential uses.

31) This is the case for a number of sites modelled by Mr McGurn in Montague North (see also figure 6 of this report).

**Conclusion**

32) The individual modelling in Mr Sheppard’s expert evidence report is largely accurate.

33) The ‘alternate high density’ block modelling by Mr Sheppard is incorrect as it ignores existing property boundaries and implies that an individual site FAR of 3.5:1 could deliver this outcome.

34) The modelling in Ms Heggen’s expert evidence report for 90-96 Johnson Street is inaccurate. It does not reflect the controls nor does it represent a realistic building. This means that her conclusion on the significant gap between the potential yield delivered by the FAR and the potential yield delivered by the built form controls is also incorrect.

35) The modelling in Mr McGurn’s work varies in accuracy, but does include a number of examples of unrealistic buildings.

36) The modelling by Ms Heggen and Mr McGurn incorrectly exaggerates the difference between the potential development possible via the FAR and the potential building envelope.
Do the alternate models respond to the preferred character for the various precincts in the Fishermans Bend Urban Renewal Area as articulated in the draft MSS?

37) The DDO includes a Design Objective ‘To encourage a diversity of architectural styles and building typologies, to create a place of architectural excellence, and an engaging and varied built form in response to the desired/preferred place and character.’

38) The preferred character for each precinct is stated for the overall precinct and sub-precincts within the draft MSS.

39) These have also been documented within the tabled ‘Proposed Precinct Character’ statements for Montague and Sandridge which include precedent images of the preferred character outcomes for each sub-precinct.

40) Mr Sheppard refers to the overarching character statement for Montague and Sandridge of which he is supportive. He does not refer to the preferred character statements for each sub-precinct. Mr Sheppard’s omission of the sub-precinct character statements is surprising considering his stated position that there is insufficient thought given to the preferred character to inform the built form proposals.

41) Ms Heggen does not refer to the preferred overall character statements nor the statements for each sub-precinct.

42) Mr McGurn includes character statements for the overall precincts and the sub-precincts in his report.

43) All three experts state that the starting position for considering urban design outcomes in Fishermans Bend should be maximising the number of people that can be accommodated in Fishermans Bend within a desired built form character and amenity outcomes.

44) None acknowledge that extensive and iterative built form testing has been undertaken to assess the overall acceptable densities in Fishermans Bend together with the preferred character as defined in the draft MSS.

Modelling within the Montague Core

45) The alternate models for Montague Core are illustrated through the individual site models prepared by Mr Sheppard and Mr McGurn.

46) The Montague Core area includes two sub-precincts, M1 and M5. Both of these include preferred character outcomes that incorporate:

- a range of mid-rise and tower buildings, including hybrid developments [Montague North includes reference also to perimeter blocks]
- well-spaced, slender towers
- location and design of towers to minimise overshadowing of Buckhurst Street and Normanby Road spine
- lower street wall heights on north of Buckhurst spine and north of Normanby Road
- provision of private and communal open space within development with good access to sunlight [M1 in Montague North only]

47) A number of sites have been modelled in the Montague core area. They all include tower developments which are supported, however, they do not include many of the other key attributes sought, including:

- mid-rise buildings and hybrid envelopments
- perimeter block developments
• provision of private and communal open space within the development

Mr Sheppard notes that ‘the proposed maximum FAR prevents many properties from reaching anywhere near their preferred maximum heights... Further... I consider the preferred maximum heights in some areas to be unjustifiably low. This indicates that the proposed maximum FAR unnecessarily limits and unreasonably the development potential of this land’ [paragraph 60].

This ignores the character statements for the sub-precincts which do not suggest that a tower maximised to the height limit is desirable on every site.

By comparison, the preferred outcome illustrated in Addenda 2 of my expert witness report demonstrates the delivery of hybrid development models. This is further demonstrated in Figure 6 of this report which compares the modelling of Mr Sheppard, Mr McGurn and my own modelling.

Modelling within the Montague Non-core

The alternate models for Montague Non-core are illustrated through the individual site models prepared by Mr Sheppard.

The individual models for the non-core generally support the preferred character outcomes as they include mid-rise buildings with varying street wall heights.

The alternate models for Montague Core are also illustrated through both ‘alternate models of higher density development’, a ‘Barcelona’ model and a ‘Hybrid model’ [paragraphs 63 and 64] in Mr Sheppard’s work.

As stated above, these block models do not relate to the existing property boundaries. They also would not deliver an essential part of the Montague non-core character which is the retention and expansion of the laneway network.

Modelling within the Sandridge Core

The alternate models for Sandridge Core are illustrated through the individual site models prepared by Mr Sheppard.

In general they support the preferred character as outlined in the draft MSS.

Modelling within the Sandridge Non-core

The alternate models for Sandridge Core are illustrated through the individual site models prepared by Mr Sheppard, Mr McGurn and Ms Heggen.

All three experts include modelling within the sub-precinct S5. Sub-precinct S5 includes the following preferred character outcomes:

• Hybrid developments of mid-rise perimeter blocks and tower developments
• Slender towers located to minimise overshadowing impacts on streets and linear parks
• Provision of private and communal open space with good access to sunlight to provide high levels of amenity for residents and workers
• A variety of street wall heights between 4 and 8 storeys to contribute to architectural diversity within the street and provide opportunities for portions of the street to receive greater levels of sunlight access throughout the day

None of these preferred attributes have been included in the modelling done by the three experts.

The very loose ‘fit’ between the FAR of 3.3:1 and...
**Preferred character - two options for hybrid developments**

- **Mr Sheppard's modelling (updated evidence)**
  - Fit: 45%
  - Large slab podium which includes the minimum commercial requirement and all required car parking
  - Laneway not included

- **Mr McGurn's modelling**
  - Fit: 47%
  - Additional laneway to maximise useability of podium

Figure 6: Modelling for 228-238 Normanby Road by Mr Sheppard (top-left), Mr McGurn (top-right) and Ms Hodyl (bottom - which illustrates two alternate options for delivering a FAR of 6.3:1 as per my recommendation and hybrid developments as per the preferred character outcomes)

Amendment GC81 Fishermans Bend Panel Urban Design Expert Witness Report - Addenda 6 | Hodyl + Co
61) The modelling for 90-96 Johnson Street within Ms Heggen’s work locates the required communal open space at the perimeter of the building. This space would be far less useable than if this open space was incorporated within the development (which would meet the character objectives). An alternate proposal is illustrated in figure 8.

62) The modelling for 60-82 Johnson Street within Mr Sheppard’s work includes the minimum required communal open space as a linear east-west park between two linear 10 storey buildings. This would result in an overshadowed space. Including this within a perimeter block type development would be a far preferable outcome and enable lower building on the north of the site with one tower of 24 storeys on the south.

Conclusions

63) The sub-precinct character statements have been omitted from Mr Sheppard’s and Ms Heggen’s work.

64) Mr Sheppard’s modelling for the Montague non-core and Sandridge core are generally aligned with the preferred character.

65) Mr Sheppard’s modelling for the Sandridge non-core does not reflect the preferred character.

66) Mr Sheppard’s modelling for the Montague core reflects one element of the preferred character - tower-podium typologies - but does not demonstrate other desirable character attributes such as building diversity and hybrid developments.

67) Mr Sheppard’s recommendation for taller buildings on key corners can be accommodated within the proposed controls. No additional changes are required.

68) Mr Sheppard’s modelling of the proposed controls in Montague non-core have a stronger relationship to the preferred character as outlined in the draft MSS than his alternate models (Barcelona and hybrid).

69) Ms Heggen’s modelling of 90-96 Johnson Street demonstrates a disregard for the preferred character as outlined in the draft MSS for this sub-precinct.

70) Mr McGurn’s modelling for Montague North generally relies on unrealistic building designs which results in buildings that have almost no relation to the preferred character as outlined in the draft MSS.

71) As the preferred character outcomes have been ignored in the modelling for sub-precincts in Montague core and Sandridge non-core, it is not surprising that these experts perceive a disconnect between the proposed FAR and the building envelopes.

72) The overall building envelopes are being ‘read’ by these experts as defining the preferred character in each precinct. This is not correct.
2.2 What are the implications for the CitiPower landholding?

The particular issues that relate to the CitiPower site in part go to the interrelationship between the FAR and FAU. A 3D modelling exercise was undertaken by my office to explore and test these techniques on a relatively unconstrained site in terms of the proposed statutory control regime.

The CitiPower site is located on the eastern edge of the Sandridge Precinct in a non-core area. The FAR for the Sandridge non-core area is 3.3:1. The DOO specifies a preferred building height of 67.8m with a combination of nominated street wall height, setbacks and building separation dimensions depending on the ultimate overall height of a building. There are no nominated district, precinct or neighbourhood parks in the vicinity of the CitiPower site that would influence the shape of any building volume by virtue of a consequential shadow impact on any such park. Similarly there are no street or laneway widenings proposed that would reduce the developable area.

On this basis two potential 3D options were modelled to test firstly the allowable FAR outcome and then what the extent of the possible FAU might look like.

The two 3D options are depicted in Figure 4.

What can be seen from these 2 examples is that by comparison to the preferred overall building height, the FAR allows for only 25%-33% of the potential development outcome if an FAU is taken up.

Acknowledging that the selected category of FAU public benefit would have an impact on the balance 66%-75% development yield where say affordable housing was to be delivered on site, the 3D models do demonstrate the significant divergence between the nominated FAR and the potential FAU outcomes.

In terms of a built form solution there appears to be no obvious reason why the FAU outcome would not be considered acceptable particularly given it accords with other built form controls.

I note that Ms Hodyl’s Addenda 2 includes massing studies (at pages 18 and 19) of 2 blocks at the western end of the Sandridge precinct. Her modelling also confirms that in a number of other instances there is a considerable divergence between density and built form outcomes between the mandatory FAR and discretionary FAU. This position is not just merely ensuring that a variety in skyline profiles is created.

A threshold question that this disparity raises is, “Is it an appropriate planning practice that there is such a great divergence between the mandatory FAR and discretionary FAU built form outcomes even if extremely valuable infrastructure is extracted?”

**Figure 7** Modelling for 90-96 Johnson Street in Addenda 2 which supports proposed character - hybrid development and useable communal open space.

**Figure 8** No. 90-96 Johnson Street, South Melbourne, 24 Storey Option [Ms Heggen’s, p 7] which includes communal open space [shown in yellow] located around the perimeter of the building. This would be less useable space than if the communal open space was incorporated within the development in a more useable shape [as shown below].
3. Are Mr Sheppard’s proposed changes to the draft built form controls (including height controls) in draft Amendment GC81 supportable by reference to the preferred character as articulated in the draft MSS?

Mr Sheppard includes the following recommendations in regards to the draft built form controls for Montague:

1. Revert the overall building height limits in the Montague Core to 40 storeys in Montague North and 30 storeys in Montague South between Gladstone Street and Buckhurst Street, from 134-150 Buckhurst Street to Kerr Street
   - The preferred character for Montague North includes ‘heights, location and position of towers that allows for sunlight access to the southern side of Normanby Road at September equinox’. The 20 storey height limit achieves this.
   - The sub-precinct character for Area M5 includes that the ‘location and design of towers (should) minimise overshadowing of Buckhurst Street spine’ [draft MSS]
   - Reversion to 40 storeys and 30 storeys is not supported as it will result in significant overshadowing (as demonstrated in tabled document).

2. Revert the maximum building heights north of Montague Park North and the Thistlethwaite Street Park to the surrounding maximum building heights
   - The preferred character for Montague North includes ‘the creation of a high quality, high amenity public realm’ [Clause 21.06-8. Document 66c, p35].
   - The site north of Thistlethwaite Street Park should remain as 4 storeys. This could be converted to discretionary height but only if the overshadowing controls remain mandatory.
   - The maximum building heights north of Montague Park North have been adjusted to protect the proposed new park from overshadowing. Reversion to the previous maximum of 40 storeys is therefore not supported.
   - The preferred character statement for Montague South includes that ‘Parks... provide high quality social spaces to gather, relax and connect’ [Clause 21.06]. Access to sunlight is critical to creating welcoming, attractive parks, particularly in the cooler months.
   - The DDO includes a maximum 4 storey height limit for the sites to the north and east of the new Thistlethwaite Street Park. The modelling by Mr Sheppard and me demonstrates that modelling a building in the order of 8 storeys results in acceptable overshadowing if the upper floors are setback above the street wall. Reversion to 30 storeys is not supported, however, the introduction of an 8 storey height limit is supported with a maximum street wall height of 6 storeys.

3. Increase the maximum building height for the Gladstone Street properties that are recommended by Ms Hodyl to form part of the core to match the surrounding maximum heights
   - The preferred character for area M4 which includes these Gladstone Street properties is ‘generally a mid-rise scale of development with opportunities for additional upper levels that are visually recessive from the street and do not result in podium-tower forms’. The properties along the northern side of Gladstone Street do not need to increase their maximum building height to reach the maximum FAR of 6.1:1 as currently proposed,
nor to reach the maximum FAR of 6.3:1 as I have recommended. This is demonstrated in my Addenda 2 report.

- These properties are only 26 metres deep and vary in width from 5 to 60 metres. The shallow depth means that a building with 100% site coverage is supportable and will deliver high levels of internal amenity with access to a minimum of 2 street frontages. These attributes make these ideal sites to support mid-rise development.
- Increasing the height limits to 20 storeys would result in unacceptable overshadowing of the south side of Gladstone Street.

4. Prepare detailed precinct plans, in conjunction with landowners, to resolve the optimum built form model, density and open space pattern for each part of Montague

- The requirement for the preparation of precinct plans to determine the optimum built form model, density and open space pattern is discussed in greater detail below.

5. Replace the mandatory 4-storey height limit on City Road with a discretionary maximum 4-storey street wall height, and a discretionary minimum 10m setback above.

- The 4 storey mandatory height limit along City Road is proposed to ‘ensure that the precinct is well integrated with its neighbours’ (draft MSS).
- This same condition is proposed along Williamstown Road interface in Sandridge and Wirraway.
- The impact of this proposed change for Williamstown Road is illustrated in figure 9. An additional 2 floors (total of 6 storeys) has minimal visual impact from within Bridge Street looking north. An additional 4 storeys, however, has a significant visual impact on the street. This modelling also demonstrates a 4 storey street wall height - making this discretionary means that even taller street walls may be supported.
- The replacement of the mandatory 4-storey height limit with a discretionary 4 storey street wall height is therefore not supported.
- The interface with City Road is a far more sensitive interface as it includes heritage buildings along the northern frontage. The visual impact would be similar to that modelled for Williamstown Road, however greater attention would be needed to consider potential visual impact in the proximity of heritage buildings.
- The introduction of a mandatory 4 storey street wall with a mandatory maximum of 6 storeys with the upper 2 floors set back a mandatory maximum of 10 metres behind the street wall is supported along City Road and Williamstown Road.
- Considering the development pressures on Fishermans Bend, it is critical that these controls are mandatory to provide the certainty that the transition from higher density areas within Fishermans Bend to the lower scale neighbourhoods will occur.

6. Remove the secondary active frontage requirement from within Montague Park North.

- The removal of this requirement will not compromise the preferred character sought in Montague North and is supported.
- Passive surveillance of the park from the adjacent development should still be required to support the creation of a safe park.

Prepare detailed precinct plans, in conjunction with landowners, to resolve the optimum built form model, density and open space pattern for each part of Montague

Mr Sheppard’s recommendation rests on two key propositions:
Figure 9 (left) Views from within Bridge Street (south of Williamstown Road) looking north towards Fishermans Bend and (right) views looking along Williamstown Road towards the west.
• The FARs are too low - the degree of ‘fit’ is too ‘loose’ between the permissible yield enabled through the FAR and the built form envelope
• The FARs and built form controls have not been developed in response to the preferred character outcomes but driven by population targets.

**The FARs are an appropriate ‘fit’ to deliver the preferred character defined for each precinct**

81) This is a key proposition central to the recommendation made by Mr Sheppard and also Ms Heggen and Mr McGurn. They suggest the need to increase the FAR controls to improve the ‘fit’ between the potential yield allowed by the FAR and the potential yield allowed by the built form envelope. They say that, within the proposed controls, there is too much of a ‘loose fit’.

**New South Wales**

82) Recommended practice when preparing development controls in NSW is to pair a FAR with a built form envelope control (determined by the height limits, setbacks and site coverage controls).

83) In NSW a FAR is referred to as a Floor Space Ratio (FSR).

84) The recommended ‘looseness’ of fit is that the ‘allowable gross floor area should only ‘fill’ approximately 70% of the building envelope... In new urban areas or where an existing neighbourhood is undergoing change, building envelopes should be tested prior to setting FSR controls (p32)’. This guidance applies to the relationship between the FAR and the building envelope. **It is a relationship between a FAR and the net site area.**

85) In regards to building envelopes the guide states that ‘A building envelope should be 25-30% greater than the achievable floor area to allow for building components that do not count as floor space but contribute to building design and articulate such as balconies, lifts, stairs and open circulation space (p32).

86) As this indicates, the application of FAR controls in NSW exclude some elements of the internal building design. This is also the case in Fishermans Bend where internal communal facilities are proposed to be excluded. It also supports additional circulation space around the buildings in both NSW and Fishermans Bend instances. There are a greater amount of exclusions, however, within the NSW controls.

87) Setting a ‘fit’ at 70% incorporates an allowance for these different approaches. The greater amount of exclusions in NSW would mean that the overall floor area permissible for the same FAR would be greater.

88) The NSW guidance does not acknowledge the need to allow for additional yield that could be delivered via incentives (the NSW equivalent of a FAU). This seems to be an omission as NSW has an established incentive scheme.

89) The guide notes ‘it is important to note that FSR controls set the theoretical maximum capacity. It may not always be possible to reach the maximum allowable floor space due to other development controls or constraints specific to the site such as lot size or shape, existing landscape features, neighbouring properties or heritage considerations’ (p32)’
The aims when setting a FAR are to:

- ensure that development aligns with the optimum capacity of the site and the desired density of the local area
- provide opportunities for building articulation and creativity within a building envelope by carefully setting the allowable floor space (p32)

The guide notes that ‘commercial and retail developments generally fill 80-85% of their envelope (p33)’

Indicative relationships between built form massing and different floor space ratios is illustrated in figure 10. This illustrates the indicative relationship between a FAR and height limits. It assumes that all buildings on the site are approximately the same height.

The guide states that ‘when determining the floor space of a precinct plan, the net floor space is based on the whole site area including streets and open spaces. This will be significantly lower than the net floor space of individual parcels within the precinct plan (p25).

The result of this approach is illustrated in figures 11 and 12 for Pyrmont. This is a highly tailored approach which results in highly prescriptive controls for every development site. It is highly likely if this approach was adopted for Fishermans Bend that some sites would result in decreased yield that is currently proposed. This approach would also remove the certainty of equity that is incorporated into the current controls.
The area of Pyrmont is 100 hectares, similar to Wirraway (94 hectares) or Sandridge (86 hectares). Approximately 2/3 of Pyrmont area is illustrated on the map above.
Figure 12 Sydney Local Environment Plan 2012, Pyrmont - Building height controls
Western Australia

95) The draft Apartment Design code for Western Australia states that 'Building envelopes should be at least 25% greater than the allowable plot ratio area ... to allow for voids and building components that do not count as plot ratio are but contribute to the building design and articulation such as balconies, lifts, stairs and open circulation [p31]'. This guidance applies to the relationship between the FAR and the building envelope. It is a relationship between a FAR and the net site area.

96) It goes on to state 'Often the building envelope will be substantially larger than the allowable plot ratio area. This enables flexibility of built form configurations within the building envelope [p31]'.

97) It states 'There may be instances where the allowable plot ratio can not be accommodated within a building envelope' [p31].

98) It also states that 'when determining plot ratio controls, maximum building envelopes can be used to test the plot ratio, including any potential incentives and bonuses' [p33].

Summary of guidance from other states

99) Across both States there is similar guidance which can be summarised as:

- The potential yield allowable from the FAR should be approximately 70% of the overall potential yield within the building envelope
- This applies to net site area
- An FAR applied to the gross site area will be lower than the FAR applied to the net site area
- On some sites the potential yield will not be possible within the built form envelope
- On some sites the yield possible within the built form envelope will be 'substantially larger' than the allowable plot ratio to support flexibility of built form configurations.
- The FAR and envelope should be set to allow 'creativity', 'flexibility' and to support 'potential incentives and bonuses'

100) Mr Sheppard's work demonstrates that when the design of the building is taken into account the fit between the FAR and the building envelope is not as 'loose' as indicated by the McGurn and Heggen evidence.

---

Determining the appropriate ‘fit’ for Fishermans Bend

Flexibility and diversity is important
- The FARs and building envelopes in Fishermans Bend have been designed to deliver diverse outcomes. This is needed to ensure diversity is ‘designed in’ otherwise it will not be delivered.
- This is evident in the expert reports which all support the concept of diversity but then argue that the FARs should be set to more closely align with the building envelope.

Gross vs net FAR
- Fishermans Bend uses an average gross FAR rather than calculate net FARs for every single site.
- This ensures development equity when a site is required to deliver new streets, open spaces or laneways. It means, however, that the potential fit will be looser than when using net site controls.
- Ensuring equity of yield means that the degree of ‘fit’ will vary across sites dependent on whether they includes a new street, laneways or parks.

The 70% rule of thumb applies to all buildings having same building height - it does not support hybrid developments

The MSS character statements emphasise in many locations the desire for ‘hybrid developments’ - this means a tower mixed with lower buildings (not just on a podium) and perimeter blocks. The ‘fit’ for this type of development will be less than 70%.
- This is demonstrated in figure 13 which illustrates that the fit for the 24 storey tower on its own or the 8 storey mid-rise building on its own would be approximately 75%.
- Together, however, with the overall height limit set at 24 storeys to enable the tower to be located anywhere across the site, the fit reduces to 43%.

Figure 13 Impact on the preferred degree of ‘fit’ between the FAR and the built form envelope for hybrid developments.
Supporting incentives (FAU)
• The ‘looser’ fit also supports the delivery of FAU on some sites.
• The need to consider incentives is noted in the Western Australia guidelines.

Discretionary heights
• The discretionary heights mean that there is only 1 site that has been identified to date where the fit is too ‘tight’.

Design excellence
• The ‘looser’ fit promotes design excellence as the building can be optimised to deliver better design outcomes (cross-ventilation, building separation, outlook, etc.)
• It ensures that the building design does not merely ‘fill-up’ the envelope with little variation or room for creative responses.

Sandridge
102) Mr Sheppard includes the following recommendations in regards to the draft built form controls for Sandridge:

1. Remove the overall building height limits in the Sandridge core
• This is not supported as the heights deliberately transition down towards the non-core areas towards Wirraway. This transition is important.
• The height limits respond to the overshadowing requirements, making it easier for the community to understand the scale of buildings that will be developed.

2. Amend the proposed open space network in accordance with Ms Thompson’s recommendations.
• [This is outside of scope of this Addenda]

3. Prepare detailed precinct plans, in conjunction with landowners, to resolve the optimum built form model, density and open space pattern for each part of Sandridge.
• As noted above for Montague, this is not required.
• The proposed controls for Sandridge have been tested extensively and through an iterative process to ensure that they respond to the preferred character within each sub-precinct and that they deliver overall densities that are aligned with the character outcomes and the proposed infrastructure investment.

4. Replace the site coverage control in the non-core area of Sandridge with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall.
• This could be supported in some circumstances, however, the preference would still be to retain the
communal open space on ground. This will provide an easy connection to the street, support the growth of significant trees and reduce the amount of impervious area within a site.

- The recommendation by the City of Port Phillip to ensure that this communal open space is directly connected to the external public realm would address this.

Conclusions

107) The alternate modelling included in the expert witness reports ignores the preferred character outcomes for Sandridge non-core and Montague core.

108) This has created the perception that there is a misfit between the FAR and the building envelopes as these are the two precincts where hybrid developments are strongly supported.

109) The maximum height limits are not the over-riding drivers of character. Just because a tower height limit applies, this does not mean that the preferred character is multiple towers across the whole site.

110) Rather, the building envelope controls are structured to support three different typologies, often within the same site, including:

- podium and tower developments
- mid-rise 'infill' developments
- perimeter block developments

111) When taking this into account, the perceived 'misfit' disappears.

112) To deliver the preferred character in each precinct, the proposed FAR controls, together with the proposed building envelope controls must work on the majority of sites and support the overarching objective to deliver a diverse, characterful place that includes these three different building typologies.

113) This has been tested extensively within Fishermans Bend and it has been demonstrated that:

- the preferred character as defined in the draft MSS for each sub-precinct is supported by the FAR and the building envelope controls
- the FARs and building envelope controls support the delivery of new open space, streets and laneways without compromising the preferred character.
- if the fit is very 'loose' on a site, the opportunity to take up a FAU exists.