Prepared for: Tiberius (Holroyd) Pty Ltd
Date: May 24, 2020

Urban Design Response to Panel's comments March 2020

1 Crescent Street, Holroyd

architectus™

Overview

This document sets out a response to the Sydney Central City Planning Panel comments of 20 March 2020 for the site at 1 Crescent St, Holroyd, as they relate to urban design issues.

This document is structured as follows:

1. Overview of proposal
2. Progression of masterplan following March 2019 Panel meeting minutes
3. Public benefit and connectivity

Key comments from the Panel (20 March 2020) are quoted below, relating to sections 2 and 3 of this document respectively.

"the Panel recommends that the proponent more clearly identify how building height, FSR and apartment numbers align with previous submissions."

"The proponent has also not yet provided adequate information as to what urban design initiatives and social infrastructure are proposed to provide for the social and community needs of a new, relatively isolated community. The Panel recommends that this be further considered by the proponent."

Concept view - new open space (Arcadia)

1 - Overview of proposal

Key public benefits of the proposal:

– Provision of a major new publicly accessible park that is 7,714sqm of dedicated space, connected to the existing Holroyd Sports Ground to offer a combined total of almost 6 hectares of public open space

– Generous affordable housing offer, 7% of residential dwellings dedicated in perpetuity

– Increased pedestrian and cycle accessibility, including provision of new links, connections and improvements of others

– New shops and community facilities providing for local community demand. Public open space including children's playground

– Visual improvement to prominent site at the Gateway to Holroyd

– Consistent with local and state planning strategies of metropolitan Sydney

– A commitment to design excellence

– Retention of on-site employment through commercial/retail uses while also providing new housing supply

– Masterplan designed to minimise impacts to neighbours

– New dedicated bus lane along Crescent Street

Concept view - new open space
Note: Does not incorporate latest preferred design amendments to ensure greater tower slenderness

The masterplan

The masterplan is shown opposite and further described through this document. Its key features include the following:

– A major new publicly accessible open space for Holroyd, with the amount of open space on site significantly exceeding that of other developments within Sydney. This will be connected to and integrated with the existing Holroyd Sportsground

– Excellent pedestrian and cycle connections

– Maximum building frontage to open space areas

– Well separated residential built form with proposed building heights from 8 to 28 storeys

– Building forms enjoy northerly aspect with views across open space and Sportsground

– Ground level and podium commercial and retail uses

– Good vehicle access and circulation

– On and off-site overshadowing impacts minimised through superior design

– Appropriate interface with adjoining uses on the western boundary

Annotated Masterplan

1:1,500 0 15 30 45 60 75M

Key statistics

Masterplan Building heights

– Generally 8 storeys (approx. 32m)

– Towers of 12-28 storeys (maximum approx. 96m)

Potential yield of land uses:

– 15,005sqm commercial GFA (approx. 12,755sqm NLA) including:
  – 3,500sqm supermarket
  – 2,000sqm showroom
  – 100 space childcare
  – gym, medical and other uses
– 97,856sqm approx. residential GFA or approx. 1,109-1,255 apartments depending on apartment sizes and mix.
– Floor Space Ratio - 3.4:1 in the RE1 zone and 4.2:1 in the B4 zone

A detailed schedule of uses is shown on the following page.

Site areas and open space

The site areas based on the current concept masterplan include approximately:

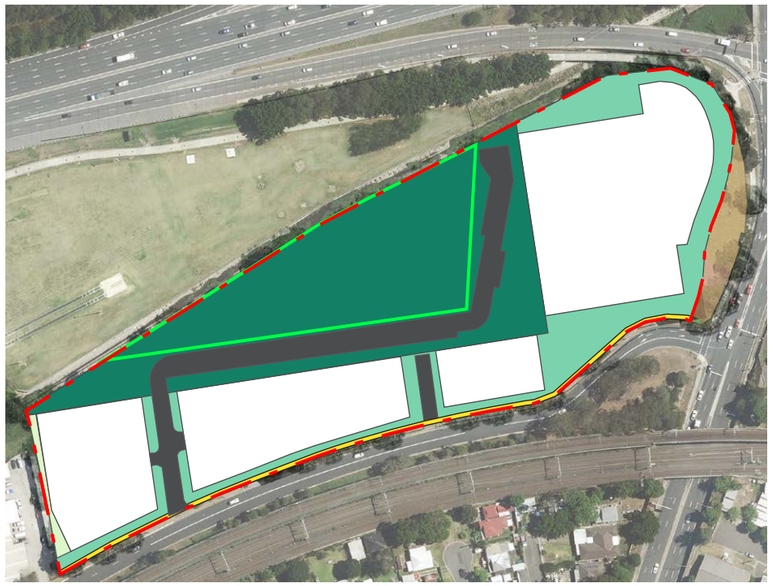
– 7,714sqm of RE1 zoned land for public recreation (approx. 20% of the site); plus a further

– 8,658sqm of other publicly accessible open space throughout the site

This provides a total of 16,372sqm or approx. 43% of the site area.

The open space provided has the potential to link through to the existing Holroyd Sports ground (approx. 4.8Ha), creating a combined open space of nearly 6 Hectares.

The open space outcomes for the site are significant, achieving around 43% of the site as publicly accessible open space, excluding the road around its edge. As a point of comparison, redevelopment of the Rhodes West area (Canada Bay Council) has delivered around 20% open space (excluding roads). Achieving this proportion of open space provides an excellent urban design outcome for the site.



Provision of open space

- Site boundary
- RE1 zoned public open space (7,714sqm)
- Major open space (11,464sqm)
- Other publicly accessible open space (4,908sqm+ 11,464sqm of major open space = 16,372sqm total)
- Road
- Built form (16,461sqm)
- Landscape buffer
- SP2 zoned land (1,017sqm)

Note: Communal open space is intended to be provided on rooftops (within the built form enveloeps noted above)

2 - Progression of masterplan following March 2019 Panel

The current masterplan (presented in the updated urban design report April 23, 2019) was a direct response to comments by the previous panel minutes (from meeting 7 March 2019).

The Panel's 7 March 2019 comments relating to urban design and development standards are provided in full adjacent. The key takeaways from this regarding the plan are:

- Satisfaction of the panel with the overall density shown (see discussion in 2)
- A requirement to revise the north-eastern corner to reduce the bulk of the taller buildings E, F and G, with emphasis on the length of 'E' along Crescent Street.

A summary table of key metrics on this issue is also provided adjacent. As described:

- the total floorspace has remained consistent between the two designs
- buildings E, F and G have been made substantially slimmer and E has been split from one tower to two separate towers.
- To accommodate the above, the building heights have increased (in line with the panel's comments " The panel recognises that to meet condition 1 above and maintain the current FSR some flexibility in building heights must be provided")

With regard to the bulk of the towers, Architectus has done substantial work in promoting slender towers across Sydney and consider that the sizes of floorplate shown for the tower components would be leading examples in Sydney. The 720-840sqm floorplates shown for these towers (approx. 540-630sqm GFA per floor) are well below the standards set in other areas of Sydney including:

- The City of Sydney which limits residential tower floorplates to 1000sqm GFA (approx. 1,350sqm floorplate) in Central Sydney
- Parramatta CBD where floorplates are sought to be restricted to 950sqm for towers of this scale (see Parramatta CBD Strategy 2015)

Appended to this document is Architectus' "slender towers and workable floorplates" study which provides further detail on this item.

Comments from Panel 7 March 2019

1. Urban Design

The Panel requires further revisions to achieve lesser building bulk in the north-west corner of the site (i.e. to buildings E, F and G). While all these buildings are considered to be too bulky, one building- E- requires most modification; its length along The Crescent is excessive and ***two or three separate buildings may be a better form****. The applicant is to prepare revised plans which are to be assessed by DPIE and endorsed or otherwise referred back to the applicant by the Panel before the Proposal is placed on public exhibition.*

2. Development Standards

The Panel supports the proposed building heights, particularly the transitional height in the south-west corner, the floor space ratio (FSR), number of residential units and areas allocated to commercial and retail space. *The Panel wants to achieve an appropriate degree of certainty in development outcomes and therefore requires that all the above measures be included as standards in the amended Holroyd Local Environmental Plan. The Panel does not believe including the above measures in a Development Control Plan would provide enough certainty of outcomes. The Panel recognises that to meet condition 1 above and* ***maintain the current FSR some flexibility in building heights must be provided****.*

As such, the ***Panel will allow modest increases in the heights of selected buildings to achieve better urban design.*** *While the Panel is supportive of the number of proposed storeys in the new buildings it does not endorse the currently proposed height of buildings map.*

Summary table of key metrics

Metric	Previous design (as at 7 March 2019)	Current design (April 23, 2019 to present)
Building heights	Max. 25 storeys note: 25 storeys on plan opposite is shown from ground level	Max 30 storeys note: 28 storeys on plan opposite is shown over 2 storey podium level
Building bulk E,F,G- floorplate Note: GFA per floor will be approximately 75% of this	E - 1083 sqm F - 980 sqm G - 984 sqm	E1&E2 - 720sqm F - 840sqm G - 840sqm
Floor space ratio	3.4:1 R4 zone (11,560sqm area) 4.2:1 B4 zone (17,613sqm area)	3.4:1 R4 zone (11,560sqm area) 4.2:1 B4 zone (17,613sqm area)
Publicly accessible space / open space	See p5	See p5 (no change)

Masterplan as seen by Panel 7 March 2019

Revised following panel comments 15 November 2018, issued to DPIE 20 December 2018

0 15 30 45 60 75M

Current masterplan - following Panel decision 7 March 2019

Plans issued to March 2020 Panel Meeting

0 15 30 45 60 75M

Schedule of areas - current (2020)

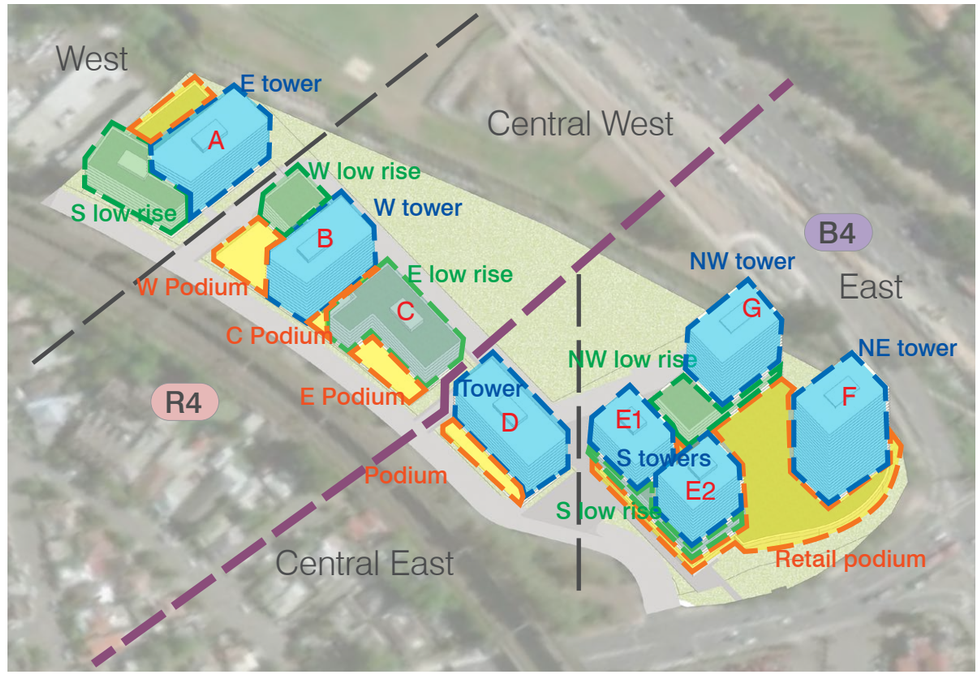
Location of blocks identified in schedule
Note: 'Podium' is underneath other building components in 'East' block, while not below in other areas

Note for clarity: Development Statistics requested by DPIE

Site Area; Lot Area;	The site is one lot. As shown below there is: 37,904sqm (all zones, current site/lot) or 27,913sqm (R4/B4 only, future site/lots)
Building Footprint;	See below. 16,461sqm is the ground level of all buildings
Building Height;	See assumptions with height of buildings plan page 11, which can be read with the schedule below
GFA;	See below. 112,860sqm shown
NLA;	85% of GFA may be used. See table to right. (we have labelled this 'NSA')
Yield;	1,109-1,255 apartments. See table to right.
Building efficiency;	75% GBA to GFA efficiency is described in the schedule below
Public and Privates Open Spaces;	See plan and statistics page 5. Note this has not changed from the previous masterplan to present.
A spreadsheet needs to be submitted to provide how things have been achieved and amended when heights or footprints change.	A summary of key changes between the masterplans is shown on page 6. A detailed schedule of both is shown on this and the following page for any detailed comparisons.
Distances need to be shown for the building separation.	See page 10 of this document, which is compared to the previous plan
Show what is required and what is achieved – this is a comparison ie. How much open space is needed and what is delivered or the same for building heights or yield, etc	There is no public open space requirement. Communal open space is intended to be delivered on rooftops compliant to SEPP65 requirements (see p5). Public open space provision remains consistent between both masterplans (see p5).

Number of apartments

		Apartments (low/high)	
Total GFA	NSA	Low	High
	(85% GFA)	@ 75sqm NLA	@66.25sqm NLA
Residential	83,176	1,109	1,255
Commercial	12,755		



Schedule by zone

Zone	R4	B4	RE1	SP2-1 Crescent St	Totals	Total R4+B4
Area of zone	11,560	17,613	7,714	1,017	37,904	29,173
GFA shown in model envelopes	39,038	73,822			112,860	112,860
FSR as shown in model	3.4	4.2			2.98	3.87

Detailed block schedule

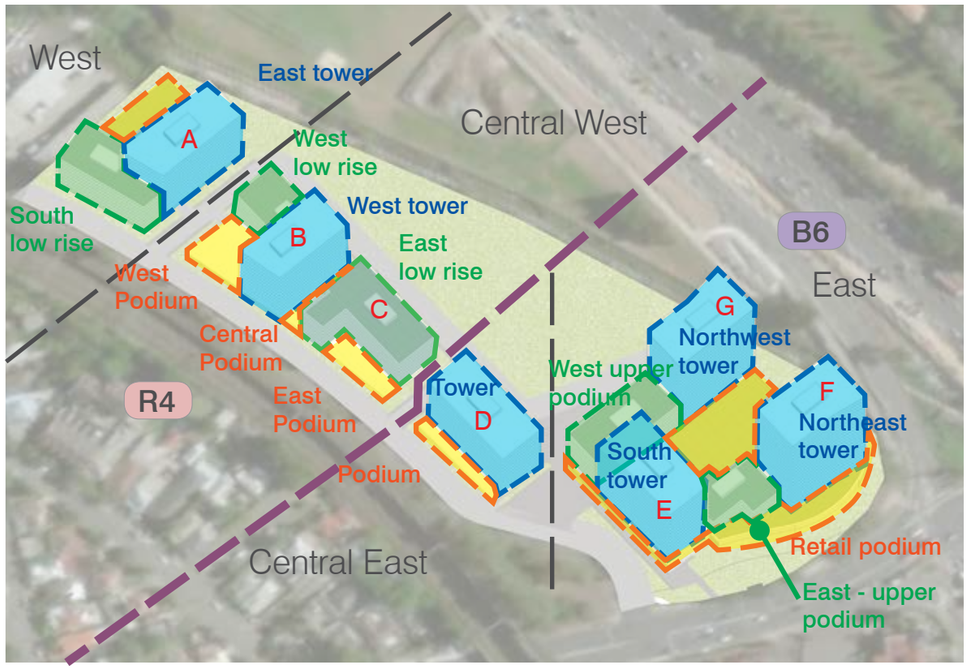
Zone	R4									B4							
Block	West			Central west						Central east		East					
Building part	South low rise	Podium	East tower A	West podium	West low rise	West tower B	Central Podium	East low rise C	East podium	Tower low rise D	Podium	Retail podium	South low rise	South tower E1	South tower E2	Northwest low rise	Northwest tower G	Northeast tower F
Envelope footprint (sqm)	796	1,236	1,067	695	616	911	343	1,267	417	1,100	277	7,736	1,780	720	720	1,300	840	840
Storeys of element	8	1	14	1	8	14	1	8	1	12	1	2	6	9	14	6	15	26
Total storeys (incl. elements below)	8	1	14	1	8	14	1	8	1	12	1	2	8	17	22	8	23	28
Total envelope area	6,369	1,236	14,938	695	4,928	12,754	343	10,136	417	13,200	277	15,472	10,680	6,480	10,080	7,800	12,600	21,840
Total GFA (75% envelope)	4,777	927	11,204	521	3,696	9,565	257	7,602	313	9,900	208	11,604	8,010	4,860	7,560	5,850	9,450	16,380
Total GFA - commercial		927		378	352	795	257	950	313	825	208	10,000						
Total GFA - residential	4,777		11,204	320	3,344	8,770		6,652		9,075		1,604	8,010	4,860	7,560	5,850	9,450	16,380

Schedule of areas - as seen by Panel 7 March 2019

Revised following panel comments 15 November 2018, issued to DPIE 20 December 2018

Block schedule and locations

Location of blocks identified in schedule
Note: 'Podium' is below other building parts in 'East' block, while not below in other areas



Schedule by zone

Zone	R4	B6	RE1	SP2-1 Crescent St	Totals	Total R4+B6
Area of zone	11,560	17,613	7,714	1,017	37,904	29,173
GFA shown in model envelopes	39,039	75,778			114,816	114,816
FSR as shown in model	3.4	4.3			3.03	3.94

Detailed block schedule

Zone	R4									B6						
Block	West			Central west						Central east		East				
Building part	South low rise	Podium	East tower A	West podium	West low rise	West tower B	Central Podium	East low rise C	East podium	Tower low rise D	Podium	Retail podium	South tower E	West upper podium	Northwest tower G	East upper podium	Northeast tower F
Envelope footprint (sqm)	796	1,236	1,067	695	616	911	343	1,267	417	1,100	277	7,736	1,083	1,012	984	622	980
Storeys of element	8	1	14	1	8	14	1	8	1	12	1	2	16	8	19	4	26
Total storeys (incl. elements below)	8	1	14	1	8	14	1	8	1	12	1	2	18	10	21	6	28
Total envelope area	6,369	1,236	14,938	695	4,928	12,754	343	10,136	417	13,200	277	15,472	17,328	8,096	18,696	2,488	25,480
Total GFA (75% envelope)	4,777	927	11,204	521	3,696	9,565	257	7,602	313	9,900	208	11,604	12,996	6,072	14,022	1,866	19,110
Total GFA - commercial, retail, offices etc		927		378	352	795	257	950	313	825	208	10,000					
Total GFA - residential	4,777		11,204	320	3,344	8,770		6,652		9,075		1,604	12,996	6,072	14,022	1,866	19,110

Comparison of building dimensions and separation - northeast corner of site

Current masterplan

Walls to include only translucent, highm or 'wing' windows only (not balconies or living rooms) to ensure sEPP65 / ADG compliance)

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Previous design - as seen by Panel 7 March 2019

Revised following panel comments 15 November 2018, issued to DPIE 20 December 2018

1:1,000 0 10 20 30 40 50M

Comparison between Height of Buildings controls as proposed 2018 - present

For reference the currently proposed height of buildings map is presented below adajcent to the maps prepared in 2018 relating to the previous proposal at that time.

Proposed Height of Buildings Map (current)

Proposed amendments to LEP Height of Buildings Map (extract)

Maximum Building Height (m)

O	15
U	32
Y	54
Y1	61
Z	77
AB	80
AB1	96

Note:
Assumptions in calculating heights include:
- 3.2m per residential storey
- 3.6m per commercial storey
- 5.4m for lift overrun and plant

The base calculations have then been rounded to the nearest metre or in some cases to a height designation existing in the LEP

Previous Height of buildings map - as seen by Panel 7 March 2019

Revised following panel comments 15 November 2018, issued to DPIE 20 December 2018

Proposed amendments to LEP Height map
- based on JRPP comments

Maximum Building Height (m)

J	9
K	10
L	11
M	12.5
N	14
O	15
P1	17
P2	18
Q	20
R	21
S1	23
S2	24
T1	26
T2	29
U	32
W	41
Y	53
AA	65
AA1	86

Note:
Assumptions in calculating heights include:
- 3.2m per residential storey
- 3.6m per commercial storey
- 5.4m for lift overrun and plant

The base calculations have then been rounded to the nearest metre or in some cases to a height designation existing in the LEP

3 - Public benefit and connectivity

Purpose of this section

This section presents a set of potential opportunities for social infrastructure and public benefit developed by the project team for 1 Crescent Street Holroyd, with a particular focus on improved connectivity for the site's context. It is intended discussion with the Department of Planning, Industry and Environment in response to the Sydney Central Planning Panel's decision 20 March 2020 including:

> *"... what urban design initiatives and social infrastructure are proposed to provide for the social and community needs of a new, relatively isolated community"; and*
>
> *"the demonstration of social infrastructure contributions proposed for the local, as well as State level, for example by way of a Voluntary Planning Agreement (VPA)"*

Structure

This section includes:

- An overview of existing pedestrian/cycle connectivity including a quality and gap analysis (adjacent and opposite)
- A summary of potential connectivity benefits that can be contributed to by this development (over the following pages)

Existing connectivity

This site is within 10-20 minutes walk of three major centres including:

- **Parramatta, Sydney's 'Central City'**
- **Merrylands, which is Cumberland councils largest centre in their draft local strategic planning strategy**
- **Granville, is a focus growth area under the Parramatta Road Strategy**

This site is within 10-20 minutes walk of four train stations including, Parramatta, Harris Park, Granville and Merrylands.

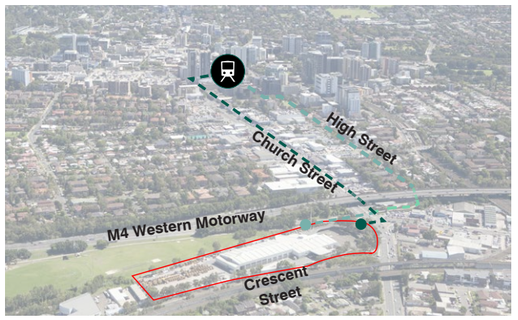
This site is adjacent to a regional cycle link that runs east-west alongside the M4.

The connection quality and gap analysis on the page opposite describes the key connectivity in the area. This has been used to help identify a range of options where the proposal can seek to fund or contribute to off-site improvements to this network (see following pages).

Rail and station connections summary

Parramatta Station

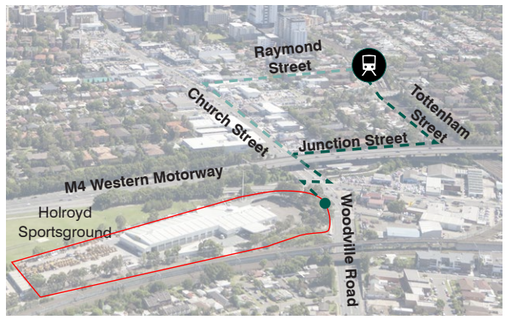
1.4km distance / 17 minutes walk



Parramatta Station is a 1.4km walk via Church Street or 1.8km via High Street. The pedestrian experience of Church Street is expected to improve through redevelopment as part of the Parramatta City Centre.

Harris Park Station

750m distance / 10 minutes walk

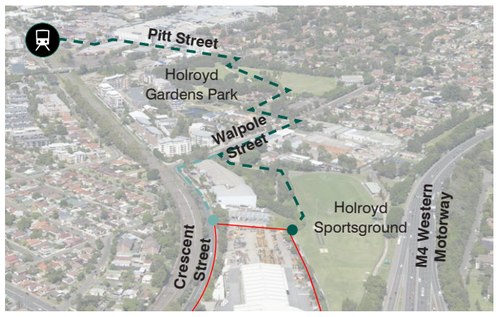


Harris Street is the railway station that is most accessible to the site, with a 750m walk either via Junction Street and Station Street West or an alternative route via Church Street.

The revitalisation of Church Street, in conjunction with proposal like the subject, will result in a significantly improved pedestrian experience over time.

Merrylands Station

1.6km distance / 20 minutes walk



The site is located a 20 minute walk from Merrylands Railway Station through Holroyd Gardens Park.

Future connections from the site through the Holroyd Sportsground will improve the connectivity of the site to the Merrylands CBD.

Granville Station

1.1km distance / 13 minutes walk

The route to Granville Station provided via Parramatta Road, with the pedestrian experience to be improved with upgrades to the Woodville/Parramatta Road Intersection.

Connection quality and gap analysis

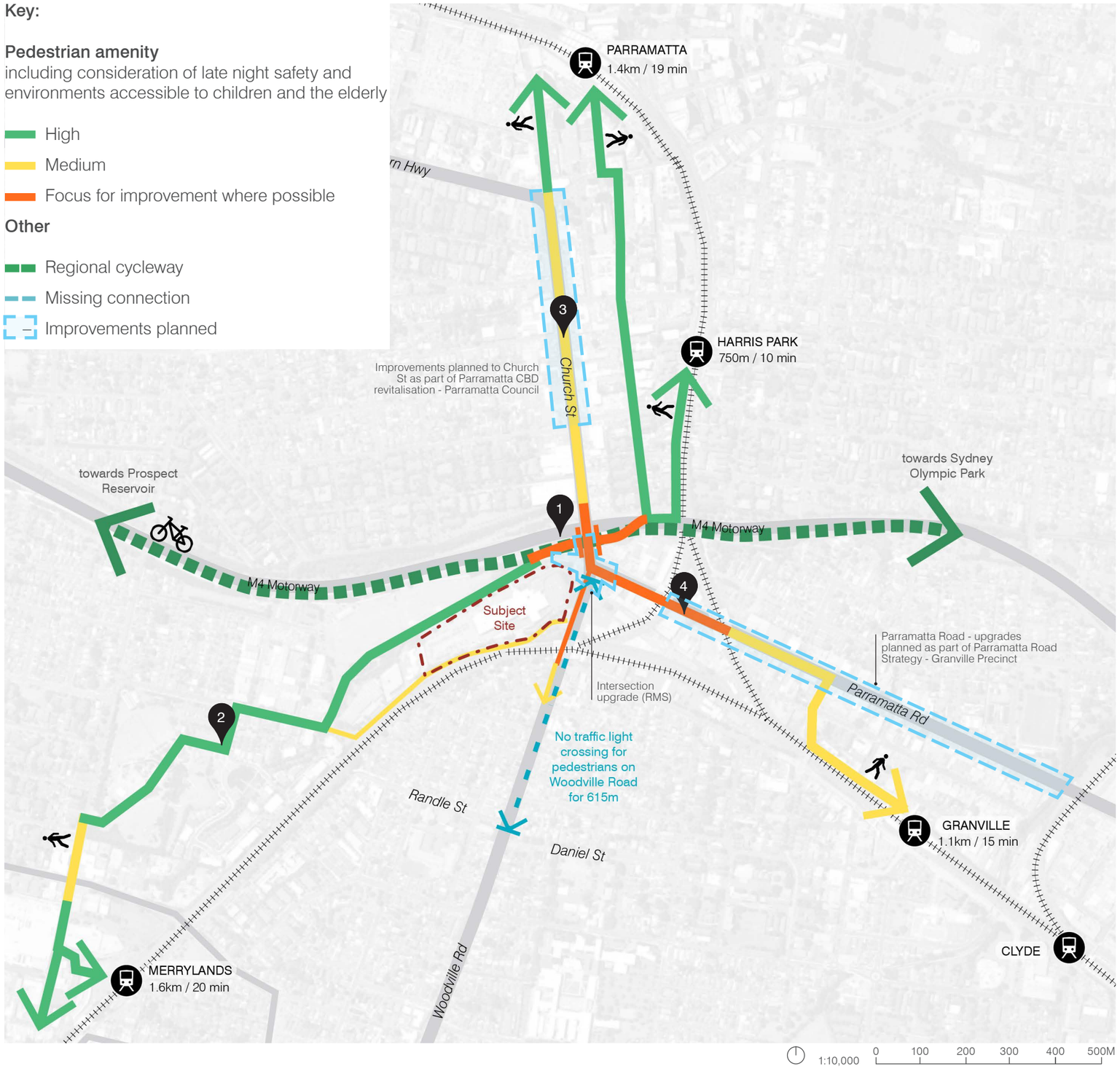
Key:

Pedestrian amenity
including consideration of late night safety and environments accessible to children and the elderly

- High
- Medium
- Focus for improvement where possible

Other

- Regional cycleway
- Missing connection
- Improvements planned



1 Regional cycle route - north of site

2 Connection to Merrylands via Holroyd Gardens

3 Connection to Parramatta via Church Street

4 Connection to Granville via Parramatta Rd

Potential improvement opportunities

The key opportunities shown here are illustrated on the plan opposite and can be divided broadly as follows:

State Contributions

- **A** Improvements to underpass connection towards Parramatta/Harris Park
- **B** Potential for direct connection to Church Street west from underpass
- **C** Funding for Church Street pedestrian/cycleway improvements
- **D** Improvements to existing trunk cycleway
- **E** At-grade connection across Woodville Road
- **F** Bridged connections across Woodville Road

Local Contributions

- **G** New public open space with new facilities
- **H** Bridged connections across A'Beckett's Creek
- **J** New lane on Crescent Street and new through-site links
- **K** Upgrades to creek edge
- **L** Cosmetic improvements to Woodville Road underpass
- **M** Childcare and other local facilities

Concept view - new open space (Arcadia)

Key plan

Key:

- Land contribution to new lane on Crescent St
- New connections
- Improved connections
- Improved environmental quality
- Key existing pedestrian crossings
- Existing off-road cycleway (source: RMS cycleway finder)
- Previously investigated connection not supported by DPIE and RMS

Potential contributions (see further detail over following pages):

State Contributions

- (A) Improvements to underpass connection towards Parramatta/Harris Park
- (B) Potential for direct connection to Church Street west from underpass
- (C) Funding for Church Street pedestrian/cycleway improvements
- (D) Improvements to existing trunk cycleway
- (E) At-grade connection across Woodville Road
- (F) Bridged connections across Woodville Road

Local Contributions

- (G) New public open space with new facilities
- (H) Bridged connections across A'Beckett's Creek
- (J) New lane on Crescent Street and new through-site links
- (K) Upgrades to creek edge
- (L) Cosmetic improvements to Woodville Road underpass
- (M) Childcare and other local facilities

Improvement opportunities for state contributions

A

Improvements to underpass connection towards Parramatta / Harris Park

Public benefit :
- Improves quality and safety of pedestrian connections between Holroyd and Parramatta including e.g. for residents of Parramatta walking to Holroyd Sportsground.

Potential provision:
- Widened path for pedestrians - 1.5m including part suspended over creek.
- Re-landscaped creek edge.
- Improvements to lighting.
- Additional furniture.

Existing low quality of path - view from Church St

B

Potential for direct connection to Church St West from underpass

Public benefit:
- Improved connectivity - Parramatta to Holroyd.
- Further links to Church St Parramatta Cycleway noted in Parramatta Bike Plan as an existing cycle link in need of improvement (see adjacent).

Potential provision:
- New connection from Cycleway to existing Church Street South.
- Potential for public art and other cosmetic improvements.

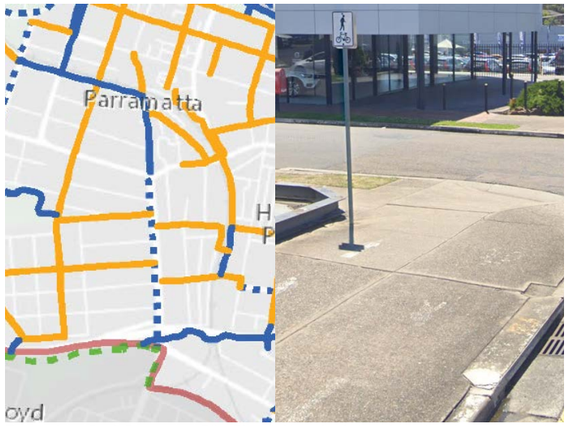
View from Church Street with potential new connection shown

C

Church Street pedestrian/ cycleway improvements

Public benefit:
- Church Street south of Parramatta identified as 'requires improvement' in Parramatta Bike Plan (Draft) - see image below.

Potential provision:
- Footpath upgrades.
- Lighting.
- New formal cycleway along existing pavement and reserve.



Extract from Draft Parramatta Bike Plan (left) and existing shared cycleway on south Church St (right)

D

Improvements to existing trunk cycleway

Public benefit:
- Qualitative improvement to existing major regional cycle infrastructure.

Potential provision:
Monetary contribution for upgrades within the local context of site that may include:
- Widening.
- Lighting.
- Resurfacing.
- Line marking.

Existing Cycle path (source: Google Street View)

E

At grade connection across Woodville Rd

Public benefit:
- Currently no existing signalised crossing between Parramatta Road and Randle St 615m south.
- Improved connectivity and quality of connection across Woodville Road benefits residents to west of Woodville Road walking to Granville and east of Woodville Road accessing Holroyd and Open Space network.

Potential provision:
- At grade pedestrian connection including line marking and signals, kerbs removed and replaced with ramps and tactiles, balustrades, etc.

The existing Crescent St / Woodville Rd intersection does not allow for pedestrians to cross Woodville Rd, Only Crescent St

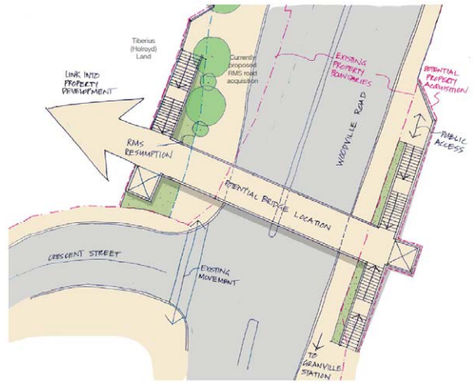
F

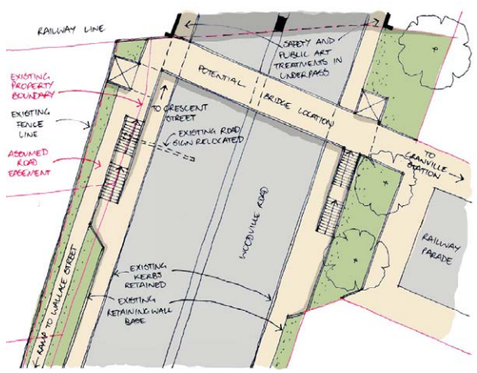
Bridged connections across Woodville Rd

Not pursued further due to no support from RMS and DPIE.

- Land required to facilitate not subject to the application.
- Lift management and maintenance issues .
- View lines for existing signals.

Potential provision:
- Two options previously investigated - (images below).





Sketch concepts for bridged connections (Architectus)

Improvement opportunities for local contributions

G

New public open space with new facilities

Public benefit:
- Need for additional open space in the area to support growth including of Parramatta and Granville North*.
- Facilities designed to complement existing provision within Holroyd Sportsground, which is primarily formal sport, through informal play areas, children's play areas and the connection to neighbourhood centre facilities.
- Proposed to be dedicated to Council.

Provision:
- 7714sqm shown as RE1 zoned land
- 8,658sqm of other publicly accessible open space throughout the site (providing a total of 16,372sqm or approx. 43% of the site area when combined with the above).
- Park to include playground, children's cycle path, barbecues, landscaping along creek, mature trees, etc.

* See for example the Parramatta Road Urban Transformation Strategy 2016 Urban Amenity Improvement Plan, which notes a need for "Creation of new or improved open spaces, urban plazas and town squares, which are important in a high density environment"

View showing proposed scale of new open space, with A'Becketts creek shown left. Note: tower forms shown in this image are from a previous iteration of the masterplan

H

Bridged connections across A'Becketts Creek

Public benefit:
- Direct link between Holroyd Sportsground and new open space including link from formal recreation areas to the local centre.
- Wider connectivity benefits with other connectivity options shown (see adjacent). Allows pedestrian and cycle connection to residents to the south.

Potential provision:
- Base option to include two bridges (shown on previous diagram).
- Additional connections including land bridge may be possible (e.g. see below aspirational landscape masterplan).

Aspirational landscape concept - off-site development potential (Arcadia, 2015)

Illustrative section showing potential bridged link (Arcadia, 2015)

J

New lane on Crescent St and new through-site links

Public benefit:
- Local connectivity improvements, including for residents south of railway who will not have to walk around the existing industrial site to do so.

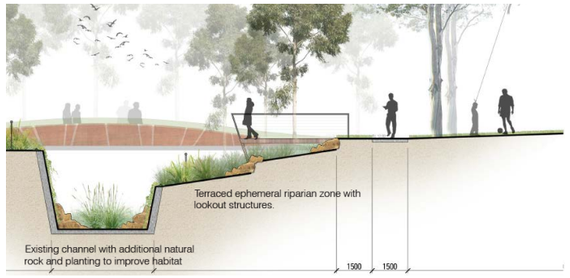
Potential provision:
- Through site links as shown on the master plan to be locked in through proposed DCP.
- Additional lane proposed to south (through contribution of land on site) to improve vehicle capacity.
- Possible bus ‘jump’ lane - as previously discussed with Transport for NSW and bus stop.

K

Upgrades to creek edge

Public benefit:
- Greening, water quality, flooding, environmental.

Potential provision:
- Extract from Landscape concept (Arcadia) shown below. Cascading landscaping to be provided on development side.
- Alternative suggested by Panel of covering over Creek likely to not be appropriate to environmental policy (c.f. NSW Office of Water ‘Guidelines for Riparian Corridors’).



Extract: Landscape section submitted with original Planning Proposal (Arcadia)

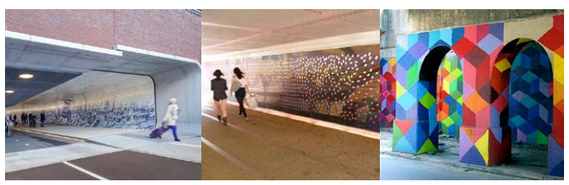
L

Cosmetic improvements to Woodville Rd underpass

Public benefit:
- Improving north-south connectivity from site - qualitative lighting and line marking, public art.

Potential provision:
- Clean walls either side.
- Better fencing/separation of pedestrians from carriageway
- Lighting below the culvert.
- Artwork treatment.

Existing underpass (view from South facing north towards site)



Exemplar underpasses

M

Childcare and other local facilities

Public benefit:
- Benefit to local residents and users of the park.

Potential provision:
- 100 place childcare centre.
- 3,500sqm supermarket.
- 2,000sqm showroom / retail use.
- gym, medical and other ancillary uses.

Appendix: Slender towers and workable floorplates

Slender towers and their benefits

As urban densities increase, the slenderness of tall towers and their appropriate separation are becoming an important consideration. Slender towers are towers which:

- Are visually elegant and vertical rather than bulky when viewed from the public domain.
- Enable good access to sunlight and daylight for the public domain, minimising in particular extended periods of overshadowing for the public domain.
- Provide opportunities for sky views between buildings to maintain the perception of openness.
- Provide excellent light, ventilation and view amenity for occupants through maximising their access to windows and minimising
- For residential towers, limit the number of apartments per level and the length of corridors.

The Victoria Square North Tower (see overleaf - 750sqm floorplate, 26 storeys) has been seen as an exemplar for residential tower slenderness.

Market demand for tower floorplates

Residential floorplates
As there has generally been little regulation in Sydney for maximum tower floorplates, recent residential examples range considerably from 430sqm to 1750sqm (see examples overleaf).

Larger floorplate towers tend to reduce the amenity for occupants, particularly residential towers which result in large proportions of deep, single-aspect apartments. (Note: Standards for this are generally set by SEPP65 - see discussion adjacent).

Commercial floorplates
Commercial tower floorplates tend to be much larger than residential. Recent commercial tower examples range from around 1500sqm (e.g. Eclipse Tower Parramatta) to around 3000sqm (e.g. Barangaroo towers) with the largest at 3700sqm (6-8 Parramatta Square levels 5-27). Larger 'campus style' floorplates tend to only be accepted in lower buildings (below around 10 storeys). Almost all new build commercial offices are A-Grade office space which requires a minimum of 1,000sqm NLA (approx. 1300sqm floorplate) though 'premium' floorplates may be 20% larger than this (around 1575sqm floorplate or larger).

Existing standards for Sydney

There are no state-wide floor-plate controls for tall buildings in NSW. However the Apartment Design Guide, which is required to be considered as part of determining a development application under SEPP65, provides some control for residential use. Key issues, guidance and criteria in the Apartment Design Guide which are related to the floorplate size of a tower include the following:

- The maximum number of apartments off a circulation core on a single level is eight (ADG 4F-1) although exceptions up to 12 are noted.
- The maximum habitable room depth is 8 metres from a window (ADG 4D-2).
- Building indentations are to have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smell (ADG 4B-2).

Together with fire regulations, the proper application of the Code should have the effect of limiting floorplates in residential buildings.

The above can easily be achieved with the smallest tower envelope sizes described adjacent (750sqm envelope) however as envelope sizes increase, good outcomes become minimum compliance or non-compliance. Conformance with the above controls will also have some relationship with:

- Building height (particularly as taller buildings are likely to have larger cores, at upper levels).
- Apartments sizes and mix (the floorspace needed for eight large apartments may be significantly larger than eight smaller apartments)
- Site and tower geometry.
- The detailed design of the building.
- The assessing authorities view on variation to the above standards.

However, it is important when providing maximum tower floorplate controls not to describe an envelope for any site which will result in non-compliant outcomes.

In the early master planning stages of a project, it is difficult to test all of the detailed design provisions of SEPP65. As a result, master plans, and planning controls can describe envelopes for large floor-plates that are not acceptable from a design and amenity perspective.

Precedent controls

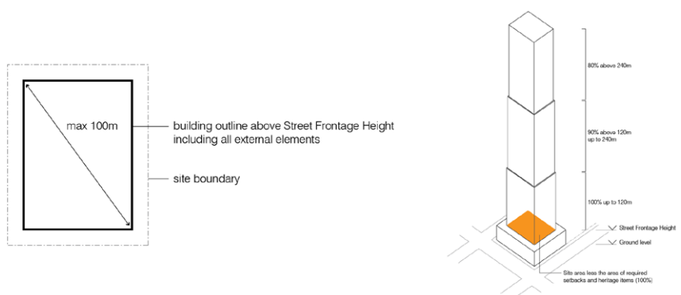
There are a variety of different floorplate controls in other cities around the world. Ultimately, the controls are a function of different priorities for a city – whether the aspirations are access to sunlight, views, or densification and consolidation.

Sydney Precedents
Green Square, City of Sydney Council
In the South Dowling St Precinct within Victoria Park, Zetland (part of Green Square) detailed consideration has been given to the slenderness of towers. The resulting controls allow for 22-storey towers (approximately 70m in height) to a maximum of 750sqm of floor area including balconies (referred to here as 750sqm Gross Building Area floor-plate).

A significant separation distance between towers (60m) is also provided as this precinct is an inner city area but is not within a designated urban centre. In this situation large land ownership parcels mean more flexibility than in locations such as existing centres where small parcels limit their location and larger separation would sterilise sites.

Central Sydney
In Central Sydney, a 1,000sqm Gross Floor Area maximum is applied to residential tower buildings. This would equate to approximately 1,333sqm GBA. A maximum horizontal dimension of the building facade of 40m is also applied. Towers in Central Sydney have maximum building heights ranging from 60m to 235m.

The Draft Central Sydney DCP (cl. 5.1.1.4) limits building dimensions (including diagonally) to 50m for residential buildings and 100m for all others, above a street frontage height. It also applies a 'tapering' control reducing the building floorplate by 10% above 120m (approx. 38 residential storeys) and a further 10% above 240m. (~75 storeys).



Draft Central Sydney DCP fig 5.18/5.19

International precedents
Calgary, Canada

The maximum floorplate size is 650 square metres of net residential floor area (i.e. not including elevator cores, balconies etc.). This would equate to 953sqm GBA .

Chicago, USA

There is no limit to floorplate size, but upper storeys are required to be smaller to give the towers a sculptural appearance.

New York, USA

Floorplate size is regulated using a site coverage control. Towers must cover 40% or less of a site area, with special exceptions up to 50% for smaller sites.

San Francisco, USA

The floorplate of towers in San Francisco must incrementally decrease as height increases. Lower parts of a tower must not exceed 1,600sqm GBA and the upper tower floorplates must not exceed 1,100sqm GBA.

Vancouver, Canada

The maximum floorplate size is 604sqm of net residential floor area (this equates to 886sqm GBA) and the maximum horizontal dimension of a tower is 27.5m.

Open balconies may extend beyond this provided they are less than 1/3 the overall façade length.

Recommendations for development of controls

It is now commonly acknowledged that the Green Square provisions (700sqm floorplate, 22-25 storeys) produce a tower with slender proportions.

Taller buildings can accommodate proportionally larger footprints, and still achieve good internal amenity, as more floor space is dedicated to lift cores/services.

A floorplate control that is simply a percentage of the site area can produce very bulky buildings on large sites or amalgamated sites.

Reducing the size of upper floorplates is a solution to reducing visual bulk for very tall buildings (say, over 50 storeys). In Sydney's context, it is usually preferable to have a podium/tower form of development where the podium relates to the alignment and scale of the street and the tower relates to a wider context of towers. It is usually preferable to not have "wedding cake"or stepped built forms in favour of simplicity of built form.

Although commercial office towers tend to have significantly greater floorplates than residential towers, controlling their floorplate sizes is generally seen as discouraging employment and not typically required.

Where floorplates cannot be limited for specific reasons, vertical articulation of towers can assist to break down the visual bulk of the building.

Example residential tower floorplates

The examples provided adjacent demonstrate a broad range of residential tower footprints from recently developed sites in Sydney, and internationally where a local example cannot be found. They have been ordered by envelope/floorplate size.

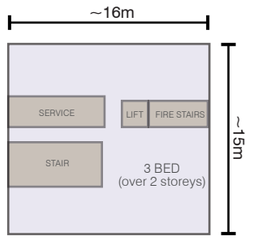
They reflect a range of:

- Site sizes
- Tower floorplates
- Approaches to key issues in SEPP65 and the Apartment Design Guide.
- Dimensions, bulk and visual slenderness.

These examples demonstrate that:

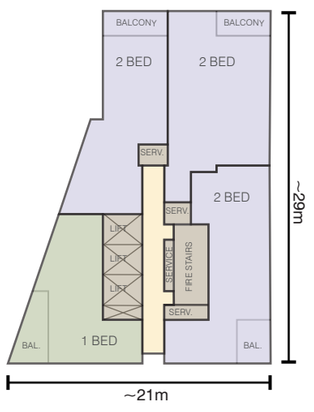
- 8 apartments per core (noted as a maximum in the Apartment Design Guide) tends to focus on buildings of 750-1000sqm floorplate
- Larger floorplates than 1000sqm tend to have greater issues with providing compliant apartment depth (8m maximum for open plan habitable rooms) and visual bulk.
- Where a tower sits over a podium this is generally read as its apparent height.
- Apparent visual slenderness can depend on the angle of view and visibility from key angles. Towers are often longer in one dimension than another and appear more slender when seen from the narrow end.
- The visual slenderness of towers increases with their height as well as decreasing with their floorplate. This means that taller towers are more likely than shorter towers to achieve both:
  - A floorplate size which fits current market demands; and
  - Visual slenderness within the streetscape.

<u>One Madison Park New York</u>
~300sqm floorplate/GBA
50 storeys



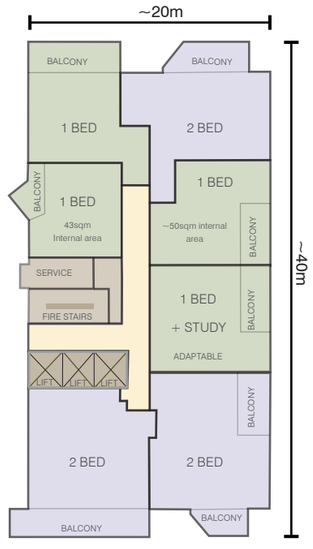
1 apartment per floor (typical)
Slenderness ratio (depth:height) approx 1:12
No similar examples in Sydney though some proposals in Melbourne.

<u>“Metro Spire”, Chatswood</u>
430sqm floorplate / GBA
36 storeys



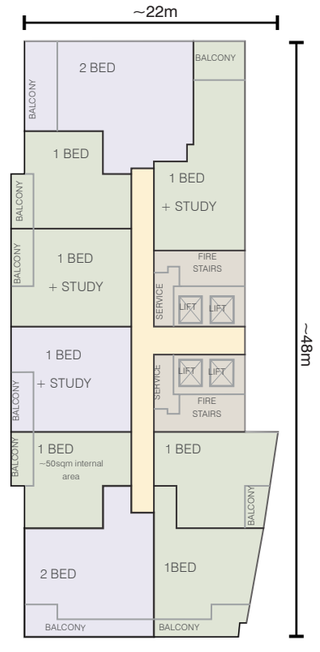
4 apartments per typical floor
Prominent location in group of towers (see ‘Metro Grande’ adjacent) has led to small floorplate.
Slenderness ratio (depth: height) approx. 1:5.5 - 1:10.5

<u>Victoria Square North tower</u>
750sqm floorplate / GBA
26 storeys

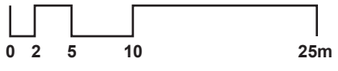


7 apartments per typical floor
Apartment sizes include small studio (<50sqm)
Slenderness given detailed consideration
Slenderness ratio (depth: height) approx. 1:6

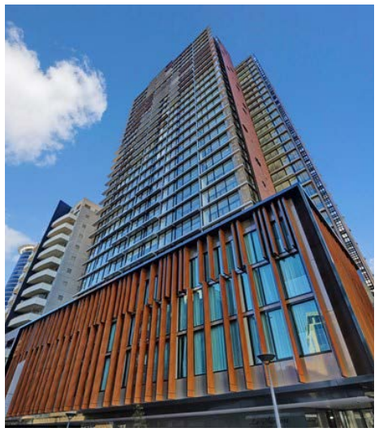
<u>“Metro Grand”, Chatswood</u>
830sqm floorplate / GBA
46 storeys (39 storeys above podium)

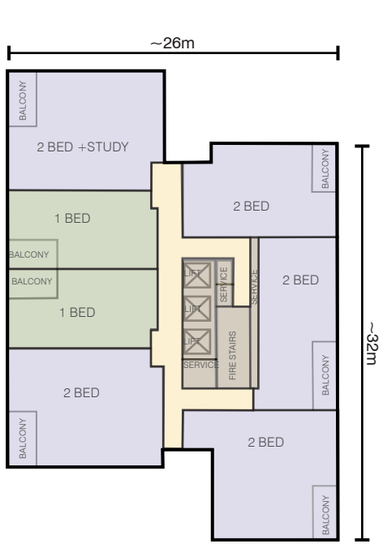


9 apartments per typical floor
Height and common angle of views gives greater appearance of visual slenderness.
Slenderness ratio (depth : height) approx. 1:7.6 above podium



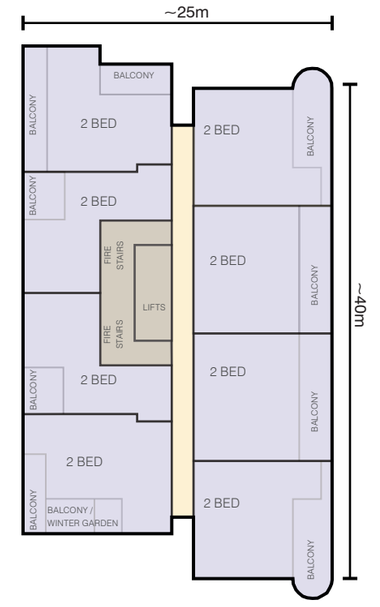
Atchison Street, St Leonards
830sqm floorplate / GBA
28 storeys (24 storeys above podium)





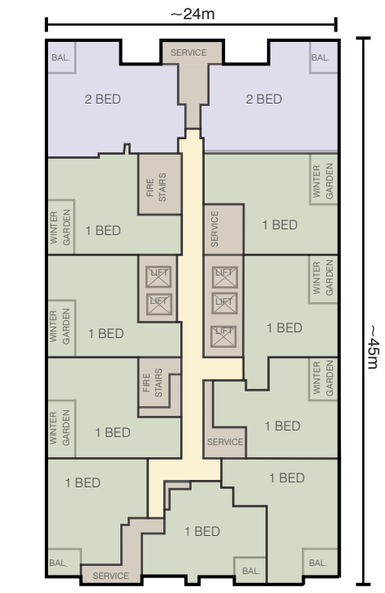
7 apartments per typical floor
Slenderness ratio (depth : height) approx. 1:2.6 above podium

"Skyline", 42 Walker St Rhodes
1000 sqm floorplate / GBA
25 storeys



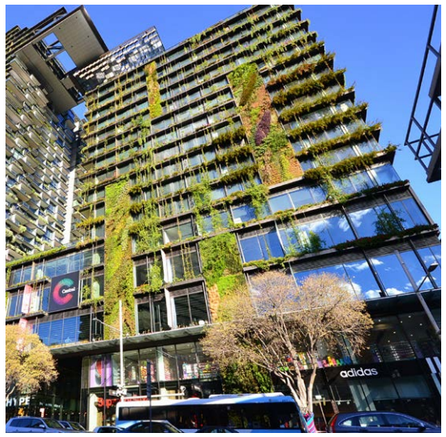
8 apartments per typical floor
Height and common angle of views gives greater appearance of visual slenderness.
Slenderness ratio (depth : height) approx. 1:3 above podium

Meriton Chatswood (west)
1070sqm floorplate / GBA
17 storeys



10 apartments per typical floor
Common angle of views gives greater appearance of visual bulk.
Slenderness ratio (depth : height) approx. 1:3 above podium

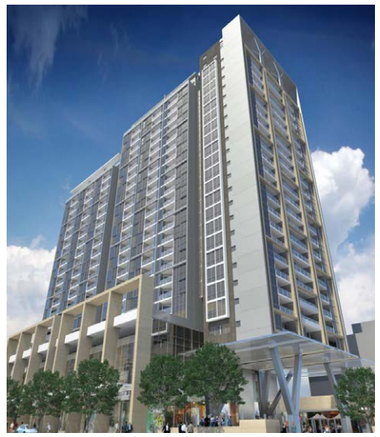
One Central Park (west)
1650sqm floorplate / GBA
17 storeys



20 apartments per typical floor (10 / core, 12 incl. 2 key)
Indentations to not meet ADG requirements
Unlikely to be considered visually slender
Slenderness ratio approx. 1:1 above podium

Crown V Parramatta

~1750sqm floorplate / GBA
30 storeys



18 apartments per typical floor (2 cores)
Visually bulky when seen along long face (approx. 72m)
Slenderness ratio approx. 1:1 above podium