



Amendment GC81

Fishermans Bend- Sandridge

Expert Urban Design Evidence

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March 2018

Instructed by

Norton Rose Fulbright, Planning & Property Partners and
Russell Kennedy

On behalf of

Various landowners



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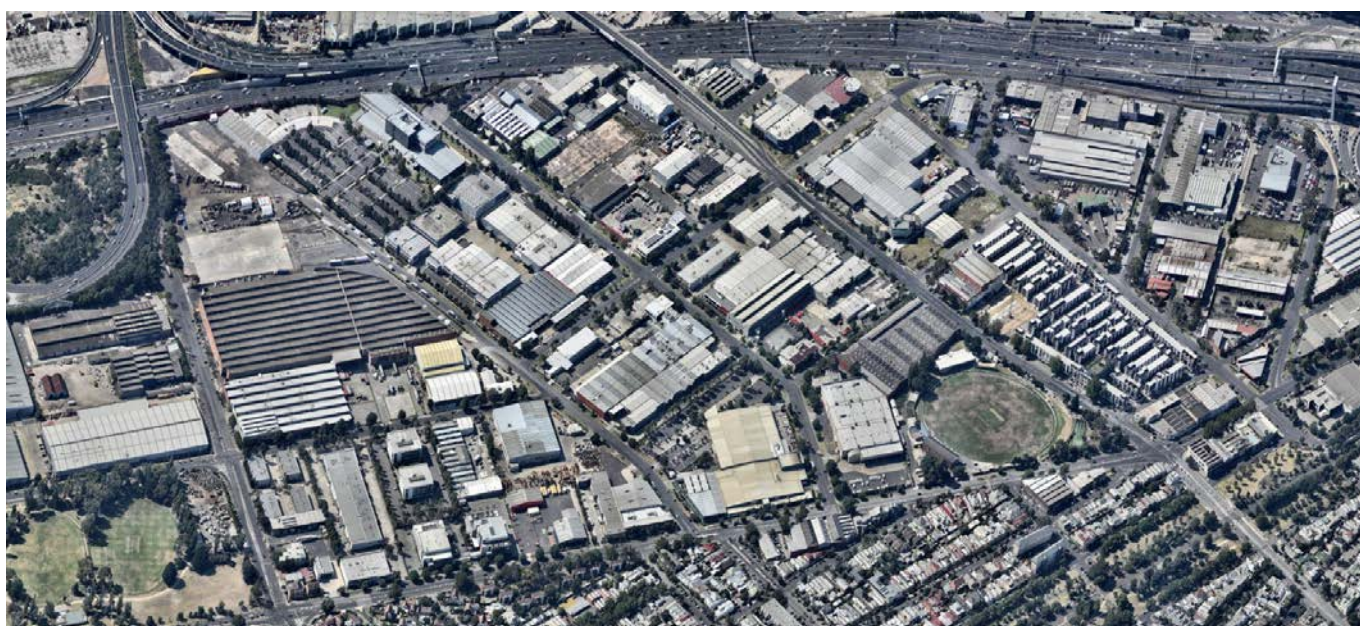
1.0 Introduction

- [1] I am a Principal of town planning and urban design consultants David Lock Associates (Australia) Pty Ltd (DLA). I hold qualifications in architecture and urban design. I have over twenty-five years' professional experience and have practised exclusively in the field of urban design since 1993. Further details of my qualifications and experience are outlined in Appendix A of my overarching evidence.
- [2] In January 2018, I was instructed by Norton Rose Fulbright, Planning & Property Partners and Russell Kennedy, on behalf of a number of landowners, to provide an independent urban design assessment of Amendment GC81. These landowners and their properties are identified in Appendix B of my overarching evidence.
- [3] In addition to the Amendment documentation and background documents provided to the parties, I have had the benefit of reviewing the urban design, planning, open space and transport evidence circulated by the Minister for Planning, and Melbourne and Port Phillip City Councils.
- [4] I attended the public briefing on 13 February 2018, and have listened to most of the cross-examination of Ms Hodyl and the presentation of Professor Adams.
- [5] My previous professional involvement in the Fishermans Bend area is summarised in Appendix C of my overarching evidence. This includes leading the preparation of a Structure Plan for the South Melbourne Industrial Precinct (the area subsequently renamed Montague).
- [6] In addition to the South Melbourne Industrial Precinct (Montague), I have led or been involved in the preparation of strategic plans for numerous urban renewal precincts, including the Sydney Road, Bridge Road and Victoria Street corridors, Highpoint, Forrest Hill, Balaclava, Preston Central, Dandenong Central, South Melbourne Central, St Albans, Darebin High Street and Footscray Central in Melbourne; and the Redfern and Waterloo housing estates, part of Wentworth Point, the Macquarie Park Corridor, St Leonards and the Carter Street Precinct in Sydney.
- [7] My evidence addresses matters of urban structure, street networks, density, built form and siting, and building design. It does not address questions relating to affordable housing, reverse amenity impacts, the selection or construction of planning tools, public infrastructure delivery mechanisms, development contributions, transport or car parking.
- [8] This statement assesses the urban design issues specific to Sandridge. It builds on my overarching evidence, which assesses the overall approach taken in developing the proposed planning framework, and the general urban design provisions.

- [9] I have organised my assessment of the Amendment's proposals for Sandridge as follows:
- **Section 2** outlines the Sandridge precinct's physical and current planning context, including its features that present key opportunities and challenges for urban renewal.
 - **Section 3** summarises the key urban design aspects of the Amendment as they relate to the Sandridge precinct.
 - **Section 4** provides my assessment of the urban structure, street network, open space, density, and building height parameters proposed for Sandridge.
 - **Section 5** summarises my detailed recommendations in relation to Sandridge.
- [10] I have assessed the impact of the proposed planning framework on each of my clients' sites at Appendix A. Appendix B summarises the assumptions I have made in applying the proposed planning controls to these sites. This has informed my assessment in Section 4.
- [11] I have considered the submissions to the exhibition which relate to my clients' properties, and those with urban design implications identified in submission summaries included in the Minister's Part A submission and other expert witness reports. These have informed my assessment.
- [12] I was assisted in the preparation of this report by Susan Mitchell, Amy Ikhayanti, Cynthia Herkrath and Vincent Pham of David Lock Associates.

2.0 Context

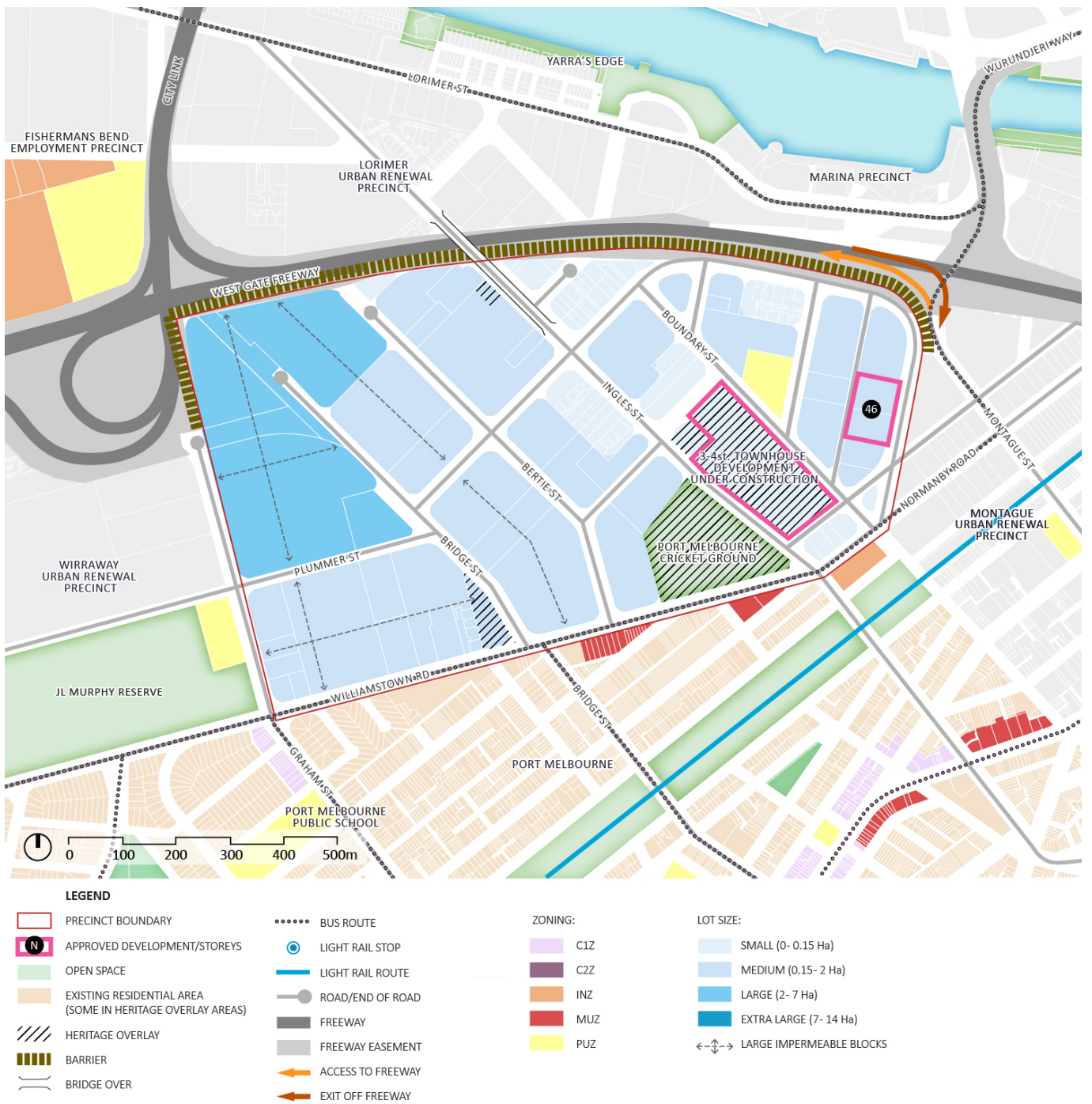
[13] The physical context of Sandridge is illustrated in the figures below and overleaf.



Oblique aerial photo of the Sandridge precinct (source: Nearmap)

[14] The features of Sandridge that support urban renewal include:

- Direct access to and from the West Gate Freeway via Montague Street.
- Predominantly large and moderate sized lots offering flexibility for a more efficient site layout and on-site amenities.
- One road link over the Westgate Freeway to the Lorimer precinct via Ingles Street.
- One large public playing field—North Port Oval.
- 30m wide Williamston Road which provides a buffer to the low-rise neighbourhood to the south.
- Wide main and secondary roads.
- Some publicly-owned land which can be maintained/ developed for community infrastructure.



Sandridge Urban Context

^[15] The features of Sandridge that present challenges for urban renewal include:

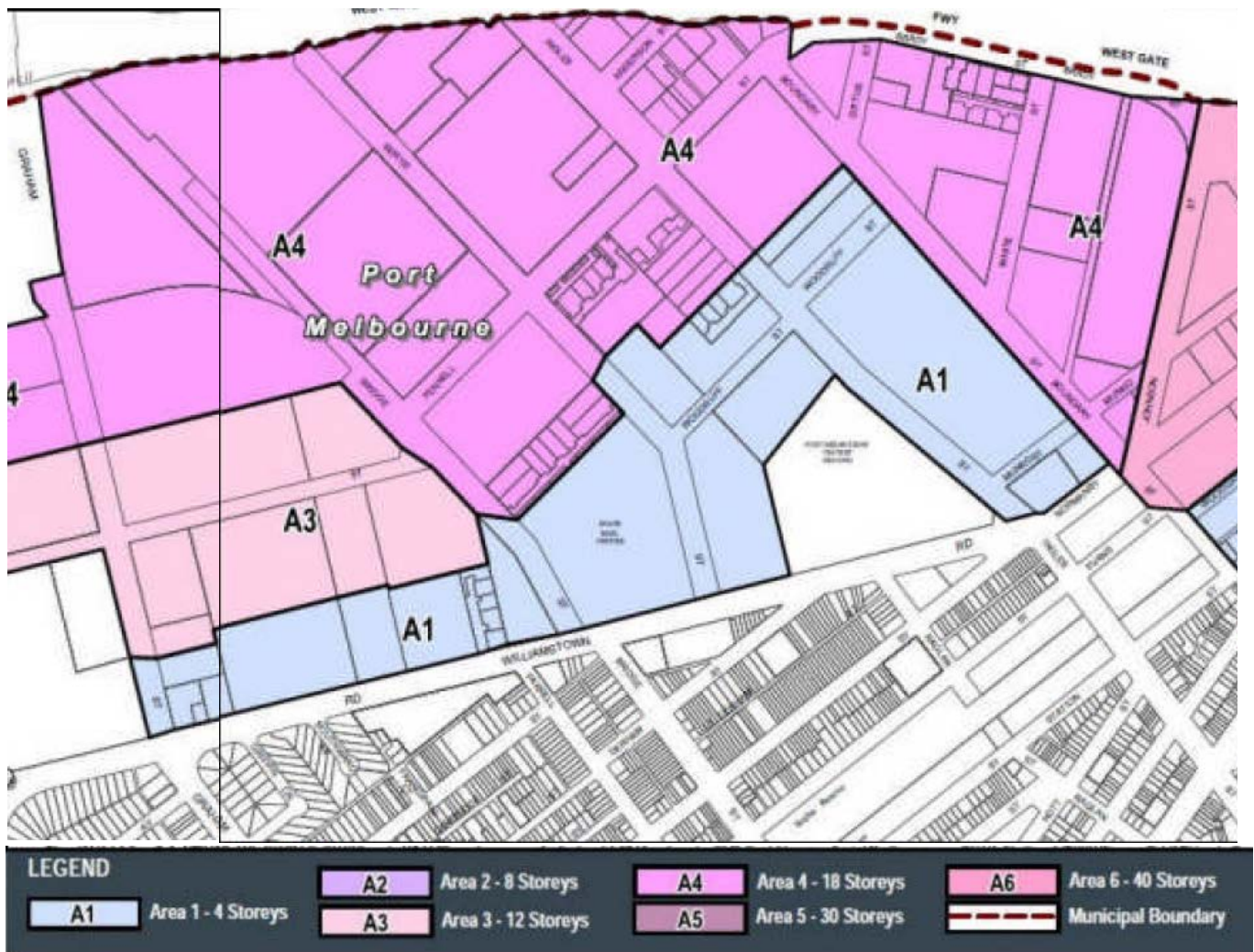
- Very limited public transport accessibility.
- Northern physical barrier as a consequence of the West Gate Freeway with only two crossings at Ingles Street (overpass) and Montague Street (underpass).
- Large impermeable blocks.
- Limited road connections through the site and to the neighbouring areas.
- Several large heritage sites (although some of the buildings/ structures of heritage value do not occupy the whole site).
- Southern interface to a low-rise residential area in some sections.
- Generally poor streetscape amenity.

^[16] The principal current planning controls from an urban design perspective that apply in Sandridge are as follows:

SANDRIDGE – CURRENT CONTROLS

- Capital City Zone, Schedule 1 (CCZ1)
- Design and Development Overlay, Schedule 30 (DDO30)

BUILT FORM ELEMENT	REQUIREMENT
Building height	Mandatory maximum: A1 – 4 storeys A3 – 12 storeys A4 – 18 storeys
Street wall height	Mandatory maximum 5 storeys or 20m, whichever is lesser
Tower setback	Mandatory minimum 10m to the street edge Mandatory minimum 10m to all other boundaries Setback can be taken from centre of laneway (if applicable)
Tower separation	Mandatory minimum 20m



Current DDO30 Map extract

3.0 Proposed planning framework

Delivering Sandridge

"One of Melbourne's premium office and commercial centres, balanced with diverse housing and retail."

Planning for Sandridge 2050

	2018	2025	2050
Population projections	520	880	29,600
Household number projections	287	487	14,949
Job projections	5200	11,080	26,000
Open space (hectares)	3.45ha	5.1ha	12.89ha
Total precinct size (hectares)			
Gross:	86ha		
Net developable site area:	63ha		

Infrastructure delivery – key projects

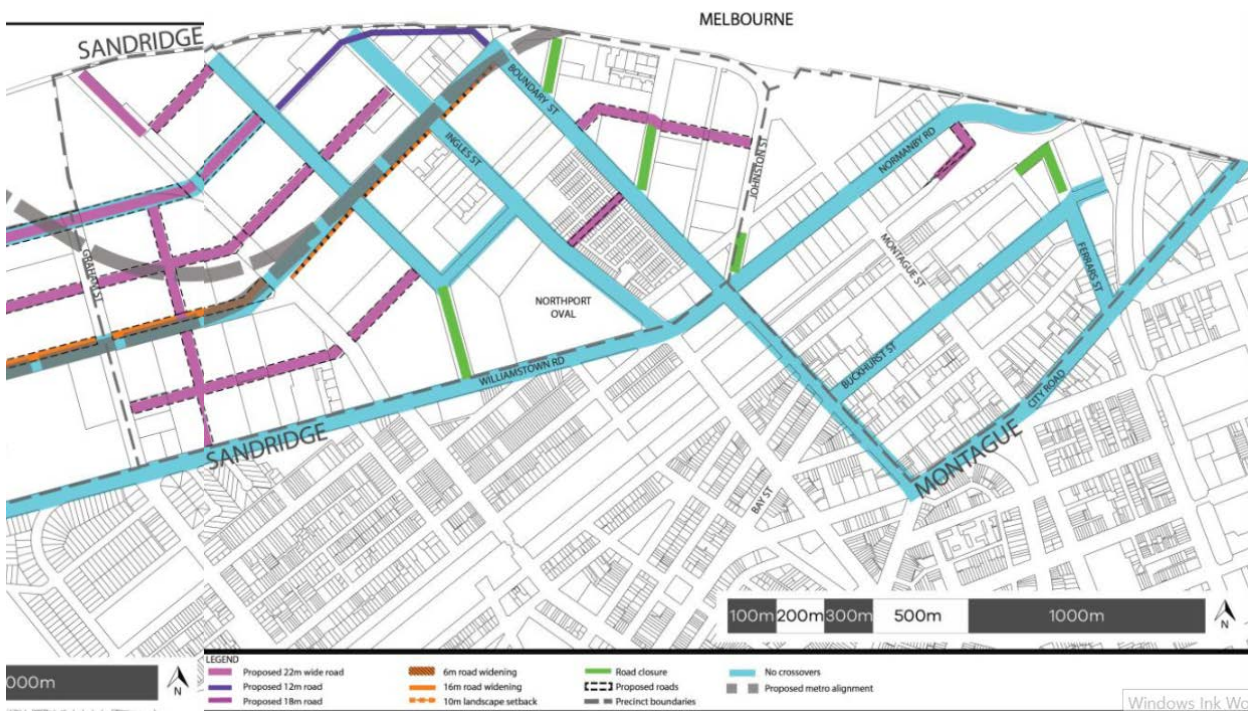
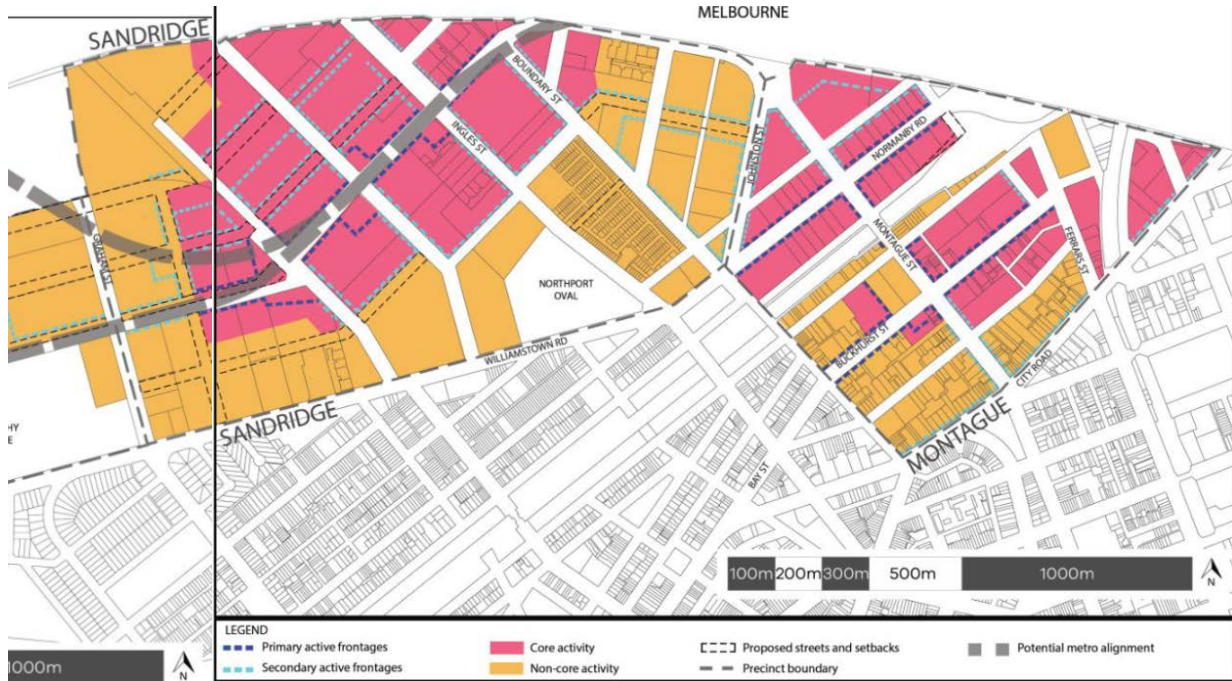
Sustainability goal reference	Timeframe
	Medium term
Objective 3.7	1 North Port Oval parkland expansion
Objective 3.7	2 Johnson Street road closure/open space
Objective 11, 12, 13	3 New tram, pedestrian and cycle bridge over freeway
Objective 11, 12, 13, 15	4 Southern corridor tram/boulevard
Objective 11, 12, 13	5 Redevelopment of Fennell/Plummer/Bridge St intersection
Objective 3.6	6 Opening of pop-up outdoor public space on future potential Sandridge Rail Station site
Objective 3.7	7 White Street road closure and temporary pop-up
	Long term
Objective 3.7	8 White Street open space
Objective Multiple	9 Catalyst site redevelopment opportunity
Objective 3.1	10 Sandridge Sport and Recreational Hub
Objective 3.1	11 Sandridge Art and Cultural Hub
Objective 12	12 Ingles Street Bridge widening
Objective 3.1	13 Sandridge Education and Community Hub
Objective 12, 13, 15	14 Graham/Bridge Street pedestrian bridge
Objective 11	15 Potential rail (including station and associated infrastructure such as transport interchange and public square)



Draft Framework, Page 74



Draft Framework, Figure 21



Maps from the proposed CCZ



Maps from the proposed CCZ and DDO



Map 2 from the proposed DDO

[17] The density and built form provisions of the proposed CCZ and DDO schedules in relation to Sandridge are summarised below:

GROSS AREA 94 HA / NET DEVELOPABLE AREA 58HA

- Capital City Zone, Schedule 1 (CCZ1)
- Design and Development Overlay, Schedule 30 Fishermans Bend Development Urban Renewal Areas (DDO30)
- Fishermans Bend Urban Renewal Area local planning policy

ELEMENT	REQUIREMENT	
	Core	Non-core
FAR	Maximum 8.1:1 for dwelling use Minimum 3.7:1 for non-dwelling use	Maximum 3.3:1 for dwelling use
Building Height	Maximum 15.4m (mandatory) - unlimited (discretionary)	Maximum 15.4m (mandatory) - 29.4m (8 storeys) (discretionary) south of Boundary Street Maximum 80.6m (24 storeys) (discretionary) north of Boundary Street
Dwelling density	Maximum 311 d/ha	Maximum 154 d/ha

4.0 Assessment

4.1 Urban structure

- ^[18] The proposed Port Phillip MSS contains the following statement of key elements of the urban structure for the Sandridge Precinct:

Sandridge is underpinned by a centrally located underground Metro Station with transport interchange and public square, connecting directly to the Central City and to Melbourne's West. A tram route along Fennell Street and Plummer Street provides a direct, high frequency public transport connection to Docklands and the Central City and services the new civic spine and commercial centre. New and upgraded bridges over the Freeway at Fennell Street, Ingles Street and Graham Street provide public transport, bike and pedestrian access. A network of new streets and laneways transform existing industrial scale blocks into a walkable neighbourhood. Strategic road closures and reductions add to the network of public open spaces and plazas. An Arts and Cultural Hub is delivered as an integrated part of mixed use development, located within the investigation area generally surrounding the tram route. A Sports and Recreation Hub is delivered as part of mixed use development, located within the 'investigation area' at the eastern part of the precinct. North Port Oval (and historic grandstand) is integrated with expanded open space, creating a key anchor for community, civic and recreational uses. Education and Community Hub (primary) is delivered as part of mixed use development, located in close proximity to the expanded North Port Oval parkland.

- ^[19] The proposed MSS contains the following statement of preferred future character for Sandridge:

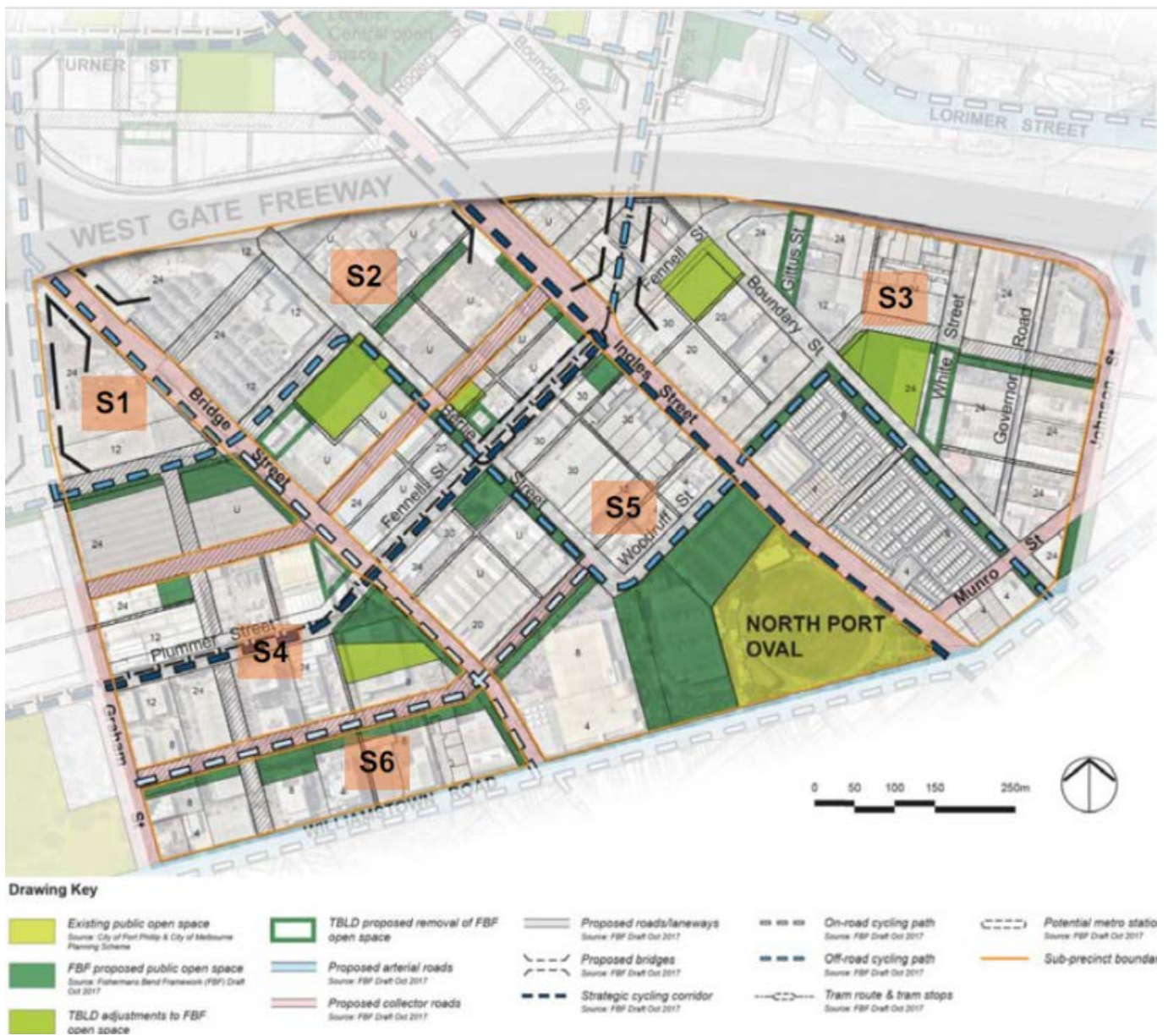
Sandridge is one of Melbourne's premium office and commercial centres, balanced with diverse housing and retail. Sandridge will accommodate significant job growth and will take on the role of a significant commercial centre expanding the central city from the CBD and Docklands. Architecturally diverse towers extending Melbourne's skyline towards Port Phillip Bay. A high density mixed use activity centre will be established around the proposed Sandridge Metro Station and light rail interchange, including housing, retail, recreation, dining, community, entertainment, health and education services. It is an exemplar of sustainable and resilient mixed-use development, and the lynchpin for Fishermans Bends' identify as a world class urban renewal area.

- ^[20] I support this vision.

- [21] The proposed planning framework provides for an underground metro station at the heart of Sandridge, and a tram route running along a new civic spine along Fennell Street and Plummer Street. Both of these public transport services would connect the precinct to the CBD.
- [22] New streets are proposed to create a more permeable movement network and more development frontages. New pedestrian and cycle bridges are also proposed over the West Gate Freeway at Graham Street/ Bridge Street and in the northeast corner of the precinct, linking the precinct with Lorimer, while the Ingles Street bridge to Lorimer is proposed to be upgraded.
- [23] I support the introduction of public transport and a finer-grain street network. I also support the introduction of new pedestrian and cycle links to the Lorimer precinct, which will be essential if the ambition for self-containment and a high walking and cycling mode share is to be achieved.
- [24] No detail has been provided on the proposed design of each street. However, I assume that the purpose of the 10m landscape setback on the south side of Fennell Street and the 16m widening on the north side of Plummer Street are to provide for the creation of a boulevard that incorporates a tramway.
- [25] Sandridge is proposed to form a major employment node and activity centre, fed by the new metro station.
- [26] In relation to community facilities, in the medium term, North Port Oval is proposed to be expanded to and including Bertie Street, 'pop-up' open spaces are proposed on the future potential Sandridge Station site and in White Street, and a section of Johnson Street is proposed to be closed to form an open space. In the long term, a sport and recreational hub, art and cultural hub, and an additional education and community hub are proposed, along with a new open space in White Street.
- [27] I support the introduction of community facilities to serve the new community and contribute to local identity. However, I query the value of closing Bertie Street to widen what would already be a very large park. This would seemingly unnecessarily reduce the permeability of the street network for vehicles, increasing congestion on surrounding streets.

4.2 Open space

- [28] In addition to North Port Oval, the precinct sits alongside J.L. Murphy Reserve to the southwest. A series of additional pocket parks and linear parks are proposed. The total proposed open space area is 11ha, which represents 13% of the precinct area.
- [29] Ms Thompson proposes amendments that would marginally increase the open space area to 11.4ha, which represents 13.5% of the precinct area and 3.8m² per resident. These include:
- Reconfiguring a linear park northeast of Bridge Street into a larger neighbourhood park, to make it more useable.
 - Deleting the Gittus Street linear park.
 - Introducing a new neighbourhood open space on the corner of Fennell Street and Boundary Street.
 - Expanding the proposed neighbourhood open space on the corner of the Boundary Street Council depot to White Street.
 - Removing the proposed linear park in White Street.
 - Consolidating the two open spaces north and south of Plummer Street to form a larger neighbourhood open space.
- [30] In essence, Ms Thompson's recommendations seek to create more useable open spaces, in lieu of pocket parks and green links. I support this approach. It illustrates that the open space planning may have focused too much on utilising existing road space for open spaces to avoid acquisition costs, and distributing open space in smaller parcels to enable its delivery as part of development, rather than identifying the most appropriate open spaces for the future community.
- [31] I note that Mr McPherson supports the consolidation of smaller parks into fewer, larger spaces (paragraph 297).
- [32] Ms Thompson's proposed changes may affect the equity of the land acquisition mechanism and the ability of these properties to realise their notional maximum floor area within the proposed building envelope controls.
- [33] As noted in my overarching evidence, I consider that the overshadowing controls should be discretionary to provide the flexibility to consider whether any proposed shadowing would have a material effect on the amenity of the open spaces.



Recommended changes to open space in Ms Thompson's evidence, Figure (vii)

4.3 Density

- [34] The proposed planning framework identifies a core area with a maximum floor area ratio of 8.1:1 (although there is no limit to the extent to which non-dwelling floor area can exceed this ratio) and a minimum non-dwelling floor area of 3.7:1. In the non-core area, the maximum floor area ratio is 3.3:1.
- [35] The relatively high maximum density and minimum non-dwelling density of the core area reflects its proposed role as a mini-CBD on top of a metro station. The maximum density is 30% higher than that in the Montague core and 50% higher than that in Lorimer, presumably reflecting the presence of the station. I support the principle of promoting higher density around a station, and to foster the development of a major employment node. According to my analysis of some individual sites, this density provides for buildings up to 36 storeys high (see Appendix A).
- [36] However, as noted in my overarching evidence, I query the achievability of a vision in which all buildings have both office and residential uses.
- [37] My analysis of 118 Bertie Street (submitter 182) and 1 Fennell Street (submitter 242) demonstrate that these properties cannot achieve the maximum FAR, due to requirements for new streets and/or the shadow requirements associated with parks to their southwest. In contrast, my analysis of 162-188 Turner Street and 60-82 Johnson Street indicate that the proposed density limit unnecessarily limits the capacity of those sites.
- [38] Further, I consider that the density limits should be determined by detailed built form modelling, rather than the distribution of floor area based on population targets. Therefore, it is premature to determine whether 8.1:1 is the right maximum density until that modelling has been undertaken. I presume that it could form part of the proposed precinct planning.
- [39] This confirms that more work needs to be done to determine the appropriate density in each part of the Amendment land. I note that this is also Mr McPherson's view. Presumably this could occur as part of the formulation of the proposed Precinct Plans.
- [40] I discuss the proposed density of development in the non-core parts of Wirraway, Sandridge and Montague extensively in my overarching evidence. In summary, I consider that:
- The Sandridge core only extends one block south of the station and tram line, and excludes a section of Plummer Street. This may be sufficient to accommodate the employment space sought, but

there is no reason for the extent of higher residential density to be limited to the same area.

- This is exacerbated by the rigid and abrupt nature of the change in density between core and non-core areas. All of Sandridge will be well served by public transport if the proposed rail and tram routes are built (and even if the metro line is not). So it is unclear why the density should drop off so 'sharply' one block from Plummer Street, or in the section of Plummer Street between the Wirraway and Sandridge cores.



400m (approx. 5 minute) walkable catchments from proposed train stations (red) and existing and indicative tram stops (stops in green, catchments in yellow)

- I have identified alternative models of higher density development to that proposed in the non-core area of Sandridge which could

increase its density to approximately 4.0-5.4:1, while maintaining a distinctive character and providing high quality living environments (see Appendix E of my overarching evidence).

- [41] Increasing the density for the non-core area of Sandridge from 3.3:1 to 4.5:1 would provide approximately an additional 2,400 dwellings. This is not to say that 4.5:1 is necessarily the correct figure, but merely to illustrate the potential benefit of higher densities.
- [42] Therefore, I consider that the proposed FAR controls need to be reviewed to determine the optimum balance between contributing to Melbourne's growth and ensuring high quality environments. I note that Mr McPherson also holds this view.

4.4 Built form

- [43] The Urban Design Strategy defines the preferred building typology in Sandridge (at page 88) as follows:

Tower developments are supported within the activity cores to create a high-density mixed-use precinct with significant job growth. These heights are reduced on specific sites to protect existing and proposed open spaces from being overshadowed. Outside of the core area a range of 6 - 24 storey development is supported to encourage a diversity of housing and create variety of character areas throughout this large precinct. A 4 storey mandatory height limit is retained along Williamstown Road, although the depth of this transition zone has been reduced.











- [44] The proposed DDO schedule provides for the following building heights:
- Generally unlimited in the core of the precinct, with pockets where there is a discretionary maximum of 12, 20 and 30 storeys (42.2m, 67.8m and 99.8m), and lesser heights north of North port Oval
 - A discretionary maximum of 24 storeys (80.6m) in the non-core area east of Boundary Street
 - A mandatory maximum of 4 storeys (15.4m) and a discretionary maximum of 8 storeys (29.4m) in the remaining non-core area

- [45] I assume that the limiting of heights to 12, 20 and 30 storeys in the core area is to avoid overshadowing of public open space. Similarly, I assume that the areas of mandatory 4 storeys and discretionary 8 storeys at the edge of the core area are to avoid overshadowing the expanded North Port Oval.

[46] However, sunlight to these spaces is already protected by the overshadowing provisions within the proposed DDO. While I accept that development will need to be limited to something like the proposed maximum heights in order to protect solar access to those spaces, I do not consider it necessary to incorporate two controls to achieve the same end.



Figure 9 Sandridge perspective view (from the north): In this illustration all sites are also modelled to the proposed FAR of 7.4 (core area) and 3.3 (non-core area) and in compliance with the built envelope controls (including overshadowing requirements). This demonstrates a variety of potential design responses that are possible within the proposed controls, including the delivery of family-friendly housing (mid-rise buildings with communal open space in the non-core area)

- | | |
|---|---|
|  Public open space |  Building GFA delivered through FAR (Core) |
|  Winter overshadowing controls |  Building GFA delivered through FAR (Non-core) |
|  Spring overshadowing controls |  Building GFA delivered above the discretionary height limit |
|  No overshadowing controls |  Site where the FAR cannot be delivered within the proposed building envelope controls |
|  Private open space |  Heritage buildings |

Ms Hodyl's evidence, Addenda 2, Figure 9

[47] I prefer the performance control in Table 1 of the proposed DDO, because it provides the flexibility for alternative design responses, such as a gradual increase in height towards the north (like the Northbank development at 507-575 Flinders Street (see overleaf), whereas the

preferred maximum heights are somewhat of a blunt instrument for avoiding overshadowing.



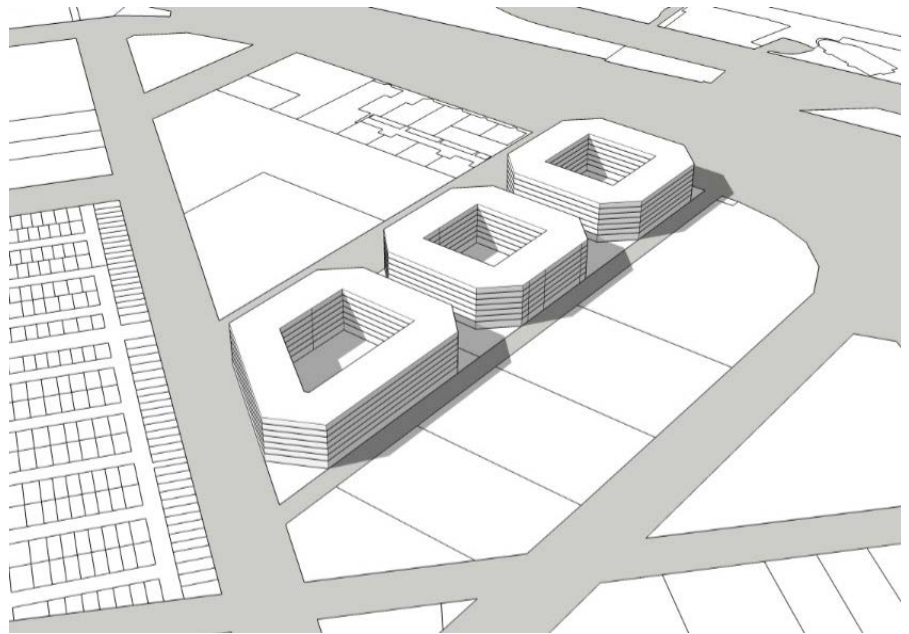
Northbank development in Flinders Street (source: Google Maps)

- [48] Therefore, I recommend that the proposed preferred maximum heights in the Sandridge core be removed. This is not to say that there should be no limit on development scale. However, because there are no specific reasons to constrain height in this precinct (other than solar access to open space, which is dealt with by the overshadowing control), I consider that a density control provides a more appropriate measure to control the scale of development (in conjunction with general policy, such as that found at clause 15, requiring development to respond to its context). This is because it allows the flexibility for lower, broader buildings (which may suit office uses), or taller, slender forms (which may suit residential uses). The visual impact of tall buildings will be offset by the greater separation that would be necessitated by a density limit.
- [49] There is a mismatch between the proposed maximum density and the proposed maximum height, particularly in the non-core area east of Boundary Street, where buildings are contemplated up to 24 storeys high but the maximum density is only 3.3:1—the same as the other non-core area where the maximum height varies between 4 and 8 storeys. This provides a clear illustration of the folly of defining the same extent of land for core uses and higher residential densities. (Further, I note that the

maximum height in the non-core area east of Boundary Street ignores the approval for 20-46 storeys at 60-82 Johnson Street.)

[50] As noted in my overarching evidence, I support the principle of medium-rise development in the non-core part of Sandridge, to create a character that is distinct from the podium-tower format development in other precincts. However, I consider that the density should still be optimised, to maximise this precinct's contribution to growth.

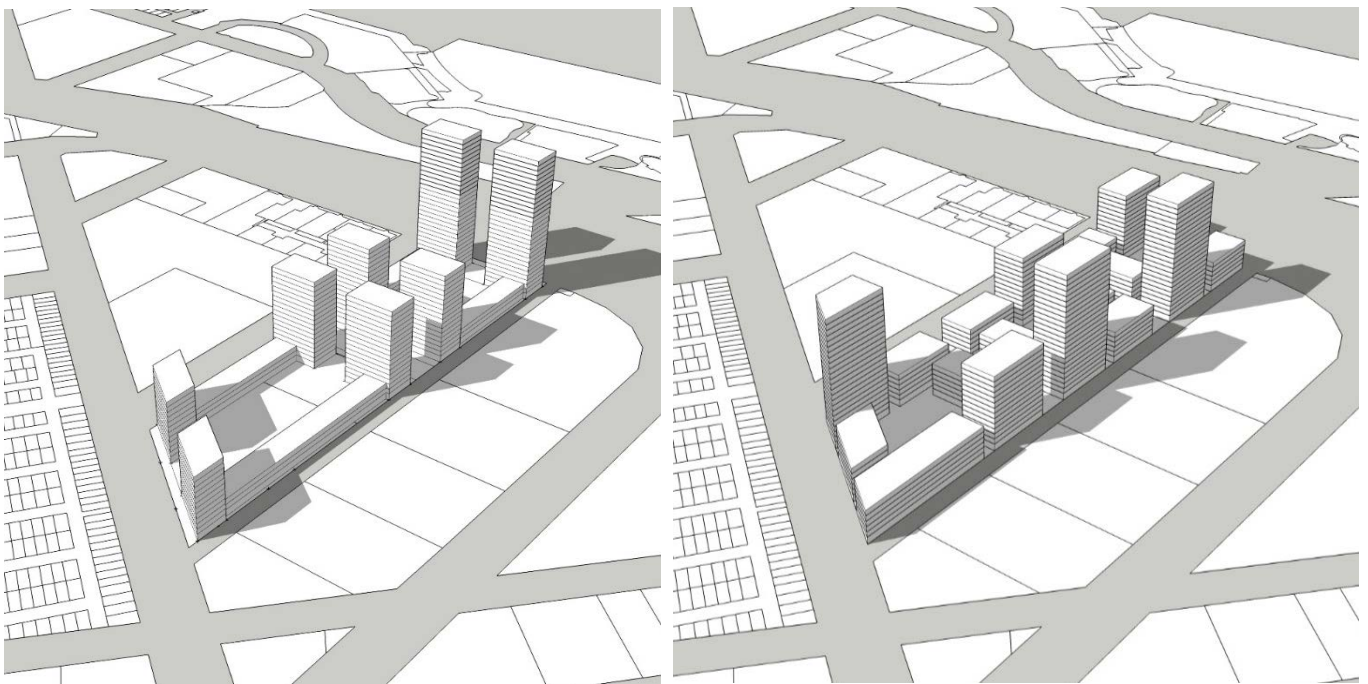
[51] It is entirely possible to conceive of built form character types that would be distinct from the podium-tower areas and create high quality places while also providing for more growth than what is proposed. For example, DLA's investigation into alternative higher-density built form models (see Appendix E of my overarching evidence) demonstrates that the 'Barcelona' model delivers a significantly increased density (up to an FAR of approximately 4:1—20% more than proposed in the non-core part of Sandridge) within a height of 7 storeys, while providing 'family-friendly housing' (see below).



*Alternative higher-density built form model applied to 29-69 White Street:
Barcelona model*

[52] Other built form models can deliver slightly higher density, but rely on some towers on street corners, separated by low-medium rise street wall forms (see overleaf). These models deliver a more diverse built form environment, while maintaining excellent public and private amenity (including generous central open spaces within each block). Density

controls may present a useful mechanism for managing the overall form of this type of development to ensure that the heights do not encourage *conventional* podium-tower development.



Alternative higher-density built form models applied to 29-69 White Street: Vancouver model (left) and Hybrid model (right)

- [53] As noted in my overarching evidence, I also consider that provision should be made for taller forms at key locations to reinforce the urban structure, as shown overleaf.
- [54] In summary, I support the proposal for mid-rise, higher-density built form in the non-core areas of Sandridge. However, I recommend that the proposed maximum heights in this area be reviewed to enable development types that can deliver greater density, while still delivering high quality public and private amenity, and 'family-friendly' housing.
- [55] In my overarching evidence, I analyse the southern edge of Sandridge, along Williamstown Road and Normanby Road, and recommend that the mandatory maximum 4-storey building height be replaced with discretionary maximum 4-storey street wall height and a discretionary minimum 10m setback requirement above the street wall (with the 'underlying' maximum height to the north applied beyond that). I note that Mr McPherson has recommended the same change in his evidence, which is on behalf of the City of Port Phillip.

[56] This is illustrated overleaf.



Potential locations for landmark buildings and civic uses

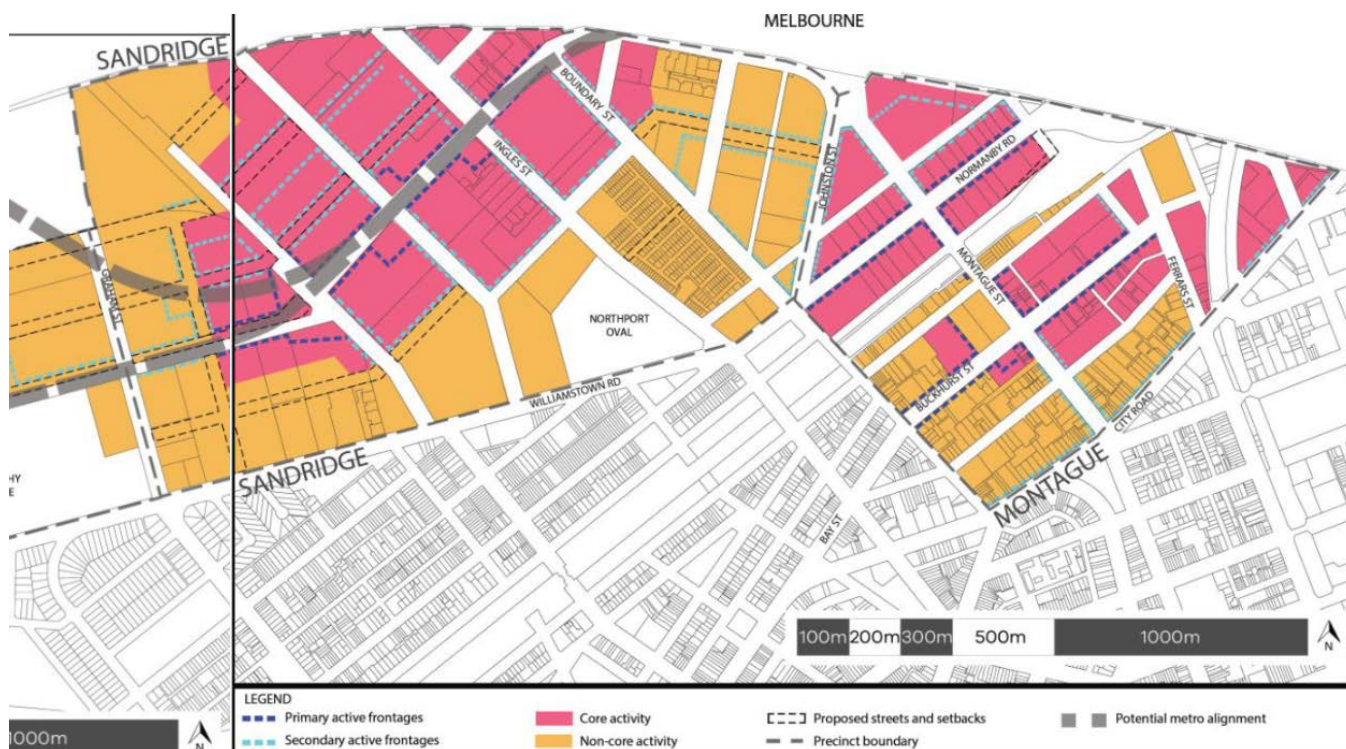


Recommended section through southern edge on Williamstown Road

- [57] I discuss the requirement for the non-core areas of Sandridge to have a maximum site coverage of 70%, with the remaining 30% to be used for ground level outdoor or communal open space or landscaping, in my overarching evidence. I accept that communal open space is desirable to support family-friendly housing. However, there is no reason why communal open space and landscaping cannot be provided on the roof of lower levels containing car parking or commercial floor area.
- [58] Therefore, I recommend that the site coverage control be replaced with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall. Further, I recommend that more work be undertaken to determine an appropriate level of provision.
- [59] Further, I note that the application of the site coverage requirement is ambiguous as to whether it applies to the total site area or the developable site area. And if it applies to the total site area, can any land required for new streets or open space be counted as part of the 30% open space/ landscaped area? This is illustrated by the study of 469-471 Williamstown Road at Appendix A.
- [60] Provided the site coverage control is reviewed as I have recommended above, I consider that it should logically only apply to the developable site area.

4.5 Detailed design

[61] The DDO requires secondary active frontages in parts of the non-core land at the western and eastern ends of the precinct, as shown below:



Extracts from proposed DDO Map 1

[62] Mr McPherson supports the removal of secondary active frontages from non-core land (see paragraph 296).

[63] In general, I agree that non-core land where commercial uses are not required should not be required to have active frontages, as defined in the Amendment. However, I consider that the frontage to Plummer Street ought to have active frontages (at least secondary) to reinforce its role as a 'civic spine'. This illustrates the anomaly of its designation as non-core.

5.0 Conclusion and recommendations

- [64] I have provided my opinion about the overall approach underpinning this Amendment, and general built form provisions, in my overarching evidence.
- [65] I support the proposed urban structure for Sandridge, including the metro and tram routes, street network, new pedestrian/ cycle bridges, and community hubs. I support the proposed provision of open space, subject to the changes recommended by Ms Thompson. However, I query the value of closing Bertie Street to widen what would already be a very large park. This would seemingly unnecessarily reduce the permeability of the street network for vehicles, increasing congestion on surrounding streets.
- [66] I support the principle of promoting higher density around a station, and to foster the development of a major employment node. However, I consider that the density should be determined by detailed built form modelling, rather than the distribution of floor area based on population targets. Therefore, it is premature to determine whether 8.1:1 is the right maximum density until that modelling has been undertaken. I also recommend that the proposed preferred maximum heights in the Sandridge core be removed, in lieu of a density control (noting that the overshadowing provisions will protect sunlight to the key open spaces).
- [67] I also support the principle of medium-rise development in the non-core areas of Sandridge, to create a character that is distinct from the podium-tower format development. However, I consider that the proposed densities, and the maximum building heights west of Boundary Street, are unnecessarily low, noting that they ignore the proposed public transport accessibility. More work needs to be done to determine the appropriate density and built form model which optimises the provision of growth within a mid-rise built form, while ensuring a high quality environment and family-friendly housing.
- [68] In any event, I recommend that the mandatory maximum 4-storey building height along Williamstown Road and Normanby Road be replaced with discretionary maximum 4-storey street wall height and a discretionary minimum 10m setback requirement above the street wall (with the 'underlying' maximum height to the north applied beyond that). I also recommend that the site coverage control that applies to the non-core area of Sandridge be replaced with a requirement for any development incorporating dwellings to provide communal open space at any level up to the height of the street wall. Further, I recommend that more work be undertaken to determine an appropriate level of provision.
- [69] I support the preparation of precinct plans to resolve matters to do with density, built form and parks. Until these precinct plans have been

prepared, I consider that it is premature to commit to maximum heights, densities and park locations.

[70] In summary, my recommendations for Sandridge are below:

1. REMOVE THE OVERALL BUILDING HEIGHT LIMITS IN THE SANDRIDGE CORE.
2. AMEND THE PROPOSED OPEN SPACE NETWORK IN ACCORDANCE WITH MS THOMPSON'S RECOMMENDATIONS.
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.
4. REPLACE THE MANDATORY 4-STOREY HEIGHT LIMIT ON WILLIAMSTOWN ROAD AND NORMANBY ROAD WITH A DISCRETIONARY MAXIMUM 4-STOREY STREET WALL HEIGHT, AND A DISCRETIONARY MINIMUM 10M SETBACK ABOVE.
5. 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.
6. REVIEW THE MERITS OF CLOSING THE SOUTHERN END OF BERTIE STREET.
7. CLARIFY WHETHER THE SITE COVERAGE REQUIREMENT APPLIES TO THE TOTAL SITE AREA OR DEVELOPABLE SITE AREA AND, IF THE FORMER, THEN HOW REQUIREMENTS FOR NEW PUBLIC LAND WITHIN THE SITE ARE TO BE TREATED IN THAT CALCULATION.

Appendix A: Analysis of Individual Sites



Location of individual sites assessed with submitter number

- Submitter 131.3 469 – 471 Williamstown Road, Port Melbourne
- Submitter 131.4 32-38 Fennell Street & 50-60 Bertie Street, Port Melbourne
- Submitter 182 118 Bertie Street, Port Melbourne
- Submitter 242 1 Fennell Street, Port Melbourne
- Submitter 250 60-82 Johnson Street, South Melbourne

Submitter 131.3: 469-471 Williamstown Road, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 87m x 98m = 8,251sqm area
Street interface: South to Williamstown Road (30m wide)
Existing conditions: Two lots occupied by industrial warehouse buildings and hard surfaces
Some vegetation along the eastern boundary
Regular street tree plantings along Williamstown Road
Existing crossovers: 2 x Williamstown Road

Relevant site interfaces

North: 299 Bridge Street, occupied by large industrial warehouse and scrapyard
East: 573 Williamstown Road, occupied by industrial warehouse buildings and surface car parking
West: 461 Williamstown Road, occupied by IT complex and associated structures and surface car parking

Development proposal

There are currently no planning permits in any stage of the permit process for this site.

Key AmGC81 built form considerations

SITE AREA (SQM)	8,514
PUBLIC REALM AREA (SQM) OPEN SPACE	1,732 (20%)
DEVELOPABLE SITE AREA (SQM)	6,782
CORE/ NON-CORE	Non-core
MAXIMUM DWELLING FAR	3.3:1
MAXIMUM DWELLING GFA (SQM)	28,096
PREFERRED MAXIMUM HEIGHT	15.4m - 29.4m (4 - 8 storeys)

Other AmGC81 requirements

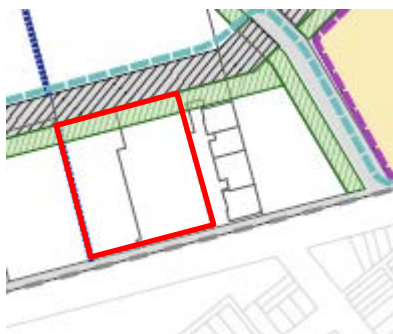
New 22m wide road abutting the northern boundary of the site.

New open space abutting the northern boundary of the site.

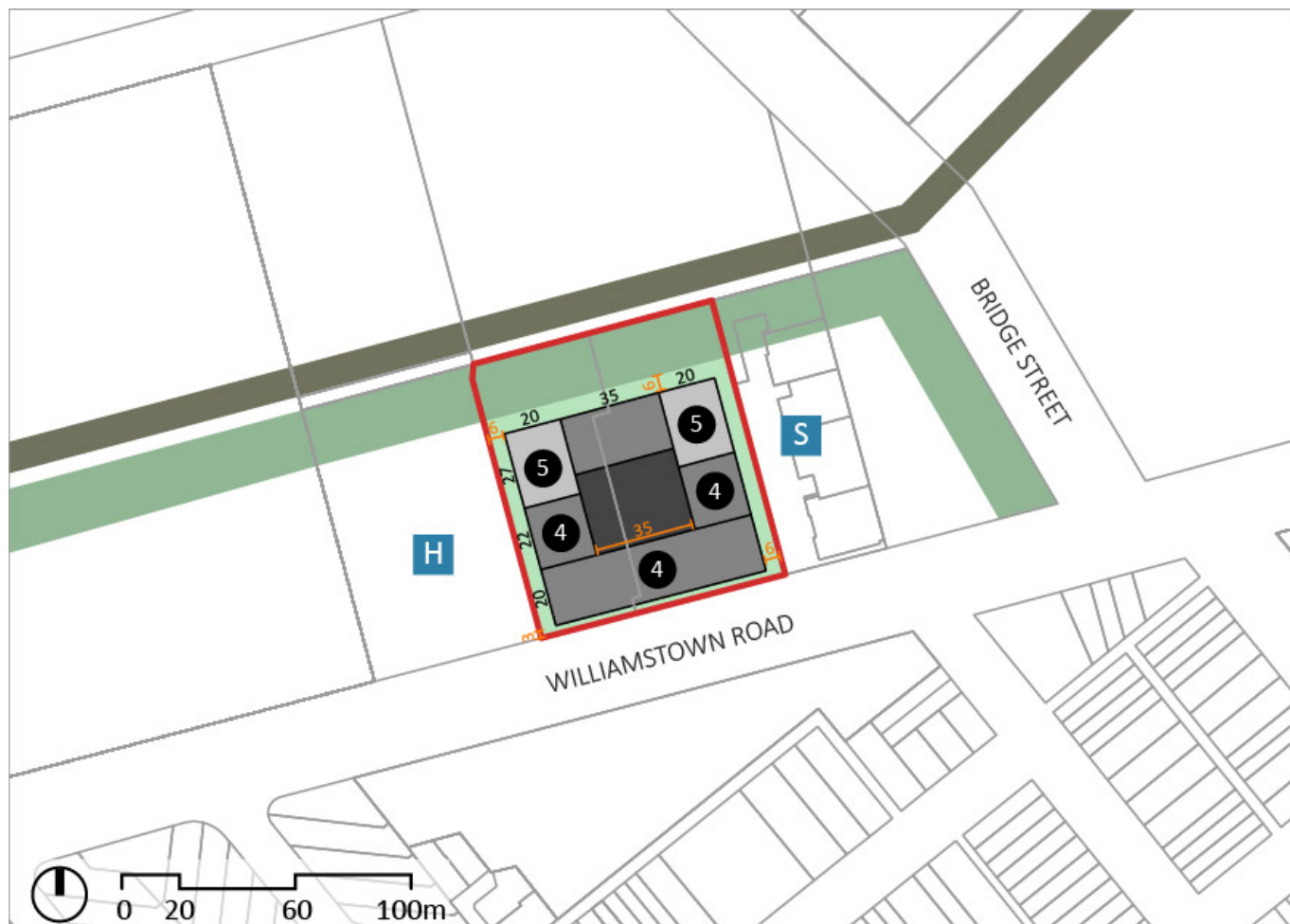
No crossovers onto Williamstown Road. The consequence of this is that any access would need to be along the proposed new open space along the northern boundary.












Maximum 70% site coverage applied to the total site area (not developable area), with remaining 30% open space to be used for communal open space or landscaping

Overshadowing requirements regarding south side of Williamstown Road (existing residential zoned land)



Development consequences



- | | | | | | |
|---|-----------------------|---|-----------------------------|---|--|
|  | 1 STOREY PODIUM |  | ON-SITE OPEN SPACE |  | HIGH FUTURE DEVELOPMENT POTENTIAL |
|  | 3 STOREYS RESIDENTIAL |  | PROPOSED 22M ROAD |  | SUBDIVIDED COMMERCIAL LOT (HIGH DEVELOPMENT POTENTIAL) |
|  | 4 STOREYS RESIDENTIAL |  | NUMBER OF STOREYS | | |
|  | NEW PUBLIC OPEN SPACE |  | BUILDING DIMENSION (METRES) | | |
| | |  | SETBACK (METRES) | | |

Discussion

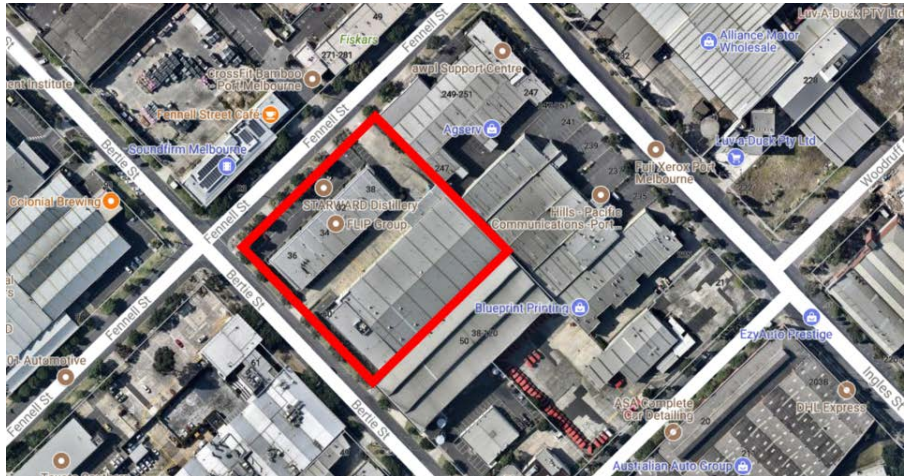
The site can accommodate the maximum dwelling FAR within the building envelope controls by employing a perimeter block form above a 1 storey podium.

At 4 storeys the building will not overshadow the residential area to the south of Williamstown Road on 22 September at 11am-2pm. (Indeed, not even an 8-storey building would overshadow the residential area opposite.)

The 70% site coverage requirement has been applied to the entire site - not just the reduced developable area. The indicative concept above provides the 30% communal open space/ landscaped area within the required public open space towards the northern edge of the site. Alternatively, it could be provided within the centre of the perimeter block with the podium floor area replaced by additional height along the northern edge of the building.

Given the orientation of the site, the higher form would be better located towards Williamstown Road with the building stepping down to the north to provide better solar access to the central open space.

Submitter 131.4: 32-38 Fennell Street and 50-60 Bertie Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 100m x 96m = 10,212m² area

Two street interfaces:

Northwest: Fennell Street (31m wide)

Southwest: Bertie Street (30m wide)

Existing conditions: Two lots occupied by industrial warehouse buildings and hard surfaces. Some vegetation along the northern boundary.

Regular street tree plantings along Fennell Street and Bertie Street

Existing crossovers: 1 x Bertie Street, 3 x Fennell Street.

Relevant site interfaces

Northeast: 249-251 Ingles Street, occupied by warehouse buildings and surface car parking

Southeast: 38 Bertie Street, occupied by multiple warehouse buildings and associated surface car parking

Development proposal

There are currently no planning permits in any stage of the permit process for this site.

Key AmGC81 built form considerations

SITE AREA (SQM)	10,212
PUBLIC REALM AREA (SQM) OPEN SPACE	1,722 (17%)
DEVELOPABLE SITE AREA (SQM)	8,490
CORE/ NON-CORE	Core
MAXIMUM DWELLING FAR	8.1:1
MAXIMUM DWELLING GFA (SQM)	82,717
MINIMUM NON-DWELLING FAR	3.7:1
MINIMUM NON-DWELLING GFA (SQM)	37,784
TOTAL GFA (SQM)	120,502
PREFERRED MAXIMUM HEIGHT	99.8m (30 storeys)

Other AmGC81 requirements

10m landscaped setback within the northern boundary of the site.

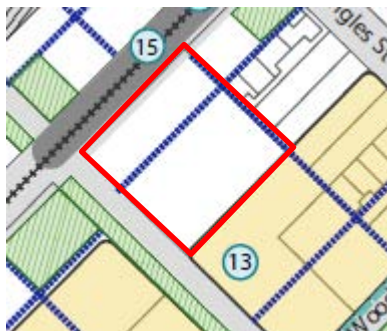
No crossovers permitted onto Fennell Street and Bertie Street.

New park to the southwest of the site which may not be overshadowed at 10am -2pm on the September Equinox.

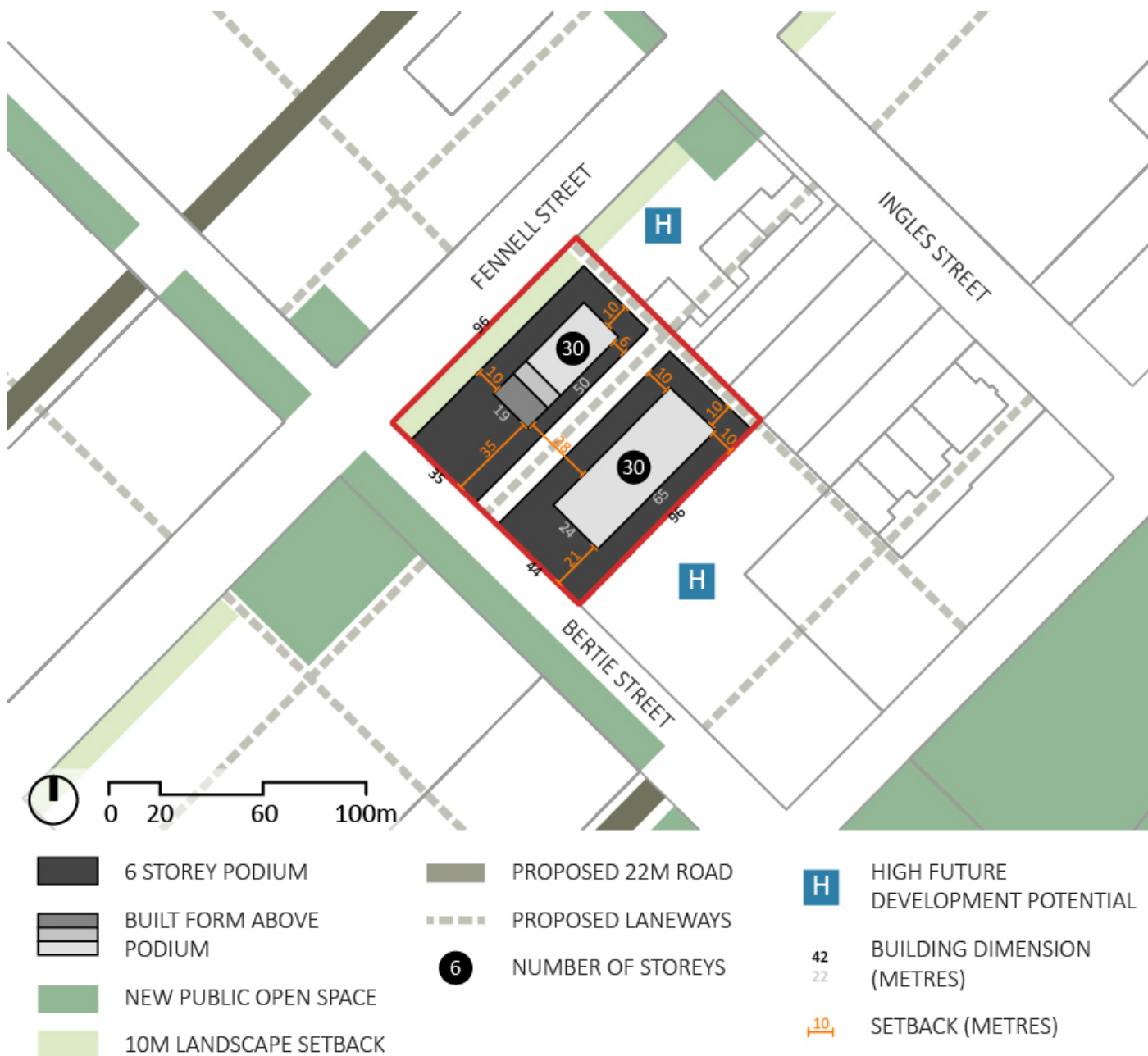
New lane through the site and along the eastern boundary in the draft Framework, but not in the CCZ schedule.

Proposed tram route along Fennell Street to the north of the site.

Active frontages: Primary to Fennell Street and Secondary on Bertie Street.



Development consequences



Discussion

The site can accommodate the maximum dwelling FAR and minimum non-dwelling FAR within the building envelope controls by adopting a 6-storey podium with two 24 storey towers on top, reaching a total height of 30 storeys.

A range of building forms could be adopted without exceeding the FAR or height limit. The maximum FAR prevents both towers from reaching the potential height of 30 storeys.

The overshadowing requirement to the new park to the southwest limits the height and location of any tower on the northern portion of the site.

There is limited additional built form capacity available on the site above the FAR and building envelope due to the shadow constraints.

Submitter 182: 118 Bertie Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 33m x 85m = 3,028m² area
One street interface:
Southwest: Bertie Street (30m wide)
Existing conditions: One lot occupied by industrial warehouse buildings and surface car parking.
Regular street tree plantings along Bertie Street
Existing crossovers: 1 x Bertie Street

Relevant site interfaces

Northwest: 126 Bertie Street, occupied by warehouse buildings and surface car parking
South: 33-49 Fennell Street, occupied by hard surfaces and minor frame structures

Development proposal

Planning permit application for an 18-storey mixed use development currently undergoing assessment, submitted June 2016.
This application responded to the previous Framework which located a road to the north of the site.

Key AmGC81 built form considerations

SITE AREA (SQM)	3,028
PUBLIC REALM AREA (SQM) OPEN SPACE	1,073 (35%)
DEVELOPABLE SITE AREA (SQM)	1,955
CORE/ NON-CORE	Core
MAXIMUM DWELLING FAR	8.1:1
MAXIMUM DWELLING GFA (SQM)	24,527
MINIMUM NON-DWELLING FAR	3.7:1
MINIMUM NON-DWELLING GFA (SQM)	11,204
TOTAL GFA (SQM)	35,730
PREFERRED MAXIMUM HEIGHT	42.2m (12 storeys) - unlimited

Other AmGC81 requirements

New 12m wide road within the site along its southern boundary. (This is now designated as a lane in the amended CCZ map received 28.3.18.)

New linear open space abutting the southern boundary (with no shadow protection).

New linear open space to the south west, which may not be overshadowed at 10am -2pm on the September Equinox.

No crossovers permitted onto Bertie Street.

Secondary active frontage on proposed new road to the south of the site.



Development consequences



Discussion

The site cannot accommodate anywhere near the maximum dwelling FAR and minimum non-dwelling FAR within the building envelope controls. This is largely due to the requirement for a 12m wide street along the southern boundary of the site, as well as the overshadowing and preferred maximum heights on the site. Further, the result of the new road and the tower setback controls is that any built form above the podium is only 11m wide, which is unlikely to be viable.

If the road is reduced to a 6m wide lane, this would somewhat increase the chance of a viable development on the site. However, it is not clear why the new road has been proposed on this property, which is relatively narrow, when it could achieve the same road network function if it were on either of the adjoining properties.

Both neighbouring properties are much larger and therefore more able to accommodate the road, as illustrated in the figure below.



Although locating the road through 33-40 Fennell Street (the property to the south) would result in the need for a minor deviation at its eastern end to avoid the heritage building in the northeast corner of that property, this would not impede its function and, indeed, would create a memorable vista of the heritage building (see photo below), as indicated above.



The apparent intent of the 12 storey height limit for the southwestern half of the site is to minimise overshadowing over the proposed neighbourhood park to the southwest. However, the control has the potential unintended consequence of limiting development potential on this site which sits in the important Sandridge core. Consequently, it is recommended that the 12 storey height limit be removed and instead any potential overshadowing impact over the proposed park be evaluated at the time of a planning application based on the proposed performance control.

The current proposed development for the site has a similar FAR to the maximum proposed dwelling FAR (see table below), but the proposed built form controls would not allow for this outcome.

	CURRENT PROPOSAL	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling FAR	8:1	8.1:1	4.5:1	-3.6:1
Dwelling GFA	24,136	24,527	13,655	-10,872
Dwellings No.	165	206	114	-92
Dwelling density per ha	545	679	378	-301
Non dwelling GFA	683	11,204	11,203	-1
Height-storeys	18	26	12-40 Storeys	

Submitter 242: 1 Fennell Street, Port Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 175m x 69m = 20,940m² area

Three street interfaces:

Northeast: Bertie Street (30m wide)

Southeast: Fennell Street (31m wide)

Southwest: Bridge Street (40m wide abutting site, 20m wide to the north, 30m to the south)

Existing conditions: Occupied by industrial warehouse buildings and surface car parking. Irregular street tree plantings at each interface.

Existing crossovers: 3 x Fennell Street, 1 x Bertie Street, 1 x Bridge Street

Relevant site interfaces

North: 91 Bertie Street, occupied by industrial warehouse buildings and associated surface car parking

Northwest: 350 Bridge Street, occupied by industrial warehouse buildings and associated surface car parking

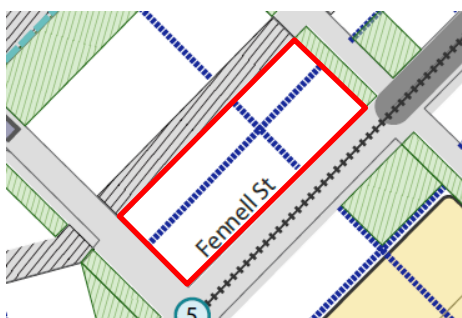
Development proposal

No planning permits currently in the permit process for this site.

Key AmGC81 built form considerations

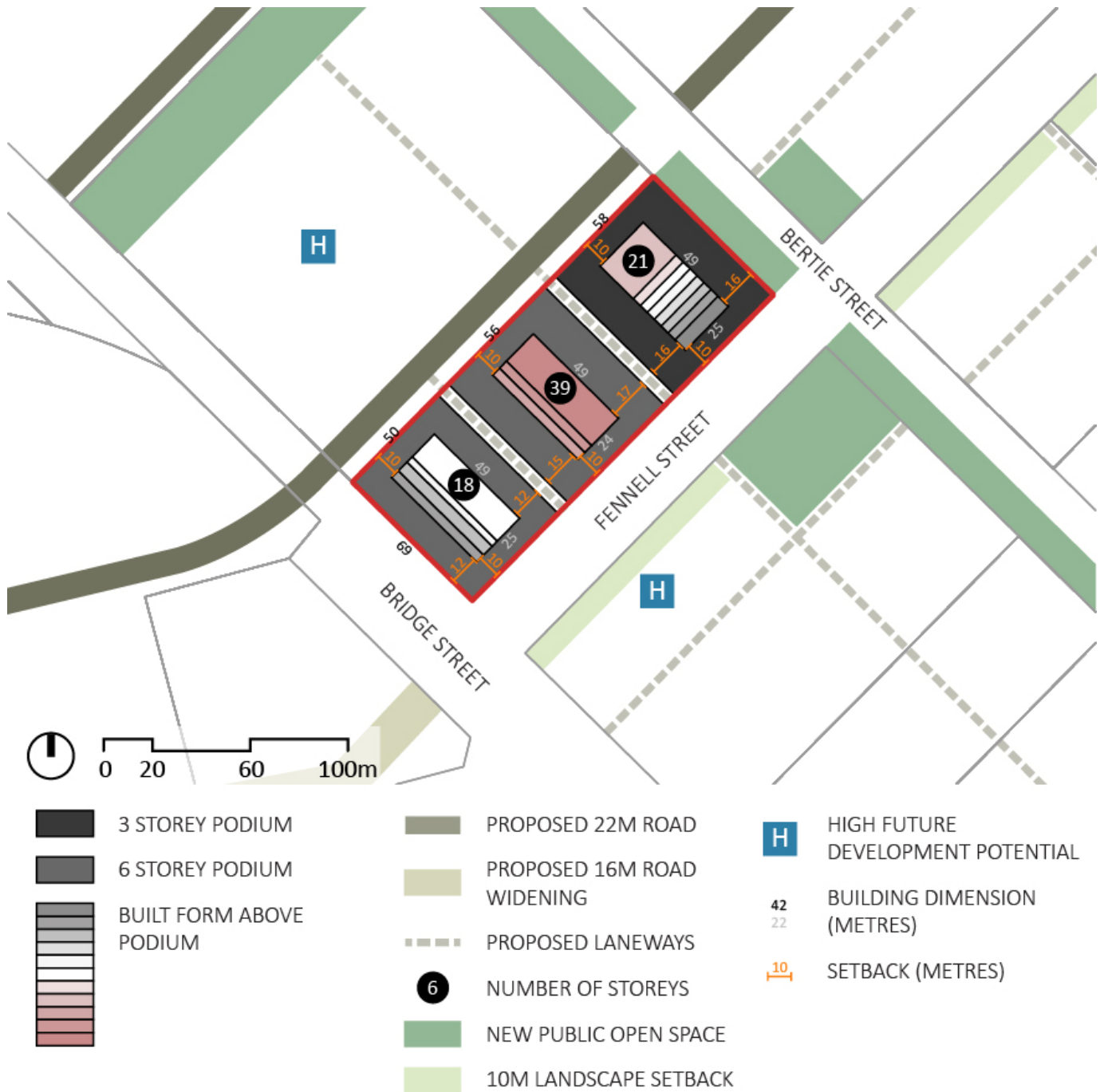
SITE AREA (SQM)	20,940
PUBLIC REALM AREA (SQM)	
LANES	828 (4%)
DEVELOPABLE SITE AREA (SQM)	20,112
CORE/ NON-CORE	Core
MAXIMUM DWELLING FAR	8.1:1
MAXIMUM DWELLING GFA (SQM)	169,614
MINIMUM NON-DWELLING FAR	3.7:1
MINIMUM NON-DWELLING GFA (SQM)	77,478
TOTAL GFA (SQM)	247,092
PREFERRED MAXIMUM HEIGHT	67.8m - 80.6m - unlimited (20 st - 24 st - unlimited)

Other AmGC81 requirements



- New road alongside the northern boundary.
- 2 new lanes crossing the site in the draft Framework, but not in the CCZ schedule.
- New open spaces to the south and west which may not be overshadowed at 10am -2pm on the September Equinox.
- No crossovers permitted onto Fennell Street or Bertie Street.
- Proposed tram route within Fennell Street to the south.
- Active frontages: Primary to Bertie Street, Fennell Street and Bridge Street; and Secondary to the proposed new road to the north of the site.

Development consequences



Discussion

The site cannot accommodate the maximum dwelling FAR and minimum non-dwelling FAR within the proposed building envelope controls, largely due to the overshadowing controls associated with the proposed public open spaces to the south and west of the site.

The minimum non-dwelling FAR and the car parking associated with both the dwelling and non-dwelling uses can be accommodated within three podiums of 3, 6 and 6 storeys. 17, 30 and 15 storey towers can be developed on top, with the centre building reaching a total height of 39 storeys.

The indicative east-west lane is also a significant constraint on the development of the site. It is converted into an additional north-south lane in the indicative development concept above, in accordance with Ms Hodyl's evidence.

	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling FAR	8.1:1	3.2:1	- 4.9:1
Dwelling GFA	169,614	67,758	- 101,856
No. dwellings	1,421	568	- 854
Dwelling density per ha	679	271	- 408
Non-dwelling GFA	77,478	55,812	- 21,666
Total GFA	247,092	123,570	- 123,522
Height	67.8m - 80.6m - unlimited (20 st - 24 st - unlimited)	20 - 36 storeys	

Submitter 250: 60-82 Johnson Street, South Melbourne



(Source: Nearmap)

Site conditions

Site dimensions: 119m x 82m = 9,777m² area

Two street interfaces:

East: Johnson Street (30m wide)

West: Governor Road (10m wide)

Existing conditions: Warehouse building on the southern boundary;
remainder is vacant

Irregular street tree plantings along Johnson Street

Existing crossovers: 5 x Johnson Street and 5 x Governor Road

Relevant site interfaces

North: 32-42 Johnson Street, occupied by car dealership and surface car parking

South: 90 Johnson Street, occupied by electrical utilities and associated structure

Development proposal

Approved Planning Permit (MPA14/0003) comprising:

- Two podiums and 4 towers (20-43 storeys)
- 1200-1300 dwellings
- 1,744m² non-residential floor space

Key AmGC81 built form considerations

SITE AREA (SQM)	9,777
PUBLIC REALM AREA (SQM)	1,558 (16%)
DEVELOPABLE SITE AREA (SQM)	8,219
CORE/NON-CORE	Non-core
MAXIMUM DWELLING FAR	3.3:1
MAXIMUM DWELLING GFA (SQM)	32,264
PREFERRED MAXIMUM HEIGHT	80.6m (24 storeys)

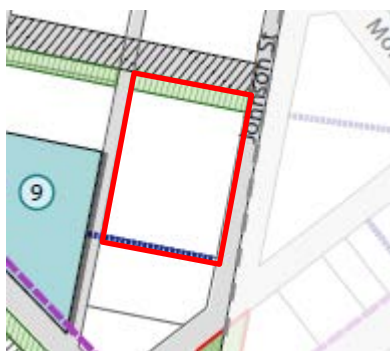
Other AmGC81 requirements

New 22m wide road alongside the northern boundary.

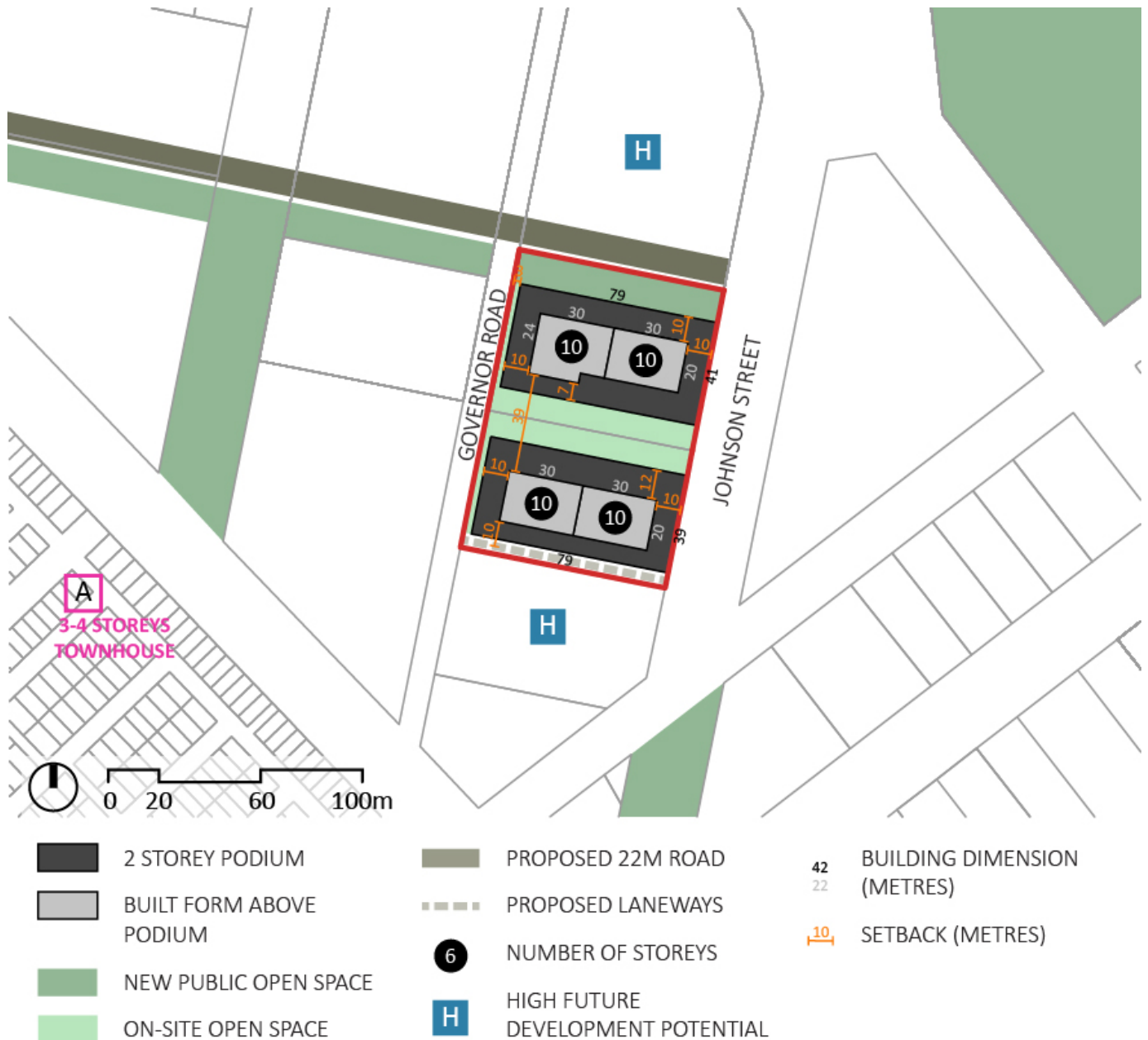
New linear park along the northern boundary within the property.

New 6m wide lane along the southern boundary of the site shown in the draft Framework, but not in the CCZ schedule.

Secondary active frontage along the north and eastern street frontages



Development consequences



Discussion

The site can accommodate the maximum dwelling FAR within the building envelope controls by adopting a two 2 storey podiums and two 8-storey towers. This assumes that the 70% site coverage requirement applies to the whole site, not just the reduced developable site area.

A range of building forms could be adopted without exceeding the FAR or height limit, and while providing the 30% communal open space/landscaped area.

The secondary active frontages may require commercial uses to be included and built to the new linear park and Johnson Street boundaries.

There is capacity within the built form controls for significantly more development on the site by building 24 storey towers.

	CAPACITY IN ACCORDANCE WITH DENSITY CONTROLS	CAPACITY IN ACCORDANCE WITH BUILT FORM CONTROLS	DIFFERENCE
Dwelling GFA (sqm)	32,264	60,104	27,840
No. dwellings	270	504	233

The development potential is significantly less than the approved development of the site, as shown below.

	CURRENT PROPOSAL	AM GC81 POTENTIAL	DIFFERENCE
Dwelling FAR	16.0:1	3.3:1	- 12.7:1
Dwelling GFA	156,787	32,264	- 124,523
No. dwellings	1,300	270	- 1,030
Dwelling density per ha	1,330	277	- 1,053
Non-dwelling GFA	1,744	-	+ 1,744
Height - storeys	43	24	- 19

Appendix B: Site Assessment Assumptions

The following assumptions have been made in assessing the development potential of each site (see Appendix A).

Public realm

- New streets and parks: As per proposed CCZ schedules.
- Laneways and minor roads: As per draft Fishermans Bend Framework, with their alignments adjusted to suit the development of the site. All laneways have been modelled at a width of 6m.

Built form—general

- Building height and building setback requirements: As per the Panel versions of the CCZ and DDOs (documents 66), or ResCode for buildings up to 4 storeys high.
- Overshadowing requirements: In accordance with DDO Map 3 Overshadowing requirements and Table 1 Public open space hierarchy and overshadowing requirements, except in Montague, where the following recommendation of Ms Hodyl has been adopted: Revise the current overshadowing controls for neighbourhood parks in the Amendment for Montague from 'no additional overshadowing' to 'no additional overshadowing above the street wall shadow'. This only affects:
 - The new park fronting Thistlethwaite Street
 - Both new parks fronting Gladstone Street
 - The new park fronting Buckhurst Street
- Park interfaces: Buildings setbacks dependent on shadowing requirements as per the DDO, or built to the boundary where no shadow requirement specified.
- Floor to floor height: Ground floor 4m, upper podium floors 3.8m (as per DDO adaptable building requirements), tower levels 3.1m (assumes residential).

Podiums

- Use: All non-dwelling GFA, all car parking (associated with both dwelling and non-dwelling use—i.e. no basement levels assumed) and dwellings to 'sleeve' parking.
- Site coverage: 100% in all core areas; 70% in Wirraway and Sandridge non-core areas except where the gross developable site area is less than 1200sqm.
- Setbacks: 0m in core areas and on all streets in non-core areas requiring an active frontage; 3m elsewhere to accommodate ground floor private open space and/or landscaping.
- Minimum podium height: Determined by calculating non-dwelling and all car parking GFA, divided by podium footprint, + 0.5 then rounded up (to allow for sleeving).
- Street wall height on corner sites: Where two different street wall heights meet at a corner, the street wall height of the primary street has been applied to the secondary street for a maximum length of 30m.

Towers

- Use: dwellings only.
- Floor area: Total GFA less podium GFA.
- Tower width: minimum 15m, maximum 25m (double loaded).
- Tower floorplate area: maximum 900sqm for buildings up to 15 storeys high, 1,250sqm for taller buildings. In some instances, this was altered in response to the site context and to reach the FAR.
- 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 room windows or secondary habitable room windows.

Floor area calculations

- Total GFA: The sum of maximum dwelling GFA (based on the maximum FAR), and minimum non-dwelling GFA in core areas. Where the total GFA cannot be achieved within the built form controls, the

residential GFA is reduced to ensure the minimum non-dwelling GFA is achieved.

Precinct	CORE AREA		TOTAL CORE AREA FAR	Non-core area		TOTAL NON-CORE AREA FAR
	Dwelling FAR	Non dwelling FAR minimum		Dwelling FAR	Non dwelling FAR	
Lorimer	5.4:1	1.7:1	7:1	N/A	N/A	N/A
Wirraway	4.1:1	1.9:1	6.0:1	2.1:1	N/A	2.1:1
Sandridge	8.1:1	3.7:1	11.8:1	3.3:1	N/A	3.3:1
Montague	6.1:1	1.6:1	7.7:1	3.0:1	N/A	3.0:1

(Based upon the proposed CCZ and local policy requirements.)

Car parking

- Car parking: 1 space per 100sqm of non-dwelling use, and 0.5 spaces per dwelling.
- Car parking GFA: 30sqm per space.

Dwelling calculations

- Gross to net: 75% (i.e. 25% of the GFA floor area allowed for circulation, services, etc.).
- Average apartment sizes:

Precinct	Apartment size ratio
Lorimer	74
Wirraway	81
Sandridge	74
Montague	77

(From Urban Design Strategy)



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