

IVANHOE LOT C3



PROJECT

C3 Midtown
Project No 2101
Development Application
Design Report

DATE

19 August 2021

CLIENT

Aspire Consortium
Frasers Property Australia

PREPARED BY

Fox Johnston
Level 1
268A Devonshire Street
Surry Hills NSW 2010
Australia

contact@foxjohnston.com.au
+61 2 9211 2700

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01 INTRODUCTION

1.1 Introduction

This Design Report has been prepared by Fox Johnston for The Aspire Consortium on behalf of NSW Land and Housing Corporation. This proposed design is on a site known as Lot C3 within Stage 2 of the Ivanhoe Estate redevelopment, a State Significant Development (SSD), and forms part of a Development Application to the NSW Department of Planning and Environment (DPE).

1.2 Background

In September 2015 the Ivanhoe Estate was rezoned by the Department of Planning and Environment as part of the Macquarie University Station (Herring Road) Priority Precinct, to transform the area into a vibrant centre that benefits from the available transport infrastructure and the precinct’s proximity to jobs, retail and education opportunities within the Macquarie Park corridor.

The Ivanhoe Masterplan was the first step of the planned redevelopment of the Ivanhoe Estate to create an integrated neighbourhood including social housing mixed with affordable and private housing, as well as seniors housing, a new school, child care centres, community facilities and retail development.

This Development Application for Lot C3 within Stage 2 of Masterplan State Significant Development Application represents the second stage of detailed works pursuant to the Ivanhoe Estate Masterplan (Figure 1.2.2)



Figure 1.2.1 - Ivanhoe Estate Site

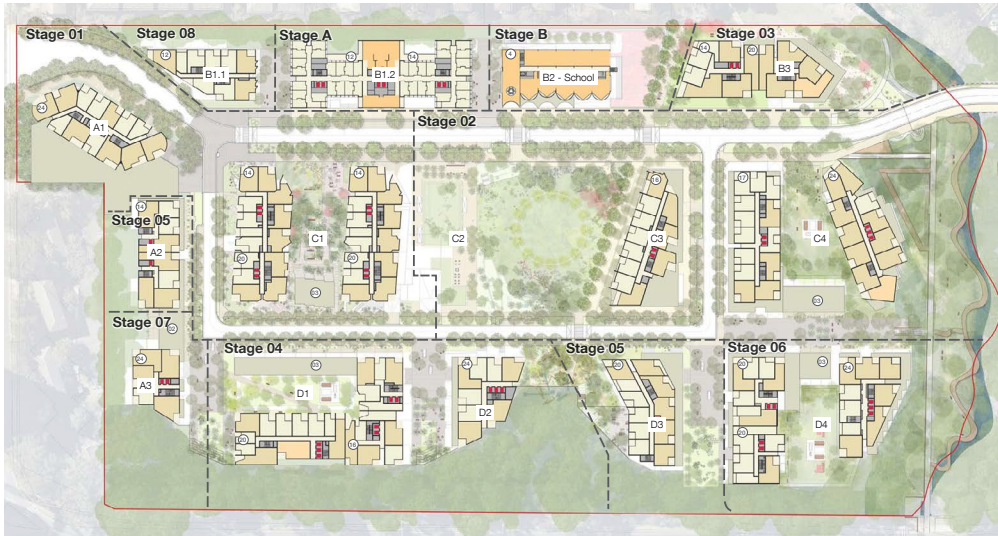


Figure 1.2.2 - Masterplan Staging (Bates Smart + HASSELL)

1.3 Development Overview

The proposed development for Lot C3 may be summarised as follows;

- A sixteen storey residential tower
- A ground floor retail interface
- Three levels of basement carparking for residents, staff and visitors
- Landscaping to the ground floor setbacks, public domain, private terraces on the rooftop and throughout the building as documented by McGregor Coxall

We confirm that Conrad Johnston of Fox Johnston directed the design of the enclosed Development Application and Mr Johnston is registered as an architect in accordance with the Architects Act 2003.

We confirm that the proposed design achieves the design principles set out in State Environmental Planning Policy 65 (SEPP65) - Design Quality of Residential Flat Development, and has been designed with regard to the Apartment Design Guide (ADG).

1.4 Development Summary

Lot Area	2,360 sqm
Total Floor Space	15,000 sqm GFA
Residential Mix	168 Apartments 2 studio apartments 79 one bedroom apartments 49 two bedroom apartments 38 three bedroom apartments
Car Spaces	163 Spaces total 145 Resident spaces 8 Visitor spaces 10 Retail spaces
Bicycle Spaces	163 spaces 153 Resident spaces 10 Retail spaces



02 SITE + CONTEXT

2.1 Site Location

The subject site is Lot C3 within Stage 2 of the Masterplan Development Application approved by the Department of Planning, Industry and Environment in April of 2020 known as the Ivanhoe Masterplan.

The Masterplan applies to land at the corner of Epping Road and Herring Road within the Ryde Local Government Area (LGA) and falls within the Macquarie University Station (Herring Road) Priority Precinct, a planning initiative undertaken by the (then) Department of Planning and Environment (DPE) to transform the area into a vibrant centre that benefits from the available transport infrastructure and the precinct's proximity to jobs, retail and education opportunities within the Macquarie Park Corridor.

Lot C3 is located at the centrepiece of the masterplan, and has a direct frontage to the 'Village Green' Main Park between Lot C2 and C3. It also has three street frontages comprising Main Street to the North East, the approved new main road within the Masterplan from Herring Road to Lyonpark Road, and two new neighbourhood streets within the masterplan to the South East and West (Figure 2.1.1).

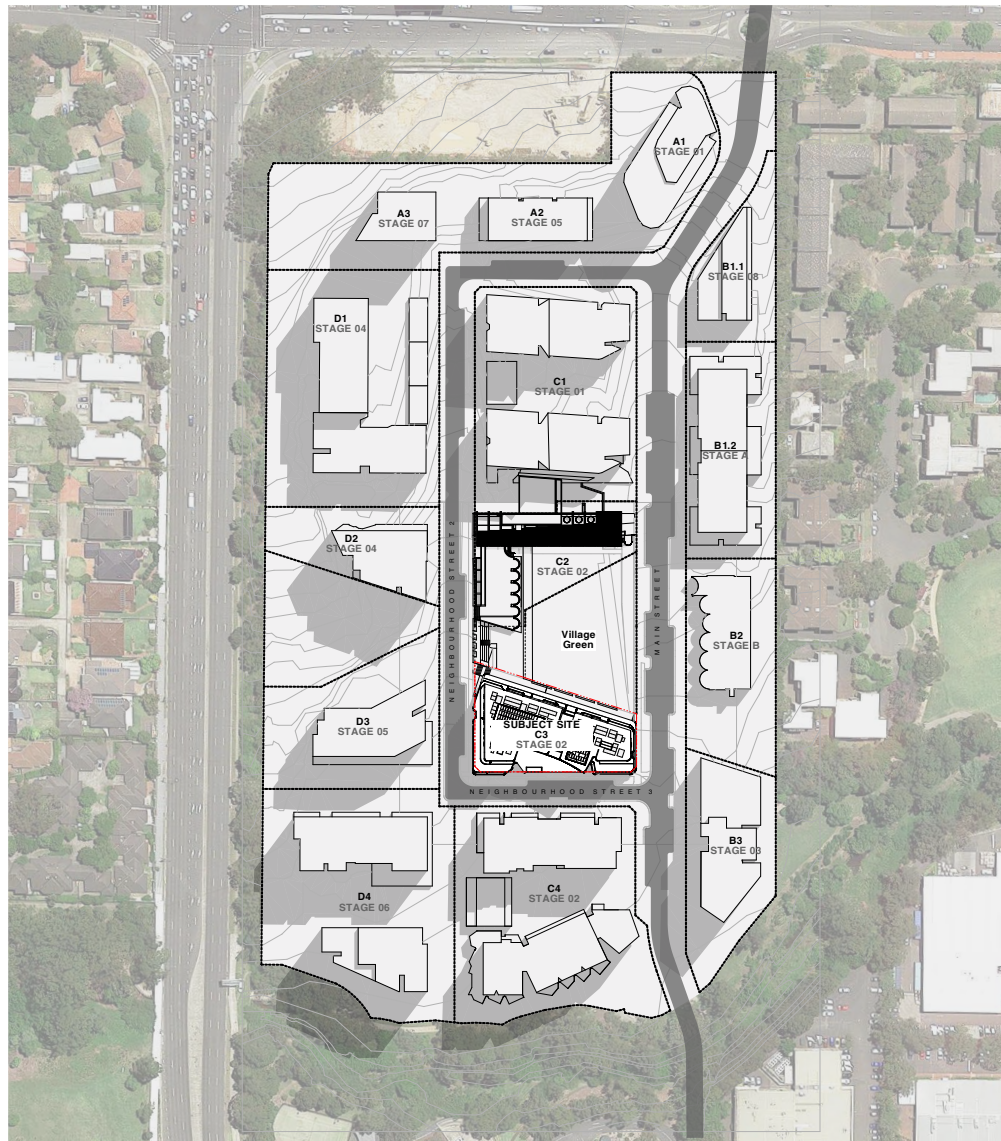


Figure 2.1.1 - Context Plan

2.2 Neighbourhood Character



Figure 2.2.1 - Masterplan Proposal (Bates Smart + HASSELL)

The proposal consists of a single residential tower that responds directly to the site's natural ground plane, solar access and setbacks. The height limit of 55 metres also applies to the proposed built form which determines the 'split' towers approach across the ground plane.

In response to Principle 1 of Design Quality Principles SEPP65 (Figure 2.2.2), the design scheme seeks to create a series of communities within the building through the enhancement of excellent amenities and shared spaces. Consideration of local context is continued into the building as interconnected group of interlinked communities. As a result, the proposed design allows for generous landscaped communal open spaces within the tower and ground floor interface.

Design Quality Principles (SEPP65)

Principle 1: Context and neighbourhood character

Good design responds and contributes to its context. Context is the key natural and built features of an area, their relationship and the character they create when combined. It also includes social, economic, health and environmental conditions.

Responding to context involves identifying the desirable elements of an area's existing or future character. Well designed buildings respond to and enhance the qualities and identity of the area including the adjacent sites, streetscape and neighbourhood. Consideration of local context is important for all sites, including sites in established areas, those undergoing change or identified for change.

Figure 2.2.2



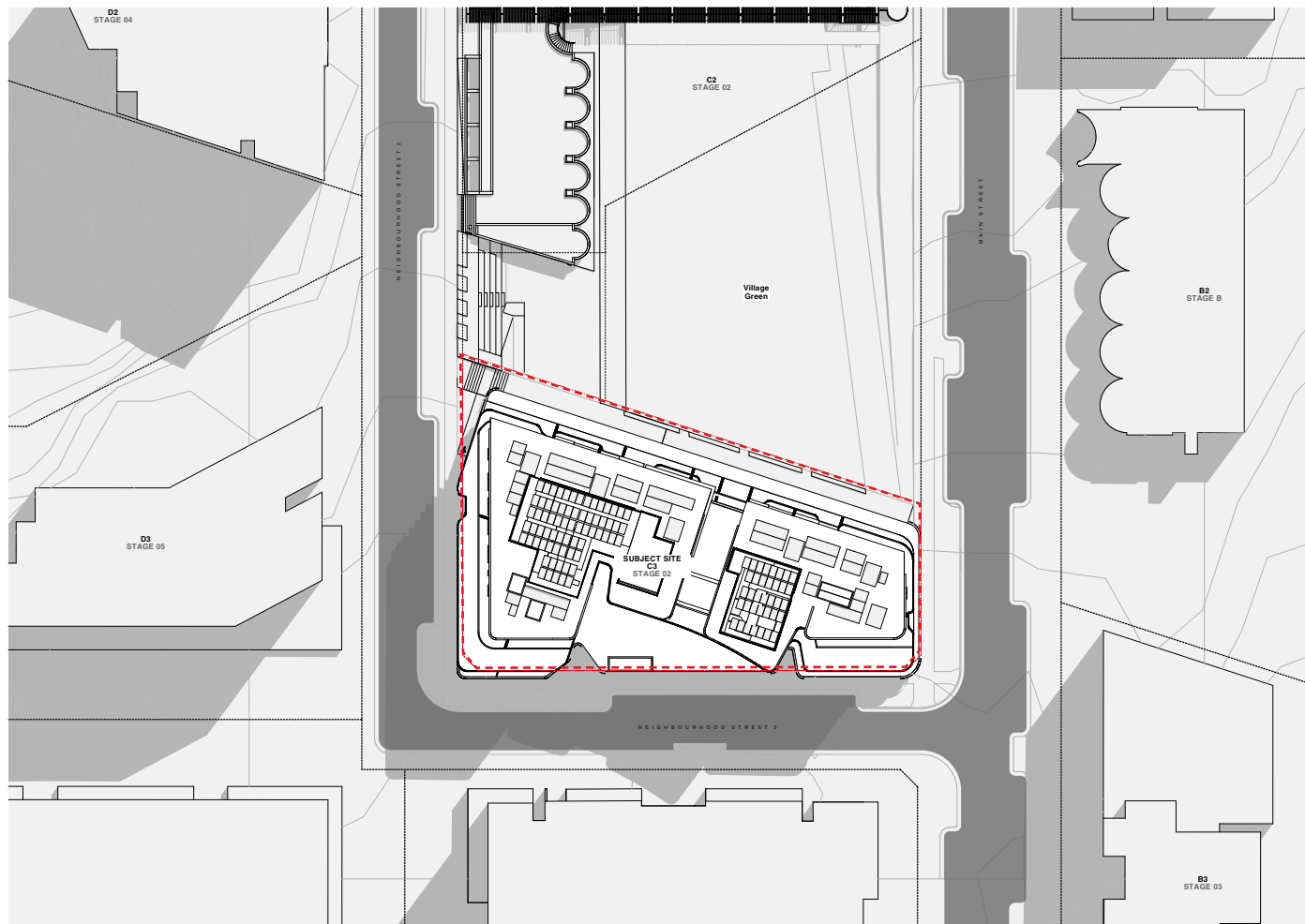


Figure 2.3.1 - Site Plan

2.3 The Site

Lot C3 is located at the centrepiece of the Ivanhoe Masterplan fronting the Village Green Park, with direct connections to the Main Street and Neighbourhood Streets. It is 2,360 sqm in area and has a grade fall from Neighbourhood Street 2 to Main Street at 3 metres height difference.

The Lot forms part of the Village Green, alongside the Community Centre, Town Plaza and Main Street, acting as the urban heart of the masterplan which combines active programming and placemaking. It sits directly on the axis of Main Street and The Green Link within the Masterplan Context.

Lot C3 is located in the 55m height limit zone, and has excellent opportunity for solar access and outlook to the park facing North.

03 DESIGN CONCEPT

3.1 Podium Setbacks

The SSDA masterplan requires no setback from the Main Street. A setback of 2 metres applies from the lot boundary fronting Neighbourhood Streets. An active frontage is also required on the ground floor interface to The Village Green.

A building separation of 24m is required from the adjacent sites; B3 Mixed-use, C4 Residential, and D3 Mixed-use.

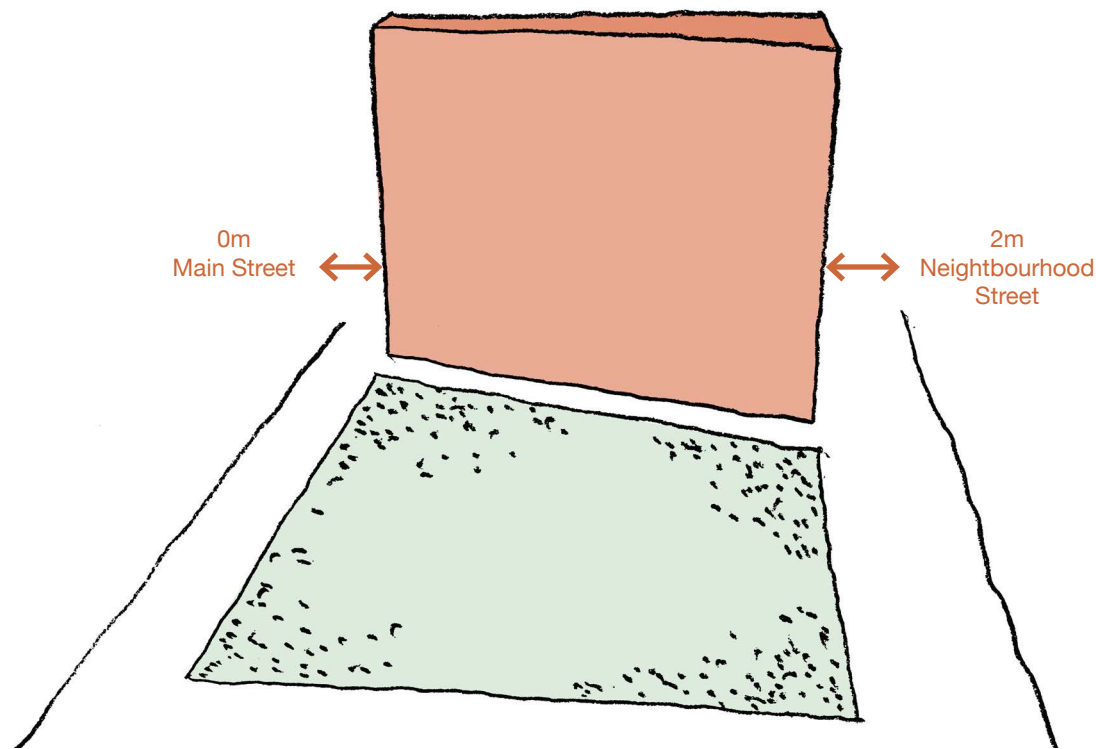


Figure 3.1.1

3.2 Solar Access

The long northerly facade achieves excellent solar access and exceeds minimum compliance for ADG 2 hours solar access during midwinter between 9am and 3pm requirement.

By sculpting the permissible volume, the southerly facade is also maximised to receive morning sunlight in midwinter. The resulting floorplate ensures high quality solar performance.

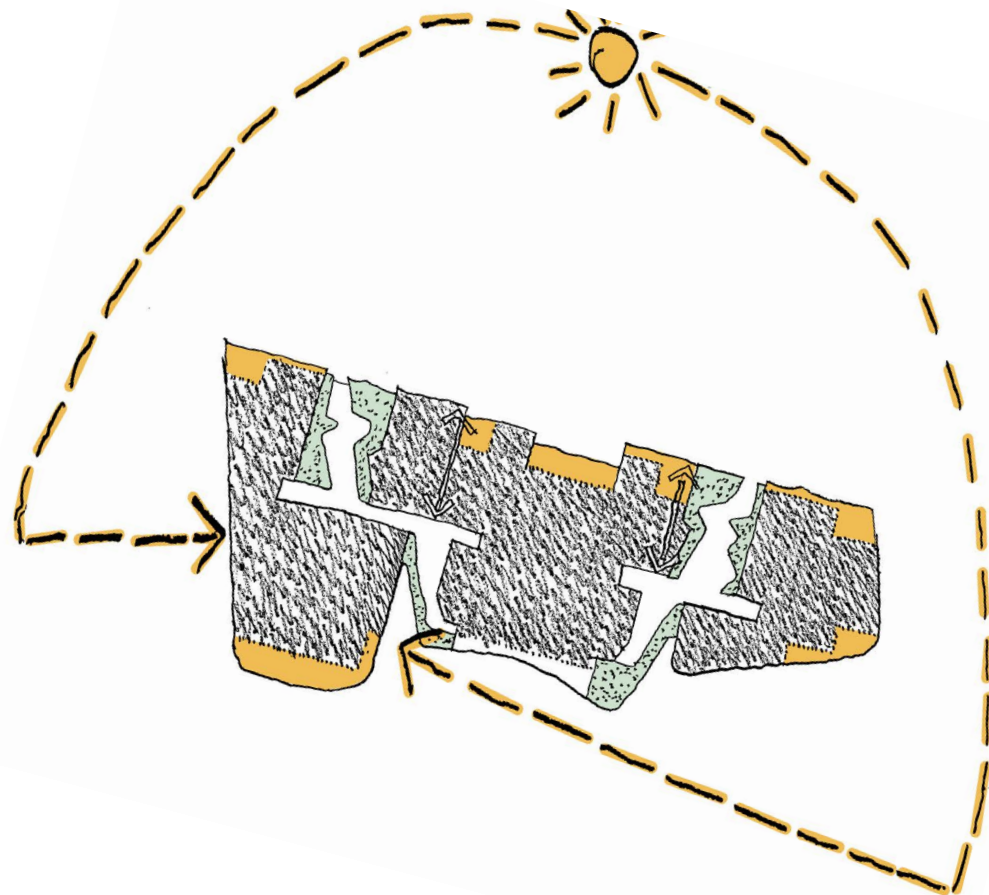


Figure 3.2.1

3.3 Built Form and Scale

The massing responds to the height limit, site setbacks and solar access to the site. In line with Principle No.6 (Figure 3.3.2), careful considerations have been made to the proportion and articulation of the built form.

By splitting the bulk massing, the two towers follow the height limit of the natural ground plane, eliminating double-loaded corridor and allows the horizontal length of the facade to be manipulated. Further articulations such as curved corners, solar access alignments, and manipulation of floorplates have been considered to achieve appropriate scale and proportions.

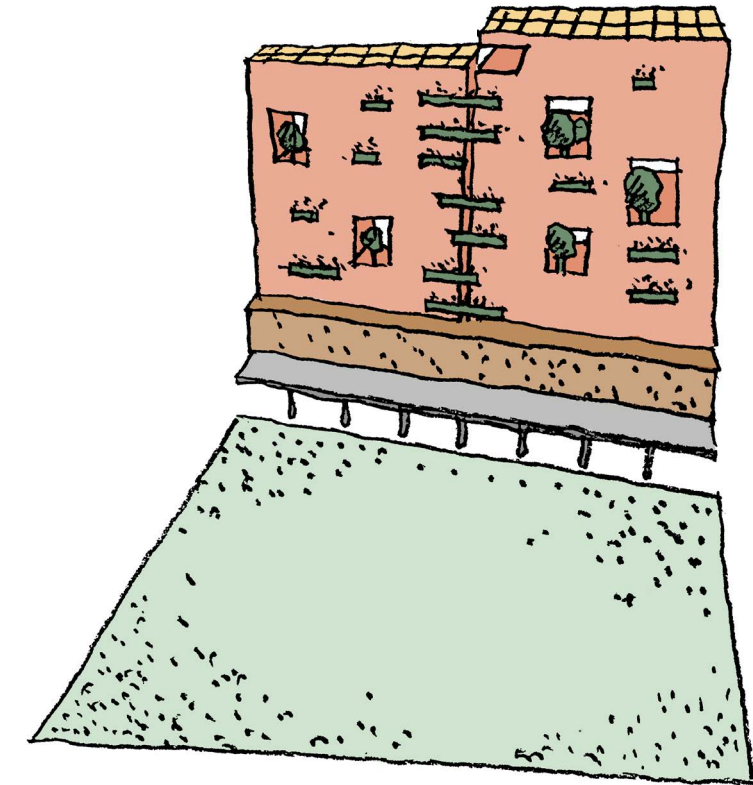


Figure 3.3.1

Design Quality Principles (SEPP65)

Principle 6: Built Form and Scale

Good design achieves a scale, bulk and height appropriate to the existing or desired future character of the street and surrounding buildings.

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements. Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

Figure 3.3.2

3.4 Walkable Neighbourhood

As part of the masterplan context, a series of Neighbourhood Streets are accessed via Main Street, with intricate connections to public and communal open spaces. Lot C3 is located directly in front of the village green, where a range of public facilities and central landscape is situated. The Green Link axis is directly on Lot C3 site boundary acts as a vegetation corridor connecting Shrimpton Creek with the existing Turpentine Ironbank Forest.

The proposed design activates the northern frontage on the ground floor interface with The Village Green. It also opens up access from Neighbourhood Street acting as a 'verandah' for active and passive activities.

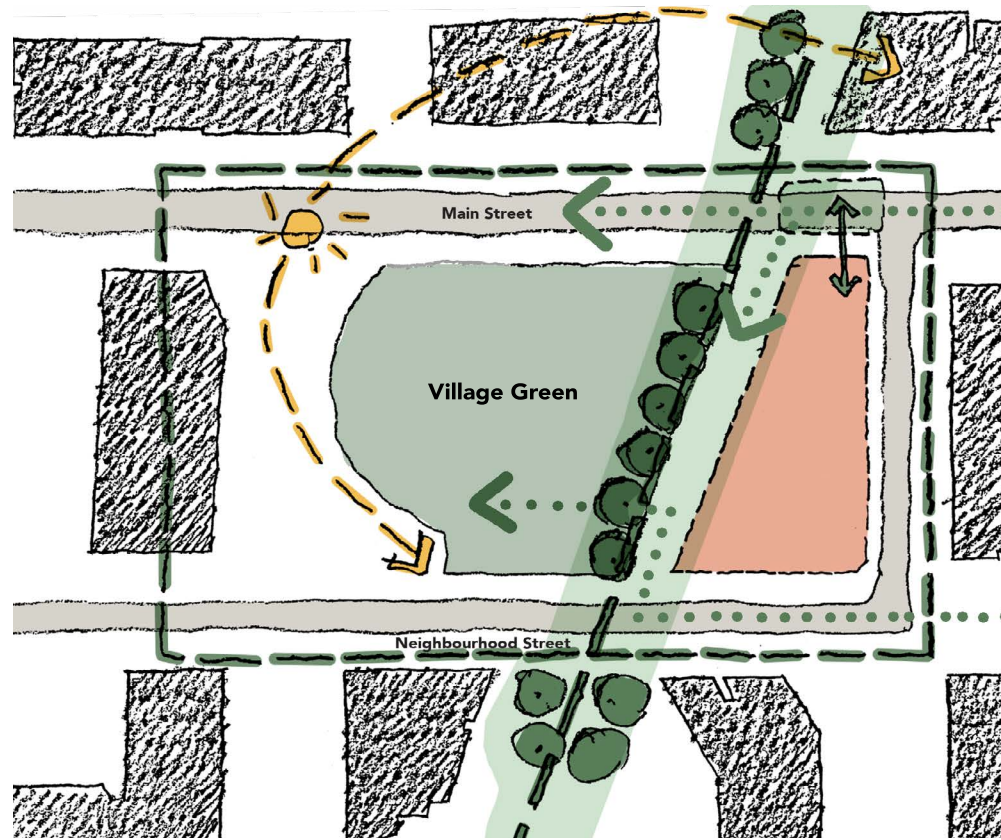


Figure 3.4.1

Design Quality Principles (SEPP65)
Principle 3: Density
Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.
Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

Figure 3.4.2

3.5 Forest Rooms

The proposed design recognises the importance of landscape and building operating as an integrated sustainable system (Figure 3.5.2). Communal forest rooms are shared open spaces strategically placed throughout the building to create positive landscape character, attractive amenity, and a rich landscape backdrop to the Ivanhoe Precinct.

The forest room strategy is in accordance with Principle 5: Landscape (Figure 3.5.2) which aims to enhance the development's environmental performance and retains positive natural features. It also optimises useability, privacy, and opportunities for social interaction. The strategies are as documented and prepared by McGregor Coxall.

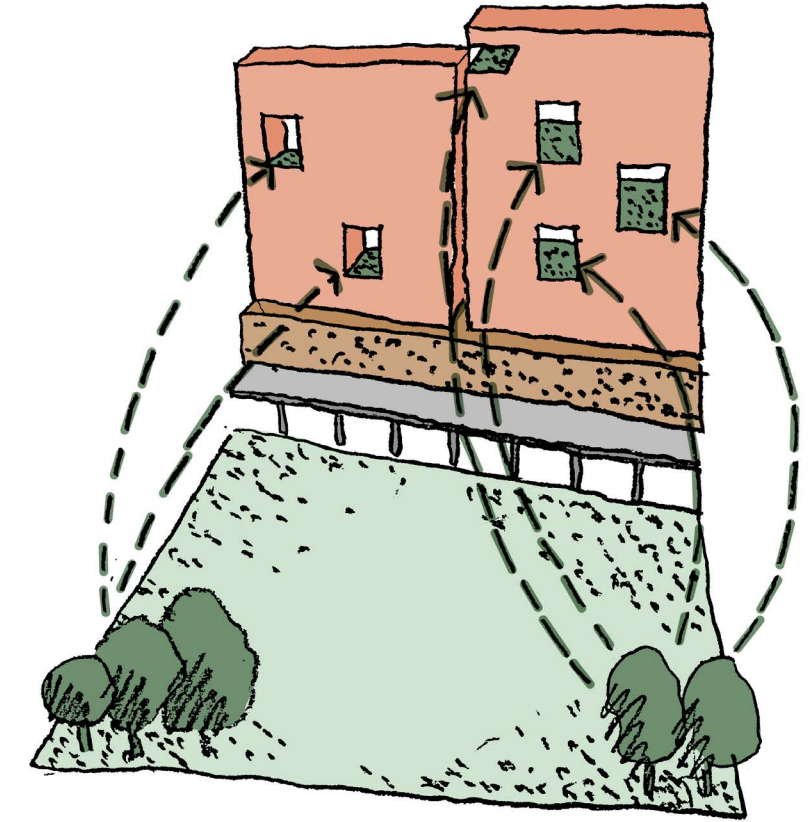


Figure 3.5.1

Design Quality Principles (SEPP65)
Principle 5: Landscape
Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.
Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-ordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours' amenity, provides for practical establishment and long term management.

Figure 3.5.2

04 PROJECT DESCRIPTION

4.1 Overview

The proposed building is a sixteen-storey residential tower with a ground floor retail interface, it contains the elements as follows;

- two-storey residential podium above the retail ground floor, and thirteen-storey residential tower
- Two residential lobbies
- Rooftop communal terrace
- Forest room breakout areas
- Ground floor retail
- three levels basement carparking and retail loading

4.2 Ground Plane

Design Quality Principles (SEPP65)

Principle 7: Safety

Good design optimises safety and security, within the development and the public domain. It provides for quality public and private spaces that are clearly defined and fit for the intended purpose. Opportunities to maximise passive surveillance of public and communal areas promote safety.

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well lit and visible areas that are easily maintainable

Figure 4.2.1

The ground floor plays a critical role in the success of the public domain for the immediate context and the Midtown Masterplan as a whole. Comprising a generous park frontage along the masterplan's Green Corridor, and the precinct's main retail presence, the ground floor is a public offering, an extension of the park. The proposal condenses building services to a small part of the rear facade, combining elements where possible. Large residential lobbies are provided to service the apartments above, located in response to lobbies of the buildings beyond to create community and human-scale streetscape.

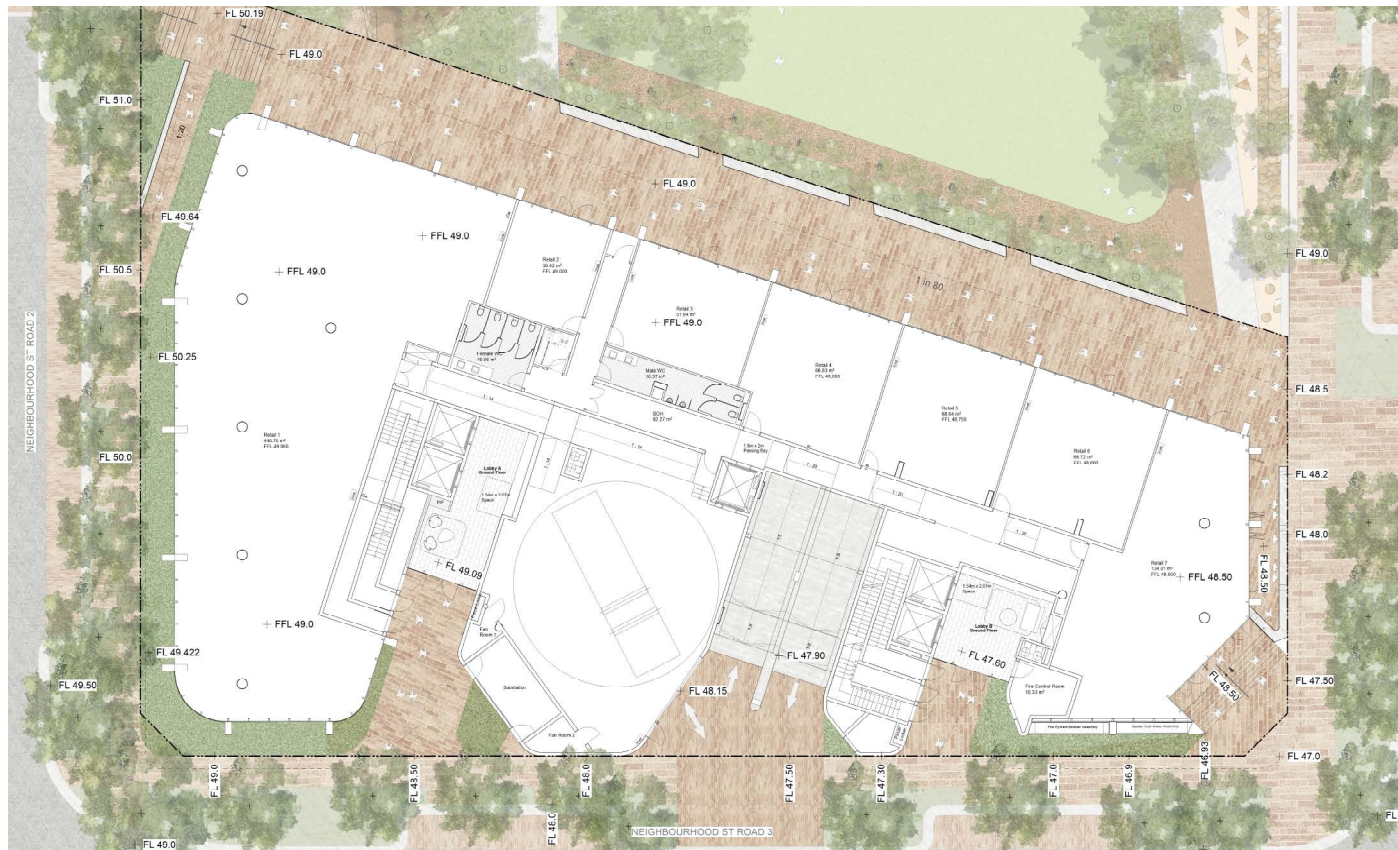


Figure 4.2.2 - Ground Plan (McGregor Coxall)

4.3 Podium Levels

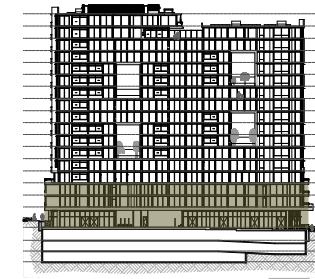


Figure 4.3.1



Figure 4.3.2

In continuation of the Masterplan Design Guidelines, the building comprises a 3-storey podium made up of ground floor retail and 2-storey residential floors, characterised by the textural bush-hammered concrete banding; a robust materiality to enhance the public domain and carry-through the visceral forest canopy theme that is pertinent to the original Midtown Masterplan.

To further this contribution to the public domain, the low-scale built-form is initiated at Level 1 with an awning in the same materiality to provide protection and cover, and ensure the ground plane is permeable and easily accessible from its various interfaces.

The apartments in the podium benefit from this deep facade reveal through generous sheltered & secure outdoor terraces, which provide a controlled interface between the immediate outdoor public spaces below, and the canopy of the forest corridor, and streetscape planting.

The apartment layout exhibits a mix of types from Studios to 3-bedroom units. The incorporation of two lift cores allows for an efficient floorplate and a high-level of amenity across the apartments.

Owing to the north-northwest orientation along its long frontage, the building easily meets the solar access objectives of the Apartment Design Guide (ADG); 8 out of 12 apartments achieve a minimum of 2 hours of solar access to their living rooms & private open spaces on 21st June. In addition to this, through a mix of generous corner units & cross-through units, 7 out of 12 apartments achieve natural cross-ventilation.

As a whole the building meets the objectives of the ADG with respect to solar access and natural cross-ventilation, with 77% of apartments meeting the solar requirements, and 70% of apartments up to 9 storeys comprising natural cross-ventilation.



Figure 4.3.3



4.4 Tower Levels

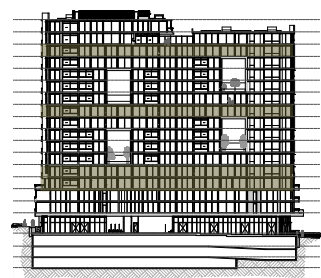


Figure 4.4.1



Figure 4.4.2

The tower floorplate - levels 3, 4, 9 and 14 (Figure 4.4.1) - has a gross floor area of approximately 860 sqm. It consists of;

- 2 x core lobbies, and
- a total 12 residential apartments
 - 7 x one bedroom apartments
 - 3 x two bedroom apartments
 - 2 x three bedroom apartments

Garden amenity is provided upon entry of each lobby, with an extensive outlook from the internal circulation, allowing direct and indirect sunlight to penetrate the core area. Through these openings, each corridor is naturally ventilated with operable louvres, and achieves crossflow ventilation.

The tower achieves a predominantly consistent floorplate, again exploiting the generous northern aspect to achieve a high level of solar access amenity. This is characterised materially with the northern park facade opening-up with a high amount of glazing, and delicate sun shade elements, in contrast to the east & west-facing facades, comprising a more protective, closed facade system, discussed in more detail later in this report.



Figure 4.4.3

4.5 Forest Room Levels

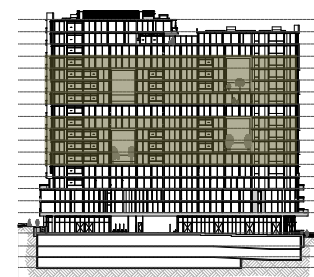


Figure 4.5.1



Figure 4.5.2

A distinctive element of the building is the inclusion of the Forest Rooms throughout the tower. Utilising the consistent stacking layout, and a rigorous grid, a series of apartments are omitted from the floorplate on certain floors to allow for a 3-storey void; a meaningful & dynamic space dedicated to the residents as Communal Open Space. Four of these spaces are included in the tower, breaking-down the whole building into clustered communities.

Furthermore, these Forest Rooms include an open stair-case to link the 3 levels, and promote the usability and functionality as communal and incidental spaces.

The apartments adjacent to these spaces make use of the opportunity to look-onto these gardens; their floor-layout adjusted slightly to contain an additional Study room, a hugely flexible apartment.

Again, the floor-plate as a whole comprises a wide mix of apartment types, sizes, and aspects.



Figure 4.5.3



4.6 Levels 15 & 16

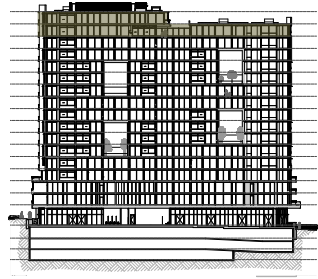


Figure 4.6.1

Level 15 also comprises a generous communal space, with a range of external garden planters and outdoor seating areas, and the Communal Conference Room, envisaged as a space to book for functions.

This gesture also serves a greater function; to break-down the building's bulk and scale as perceived from the park. The long facade fronting the park is softened by the deep recess in the building - created by the inclusion of the central cross-through apartments - being expressed vertically with the removal of the internal floor area to Level 15 at this split.

A top level - Level 16 - is therefore created by this breaking-away from the main tower form and exploiting the naturally greater height limit at this part of the site, allowing for the development of a suite of apartments benefiting from this great deal of exposure, both for solar access, and expansive views.



Figure 4.6.2 - Level 15



Figure 4.6.3 - Level 16



Figure 4.6.4

4.7 Amenity

Design Quality Principles (SEPP65)

Principle 6: Amenity

Good design positively influences internal and external amenity for residents and neighbours. Achieving good amenity contributes to positive living environments and resident well being.

Good amenity combines appropriate room dimensions and shapes, access to sunlight, natural ventilation, outlook, visual and acoustic privacy, storage, indoor and outdoor space, efficient layouts and service areas, and ease of access for all age groups and degrees of mobility.

Figure 4.7.1

As discussed earlier, boasting a long north-facing park-frontage, the site contains a great level of inbuilt potential for solar-access, and outlook amenity.

The building and apartments have been designed with the utmost consideration to siting, orientation and layout, by award-winning architects FoxJohnston whose particular interest lie in the idea that amenity is found when the apartment is considered as a home. The Architects have ensured that the apartments meet or exceed the guidelines of the ADG with respect to amenity.

The design is imbued with the potential to be a landmark in residential apartment building in terms of the offering to its residents. The design has responded to recent changes locally and internationally that have increased the demands on the densification process in our urban areas, leading to a need for the apartment building to offer the wider spectrum of an inhabitant's daily living needs; to sleep, work and commune.



Figure 4.7.2



4.8 Solar Access

As described in earlier sections, the site benefits from a long frontage facing the north-northwest, allowing for a building that, through the right consideration, can easily obtain a high percentage of amenity to its apartments.

Overall, the building meets the objectives of the ADG with respect to solar access, with 77% of the total number of apartments achieve a minimum of 2 hours of solar access to their living rooms & private open spaces on 21st June. Furthermore, only 13% of the units do not receive sunlight between the hours of 9am and 3pm in midwinter.

A breakdown of the yield per floorplate is shown in the table beside, and plan diagrams below:

Solar		X-vent	COS
✓		X	
5	0	-	280
5	1	-	
10	1	-	
10	1	-	
8	1	-	20
8	1	-	
9	1	-	20
10	1	-	
8	1	8	
8	1	10	
8	1	10	20
9	1	7	20
8	1	7	
8	3	7	
8	3	7	
8	3	7	
130	21	63	360
77%	13%	70%	15%
>70%	<15%	>60%	>25%

Figure 4.8.1



Figure 4.8.2 - Solar Diagram

■ Receives a minimum of 2 hours direct sunlight between 9am and 3pm at mid winter
■ Receives no direct sunlight between 9am and 3pm at mid winter

4.9 Cross Flow Ventilation

Solar		X-vent	COS
✓		X	
5	0	-	280
5	1	-	
10	1	-	
10	1	-	
8	1	-	20
8	1	-	
9	1	-	20
10	1	-	
8	1	8	
8	1	10	
8	1	10	20
9	1	7	20
8	1	7	
8	3	7	
8	3	7	
8	3	7	
130	21	63	360
77%	13%	70%	15%
>70%	<15%	>60%	>25%

Figure 4.9.1

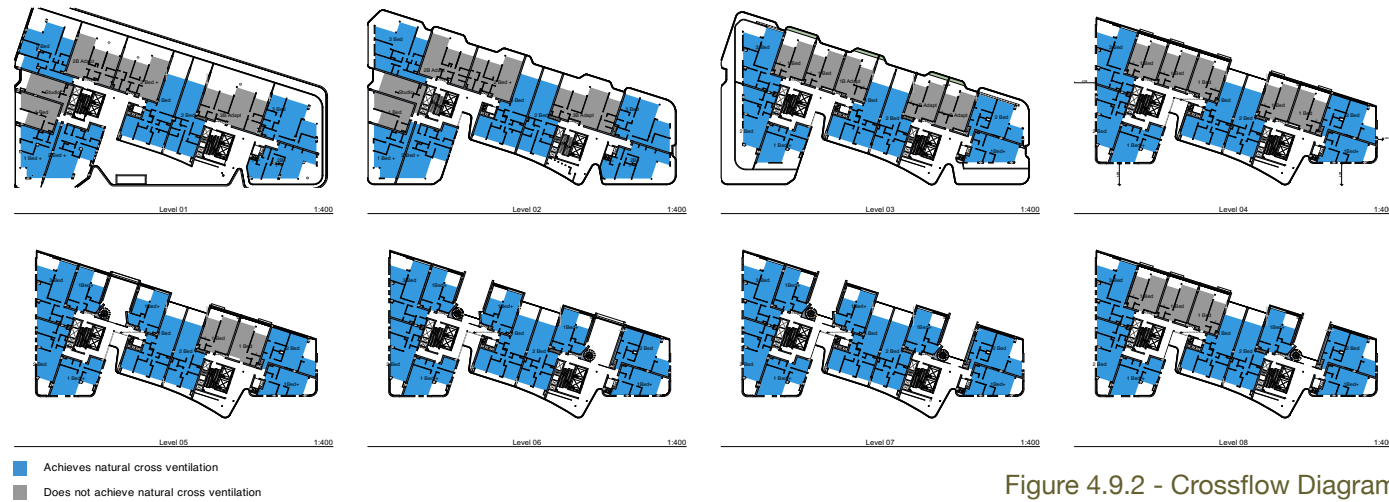


Figure 4.9.2 - Crossflow Diagram

Design Quality Principles (SEPP65)

Principle 4: Sustainability

Good design combines positive environmental, social and economic outcomes. Good sustainable design includes use of natural cross ventilation and sunlight for the amenity and liveability of residents and passive thermal design for ventilation, heating and cooling reducing reliance on technology and operation costs. Other elements include recycling and reuse of materials and waste, use of sustainable materials, and deep soil zones for groundwater recharge and vegetation.

Figure 4.9.3

05 APARTMENT PLANNING

5.1 Typical Apartment Types

Orchestrated by award-winning Architects Fox Johnston, the apartments have been designed not only to meet the requirements of the ADG in all aspects, but to go beyond and set the benchmark for best-practice apartment design.

The building consists of a wide variety of new and typical apartment layouts to suit the site conditions and orientations.

The 1-bedroom apartments are typically minimum 50sqm, and with a slight change to the floorplate at the Forest Rooms (discussed earlier) become the flexibly 1-Bedroom + Study, with a great amount of amenity with the apartment onlooking the Forest Room.

There are a variety of 2-bed and 3-Bed apartments with varying offerings, utilising the prominent corners and central cross-through locations of the floorplate.

Of great importance to the Architects through all their works is the idea of the ‘apartment as a home’ and this concept has been brought-into, and further developed, in this building design.



Figure 5.1.2

AUG-2.1

Storey	Apartment Mix + Numbers								
	Type	ST	1B	1B+	2B1	2B2	2B2+	3B	
	Size	40	50	56	70	75	80	95	Total
Roof									
L16				1	1			3	5
L15				2	1	1		3	7
L14			5	2	1	1	1	2	12
L13			3	3	1	1	1	2	11
L12				5	1	1	1	2	10
L11				5	1	1	1	2	10
L10			2	4	1	1	1	2	11
L9			5	2	1	1	1	2	12
L8			3	3	1	1	1	2	11
L7				5	1	1	1	2	10
L6				5	1	1	1	2	10
L5			2	4	1	1	1	2	11
L4				5	2	1	1	2	12
L3				5	2	1	1	2	12
L2		1	1	1		2	3	4	12
L1		1	1	1		2	3	4	12
GF									
B1									
B2									
B3									
-									
Total		2	32	47	14	17	18	38	168
Mix		1%	19%	28%	8%	10%	11%	23%	100%

Figure 5.1.1

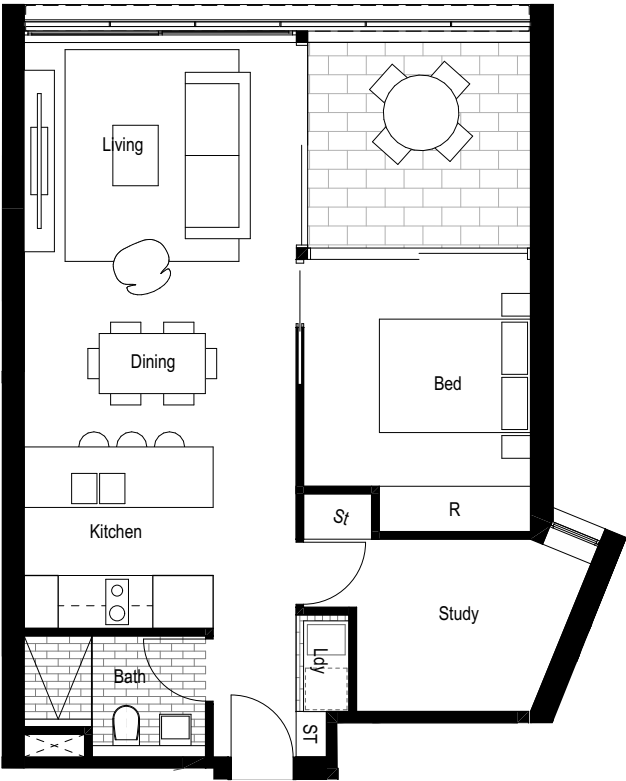


Figure 5.1.3 Typical One Bedroom + Study
1:100 Internal area 53 sqm / Balcony area 8 sqm



Figure 5.1.4



Figure 5.1.6

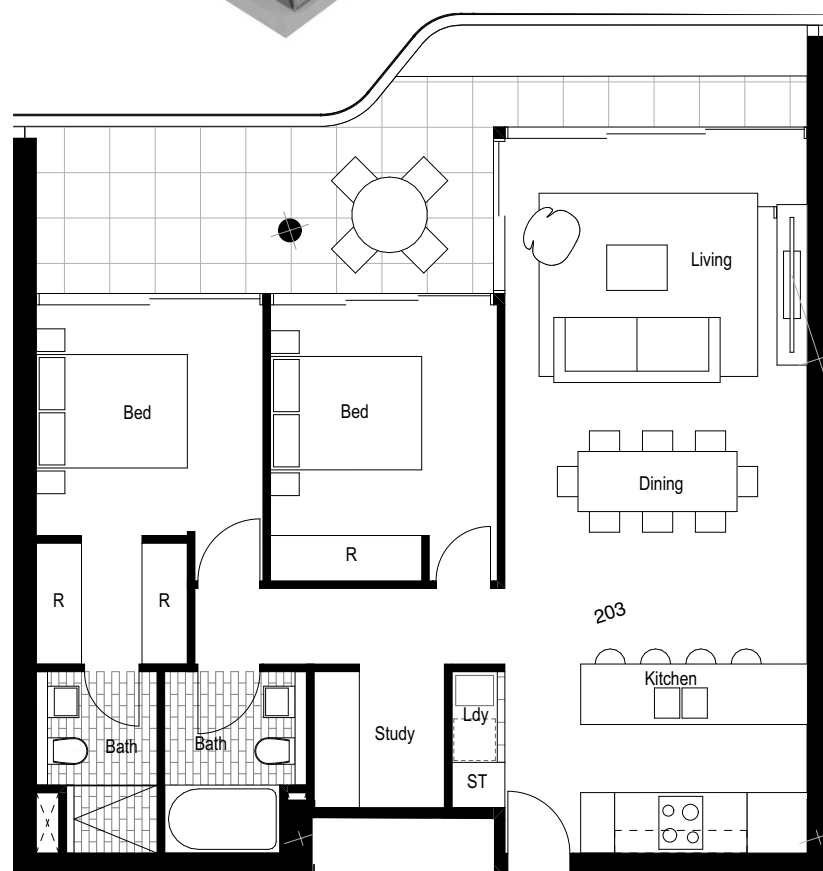


Figure 5.1.5 Typical Two Bedroom
1:100 Internal area 80 sqm / Balcony area 20 sqm

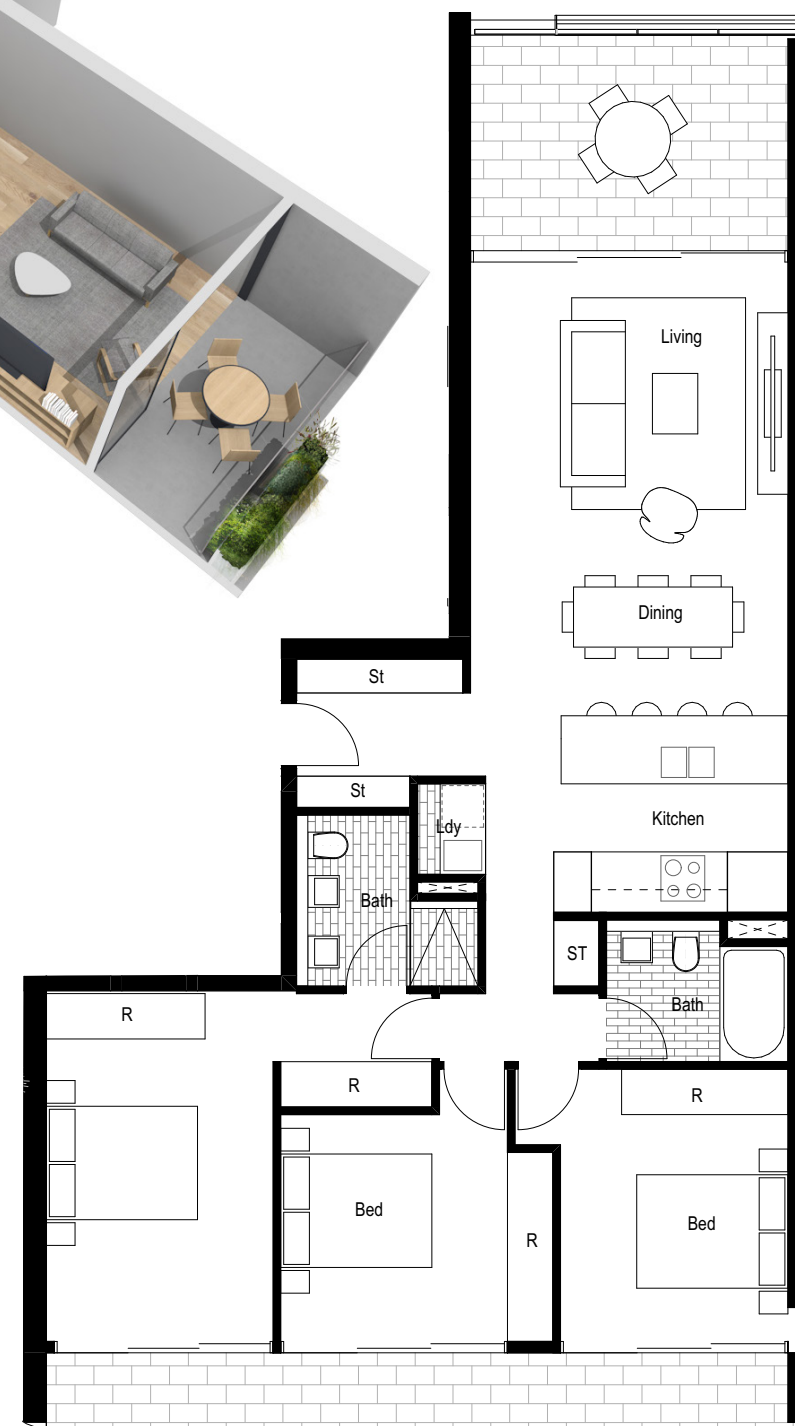


Figure 5.1.7 Typical Three Bedroom
1:100 Internal area 95 sqm / Balcony area 21 sqm

5.2 Adaptable Apartment Types

In accordance with the site controls, a total of 8 units are required to be adaptable in accordance with AS4299-1995, representing a total of 5% of apartments.

Pre- and post-adaption layouts are shown as follows (Figures 5.2.4 - 5.2.9). A combination of 1-, 2- and 3-bedroom adaptable apartments are provided as provision of adaptable units on levels 1-3 nominated off both lobbies A and B (Figures 5.2.2 - 5.2.3) to allow for housing choice for different demographics, living needs, and household budgets as per Principle 8 (Figure 5.2.1)

A full summary of ADG compliance for residential units is contained within Appendix B.

Design Quality Principles (SEPP65)
Principle 8: Housing Diversity and Social Interaction
Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.
Well designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

Figure 5.2.1



Figure 5.2.2 - Adaptable units on Levels 1-2



Figure 5.2.3 - Adaptable units on level 3

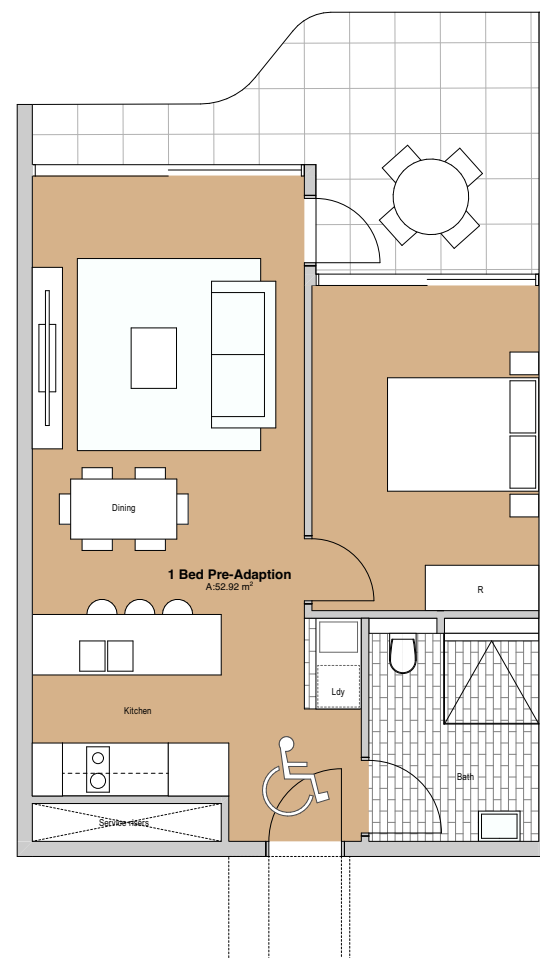


Figure 5.2.4 1:100
1-Bedroom Pre-Adaption
Internal area 51 sqm

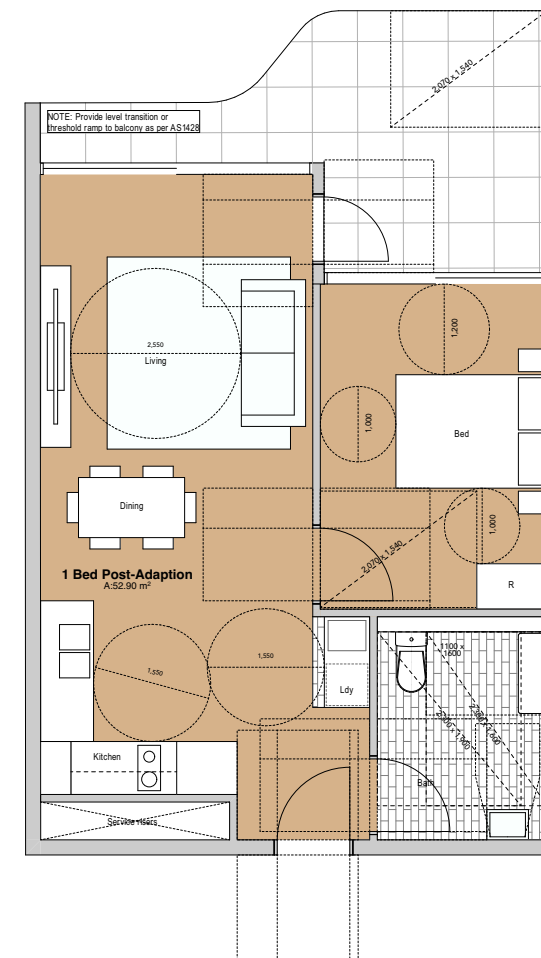


Figure 5.2.5 1:100
1-Bedroom Post-Adaption
Internal area 51 sqm

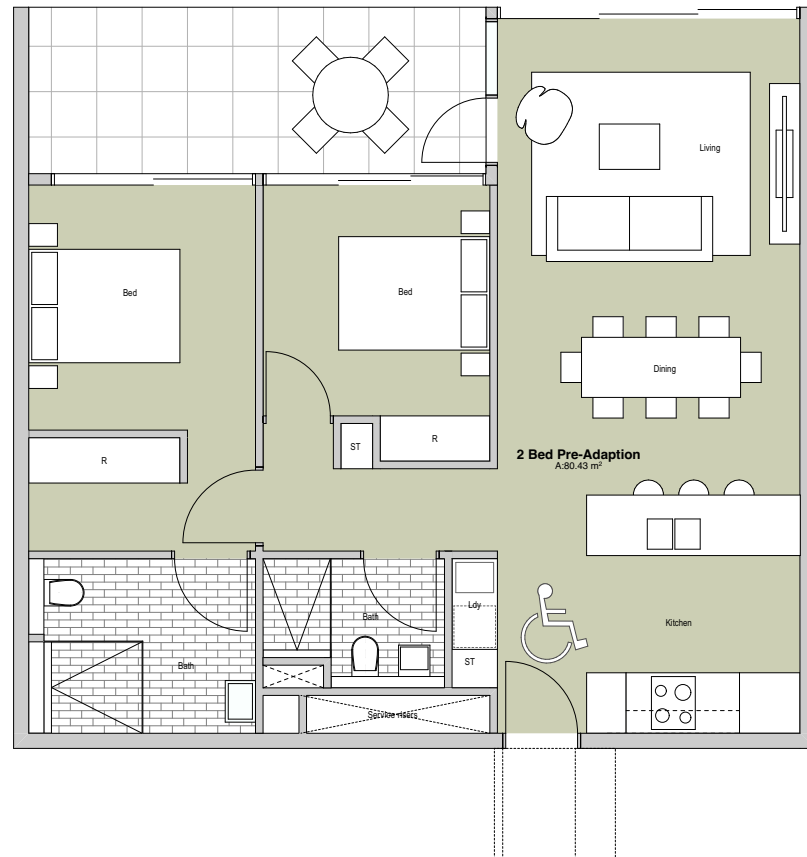


Figure 5.2.6 2-Bedroom Pre-Adaption
1:100 Internal area 80 sqm

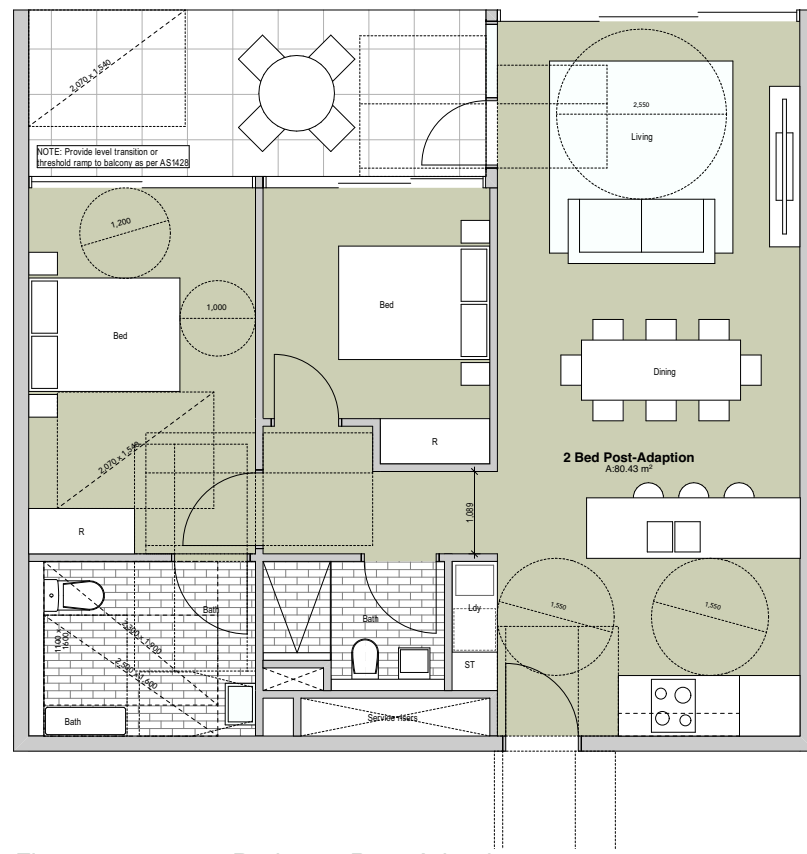


Figure 5.2.7 2-Bedroom Post-Adaption
1:100 Internal area 80 sqm

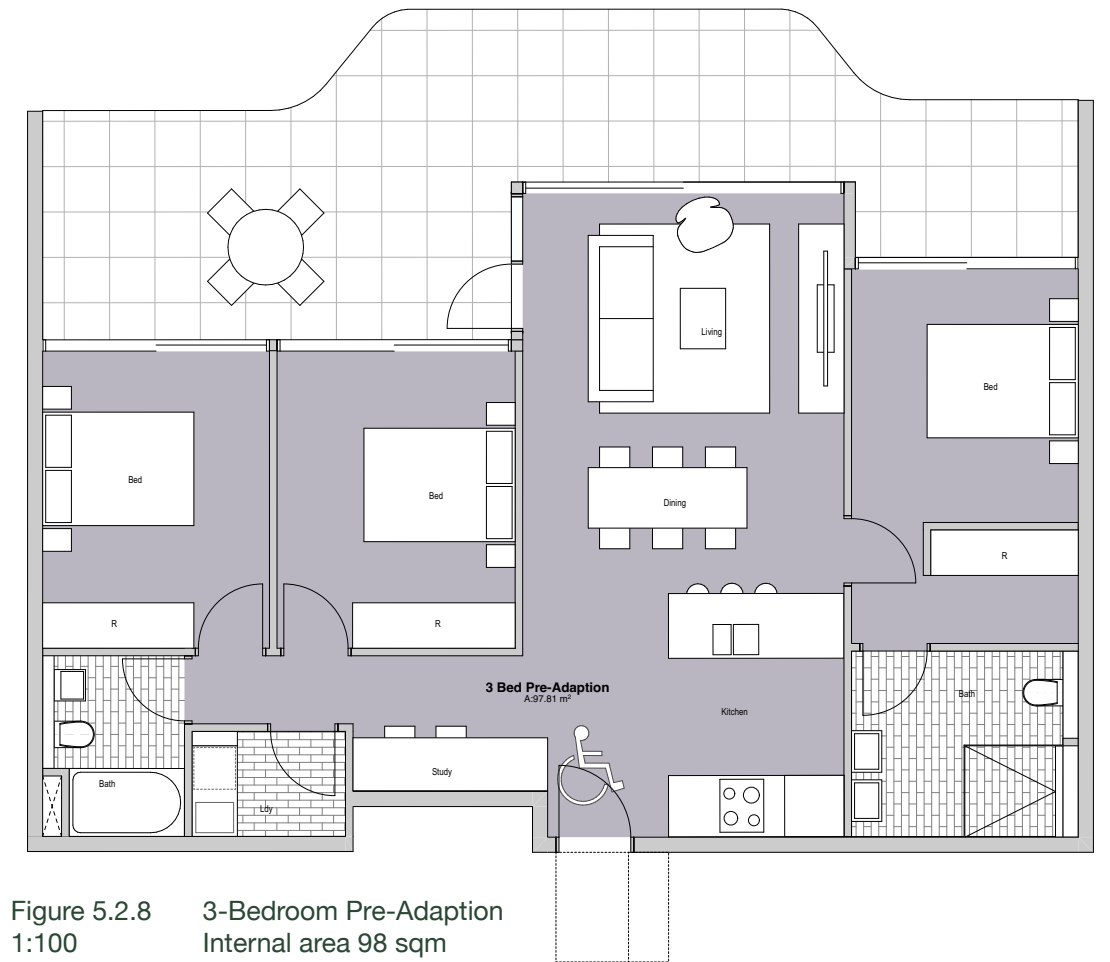


Figure 5.2.8 3-Bedroom Pre-Adaption
1:100 Internal area 98 sqm

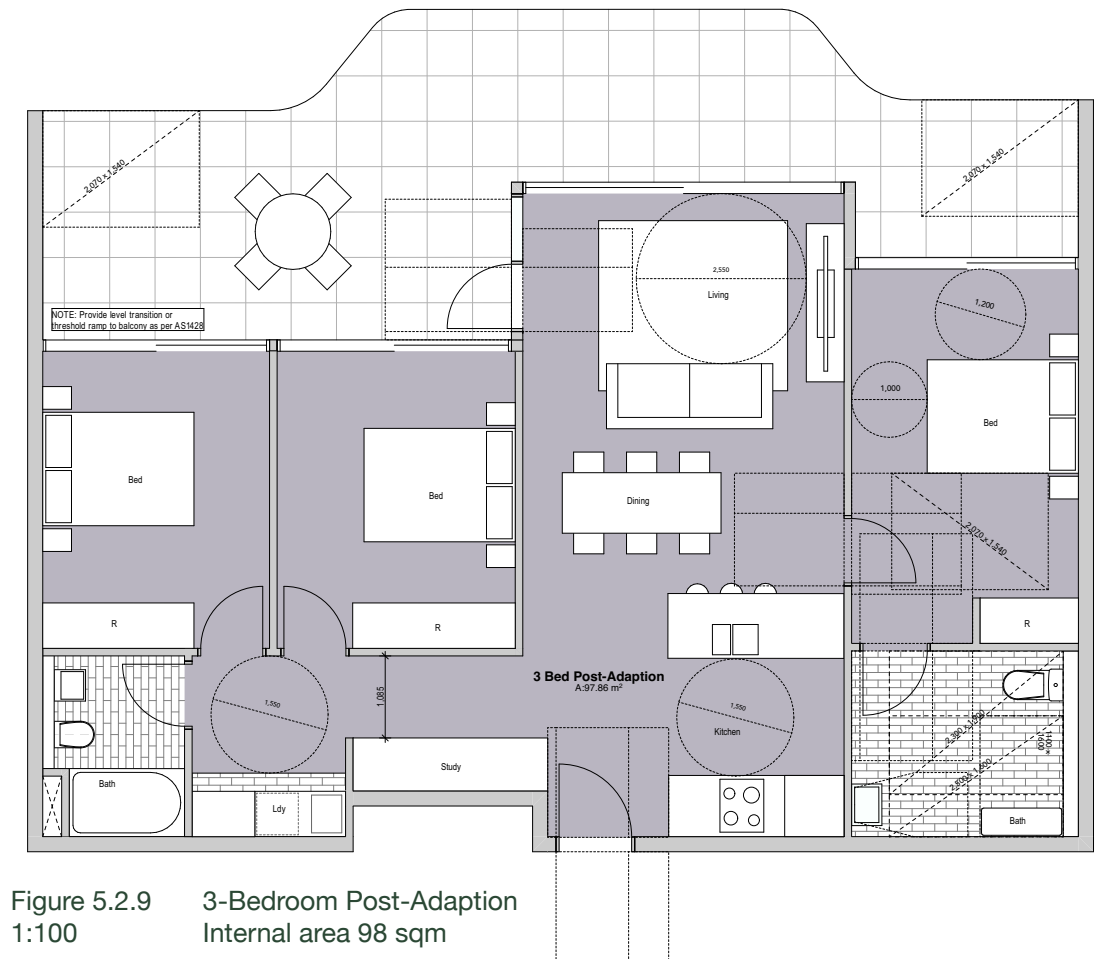


Figure 5.2.9 3-Bedroom Post-Adaption
1:100 Internal area 98 sqm

06 FACADE AND MATERIALS

6.1 Retail Facade

The ground floor consists of a number of retail premises fronting the park. The design foresees the bush-hammered concrete texture of the podium facade to be incorporated into the ground floor materiality in the columns that separate the retail spaces. This material has been selected to create a material link to the local textures of the endangered ironbark forest.

The ground floor is designed to be permeable and approachable; an extension of the public space of the park. The detailing and material selection of the window frames also provides an opportunity to enhance the experience in these spaces.

As a dynamic meeting place, connected to the park it is imperative that the retail spaces, especially the outdoor dining areas, are spaces imbued with elements of the natural ground and country. The floor paving is to be consistent with the treatment to the neighbouring sites.



Figure 6.1.1 - Retail Interface (McGregor Coxall)

6.2 Podium Facade

The building carries through the principles outlined in the original masterplan, setting-up a 3-storey podium to ensure the interface between the public domain and the large tower forms is treated successfully.

The proposed bush-hammered concrete texture responds to the intent of the masterplan, to create a green corridor to the northern retail edge. At the scale of the tree canopy therefore, a natural, robust material response is required.

The deep bands also provide the correct amount of security and cover and control to the inhabitants of these apartments; to permit both interaction with public nature of the immediate park, and also withdrawal as desired.



Figure 6.2.1

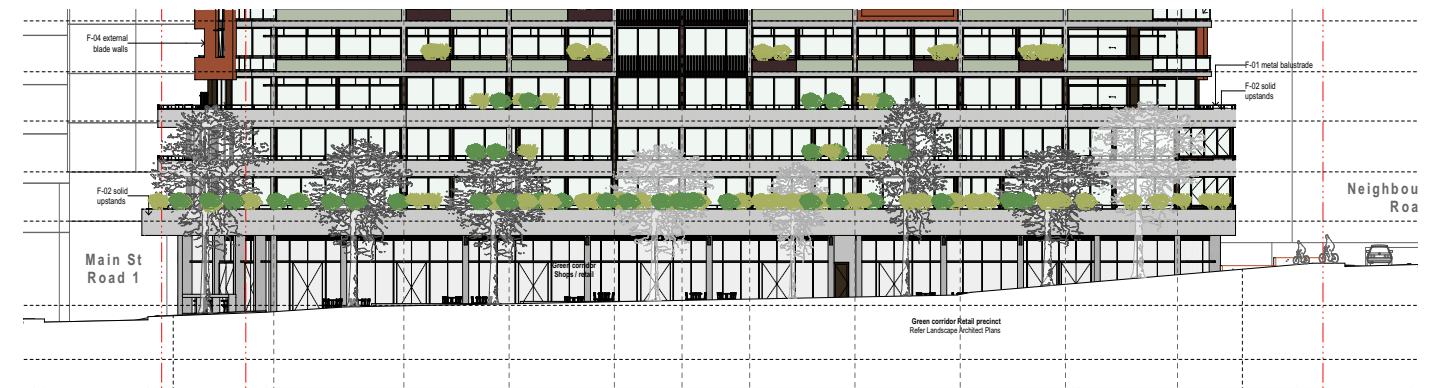


Figure 6.2.2

6.3 Tower Facade

The tower facade consists of a series of specific design-responses;

- a) to open itself to the north and to the views of the park, being the principal facade
- b) to include a passive sun-shade control to this facade
- c) to close down the facades to the east, south & west
- d) to address the street appropriately as the 'secondary' facade rather than the building frontage



Figure 6.3.1

The Park facade consists of expressed concrete slabs, and fixed sunshade blades to ensure a passive solution to the northern exposure for both winter & summer. A lightweight rainscreen cladding is proposed to the solid facades to the east, south & west, to insulate these skins.

A covered upstand is proposed to the rear apartments, to create a visual play to this rear facade facing the neighbourhood street.



Figure 6.3.2



Figure 6.3.3



Figure 6.3.4

Design Quality Principles (SEPP65)

Principle 9: Aesthetics

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures. The visual appearance of well designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

Figure 6.3.5



APPENDICES

07 SEPP65 APARTMENT DESIGN GUIDE

COMPLIANCE CHECKLIST

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT
Part 3: Siting the Development		
3A	Site analysis	
3A-1	Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context.	✓ Complies Refer to 03 Design Concept within this report
3B	Orientation	
3B-1	Building types and layouts respond to the streetscape and site while optimising solar access within the development	✓ Complies The building responds to the intent of the masterplan which foresees a strong orientation to the north along the park edge's "Green Corridor". The building also incorporates a podium designed to define the street edge to the rear and sides, and ensures the apartments along these edges are used to help define the corners whilst maintaining appropriate building depth
3B-2	Overshadowing of neighbouring properties is minimised during mid winter	✓ Complies The building conforms to the formerly approved masterplan envelope
3C	Public domain interface	
3C-1	Transition between private and public domain is achieved without compromising safety and security	✓ Complies Refer to 04 Project Description within this report
3C-2	Amenity of the public domain is retained and enhanced	✓ Complies
3D	Communal and public open space	
3D-1	An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping 1. Communal open space has a minimum area equal to 25% of the site area 2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June	1. Variation 15% of communal open space is provided on Lot C3 site, with further communal open space provided within the Masterplan site as per Masterplan Design Guidelines 2. ✓ Complies communal open space is North facing and achieves direct sunlight for a minimum of 2 hours between 9am and 3pm midwinter
3D-2	Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting	✓ Complies Refer to documentation prepared by McGregor Coxall
3D-3	Communal open space is designed to maximise safety	✓ Complies Access to communal open space is controlled by gates and limited lift access

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT
3D-4	Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	✓ Complies Public open space is in accordance with the Ivanhoe Masterplan
3E	Deep soil zones	
3E-1	Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality 1. Deep soil zones for sites >1500sqm are to meet a minimum dimension of 6m at 7% of the site area	1. Variation Deep soil zone is in accordance with the Masterplan site strategy. Refer documentation by McGregor Coxall
3F	Visual privacy	
3F-1	Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy. 1. Separation between windows and balconies is provided to ensure visual privacy is achieved. Minimum required separation distances from buildings to the side and rear boundaries are as follows: over 25m (9+ storeys) 12m between habitable rooms and balconies 6m between non-habitable rooms.	✓ Complies 25m building separation is maintained on the side and rear boundaries. Screens and blade walls are utilised where distances between habitable rooms are less than 12m, thus no compromises to visual privacy
3F-2	Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space.	✓ Complies Refer 06 Facade and Materials within this report
3G	Pedestrian access & entries	
3G-1	Building entries and pedestrian access connects to and addresses the public domain.	✓ Complies
3G-2	Access, entries and pathways are accessible and easy to identify.	✓ Complies
3G-3	Large sites provide pedestrian links for access to streets and connection to destinations.	Variation Ground floor retail interface is enhanced along the existing street infrastructure and Green Link to allow for and activates pedestrian access
3H	Vehicle access	
3H-1	Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes.	✓ Complies
3J	Bicycle & car parking	
3J-1	Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas.	✓ Complies Carparking provision complies with the rates specified in the consent for the Ivanhoe Masterplan
3J-2	Parking and facilities are provided for other modes of transport.	✓ Complies Bicycle parking and End of Trip facilities provided in accordance with the rates specified in the Masterplan consent
3J-3	Car park design and access is safe and secure.	✓ Complies
3J-4	Visual and environmental impacts of underground car parking are minimised	✓ Complies

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT
3J-5	Visual and environmental impacts of on-grade car parking are minimised.	✓ Complies No on-grade carparking provided
3J-6	Visual and environmental impacts of above ground enclosed car parking are minimised.	✓ Complies No above ground carparking provided
Part 4: Designing the building; amenity, configuration & performance		
4A	Solar and daylight access	
4A-1	To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space. 1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9am and 3pm at midwinter. 2. A maximum of 15% of apartments in a building receive no direct sunlight between 9am and 3pm at midwinter.	1. ✓ Complies 77% of apartments receive a minimum of 2 hours direct sunlight between 9am and 3pm at midwinter 2. ✓ Complies 13% of apartments receive no direct sunlight between 9am and 3pm at midwinter
4A-2	Daylight access is maximised where sunlight is limited.	✓ Complies Glazing and skylights are utilised where applicable to maximise daylight access
4A-3	Design incorporates shading and glare control, particularly for warmer months.	✓ Complies Refer 06 Facade and Materials within this report.
4B	Natural ventilation	
4B-1	All habitable rooms are naturally ventilated	✓ Complies
4B-2	The layout and design of single aspect apartments maximises natural ventilation.	✓ Complies
4B-3	The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents.	✓ Complies
4C	Ceiling heights	
4C-1	Ceiling height achieves sufficient natural ventilation and daylight access. 1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are: Habitable rooms 2.7m Non-habitable 2.4m Mixed use 3.3m for ground and first floor	✓ Complies Minimum ceiling heights achieved on all levels
4C-2	Ceiling height increases the sense of space and provides for well proportioned rooms.	✓ Complies
4C-3	Ceiling heights contribute to the flexibility of building use over the life of the building.	✓ Complies
4D	Apartment size and layout	

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT												
4D-1	The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity. 1. Apartments are required to have the following minimum internal areas: <table><tr><td>Apartment Type</td><td>Area (sqm)</td></tr><tr><td>Studio</td><td>35</td></tr><tr><td>1 Bedroom</td><td>50</td></tr><tr><td>2 Bedroom 1 Bath</td><td>70</td></tr><tr><td>2 Bedroom 2 Bath</td><td>75</td></tr><tr><td>3 Bedroom</td><td>90</td></tr></table> 2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms	Apartment Type	Area (sqm)	Studio	35	1 Bedroom	50	2 Bedroom 1 Bath	70	2 Bedroom 2 Bath	75	3 Bedroom	90	1. ✓ Complies Apartment sizes are on or above the minimum sqm requirements outlined in Part 4D-1, Design Criteria 1, included herein. Apartment areas are indicated on the architectural plans. 2. ✓ Complies All habitable rooms have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room
Apartment Type	Area (sqm)													
Studio	35													
1 Bedroom	50													
2 Bedroom 1 Bath	70													
2 Bedroom 2 Bath	75													
3 Bedroom	90													
4D-2	Environmental performance of the apartment is maximised. 1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height. 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window.	✓ Complies												
4D-3	Apartment layouts are designed to accommodate a variety of household activities and needs. 1. Master bedrooms have a minimum area of 10sqm and other bedrooms 9sqm (excluding wardrobe space). 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space). 3. Living rooms or combined living/dining rooms have a minimum width of: 3.6m for studio and 1B 4m for 2B and 3B 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts.	✓ Complies												
4E	Private open space & balconies													
4E-1	Apartments provide appropriately sized private open space and balconies to enhance residential amenity. 1. All apartments are required to have primary balconies as follows: <table><tr><td>Apartment Type</td><td>Area (sqm)</td></tr><tr><td>Studio</td><td>4</td></tr><tr><td>1 Bedroom</td><td>8 (min depth 2m)</td></tr><tr><td>2 Bedroom</td><td>10 (min depth 2m)</td></tr><tr><td>3 Bedroom +</td><td>12 (min depth 2.4m)</td></tr></table>	Apartment Type	Area (sqm)	Studio	4	1 Bedroom	8 (min depth 2m)	2 Bedroom	10 (min depth 2m)	3 Bedroom +	12 (min depth 2.4m)	Variation Primary balcony areas are on or above the minimum sqm outlined, with varied depth according to the building facade and planter boxes for each unit		
Apartment Type	Area (sqm)													
Studio	4													
1 Bedroom	8 (min depth 2m)													
2 Bedroom	10 (min depth 2m)													
3 Bedroom +	12 (min depth 2.4m)													
4E-2	Primary private open space and balconies are appropriately located to enhance liveability for residents.	✓ Complies All private open space is located adjacent to living areas												

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT										
4E-3	Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building.	✓ Complies Refer 06 Facade and Materials within this report										
4E-4	Private open space and balcony design maximises safety.	✓ Complies Balustrade height within private open space is based on NCC requirements										
4F	Common circulation & spaces											
4F-1	Common circulation spaces achieve good amenity and properly service the number of apartments. 1. The maximum number of apartments off a circulation core on a single level is eight. 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40.	✓ Complies All common corridors and lobbies have an external outlook 1. ✓ Complies Between 4 to 7 apartments are provided off a circulation core on a single level 2. ✓ Complies										
4F-2	Common circulation spaces promote safety and provide for social interaction between residents.	✓ Complies Further social interaction provision is provided on the forest rooms off the corridors										
4G	Storage											
4G-1	Adequate, well designed storage is provided in each apartment 1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: <table><tr><td>Apartment Type</td><td>Area (cbm)</td></tr><tr><td>Studio</td><td>4</td></tr><tr><td>1 Bedroom</td><td>6</td></tr><tr><td>2 Bedroom</td><td>8</td></tr><tr><td>3 Bedroom</td><td>10</td></tr></table> At least 50% of the required storage is to be located within the apartment.	Apartment Type	Area (cbm)	Studio	4	1 Bedroom	6	2 Bedroom	8	3 Bedroom	10	✓ Complies
Apartment Type	Area (cbm)											
Studio	4											
1 Bedroom	6											
2 Bedroom	8											
3 Bedroom	10											
4G-2	Additional storage is conveniently located, accessible and nominated for individual apartments.	✓ Complies Individual storage is located in basement levels adjacent to car spaces for each apartment										
4H	Acoustic privacy											
4H-1	Noise transfer is minimised through the siting of buildings and building layout.	✓ Complies										
4H-2	Noise impacts are mitigated within apartments through layout and acoustic treatments.	✓ Complies										
4J	Noise & pollution											
4J-1	In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings.	Not Applicable Refer Acoustic Assessment prepared by Acoustic Logic										
4J-2	Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission.	Refer Acoustic Assessment prepared by Acoustic Logic										
4K	Apartment mix											
4K-1	A range of apartment types and sizes is provided to cater for different household types now and into the future.	✓ Complies Refer 05 Apartment Planning within this report										

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT
4K-2	The apartment mix is distributed to suitable locations within the building.	✓ Complies Refer 04 Project Description within this report
4L	Ground floor apartments	
4L-1	Street frontage activity is maximised where ground floor apartments are located.	Not Applicable
4L-2	Design of ground floor apartments delivers amenity and safety for residents.	Not Applicable
4M	Facades	
4M-1	Building facades provide visual interest along the street while respecting the character of the local area.	✓ Complies Refer 06 Facade and Materials within this report
4M-2	Building functions are expressed by the façade.	✓ Complies
4N	Roof design	
4N-1	Roof treatments are integrated into the building design and positively respond to the street.	✓ Complies
4N-2	Opportunities to use roof space for residential accommodation and open space are maximised.	✓ Complies Landscaped rooftop open space and amenities provided for residents
4N-3	Roof design incorporates sustainability features.	✓ Complies Roof level allows for Photovoltaic panels to be installed
4O	Landscape design	
4O-1	Landscape design is viable and sustainable.	✓ Complies Refer documentation prepared by McGregor Coxall
4O-2	Landscape design contributes to the streetscape and amenity.	✓ Complies Refer documentation prepared by McGregor Coxall
4P	Planting on structures	
4P-1	Appropriate soil profiles are provided.	✓ Complies Refer documentation prepared by McGregor Coxall
4P-2	Plant growth is optimised with appropriate selection and maintenance.	✓ Complies Refer documentation prepared by McGregor Coxall
4P-3	Planting on structures contributes to the quality and amenity of communal and public open spaces.	✓ Complies Refer documentation prepared by McGregor Coxall
4Q	Universal design	
4Q-1	Universal design features are included in apartment design to promote flexible housing for all community members.	✓ Complies Refer 05 Apartment Planning within this report
4Q-2	A variety of apartments with adaptable designs are provided.	✓ Complies Refer 05 Apartment Planning within this report
4Q-3	Apartment layouts are flexible and accommodate a range of lifestyle needs.	✓ Complies Refer 05 Apartment Planning within this report
4R	Adaptive reuse	
4R-1	New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place.	Not Applicable

REF.	GUIDANCE CONTROL	COMPLIANCE / COMMENT
4R-2	Adapted buildings provide residential amenity while not precluding future adaptive reuse.	Not Applicable
4S	Mixed use	
4S-1	Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement.	✓ Complies Ground floor retail, green link interface, and through site link provide active street frontages and encourage pedestrian movement
4S-2	Residential levels of the building are integrated within the development, and safety and amenity are maximised for residents.	✓ Complies
4T	Awnings & signage	
4T-1	Awnings are well located and complement and integrate with the building design.	✓ Complies
4T-2	Signage responds to the context and desired streetscape character.	✓ Complies
4U	Energy efficiency	
4U-1	Development incorporates passive environmental design.	✓ Complies Refer 04 Project Description within this report
4U-2	Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer.	✓ Complies Refer 04 Project Description within this report
4U-3	Adequate natural ventilation minimises the need for mechanical ventilation.	✓ Complies Mechanical ventilation provision provided although not required due to apartment orientation
4V	Water management & conservation	
4V-1	Potable water use is minimised.	✓ Complies Refer ESD report prepared by Integral Group
4V-2	Urban stormwater is treated on site before being discharged to receiving waters.	✓ Complies On site detention tank provided within the basement. Refer Hydraulic report by DSC
4V-3	Flood management systems are integrated into site design.	✓ Complies Refer Hydraulic report by DSC
4W	Waste management	
4W-1	Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents.	✓ Complies Residential and retail waste rooms provided within the basement, with a bin holding area adjacent to the loading dock for garbage truck collection
4W-2	Domestic waste is minimised by providing safe and convenient source separation and recycling.	✓ Complies Waste chutes are located within lobby corridor on each level. Refer to Waste Management plan prepared by Elephants Foot
4X	Building maintenance	
4X-1	Building design detail provides protection from weathering.	✓ Complies
4X-2	Systems and access enable ease of maintenance.	✓ Complies
4X-3	Material selection reduces ongoing maintenance costs.	✓ Complies Refer 06 Facade and Materials within this report

08 MASTERPLAN DESIGN GUIDELINES

RESPONSES TO GUIDELINES

REF.	OBJECTIVES	PROVISIONS	RESPONSE
01	North East Development Lots (B1-B2)		
A	To allow for a future pedestrian and cycle connection from Main Street to Peach Tree Avenue.	1. Lot B1 / B2 should be separated into three discrete buildings. 2. Building separation should be sufficient width to provide a pedestrian and cycle connection to Peach Tree Avenue.	Lot C3 is not impacted by this control. The proposed design of Lot C3 does not restrict future lots from complying with this control.
B	To provide opportunities for solar access to Main Street.		
02	Public and Communal Open Space		
A	To retain and enhance the existing publicly accessible open space along Shrimptons Creek corridor	1. The Shrimptons Creek Corridor is to be embellished and dedicated to Council as public open space. 2. A Village Green should be provided between C1and C3. A minimum of 3,300 sqm should be usable area. The remainder should be landscaped roof to building C2. 3. A Forest Playground of 3,900 sqm usable area should be provided between Lots D2 and D3. 4. Publicly accessible open spaces should connect Shrimptons Creek, the Village Green, Town Square, and Epping Road landscape corridor. 5. Each lot should provide a mix of public and communal open space with a combined minimum area equal to 25% of the lot area, except Lots A1 and B3 which are not required to provide public or communal open space.	A Village Green is provided directly adjacent to Lot C3 and is an integral part of the Green Link and ground floor retail interface. 15% of communal open space is also provided within C3 Building to enhance residential amenity.
B	To connect new public spaces to the existing open space network		
C	To provide an adequate area of communal open space to enhance residential amenity and to provide opportunities for landscaping.		
03	Deep soil zones		
A	To retain existing mature trees and support healthy tree growth.	1. The area of deep soil within site, excluding RE1 zoned land, should be no less than 15%. 2. Deep soil zones should have a minimum dimension of 6m, except where they abut a side boundary or road reserve which also provides deep soil, where a minimum dimension of 3m is acceptable.	A precinct wide approach is adopted where 3,743 m2 of deep soil zone is provided. This development does not prevent the masterplan from complying with this control and allows for future soil planting areas
B	To provide passive recreation opportunities.		
C	To promote management of water and air quality.		

REF.	OBJECTIVES		PROVISIONS	RESPONSE
04	Public Domain Interface			
A	To transition between private and public domain without compromising safety and security.	1. When fronting streets: terraces, balconies and courtyard apartments should have direct street entry, wherever possible. 2. Apartments, balconies and courtyards fronting the Shrimptons Creek landscape corridor, Epping Road landscape corridor, or Village Green should be physically separated but provide passive surveillance. 3. Community and retail uses should provide an active frontage to the Village Green. 4. Communal open space should be clearly defined and separate from the public domain.	Non residential uses are proposed on the ground floor.	
B	To retain and enhance the amenity of the Shrimptons Creek corridor.		Retail interface provides an active frontage to the Village Green with seatings and landscaped provisions. Refer to documents prepared by McGregor Coxall	
C	To maximise the amenity of new streets and public open spaces.			
05	Active Frontages			
A	To provide active frontages with a distinctive civic character to Main Street.	1. Buildings A1 and B3 should accommodate a childcare centre at ground level. 2. Buildings B2 and C3 should provide community uses at ground level fronting Main Street and the Village Green. 3. Building D3 should provide ground level office space for the community housing provider. 4. Direct street access should be provided to ground floor apartments. 5. Two-storey residential typologies should be considered on street frontages of apartment buildings fronting neighbourhood streets.	Retail use on ground floor, along with the Green Link provide active frontages and direct connection to the Village Green	
B	To ensure that public spaces and streets are activated along their edges.			
C	To maximise street frontage activity where ground floor apartments are located.			
D	To deliver amenity and safety for residents when designing ground floor apartments.			
06	Pedestrian and Vehicular Entry Locations			
A	To provide building entries and pedestrian access that connects to and addresses the public domain.	1. Primary building entries should address the street. 2. Vehicle entries should avoid Main Street where possible. 3. Internal loading docks will be shared wherever possible to limit the amount of driveways to improve public amenity and streetscapes. 4. Loading docks will be used for both garbage collection and move ins / move outs where possible. 5. Where internal dedicated loading docks are not possible, on-street loading zones will be discretely located near building entries.	The entry lobbies A and B face Neighbourhood Street to the South, and a lobby entry into C4, allowing for human-scale street access.	
B	To provide accessible and easily identifiable building entries and pathways.		Vehicular entries have been located off Neighbourhood Street to the South with a loading dock provided for garbage collection, deliveries and servicing.	
C	To minimise conflicts between vehicles and pedestrians.			
D	To create high quality streetscapes.			
07	Street Wall Height			
A	To provide buildings that positively contribute to the physical definition of the public domain.	1. On residential streets, buildings should express a 2-4 storey scale on the lowest levels of the building.	A 3-storey expression has been introduced along the retail frontage	
B	To reduce the scale of buildings as perceived from the public domain.			

REF.	OBJECTIVES	PROVISIONS	RESPONSE
08	Ground Level Street Setbacks		
A	To provide buildings that positively contribute to the physical definition of the public domain.	1. On residential streets, the lower levels of buildings can be built to the lot boundary. 2. On Main Street, the lower levels of buildings should be setback a minimum of 2m from the lot boundary on average. 3. On residential streets, any setback zone should be landscaped to balance street activation and residential amenity.	A 2-metre setback is maintained along the Retail frontage on Main Street and Neighbourhood Streets, with an exception to the Loading Dock and carparking access. A 6-metre setback is zone is provided for the Green Link access and public domain activation.
B	To transition between private and public domain without compromising safety and security.		
C	To provide a landscape design which contributes to the street-scape and residential amenity.		
09	Upper Level Setbacks		
A	To reduce the scale of buildings as perceived from the public domain.	1. On residential streets, upper floors of buildings should be setback a minimum of 4.75m from the lot boundary 2. On Main Street, upper levels of buildings can be built to the lot boundary, subject to building separation requirements of SEPP65.	Upper floors have a minimum setback of 4.75m to the lot boundary to the South and West fronting Neighbourhood Streets. A reduced setback is proposed fronting Main Street to the East, whilst maintaining SEPP65 building separation requirements.
B	To minimise the adverse wind impact of down drafts from tall buildings.		
10	Setbacks to Shrimptons Creek		
A	To provide buildings that positively contribute to the physical definition of the public domain.	1 Buildings fronting Shrimptons Creek should be set back a minimum of 5m from the edge of the Riparian Corridor. 2. Buildings fronting Shrimptons Creek should exreps a 2-4 storey scale on the lowest levels of the building 3. Fronting Shrimptons Creek, upper levels of buildings should be set back a minimum of 8m from the edge of the Riparian Corridor. 4. Buildings fronting Shrimptons Creek should be articulated into multiple parts so that unbroken facades are no longer than 30m. 5. Refer to design guideline 4 regarding the interface of public and private space.	Lot C3 is not impacted by this control. The proposed design of Lot C3 does not restrict future lots from complying with this control.
B	To reduce the scale of buildings as perceived from the public domain.		
C	To minimise the adverse wind impact of down drafts from tall buildings.		
11	Rooftops		
A	To maximise opportunities to use roof space for residential accommodation and open space.	1. Private and communal roof terraces should be provided where possible. 2. Roofs that are overlooked by other buildings should provide either communal open space or landscape planting. 3. Plant areas should be screened from view. 4. Upper level roofs should accommodate solar panels.	A communal rooftop terrace and planting are provided on level 15 with 4 Forest Rooms proposed throughout the building for communal use. PV cells, plants and services are screened and provided on the roofs of levels 15 and 16.
B	To incorporate sustainability features into the roof design.		
C	To minimise the visual impact of roof plant.		

REF.	OBJECTIVES		PROVISIONS	RESPONSE
12	Façade Expression and Materials			
A	To define and reinforce a distinctive character within the masterplan precinct.	1. The lower levels of residential buildings should use masonry as the predominant façade material. 2. White render should be avoided as the primary façade material. 3. Façade materials should be self- finished, durable and low maintenance. 4. Use of colour in building facades should focus on warm, naturally occurring hues.	A bush-hammered concrete texture is proposed as the predominant façade material on the podium levels. Lightweight rainscreen cladding and expressed concrete slabs are proposed on the tower levels. Refer 06 Facade and Materials within this report for further detail.	
B	To express building functions.			
C	To create buildings which will improve with age.			
13	Design Excellence			
A	To ensure architectural diversity is achieved.	1. Architects should be selected from the Government Architect’s ‘Pre-qualification Scheme for Strategy and Design Excellence’ or collaborate with a pre-qualified Architect. 2. No architect can design more than five blocks. 3. All detailed development applications should be designed in accordance with the principles of ‘Better Placed’. 4. Each residential building will be designed to achieve a 5 Star Green Star Design & As Built rating.	Fox Johnston is listed under the Government Architect’s ‘Pre-qualification Scheme for Strategy and Design Excellence’ and has not previously been responsible for the detailed design of a block within the Ivanhoe Estate. This design has been developed in accordance with the principles outlined in ‘Better Placed’. The building will achieve a 5 Star Green Star Design & As Built Rating. Refer to ESD prepared by Integral Group for further detail.	
B	To achieve a high standard of architectural and urban design, materials and detailing appropriate to the building type and location.			
C	To ensure the form and external appearance of the buildings improve the quality and amenity of the public domain.			
D	To ensure buildings meet sustainable design principles in terms of sunlight, natural ventilation, wind, reflectivity, visual and acoustic privacy, safety and security and resource, energy and water efficiency.			
14	Universal Design			
A	Universal design features are included in apartment design to promote flexible housing for all community members.	1. 100% of social dwellings should incorporate the Livable Housing Guideline’ s silver level universal design features. 2. 5% of market and affordable dwellings should be wheelchair adaptable to meet the requirements of AS4299 Class C.	At least 5% of market dwellings are designed to be wheelchair adaptable. Refer 05 Apartment Planning within this report.	
B	A variety of apartments with adaptable designs are provided.			

09 SEARs

PLANNING SECRETARY'S
ENVIRONMENTAL ASSESSMENT
REQUIREMENTS

RESPONSES TO SEARs

Section 4.12(8) of the Environmental Planning and Assessment Act 1979
Schedule 2 of the Environmental Planning and Assessment Regulation 2000
Date of Issue - 06.04.2021

REF.	PROVISIONS	RESPONSE
03	Built Form and Urban Design	
A	The IES must: -demonstrate how the proposed building or building envelope form (layout, height, bulk, scale, separation, setbacks, interface and articulation) addresses and responds to the context, site characteristics, streetscape and existing and future character of the locality	The proposed building utilises its place within the masterplan with the generous, park-facing, north facade to ensure a typical floor plate that minimise single-aspect and non-solar achieving apartments throughout the residential building. This has been balanced however with a facade articulation to break down the potentially negative lengthiness of the permissible envelope; achieved in two main ways, that both establish 2 predominant volumes to the one building. Firstly, through a significant recessing of the central apartments forms, and secondly, by establishing a greater height-in-storeys to the southwestern volume. The building also upholds the prescribed masterplan setbacks implemented to meet ADG separation distances to neighbouring buildings. The lower levels of the building comprise a podium form in a textural material (bush-hammered off form concrete) in keeping with the proposed masterplan guidelines in terms of height and setbacks. This also establishes a generous canopy over the Ground Floor to provide cover and amenity to the retail public domain.
B	-demonstrate how the detailed building design will deliver a high-quality development, including consideration of façade design, articulation, activation, roof design, materials, finishes, colours and integration of services	The proposed building comprises passive solar measures to ensure the north-facing apartments optimise their aspect in terms of solar control. A single fixed louvre blade is incorporated in the optimal position to block sunlight in summer, whilst allowing solar penetration in winter. This has been tested and investigated to ensure the dimensions are fit for purpose. Materially, the building comprises hard-wearing robust and raw materials, to ensure both high-performance, and longevity; a) on the lower podium levels, in situ concrete bush-hammered is utilised to ensure the proximity with the tree canopy and public domain is matched in texture and seasonal wearing, and b) the tower comprises rain-screen cladding which is high-performing system both thermally and acoustically, and also pre-finished and low-maintenance; furthermore this wall system meets the health requirements of the NCC where moisture build-up is concerned.

REF.	PROVISIONS	RESPONSE
C	-demonstrate how the proposed built form would result in appropriate scale and minimise visual bulk and long facades	The proposed building comprises a central split with a deep recess. This is then further expressed materially, with darker palette, and volumetrically, with the upper storeys splitting to allow the western form to include an additional storey within the allocated height plane. In addition to this, the building comprises 3-storey garden voids which contribute to breaking-down the facade through significant articulation and play of shadows and depth.
D	-demonstrate the proposed built form appropriately addressed the change in levels across the site and avoids/minimises protruding basements and blank ground floor facades	The proposed building comprises an approximately 1-storey change in floor level from west to east. This is managed predominantly from the higher, westernmost end through gentle transitions and subtle walkway/stair and landscape design that seeking to provide prospect over the park, and introduce the users to the site. This is then managed across the length of the retail public ground plane via a less than 1:50 fall across to ensure that the level-transition at the lower part of the site is on grade. Each retail entry is therefore effectively flat from inside to outside. To the rear of the site, the entries to the lobbies is managed locally at the respective heights to link with the public domain pathways directly and avoid extensive pathways and obvious height transitions.
E	-include tables identifying the proposed land uses, including tables identifying gross floor area (GFA)/floor space ration (FSR) for each building, including a floor by floor breakdown, and total GFA and FSR	Refer 11 Architectural Drawings

Refer relevant consultants' reports for further responses

10 SDRP

THE STATE DESIGN
REVIEW PANEL

RESPONSES TO SDRP

Government Architect New South Wales
SDRP Extended Session 01 - 01 April 2021

REF.	RECOMMENDATION	RESPONSE
C3	Mixed-use and market housing building	
5.1	The “forest to the building” concept - and its supporting architectural strategies are generally supported, including its planning (twin cores) and strategies for the facade, forest gardens and amenity (e.g. views, solar access, cross ventilation & daylighting). The following matters require further investigation; Northwest facade - further design development is required to address: 5.1.1 sun-shading treatments to better suit this orientation 5.1.2 architectural expression of central vertical slot - to reduce the visual impact of building’s scale and bulk.	5.1.1 Sun shading louvres have been applied to each unit on the Northwest facade. These have been carefully tested to ensure additional sun shading in mid Summer, and maximise sunlight exposure during mid Winter. 5.1.2 The central vertical slot has been designed to further reduce the bulk and scale of the overall facade. Central planters have been removed and balconies recessed with a darker material palette and balustrade expression.
5.2	Landscaping strategies for the forest gardens - resilience and maintenance.	It is envisioned that each of the forest rooms are treated differently. Each space would be programmed to suit a range of uses from active through to passive. These spaces provide additional communal areas to suit the needs of the residents. Refer documents by McGregor Coxall.
5.3	Roofs of pop-out elements -consider visibility from adjacent apartments and impacts of material treatments, edge detailing and gutters.	The facade has been rationalised to reduce the protrusional elements to the Forest Rooms. These protrusions are limited to 500mm, and will comprise the pedestal paving system proposed to the balconies throughout, omitting reliance upon decorative pebbles. The ceiling portions also provide the necessary depth to facilitate drainage and services elements of the apartments above.
5.4	Ground level permeability – increase through site links to improve access to the park for social housing residents	As a result of wind studies, retail planning and pedestrian travel distances, the through-site link has been removed. The wind report identified high wind speeds that would be challenging to mitigate without doors. Furthermore, the impact of link removal on pedestrian movement was minimal, whilst also allowing the retail loading and back of house to function without impacting the amenity of the public domain. A number of design developments have been implemented to improve access to the park for all residents; - Sculpted building footprint to provide meaningful and integrated accessible path to the park entrance - Enhance the success of the retail offering for the overall precinct - Reinforce pedestrian access from the existing street structure including Neighbourhood Roads, The Green Link, and Park interface

Government Architect New South Wales
SDRP Extended Session 02 -17 June 2021

REF.	RECOMMENDATION	RESPONSE
C3	Mixed-use and market housing building	
12	The following responses to SDRP 01 are supported: 12.1 detail of the three-storey communal ‘forest gardens’ including vertical connections between levels 12.2 the architectural expression of the facade’s central recess element 12.3 relocation of all residential ground floor entrances to Neighbourhood Street - Road 3 12.4 sun-shading to typical apartments	Noted NB: The responses to SDRP 01 recommendations have been addressed and presented to the SDRP at the second design review session on Thursday, 17 June 2021.
13	The ground floor links to the Village Green have been removed but remain the preferred design outcome, offering benefits of connectivity and inclusiveness for the precinct - reinstatement is strongly recommended. Constraints of wind and service planning are noted	As a result of multiple constraints involving the through-site link, a number of design developments have been made to retain the benefits of connectivity and inclusiveness for the precinct. These include the reinforcement of pedestrian access from the existing street infrastructure, along with sculpted building footprint to provide integrated pathways and accessible ramp design. By streamlining residential lobbies and car parking entries to the South, the ground floor plane enhances the success of the retail offering along the Main Street, Green Link and Neighbourhood roads, as well as for the overall precinct.
14	Regarding façade rationalisation, reconsider architectural detailing and expression of landscape design to better align with the façade qualities presented at SDRP 01 (the perspective rendering) – specifically address the variation and playfulness’ of the façade, the fineness of the detailing and ‘wildness’ of the landscaping. Examples include: 14.1 fineness of the slab to balustrade detail (evident in SDRP 02) 14.2 provide playful and wild planting, visible from the Village Green – e.g. Port Jackson figs and bamboo.	The architectural expression has been further developed to retain facade rationalisation and detailing, while maintaining the qualities and original expression of the playful landscape design. These may be addressed as follows; 14.1 balustrade planter boxes on individual units have been proposed to create variation to the facade expression and further enforce the wildness of landscaping throughout the building 14.2 forest room locations are intentionally expressed in an offset manner to create variations to the eastern and western towers. These will include playful, wild, and overgrown planting to mimic forest-like landscaping.

11 ARCHITECTURAL DRAWINGS