# Contents

1.0 Introduction .............................................................................................................. 4

2.0 Council’s vision for Wirraway ............................................................................ 6
   Key moves.................................................................................................................. 6
   Refined preferred character and typologies ......................................................... 8

3.0 Proposed structural changes ............................................................................. 12
   Changes to laneways .............................................................................................. 12
   Wirraway Sport and Recreation Hub, Art and Cultural Hub, 
   Education and Community Hubs and Health and Wellbeing Hub .............. 16
   Defining Active Frontages and a Core Retail Area ........................................... 20
   Urban Structure ..................................................................................................... 24

4.0 Building heights, typologies and street walls .................................................. 26
   Plummer Street Core Area.................................................................................. 26
   Mid-rise development ......................................................................................... 39

5.0 Summary of recommendations for Wirraway .................................................. 43

6.0 Appendices ............................................................................................................ 52
   Appendix 1. Built form modelling assumptions ............................................... 52
   Appendix 2. FAR/FAU testing ............................................................................. 54
1.0 Introduction

This report focuses on Wirraway, identified in the September 2016 Endorsed Vision as a family friendly neighbourhood in Fishermans Bend. Council considers Wirraway has the potential to become more than just a family friendly neighbourhood. Wirraway will support a diverse community and will be built around a framework of leafy parks, squares and streets. A new retail heart will be established. Offices, homes, shops, hotels, leisure and community facilities, music venues, galleries, bars and restaurants will all have a place there.

This report is one of four Urban Design Reports prepared by Council to inform its submission to the Planning Review Panel:
- Fishermans Bend Planning Review Panel Urban Design Report (Overarching)
- Montague Precinct Urban Design Report
- Sandridge Precinct Urban Design Report
- Wirraway Precinct Urban Design Report

This report is consistent with and supplements Council’s adopted submission of 13 December 2017, however the report itself has not been specifically endorsed by Council.

The report documents and tests the refinements Council is seeking to the draft Framework and planning controls to better define the future character of Fishermans Bend and its precincts, enhance liveability, encourage diverse building typologies and enhance the operation of the planning controls which implement it.

3D Modelling methodology and assumptions

To inform its position, Council has prepared two built form models based on different scenarios. They were prepared between October 2017 and March 2018.

1. Design and Development Overlay (DDO) Model

The first is a model based on the draft Framework and proposed planning controls.

This model is referred to as the DDO model.

Floorplate assumptions were also applied to create realistic building envelopes (see Appendix 1).

2. Council’s Preferred Outcome model

The second model is based on Council’s preferred outcomes.

This model encapsulates and tests the outcomes and changes requested in Council’s endorsed submission, including changes to public open space, community infrastructure and laneways which would then inform changes to the planning controls/policy.

It is also a basic extrusion model, and uses floorplate assumptions to create realistic building envelopes (see Appendix 1). Section 1.3 of Fishermans Bend Planning Review Panel Urban Design Report (City of Port Phillip, April 2018) outlines the differences between Council’s models and other 3D models, a summary of the methodology, case study selection, assumptions and limitations.

The Council models illustrate the maximum achievable building envelopes up to the discretionary height limit, assuming FAR and FAU.

Hammarby Sjöstad, Stockholm, Sweden 197 by Design for Health

342-348 Victoria Street, Brunswick (Design: Fieldwork, Visualisation: Gabriel Saunders, Client: Australian Licorice Company Pty Ltd)

Melbourne Recital Centre (Architect: Ashton Raggatt McDougall (ARM), Image: Ian McDougall for Ashton Raggatt McDougall (ARM) (2009), https://www.flickr.com/photos/88017382@N00/9670578067)

Trafalgar Place in Elephant & Castle, London by dRMM Architects for Lendlease (Photographer: Alex de Rijke)

2.0 Council’s vision for Wirraway

Wirraway is envisaged as ‘a family friendly inner city neighbourhood close to the Bay and Westgate Park’ and a ‘place for people of all ages’, a vision strongly supported by Council.

However a more detailed understanding of Wirraway is needed to assess whether the proposed planning controls are likely to achieve the endorsed vision, preferred character and built form typologies and create a distinct and vibrant new place.

Key moves

Council’s key moves build on and refine the endorsed vision and draft Framework. They identify the key elements of Wirraway in more detail and describe how they fit together. They also describe how Wirraway and its sub-precincts might look, feel and function in the future.

Council’s key moves for Wirraway are (see Figure 1):

• Creation of a new community heart (retail and lifestyle precinct) at the intersection of Plummer and Salmon Streets providing convenience shopping, a potential cinema, fresh food market and creating a series of intimate lanes and plazas.

• Overall, Wirraway has a lower scale, more intimate feel than Sandridge with a wider range of mid-rise building typologies.

• Development of Plummer Street as the key east-west civic boulevard (connecting Wirraway and Sandridge), prioritising pedestrians, cyclists and the tram with a mix of retail, commercial and community uses to activate the street.

• A focus on predominantly mid-rise scale development with internal courtyards, green walls and roofs (e.g. courtyard and perimeter blocks).

• Mix of residential and commercial uses in the Core Area with more commercial uses and service industries in Non-Core Areas closer to the West Gate Freeway.

• A wide range of community facilities to cater for residents, families and workers:
  - Sport and Recreation Hub in Prohasky Park to create a terminating vista to the Plummer Street Civic Boulevard and activate the open space.
  - Art and Cultural Hub in a landmark building on Plummer Street.
  - Education and Community Hubs (primary and secondary schools) in close proximity to JL Murphy Reserve and Prohasky Park.

• Extensive green open spaces with a mix of sporting fields, water in the landscape, contemplation, informal small gatherings and play.

• Creation of an extensive network of green links:
  - Leafy streets connecting areas of large open space (e.g. Tarver Street).
  - Off-road recreational bike link (e.g. Smith Street and Woolboard Road).
  - Improved amenity underneath the transmission lines.
  - Connecting to surrounding neighbourhoods (e.g. Port Melbourne, Sandridge Beach, Sandridge).

• Vehicle, cycling and pedestrian bridge connections from Wirraway into the Employment Precinct.

Key differences between the draft Framework and Council’s vision for Wirraway:

• A defined location for the Core Retail Area

• Specific locations for the Sport and Recreation, Art and Culture and Education and Community Hubs.

• New locations for laneways focussing predominantly on north-south rather than east-west laneways.

• A more detailed description of the preferred character for different parts of Wirraway (see Refined preferred character and typologies section below).

1 Fishermans Bend Vision, September 2016
Public open spaces
Extensive green open spaces throughout Wirraway which include a mix of sporting fields, water in the landscape, spaces for contemplation, informal small gatherings & play.

Opportunities for a range of mid-rise building typologies
A focus on predominantly mid-rise buildings with internal courtyards, green walls and roofs (e.g. courtyard and perimeter blocks).

Plummer Street
A Civic Boulevard that prioritises pedestrians, cyclists and the tram with mix of retail, commercial and community uses to activate the street. An Art and Cultural Hub in a landmark building on Plummer Street adjacent to the Core Retail Area and opposite JL Murphy Reserve.

JL Murphy Reserve
JL Murphy Reserve will become the premier open space in the precinct providing space for both active sports and passive recreation. Opportunities for some activation of the reserve along Plummer Street (e.g. kiosks / pop ups).

Education and Community Hubs
Located in close proximity to the reserve.

Figure 1. Wirraway Key Moves

Prohasky Park
Sport and Recreation Hub in Prohasky Park to terminate the vista down Plummer Street and activate the new large primarily active recreation reserve.

Wirraway North
Potential location for a key business cluster building on the existing small businesses. This cluster of small to medium enterprises could focus on urban manufacturing, research and development and service businesses.

Plummer / Salmon Street Core Retail Area
Creation of a new community heart (retail and lifestyle precinct) along Plummer / Salmon Streets, with the Core Retail Area providing convenience shopping, with potential for attractors such as a cinema and fresh food market.

Green Links
An extensive network of green links including leafy streets connecting areas of large open space (e.g. Tarver Street), off-road recreational bike links (e.g. Smith Street & Woolboard Road), improved amenity underneath the transmission lines and improved connections to surrounding areas (e.g. Port Melbourne, Sandridge Beach, Sandridge).
Refined preferred character and typologies

The preferred character statements provide important detail in terms of identifying typologies and character sought in specific parts of Wirraway.

However as outlined in Council’s Stage 2 submission and the Overarching Urban Design Report, they could be enhanced to play a stronger role in describing the outcomes / character sought.

Council considers that these statements are more akin to built form outcomes typically found in a DDO schedule and could be strengthened through their inclusion in a precinct-specific DDO.

To reflect Council’s vision for Wirraway, a number of changes are recommended - see Figure 2, Figure 3 and Table 1 (track-changes shown - additions in blue, deletions in red).

**RECOMMENDATION 1:**

- Amend sub-precincts and preferred character statements as per Figure 2 and Table 1 and move from Clause 21.06-8 to DDO30.
<table>
<thead>
<tr>
<th>Area W1 – Wirraway North</th>
<th>Preferred character</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Generally mid-rise developments:</td>
</tr>
<tr>
<td></td>
<td>- with potential for commercial uses, including campus style developments and smaller scale commercial spaces that support creative industries, north of Woolboard Road.</td>
</tr>
<tr>
<td></td>
<td>- including block (such as courtyard and perimeter block developments), hybrid and narrow lot developments, south of Woolboard Road extension.</td>
</tr>
<tr>
<td></td>
<td>Retention and adaptive reuse of heritage and character buildings.</td>
</tr>
<tr>
<td></td>
<td>Provision of private and communal open spaces within developments with good access to sunlight. Landscaped spaces at ground level through the provision of lanes / through block links, plazas, courtyards and communal open space to provide high levels of amenity for residents and workers.</td>
</tr>
<tr>
<td></td>
<td>Create a sense of address for properties fronting the Woolboard Road Linear Park and new Wirraway North Park.</td>
</tr>
<tr>
<td>Area W2 – Wirraway Central</td>
<td>Slender towers - Mid-rise scale buildings with taller elements and block developments (including perimeter developments) located to minimise overshadowing impacts on Plummer Street.</td>
</tr>
<tr>
<td></td>
<td>Development is built to the boundary at the street.</td>
</tr>
<tr>
<td></td>
<td>Lower Varied street wall and mid-rise building heights along Plummer Street to create a fine grain character, create a neighbourhood scale for the Retail Core and maximise the amount of sunlight penetrating between tower elements to reach the southern side of the street.</td>
</tr>
<tr>
<td></td>
<td>Provision of private and communal open space within developments with good access to sunlight to provide high levels of amenity for residents and workers.</td>
</tr>
<tr>
<td></td>
<td>Creation of a network of new lanes and plazas in the Core Area.</td>
</tr>
<tr>
<td></td>
<td>Development is lower scale than the Sandridge Core.</td>
</tr>
<tr>
<td></td>
<td>Activation of Plummer Street through a diversity of fine-grain street frontages nominally 4-10 metres wide and entrances to buildings.</td>
</tr>
<tr>
<td></td>
<td>Activation of new north-south connections that connect to Plummer Street through a diversity of fine-grain frontages, nominally 4-8 metres wide.</td>
</tr>
</tbody>
</table>

Table 1. Changes to preferred character statements proposed by Council
<table>
<thead>
<tr>
<th>Area</th>
<th>Preferred character</th>
</tr>
</thead>
</table>
| Area W3 – Wirraway South | - Generally a low-mid rise scale of development, including adaptive reuse of heritage / character buildings, narrow lot, row, block and hybrid developments, with opportunities for additional upper levels that are visually recessive from the streets and JL Murphy Reserve and do not result in podium-tower forms.  
- Any upper levels above the street wall are visually recessive when viewed from streets and JL Murphy Reserve.  
- 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 streets to receive greater levels of sunlight access throughout the day.  
- Creation of small landscaped frontages to Williamstown Road.  
- Landscaped spaces at ground level through the provision of lanes / through block links, plazas, courtyards and communal open space to provide high levels of amenity for residents and workers. |
| Area W4 – Wirraway East | - Generally a mid rise scale of development, including adaptive reuse of heritage and character buildings, narrow lot, row, block and hybrid developments, with opportunities for additional upper levels that are visually recessive from the streets and JL Murphy Reserve and do not result in podium-tower forms.  
- Development is built to the boundary along the Plummer Street Civic Boulevard.  
- Provision of active frontages to Plummer Street.  
- Provision of private and communal open space within developments 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. |

Table 1 (continued). Changes to preferred character statements proposed by Council.
**Area W1 – Wirraway North**

Generally mid-rise developments with potential for commercial uses, including campus style developments and smaller scale commercial spaces that support creative industries, north of Woolboard Road and block (such as courtyard and perimeter block developments), hybrid and narrow lot developments, south of Woolboard Road extension.

**Area W2 – Wirraway Central**

Mid-rise scale buildings with taller elements and block developments (including perimeter developments) located to minimise overshadowing impacts on Plummer Street.

**Area W3 – Wirraway South**

Generally a low-mid rise scale of development, including adaptive reuse of heritage / character buildings, narrow lot, row, block and hybrid developments and do not result in podium-tower forms.

**Area W4 – Wirraway East**

Generally a mid rise scale of development, including adaptive reuse of heritage / character buildings, narrow lot, row, block and hybrid developments, and do not result in podium-tower forms.

---

*Figure 3. Council’s preferred building typologies within Wirraway sub-precincts*
3.0 Proposed Structural Changes

Changes to laneways
Issues and background

Locations of laneways

While the draft Framework emphasises the importance of laneways, they are not identified in any plans which form part of Amendment GC81. However they are shown in Precinct Actions – Delivering Wirraway in the draft Framework (see Figure 4).

Proposed policy (in Clause 22.15) encourages laneways no more than 100 metres apart in Non-Core Areas and no more than 50m apart in Core Areas or within 200m of public transport routes.

The spacing of some laneways do not meet the target spacing of laneways every 100 metres (see Figure 4).

Figure 4. Laneways proposed in Amendment GC81
• A combination of east-west and north-south laneways through in key retail areas adjacent to Plummer Street may preclude larger tenancies (e.g. retail anchors such as full line supermarkets).

• The location of lanes are not aligned with property boundaries.

Additionally no minimum laneway width is specified in the planning controls.

The width of lanes can make a significant difference to development potential by affecting the spacing between buildings and the ability to access car parking and loading areas. The width is not only critical to ensuring laneways can accommodate both vehicles and pedestrians, but also in creating future character.

Size and massing of buildings

The spacing (and in some cases absence) of laneways has implications for the size and massing of buildings. As illustrated in Council’s Stage 2 Overarching Submission and supporting Urban Design Report, the proposed spacing of laneways in some areas create narrow buildings with long building mass to the street (see Figure 5). Big, boxy / slab like buildings can have negative impacts on the public realm from large and slow moving shadows, result in poor amenity for building occupants, impact on the skyline and reduce pedestrian permeability.

Council considers it imperative that in addition to ensuring the spacing of laneways creates permeable blocks, that maximum tower dimensions and floorplates are applied to buildings over 13 storeys to address negative impacts. Council has recommended minimum dimensions and floorplates for towers (see Recommendation 9 of Fishermans Bend Planning Review Panel Urban Design Report, City of Port Phillip, April 2018).

Figure 5. Laneway spacing and resulting built form outcomes proposed by Amendment GC81
Preferred outcome

Location of laneways

The location of laneways is not part of the planning controls, however inclusion of the proposed lane network is imperative. Noting the Minister's recent proposals to include Precinct Action Plans in the CCZ1. Changes to the proposed laneway network would help to ensure preferred built form typologies can be achieved, provide better sunlight access and ensure pedestrian permeability (see Figure 6).

A revised network of lanes is proposed (see Figure 7) which:

- Predominantly orientates lanes north-south within the Core Area to enhance solar access to the laneways and creating 50m spacing in one direction (not in both directions).
- Achieves minimum block depths of 50-100m in Non-Core Areas.
- Aligns lanes with property boundaries, where possible.

It is recommended that laneways in Wirraway are 12m wide. 12m wide laneways provide maximum flexibility as they can accommodate two lanes of vehicular traffic, a footpath for pedestrians as well as opportunities for landscaping and tree planting to enhance the landscape character of Wirraway. Further, wider laneways provide a better sense of address, or "front door" to development and a sense of space.

*Building heights and street wall conditions shown in this diagram will be explained in Section 4.*

Figure 6. Laneway spacing and built form outcomes proposed by Council
A 12m laneway is recommended to differentiate between Sandridge where 9m laneways are recommended.

Council considers that laneway width will have a substantial impact on character and amenity. A 9m laneway reinforces the more urban character sought in Sandridge whereas 12m laneways in Wirraway reinforce a sense of space and more neighbourhood feel.

It is recommended that a plan showing laneways is included in the planning scheme controls until further Precinct Planning can be undertaken. These plans are critical to guide future development.

Additionally, it is recommended the proposed definition of laneways should be changed to 12m within Wirraway.

**RECOMMENDATION 2:**

- Amend the CCZ1 and DDO30 to show laneways as per Figure 7, until further work is undertaken through detailed Precinct Planning.
- Undertake further work through Precinct Planning to finalise key laneway locations (including the role of laneways, whether they cater for vehicle, vehicles, and pedestrians or pedestrians only.)
- Amend DDO30 to specify a minimum width of 12m for laneways in Wirraway. Amend the definition of laneway for Wirraway to align with this.
- Amend the draft Framework to reflect these changes.

Proposed laneway spacing meets the target of every 50m in one direction in Core Areas and 100m in Non-Core Areas. Predominantly north-south laneways reduce building mass to the street and provide for larger tenancies in Core Areas (e.g. retail anchors such as supermarkets).

![Figure 7. Laneways proposed by Council](image-url)
Wirraway Sport and Recreation Hub, Art and Cultural Hub, Education and Community Hubs and Health and Wellbeing Hub

Issues and background

As outlined in Council’s Stage 1 submission, nominating specific sites for future community hubs is required to ensure sites are a suitable size to accommodate the hub and ensure that the hubs are appropriately located (close to public transport and retail centres). This would provide much needed certainty to developers and the community.

Wirraway Sport and Recreation Hub

As noted in the work by Mesh, Sport and Recreation Hubs are difficult to deliver within mixed use buildings.

The draft Framework locates the Wirraway Sport and Recreation Hub investigation area as south of Tarver Street (see Figure 8).

The proposed investigation area includes a number of sites which are not large enough to deliver the hub.

The Sport and Recreation Hub will require approximately 10,000 sqm of floorspace with a large majority of this on one level.

The investigation area is also subject to four storey mandatory and discretionary controls which may not accommodate the hub as well as Floor Area Ration (FAR) and Floor Area Uplift (FAU).

Wirraway Art and Cultural Hub

The Wirraway Art and Cultural Hub is shown as an investigation area which includes sites on the Plummer Street Civic Boulevard (see Figure 8).

The proposed model for the delivery of libraries in Fishermans Bend included in the Community Infrastructure Plan (a small library within each Art and Cultural Hub in Fishermans Bend) is not consistent with Council’s preferred service delivery model of one large library, which reflects a clear trend across the sector.

Wirraway Education and Community Hubs

The draft Framework identifies large investigation areas for two Education and Community Hubs in Wirraway, one for a primary school and the other for a secondary school (see Figure 8).

The primary school investigation area is proposed west of Salmon Street and the secondary school investigation area, east of Salmon Street.

Based on current City of Port Phillip attendance rates at government schools, there is a shortfall of proposed primary schools in Fishermans Bend. Council considers that an additional Education and Community Hub (Primary School) should be nominated in Wirraway.

Wirraway Health and Wellbeing Hub

A Health and Wellbeing Hub is proposed for Wirraway. (see Figure 8). This hub would provide a cluster of health services.

The proposed location in Wirraway is not centrally located to Fishermans Bend, and would not service a broad catchment.
Health and Wellbeing Hub is nominated in Wirraway (and not Sandridge or Montague).

Large 'investigation areas' for Education and Community Hubs and Art and Cultural Hub.

Sport and Recreation Hub 'investigation area' has only one site which is able to accommodate the proposed hub (see Council's Stage 1 submission).

Figure 8. Community hub investigation areas proposed in Amendment GC81
Preferred outcome

Council’s preference is that specific sites are selected for each Community Hub, as outlined below.

Wirraway Sport and Recreation Hub

It is recommended that the Wirraway Sport and Recreation Hub is delivered as a stand-alone hub (i.e. not within a mixed use development), within Prohasky Park. This proposed new 8.6 ha park (which includes the existing Howe Reserve) could accommodate a range of active and passive uses (see Figure 9).

The Sport and Recreation Hub would help activate the reserve and create an iconic landmark building which terminates the Plummer Street boulevard. It is also convenient to the Plummer Street Core Retail Area and the proposed tram line on Plummer / Fennell Streets.

Wirraway Art and Cultural Hub

It is recommended that the Wirraway Art and Cultural Hub is located on a site on Plummer Street (Goodman owned land - part of 62 Salmon Street) adjacent to a new public open space, to create a landmark civic building (see Figure 9).

The Art and Cultural Hub configuration in the Fishermans Bend Community Infrastructure Plan should be adjusted to ensure Council’s preferred service delivery model. The Wirraway hub should be amended to include the performance space, rehearsal space and art studios to ensure efficiencies between these uses. The Sandridge hub should include a large library and art gallery.

Due to the structural requirements for the performance space, this hub may need to be delivered as stand-alone community infrastructure site (i.e. not within a larger mixed use development).

Wirraway Education and Community Hubs

Council considers Education and Community Hubs should be nominated on specific sites close to active recreation spaces.

The preferred sites are (see Figure 9):

- Wirraway Education and Community Hub (Secondary School) should be located on the government owned land adjacent to JL Murphy Reserve (477 Graham Street). It is understood that this is the preferred site of the Department of Education and Training (DET).
- The Wirraway Education and Community Hub (Primary School) should be located on the north-west corner of Tarver Street and Smith Street (21 Smith Street). This site is on a local street, which is safer for primary school aged children than an arterial road such as Williamstown Road or Prohasky Street. It is also a short walk to both Prohasky Park and JL Murphy Reserve.
- An additional Wirraway Education and Community Hub (Primary School) should be nominated on the Goodman owned land directly north of JL Murphy Reserve (part of 62 Salmon Street), to make up for the shortfall of primary school and long day care provision. It is understood that Goodman have expressed an interest in providing an Education and Community Hub as part of their development.

Wirraway Health and Wellbeing Hub

The Wirraway Health and Wellbeing Hub should be relocated to Sandridge to serve a broader catchment than Wirraway. No Health and Wellbeing Hub is proposed for Sandridge (see Sandridge Urban Design Report for further details).

RECOMMENDATION 3:

- Include a plan in the CCZ1 showing the Wirraway Urban Structure identifying the following locations for community hubs (see Figure 9):
  - Locate the Wirraway Sport and Recreation Hub on the Prohasky Park.
  - Locate the Wirraway Art and Cultural Hub on Plummer Street (part of 62 Salmon Street) abutting the proposed public open space.
  - Locate the Wirraway Education and Community Hub (Secondary School) on the government owned land adjacent to JL Murphy Reserve (477 Graham Street).
  - Locate the Wirraway Education and Community Hub (Primary School) on the corner of Tarver Street and Smith Street (21 Smith Street).
  - Nominate an additional Wirraway Education and Community Hub (Primary School) on the Goodman owned land directly north of JL Murphy Reserve (within 62 Salmon Street).
- Move the Wirraway Health and Wellbeing Hub to Sandridge.
- Amend the draft Framework to reflect these changes.
Figure 9. Community Hub sites proposed by Council

Wirraway Education and Community Hub (Primary School) on Tarver Street, a quiet local street with linear park linking to Prohasky Park and JL Murphy Reserve.

Wirraway Art and Cultural Hub on Plummer Street adjacent to a new public open space, to create a landmark civic building.

Additional Wirraway Education and Community Hub (Primary School) opposite JL Murphy Reserve.

Wirraway Education and Community Hub (Secondary School) adjacent to JL Murphy Reserve.

NOTE: Wirraway Health and Wellbeing Hub not shown - Council proposes to move this to Sandridge to serve a broader catchment.
Defining Active Frontages and a Core Retail Area

Issues and background

Definition of a Core Retail Area

Council considers the planning controls should define a Core Retail Area as a distinct area with the wider Core Area, which includes Primary Active Frontages, and blocks where retail anchor stores are encouraged to locate.

Extent of Primary Active Frontages

The draft Framework and planning controls identify a long section of Plummer Street (approximately 700m) as a Primary Active Frontage (see Figure 10).

The Fishermans Bend Taskforce engaged Essential Economics to undertake a Retail Assessment for Fishermans Bend. Essential Economics recommended that Wirraway will operate as a Neighbourhood Centre, predominantly serving the surrounding neighbourhood catchment.

The projected retail floorspace identified in the Retail Assessment indicates that Wirraway cannot support the extent of Primary Active Frontages shown in the draft Framework and planning controls.

Designating the majority of Plummer Street as a Primary Active Frontage may have the effect of diluting activity over too long a distance and result in the area not being as vibrant as envisaged by the Vision.
Figure 10. Active Frontages proposed in Amendment GC81

Very long expanse (approx. 700m) of Primary Active Frontages nominated along Plummer Street.

A Core Retail Area has not been nominated within the Core Area for anchor uses.
Preferred outcome

**Definition of a Core Retail Area and Primary Active Frontages**

It is recommended that the Primary Active Frontages are concentrated along the four corners of Plummer Street and Salmon Street (see Figure 11). This will create a community heart (retail and lifestyle precinct) providing convenience shopping and creating a series of intimate lanes and plazas.

The four blocks at the Plummer Street and Salmon Street intersection should be nominated as the Core Retail Area (see Figure 11).

Primary Active Frontages along Plummer Street (between Smith Street and Prohasky Street and between the two new north-south streets, east of Salmon Street) should be changed to Secondary Active Frontages (retail / commercial). Secondary frontages do not preclude retail uses.

**Definition of Secondary Active Frontages**

Council also considers that Secondary Active Frontages should apply to key north-south lanes off Plummer Street (see Figure 11). This will ensure that key lanes are activated with retail and commercial uses, provide a continuity of activity through the centre of large blocks and provide the opportunity for a different retail offer. It is proposed that one lane per block in the Core Retail Area is shown as a Secondary Active Frontage.

---

**RECOMMENDATION 4:**

- Amend Active Frontages in DDO30 and CCZ1 to (see Figure 11):
  - Replace Primary Active Frontages along Plummer Street between Smith Street (and its extension) and Prohasky Street and between the two north-south streets, east of Salmon Street with Secondary Active Frontages.
  - Nominate the Core Retail Area in Wirraway as the four street blocks at the intersection of Plummer Street and Salmon Street.
  - Identify one north-south lane per block within the Core Retail Area as a Secondary Active Frontage.

- Amend the draft Framework to reflect these changes.
Figure 11. Active Frontages and Core Retail Area proposed by Council

Core Retail Area nominated within the Core Area.

Primary active frontage area limited to Plummer / Salmon Street within the Core Retail Area.
**Urban Structure**

**Issues and background**

Council’s Part 1 submission identifies the lack of an integrated plan in the proposed planning controls showing key structural and land use elements for Wirraway, including:

- Primary boulevards, transport spines and bridge connections
- The Core Area where employment is focussed
- Activity centres including defining a ‘Core Retail Area’ and primary/secondary retail frontages
- Public open spaces and Community Hubs.

A further issue is that Amendment GC81 does not protect opportunities for anchor land uses within a defined ‘Core Retail Area’, such as supermarkets.

**Preferred outcome**

The planning controls should include a plan showing the urban structure for Wirraway (see Figure 12).

The DPO should be used to protect long term large floorplate anchor retail land use opportunities for the Core Retail Areas in Wirraway and ensure the integration of transport interchanges / nodes (potential Metro Station).

**RECOMMENDATION 5:**

- Include a plan in the CCZ1 showing the Wirraway Urban Structure as per Figure 12.
- Apply a DPO to protect long term large floorplate anchor retail land use opportunities for the Core Retail Area in Wirraway and ensure the integration of transport interchanges / nodes. This should be applied to the area shown as “Core Retail Area” in Figure 12.
- Amend the draft Framework to reflect these changes.
Figure 12. Wirraway Urban Structure proposed by Council
4.0 Building heights, typologies and street walls

Plummer Street Core Area

Issues and background

Plummer Street and the Core Area will have a lower scale, more intimate feel than Sandridge. This will be created through a predominately mid-rise scale (and lower FAR) with some taller elements for residential and commercial uses.

Council’s vision for the Core Retail Area is a neighbourhood scale high street with a range of offers including convenience shopping, local services, cafes/ restaurants focussed on the intersection of Plummer and Salmon Streets.

The Core Retail Area is proposed to be permeated by a series of lanes, courtyards and plazas which create a fine grain human scale character.

Plummer Street is proposed to be activated by restaurants, cafes and commercial uses at ground level, with offices and apartments above.

Proposed maximum building heights

A 24 storey maximum building height applies to the area north of Plummer Street and directly south of Plummer Street (see Figure 13). 12 storeys is proposed along the northern side of Plummer Street, to prevent overshadowing of the southern footpath of Plummer Street, which is protected by a mandatory overshadowing control at the Equinox.

Mandatory overshadowing controls also apply to JL Murphy Reserve at the Solstice.

To achieve buildings of 12 storeys fronting Plummer Street, a significant upper level setback of 16m is required to ensure buildings do not overshadow the southern 4.0  Building heights, typologies and street walls

Plummer Street Core Area

Issues and background

Plummer Street and the Core Area will have a lower scale, more intimate feel than Sandridge. This will be created through a predominately mid-rise scale (and lower FAR) with some taller elements for residential and commercial uses.

Council’s vision for the Core Retail Area is a neighbourhood scale high street with a range of offers including convenience shopping, local services, cafes/ restaurants focussed on the intersection of Plummer and Salmon Streets.

The Core Retail Area is proposed to be permeated by a series of lanes, courtyards and plazas which create a fine grain human scale character.

Plummer Street is proposed to be activated by restaurants, cafes and commercial uses at ground level, with offices and apartments above.

Proposed maximum building heights

A 24 storey maximum building height applies to the area north of Plummer Street and directly south of Plummer Street (see Figure 13). 12 storeys is proposed along the northern side of Plummer Street, to prevent overshadowing of the southern footpath of Plummer Street, which is protected by a mandatory overshadowing control at the Equinox.

Mandatory overshadowing controls also apply to JL Murphy Reserve at the Solstice.

To achieve buildings of 12 storeys fronting Plummer Street, a significant upper level setback of 16m is required to ensure buildings do not overshadow the southern

Figure 13. Framework Core Area building height controls and overshadowing controls
footpath (see Figures 14 and 15). The proposed controls require a mandatory minimum of 5m with a preferred setback of 10m. Based on a minimum upper level setback of 5m, development could only be constructed to 9 storeys (but could be stepped up 12 storeys). Stepped (wedding cake) outcomes are not supported.

Council does not consider 24 storey buildings in Wirraway to be consistent with the vision for a mid-rise, family-friendly precinct sought in the Endorsed Vision. Due to the overshadowing controls along Plummer Street, the highest buildings (24 storeys) are located away from Plummer Street. This creates streets which have tall buildings along one side and much lower buildings on the other side (e.g. 4, 6 and 12 storeys). This creates a poor transition to these lower scale heights (see Figure 18). It also detracts from legibility and the role of Plummer Street as the primary street in Wirraway.

Due to the overshadowing controls along Plummer Street, the highest buildings (24 storeys) are located away from Plummer Street. This creates streets which have tall buildings along one side and much lower buildings on the other side (e.g. 4, 6 and 12 storeys). This creates a poor transition to these lower scale heights (see Figure 18). It also detracts from legibility and the role of Plummer Street as the primary street in Wirraway.

The proposed laneways in the Draft Framework (an east west and a north-south lane) also create narrow buildings with substantial mass to Plummer Street (see Figure 14). With no tower width controls, the wide / squat towers (up to 80m) create slow moving shadows at street level (see Figure 15).

Proposed street wall heights

A 6 storey mandatory maximum street wall applies throughout Wirraway. An exemption allows for an 8 storey street wall where development fronts a street which is 23m or wider and does not exceed 10 storeys.

The 6 storey (23m) street wall appears low for the 36m wide Plummer Street boulevard and does not reinforce its role as a civic boulevard (see Figures 16 and 17).

The 6 storey street wall appears as a long building mass broken up by lanes (up to 100m long).
Figure 16. Aerial view of built form outcomes proposed in Amendment GC81

Figure 17. View looking west down Plummer Street of built form outcomes proposed in Amendment GC81
Proposed 6-12 storey maximum building heights along the northern side of the new street and 24 storeys on the southern side creates a scale imbalance.

Proposed 12 storey maximum building height along the northern side of Plummer Street and 24 storeys on the southern side creates a scale imbalance.

Proposed 24 storey maximum building height along the northern side of Tarver Street creates a poor transition to 4 storey development on the southern side.

Figure 18. Section showing building height controls proposed in Amendment GC81
Preferred outcome

Tooth and Gap approach

• To address the issues Council has identified for Wirraway, Council is seeking a more diverse and tailored outcome is sought for Plummer Street in the Core Area of Wirraway.

• Council is proposing a ‘tooth and gap’ approach to built form along Plummer Street in the Core Area. A similar approach is proposed by Council for Montague along Buckhurst Street.

• The ‘tooth and gap’ approach consists of:
  - A base building (e.g. of 3-4 storeys) which provides a lower scale street interface.
  - Sheer and narrow vertical elements of varying heights above the base building (up to 15 storeys) creating the ‘tooth and gap’.

• This is a different approach to the tower podium form proposed elsewhere in Fishermans Bend.

• This approach has been used in the Massena Quarter in Paris in a development designed by architect, Christian Portzmarc (see Figures 19, 20 and 21).

Figure 19. Images of Massena Quarter, Paris showing the tooth and gap approach. Photos © Éric Sempé, Source: https://www.e-architect.co.uk/paris/massena-district

Figure 20. Elevation of Massena Quarter, Paris showing the tooth and gap approach
Benefits of the tooth and gap approach (see Figure 21) include:

- Variations in height allow daylight/sunlight into the centre of the block.
- Individual buildings provide opportunities for greater variation in volume, appearance and materials.
- Opportunities for small setbacks to provide pocket parks along the street and/or a variety of communal open spaces.
- Potential to create a varied scale street edge.
- Allows sunlight to penetrate the street through the gaps.

Figure 21. 3D model of Massena Quarter, Paris showing the tooth and gap approach.
Tooth and Gap approach along Plummer Street

The tooth and gap approach is proposed to apply to sites along the Plummer Street Civic Boulevard in the Core Area.

The Tooth and Gap approach relies on the following controls (see Figure 22):

- Development cannot exceed 8 storeys in height along the north side of Plummer Street (reduced from 12 storeys) and 10-15 storeys along the south side of Plummer Street (15 storeys reduced from 24 storeys).
- For sites with a frontage to Plummer Street of 50m or wider, at least 20 percent of the building height at the street edge must be 4 storeys in height. The remaining height may be up to the discretionary height limit (6-8 storeys), however any element higher than 4 storeys must not be wider than 30m. Any element above 4 storeys must also be adjacent to a 4 storey element.
- For sites with a frontage to Plummer Street less than 50m, at least 40 percent of the building height at the street edge must be 4-6 storeys. The remaining height may be up to the discretionary height limit (10-15 storeys).
- For all sites with a frontage to Plummer Street, within a depth of 20m from the street frontage, buildings should be sheer and should not include pop-up levels or upper level setbacks.
- Limit the length of taller elements along lanes to 40m.

Sites with a frontage to Plummer Street less than 50m:
- At least 40 percent of the building height at the street frontage must be 4-6 storeys in height.

Sites with a frontage to Plummer Street of 50m or wider:
- At least 20 percent of the building height at the street frontage must be 4 storeys in height.
- Maximum width to the street of 30m for higher elements (above 4 storeys).
- Elements above 4 storeys must be adjacent to a 4 storey area.

All sites along Plummer Street:
- No upper level setbacks or pop-up elements within a depth of 20m from the street frontage.

6 storey street wall with upper level setbacks to 15 storey taller elements along Tarver Street (and new street north of Plummer Street - see above).

Figure 22. Plummer Street tooth and gap approach proposed by Council
1. **Vertical massing** complements the fine grain urban structure characterising the area.

   Slender vertical elements create narrow and fast moving shadows at the street level.

2. **Predominantly 8 storey street wall** with lower elements of 4-6 storeys create the street wall. This reduces overshadowing of Plummer Street.

3. **Individual buildings** create opportunity for differing identity, facade articulation and materials.

4. **Building separation distance** varies according to building height/no. of storeys to provide variety in the 'gap' width.

5. **30m maximum width** for vertical elements above 4 storeys up to 8 storeys.

---

**Figure 23. Elevation of Plummer Street (north side) Core Area tooth and gap approach proposed by Council**
This approach has the effect of breaking up the building massing and reducing overshadowing.

It also presents a more appropriate scale to the Plummer Street Civic Boulevard. It is based on a varied street wall which provides development opportunities appropriate to the location but also achieves a more fine grained outcome.

The proposed approach allows variation between the northern and southern side of the street, with higher elements up to 15 storeys permitted on the southern side. 8 storeys is the maximum height directly abutting the north side of Plummer Street that would not overshadow the southern footpath (see Figure 25).

The “tooth and gap” approach creates a more articulated and varied street edge than what could be achieved with a continuous 8 storey street wall and upper level setback (see Figure 23, 24, 26 and 27).

It also reduces the undesirable stepped / “wedding cake” outcome that would be required to comply with the overshadowing controls to ensure a high amenity environment on the south side of Plummer Street.

A 6 storey street wall is proposed to be retained for all other frontages. The 6 storey street wall provides an appropriate transition to adjacent 12 and 6 storey areas.

**Reduced heights for tower elements**

It is recommended that the higher built form to the north and south of Plummer Street is retained, however heights should be reduced from 24 storeys to 15 storeys.

Plummer Street and the Core Retail Area should have a lower scale, more intimate feel than Sandridge, created...
Figure 26. Aerial view of built form outcomes proposed by Council

Figure 27. View looking west down Plummer Street of built form outcomes proposed by Council (buildings on south side of Plummer Street are translucent)
Reduced maximum building height of 15 storeys along the southern side of the new street reduces the scale imbalance with the 6-12 storeys on the northern side of the street.

Tooth and gap approach along Plummer Street ranges from 4-8 storeys along north side, and 4-15 storeys along south side.

Reduced maximum building height of 15 storeys reduces the scale imbalance with the maximum building height of 4 storeys on the southern side of Tarver Street.

Figure 28. Section showing building height controls proposed by Council
through predominantly mid-rise scale with a few small taller elements (up to 15 storeys) for residential and commercial uses.

The proposed maximum height of 24 storeys is inconsistent with the vision for a mid-rise, family-friendly precinct and neighbourhood scale Core Retail Area.

It creates a poor transition to the lower scale heights to the north and south of Plummer Street.

North-south laneways

As noted in section 3.0, changes to laneways are also proposed. New lanes are located every 50m. East-west lanes are removed. This creates lanes with better solar access, breaks up the facade and results in less building mass to the street (see Figures 24, 25, 26 and 27).

RECOMMENDATION 6:

- Reduce maximum building heights in DDO30 for the Wirraway Core to encourage a diversity of mid-rise building typologies through (see Figure 29):
  - Reducing all 24 storey areas to 15 storeys.
  - Reducing all 12 storey areas on the northern side of Plummer Street in the Core Area to 8 storeys.

(Recommendation 6 continued on next page)
RECOMMENDATION 6 (CONT.):

• Amend DDO30 to apply a ‘tooth and gap’ approach to sites with a frontage to Plummer Street in the Core Area, through requiring:
  - For sites with a frontage to Plummer Street of 50m or greater:
    - At least 20 percent of the building height at the street frontage must be 4 storeys in height.
    - The remaining height can be up to the discretionary height limit.
    - Any element above 4 storeys must be adjacent to a 4 storey element.
    - Any element higher than 4 storeys cannot be wider than 30m.
  - For sites with a frontage to Plummer Street of less than 50m:
    - At least 40 percent of the building height at the street frontage must be 4-6 storeys in height.
    - The remaining height can be up to the discretionary height limit.
  - For a depth of 20m from the street, sheer buildings only are allowed. No pop-ups are permitted (i.e. no upper level setbacks are allowed within this area).
  - On laneways, development must not exceed 8 storeys in height for lengths greater than 40m.

This would replace the proposed street wall and upper level setback requirements in DDO30.

On other streets within the Core Area, the proposed 6 storey street wall would apply.

• Amend laneways as per Recommendation 2.
• Amend the draft Framework to reflect these changes.

Mid-rise development

Issues and background

As outlined in Section 2.3 of Council’s Stage 2 Overarching Submission and Urban Design Report, Council undertook benchmarking of mid-rise developments.

The purpose of this testing was to understand the key characteristics of mid-rise development to inform the tailoring of the controls.

A series of recommendations were made in relation to mid-rise developments (see Recommendations 8 and 14 of the Overarching Urban Design Report.)

Built form testing for Block A in Wirraway (525-541 Graham Street - see Figure 30) included the DDO controls (see Figure 31) and a size/massing comparison of a range of mid-rise developments from Council’s Urban Design Report and a standard street block in Barcelona (see Figure 32).

This modelling demonstrates that:

• Block sizes are large and should be broken up to ensure permeability, avoid long monotonous facades and maintain a human scale of development.

• The site dimensions (without lanes or breaks in buildings) create buildings of up to 186m in length and 96m deep.

• Raised communal open space would be required to accommodate car parking at ground level. It must be well designed to ensure pedestrian access from the street to create permeability across the block, provide deep plant zones and avoid a monotonous approach to built form.

Wirraway Block A

• Non-Core Area (FAR 2.1:1)
• 70 percent site coverage providing 30 percent communal open space
• 6 storey discretionary height limit
• Site size – 96m x 186m, site area – 28,225 sqm
• Developable area – 17,856 sqm (providing for a 22m wide road to the south and a 34m wide extension of Woolboard Road (including a 12m linear park) to the north).

--- Site boundary

Figure 30. Location of Wirraway Block A (525-541 Graham Street)

Figure 31. Potential built form outcome (DDO Model)
• A 6 storey street wall edge aligning with the street will create an appropriate scale and street enclosure of 1:1 ratio with new 22m wide streets, ensuring sky views.

• 12m wide laneways provide better street and building amenity and contribute to the character of Wirraway.

• Laneways provide opportunities for lower scaled built form such as blocks and row houses creating a street enclosure of 1.3:1 for a street wall height of 15.4m or 4 storeys, ensuring better sky views and amenity to the street and building.

• The application of the 30 percent communal open space requirement and 70 percent site coverage requirement is critical in supporting adequate separation distances between buildings and space around buildings.


Preferred outcome

Section 2.3 Promoting Mid-rise Development of Council’s Overarching Urban Design Report identified critical elements of mid-rise developments which must be included in the planning controls.

Council considers that the controls should provide flexibility in terms of outcomes, but ensure they reinforce key design and amenity principles. Figure 33 demonstrates two outcomes which are supported for large blocks in Wirraway.

The following elements are sought in Wirraway:

• Provide a minimum area of communal open space in all developments in Non-Core Areas.

• Allow communal open space to be provided above ground level to accommodate car parking where there is direct access to the street from the communal open space.

• Sleeve and integrate car parking at street level and above (where provided).

• Ensure adequate separation distances between buildings.

• Encourage diversity within the development through different built form scales such as low rise fronting the narrower lanes and taller heights on the edges.

• Address transitions in building height by whole buildings rather than rather than a stepped/wedding cake approach.

• Create permeability through the blocks through lanes or breaks in buildings.

Figure 33. Built form outcomes preferred by Council
• Break up large blocks into smaller, more human scaled buildings by limiting mid-rise building lengths to 50m through the provision of lanes or through block links or breaks in buildings to:
  - provide more opportunities for individual identity.
  - allow for better views/outlook, daylight and sunlight to dwellings and communal spaces.
  - reduce the impact of large, slow moving shadows.

RECOMMENDATION 7:
• Amend the DDO30 as per Recommendations 8 and 14 in Council’s Overarching Urban Design Report to provide clarity for mid-rise built form outcomes.
• Amend the laneways in Wirraway as per Recommendation 2.
5.0 Summary of recommendations for Wirraway

RECOMMENDATION 1:
- Amend sub-precincts and preferred character statements as per Figure 2 and Table 1 and move from Clause 21.06-8 to DDO30.

RECOMMENDATION 2:
- Amend the CCZ1 and DDO30 to show laneways as per Figure 7, until further work is undertaken through detailed Precinct Planning.
- Undertake further work through Precinct Planning to finalise key laneway locations (including the role of laneways, whether they cater for vehicle, vehicles and pedestrians or pedestrians only.)
- Amend DDO30 to specify a minimum width of 12m for laneways in Wirraway. Amend the definition of laneway for Wirraway to align with this.
- Amend the draft Framework to reflect these changes.

RECOMMENDATION 3:
- Include a plan in the CCZ1 showing the Wirraway Urban Structure identifying the following locations for community hubs (see Figure 9):
  - Locate the Wirraway Sport and Recreation Hub on the corner of Tarver Street and Smith Street (21 Smith Street).
  - Nominate an additional Wirraway Education and Community Hub (Primary School) on the Goodman owned land directly north of JL Murphy Reserve (within 62 Salmon Street).
  - Move the Wirraway Health and Wellbeing Hub to Sandridge.
  - Amend the draft Framework to reflect these changes.

RECOMMENDATION 4:
- Amend Active Frontages in DDO30 and CCZ1 to (see Figure 11):
  - Replace Primary Active Frontages along Plummer Street between Smith Street (and its extension) and Prohasky Street and between the two north-south streets, east of Salmon Street with Secondary Active Frontages.
  - Nominate the Core Retail Area in Wirraway as the four street blocks at the intersection of Plummer Street and Salmon Street.
  - Identify one north-south lane per block within the Core Retail Area as a Secondary Active Frontage.
  - Amend the draft Framework to reflect these changes.

RECOMMENDATION 5:
- Include a plan in the CCZ1 showing the Wirraway Urban Structure as per Figure 12.
- Apply a DPO to protect long term large floorplate anchor retail land use opportunities for the Core Retail Area in Wirraway and ensure the integration of transport interchanges / nodes. This should be applied to the area shown as “Core Retail Area” in Figure 12.
- Amend the draft Framework to reflect these changes.

RECOMMENDATION 6:
- Reduce maximum building heights in DDO30 for the Wirraway Core to encourage a diversity of mid-rise building typologies through (see Figure 29):
  - Reducing all 24 storey areas to 15 storeys.
  - Reducing all 12 storey areas on the northern side of Plummer Street in the Core Area to 8 storeys.
- Amend DDO30 to apply a ‘tooth and gap’ approach to sites with a frontage to Plummer Street in the Core Area, through requiring:
  - For sites with a frontage to Plummer Street of 50m or greater:
    - At least 20 percent of the building height at the street frontage must be 4 storeys in height.
    - The remaining height can be up to the discretionary height limit.
    - Any element above 4 storeys must be adjacent to a 4 storey element.
    - Any element higher than 4 storeys cannot be wider than 30m.
  - For sites with a frontage to Plummer Street of less than 50m:
    - At least 40 percent of the building height at the street frontage must be 4-6 storeys in height.
    - The remaining height can be up to the discretionary height limit.
- For a depth of 20m from the street, sheer buildings only are allowed. No pop-ups are permitted (i.e. no upper level setbacks are allowed within this area).
- On laneways, development must not exceed 8 storeys in height for lengths greater than 40m.
  This would replace the proposed street wall and upper level setback requirements in DDO30.
  On other streets within the Core Area, the proposed 6 storey street wall would apply.

• Amend laneways as per Recommendation 2.
• Amend the draft Framework to reflect these changes.

RECOMMENDATION 7:

• Amend the DDO30 as per Recommendations 8 and 14 in Council's Overarching Urban Design Report to provide clarity for mid-rise built form outcomes.
• Amend the laneways in Wirraway as per Recommendation 2.

Refer Figures 34-38 for a full set of changes to plans proposed by Council for Wirraway:
• Urban Structure
• Laneway network
• Building height controls
• Active frontages and Core Retail Area controls
• Community Hub sites
Figure 34 Wirraway Urban Structure proposed by Council

- Core Area
- Core Retail Area
- Mixed Use Area
- Primary Active Frontages
- Secondary Active Frontages
- Proposed public open space
- Proposed encumbered public open space
- Existing public open space
- Privately owned open space
- Proposed road
- Proposed laneway
- Key boulevard
- Proposed tram line
- Bridge
- Potential Metro Station box
- Proposed Metro Station entry
- Art and Cultural Hub
- Education and Community Hub (PS = Primary School, SS = Secondary School)
- Sports and Recreation Hub
- Health and Wellbeing Hub
Figure 35. Wirraway laneway network proposed by Council
Figure 36. Wirraway building height controls proposed by Council.
Figure 37. Wirraway active frontages and Core Retail Area controls proposed by Council
Figure 38: Wirraway Community Hub sites proposed by Council
This page has been intentionally left blank.
### 6.0 Appendices

#### Appendix 1. Built form modelling assumptions

<table>
<thead>
<tr>
<th>Issue</th>
<th>Assumptions</th>
</tr>
</thead>
</table>
| Streets and lanes             | • The DDO model used the location of streets and lanes based on the draft Framework.  
                                 | • The Preferred Outcome model includes some changes to this layer e.g. new north-south lanes and the deletion of some east-west lanes.             |
| Floor to floor heights        | • 4m at the ground level and 3.8m for remaining floors in the podium.  
                                 | • Floor to floor heights above the street wall allow for 3.8m in commercial buildings (within Sandridge Core areas).  
                                 | • Overshadowing controls are tested using 3.8m floor to floor heights within the proposed heights.                                   |
| Side and rear setbacks        | • Habitable interfaces are assumed in Wirraway (above the base building/podium).  
                                 | • A mix of non-habitable and habitable interfaces are generally used in other areas.  
                                 | • The Better Apartment Design Standards definition of what constitutes a habitable space is adopted. Non-habitable is assumed to include commercial uses.  
                                 | • Non-habitable interfaces are assumed for the base building (except in Wirraway).                                                        |
| Site coverage                 | • 100% site coverage for lower levels of the building/podium except for Non-Core Areas of Sandridge and Wirraway.  
                                 | • 100% site coverage for properties less than 1,200m² gross developable area.                                                             |
| Tower floorplates             | • All tower floorplates outside of the Core in Sandridge are residential.  
                                 | • In the DDO model, residential floor plate sizes of 30x75m (2,250m²) and commercial floorplates of 3,000m².  
                                 | • In the Council Preferred Outcome model, residential floorplates of 25x50m (1,250m²) and commercial floorplates of 2,500m² were modelled.  
<pre><code>                             | • Minimum building widths, depths and floorplate sizes were derived from a combination of assumptions taken from the Urban Design Strategy, Better Apartments Design Standards and Guidelines, Hayball’s built form testing of Amendment C270 and benchmarking of residential applications in Fishermans Bend and commercial projects within the City of Melbourne. |
</code></pre>
<p>| Car parking                   | • Car parking is assumed to be located above ground (due to soil conditions).                                                              |</p>
<table>
<thead>
<tr>
<th>Issue</th>
<th>Assumptions</th>
</tr>
</thead>
</table>
| Public Open Space                    | • In the DDO model open space was modelled based on the draft Framework.  
• In the Council Preferred Outcome model, open space was modelled on a combination of the draft Framework and additional open spaces proposed by Council. |
| Street walls and upper level setbacks | • As per DDO30, 4 storey street walls on laneways < 12m, 6 storey street walls on streets > 12m and 8 storey street walls on identified sites on streets > 23m were modelled in the DDO.  
• In the Council Preferred Outcome model, a variety of street walls were modelled.  
• Where two different street walls intersect, the higher street wall height was applied to the corner.  
• Building depths were assumed to be either 10m deep for single loaded or 20m deep for double loaded corridors.  
• Upper level setbacks were applied from the property boundary. |
| Location and width of laneways       | • DDO model uses laneways as per the draft Framework (1st model)  
• Council Preferred Outcome model applies laneways every 50m in Core Areas and every 100m in Non-Core Areas as outlined in policy at Clause 22.15.  
• 9m wide laneways were assumed for Sandridge, 9 and 12m lanes for Wirraway and Montague.  
• Laneways were generally located on larger sites. |
| Land ownership                       | • Adjoining sites with the same owner were treated as one development site.                                                                                                                                   |
| Approved planning permits            | • Approved planning permits are included in DDO model but not in the Council Preferred Outcome model.                                                                                                    |
### Appendix 2. FAR/FAU Testing

#### Wirraway Block A - DDO Model

<table>
<thead>
<tr>
<th>Building heights</th>
<th>Site area (sqm)</th>
<th>GFA through FAR (sqm)</th>
<th>GFA through FAU (sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Area</td>
<td>6 storeys</td>
<td>28,217</td>
<td>59,256 (2.1:1)</td>
</tr>
</tbody>
</table>

Site is affected by the provision of the Woolboard Road extension (including linear park) and a new east-west street along the southern property boundary.

#### Wirraway Block A - Council Preferred Model

<table>
<thead>
<tr>
<th>Building heights</th>
<th>Site area (sqm)</th>
<th>GFA through FAR (sqm)</th>
<th>GFA through FAU (sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Area</td>
<td>4 and 6 storeys</td>
<td>28,217</td>
<td>59,256 (2.1:1)</td>
</tr>
</tbody>
</table>

† Potential for some FAU on 4 and 5 storey buildings if built to the maximum height.

Site is affected by provision of the Woolboard Road extension (including linear park), a new east-west street along the southern property boundary and a north-south laneway.
## Wirraway Block B - DDO Model

<table>
<thead>
<tr>
<th>Building heights</th>
<th>Site area (sqm)</th>
<th>GFA through FAR (sqm)</th>
<th>GFA through FAU (sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Area 12 &amp; 24 storeys*</td>
<td>26,730</td>
<td>109,595 (4.1:1)</td>
<td>56,784 (2.1:1)</td>
</tr>
</tbody>
</table>

*Overshadowing controls apply

## Wirraway Block B - Council Preferred Model

<table>
<thead>
<tr>
<th>Building heights</th>
<th>Site area (sqm)</th>
<th>GFA through FAR (sqm)</th>
<th>GFA through FAU (sqm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Core Area 8 &amp; 15 storeys*</td>
<td>26,730</td>
<td>109,595 (4.1:1)</td>
<td>10,501 (0.4:1)</td>
</tr>
</tbody>
</table>

*Overshadowing controls apply