DESIGN GROUP

DESIGN REPORT

93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill

NOMINATED ARCHITECT: KAICHI LEUNG
NSW 7133|QLD 4478|NT 1190|VIC 800401|NZ3075

06/12/2024

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93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL

DESIGN GROUP

NOMINATED ARCHITECT: KAICHI LEUNG
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ACKNOWLEGING COUNTRY

We acknowledge the Bidjigal clan of the Dharug Nation, the Traditional Custodians of the land on which Castle Hill is located. We pay our deepest respects to the Bidjigal people, past and present, and recognise their enduring cultural and spiritual connection to this Country.

We are grateful for the guidance shared by Dharug Elders and Custodians who have offered invaluable wisdom throughout the planning and design process. The spirit of Country—its land, waters, and skies—has been central to shaping this project.

We honour the deep and ongoing relationship that Aboriginal and Torres Strait Islander Peoples hold with their lands and waters. This connection to Country, community, flora, and fauna inspires us to design with respect and responsibility.

Throughout this journey, we commit to meaningful collaboration with Indigenous communities, including through partnerships such as the WSP Indigenous Specialist Services Team.

We acknowledge the profound history and living culture of the Dharug people and embrace our role in preserving and celebrating this shared connection to Country.

CONTENTS

INTRODUCTION

DESIGN REPORT PURPOSE

This Design Report has been prepared by A+ Design Group to support the State Significant Development Application (SSD-78156221) for the proposed redevelopment at 93–107 Cecil Avenue and 9–10 Roger Avenue, Castle Hill. The proposal aligns with the The Hills Shire Council's strategic vision for urban renewal within the Castle Hill Strategic Centre.

The report is intended to be read in conjunction with the corresponding architectural drawing set, as well as other multi-disciplinary reports, including the Environmental Impact Statement (EIS), which has been prepared in accordance with the Secretary's Environmental Assessment Requirements (SEARs). The scope of this document provides a comprehensive overview of the proposal's architectural design while addressing key design elements, urban context, and environmental considerations in line with the SEPP (Housing) 2021 and The Hills LEP 2019.

The report delivers a detailed explanation of the proposal's design quality, urban design principles, and built form outcomes, as well as the integration of public and communal spaces, landscape elements, and the Connecting with Country approach. It further includes an analysis of key environmental and sustainability initiatives such as Ecologically Sustainable Design (ESD) and addresses relevant SEARS requirements.

DEVELOPMENT DESCRIPTION

The proposed redevelopment at 93–107 Cecil Avenue and 9–10 Roger Avenue, Castle Hill comprises the demolition of existing structures and construction of a mixed-use residential development. The key aspects of the proposal include:

Residential Apartments: A total of 615 residential units delivered across three stages, with a mix that meets the requirements of The Hills LEP 2019:
Unit Breakdown:

- Studio: 1 unit (0.2%)
- 1 Bedroom: 65 units (10.6%)
- 2 Bedroom: 420 units (68.2%), including 172 units >=110m²
- 3 Bedroom: 127 units (20.7%), including 51 units >=135m²
- 4 Bedroom: 2 units (0.3%)

The quantum of affordable housing floor space proposed is consistent with the percentage of affordable housing that is incentivised by the provisions of SEPP (Housing) 2021, ensuring 15% affordable housing allocation and a unit mix that provides diversity and adaptability for local housing needs.

Provision of 979 car spaces across 3 basement levels, comprising:

Residential Spaces: 524 spaces for residents

Visitor Spaces: 123 spaces

Commercial Spaces: 332 spaces

A stepped architectural design ranging from 5 to 25 storeys, responding sensitively to the surrounding context and delivering design excellence.

Approximately 80,187m², achieving a Floor Space Ratio (FSR) of 4.55:1 across the 17,623.60m² site area.

Commercial Spaces: 8,025m² of commercial and retail uses, activating the ground plane and supporting employment opportunities.

Public and Communal Spaces:

- Communal Open Space: 61% of the site area.
- Deep Soil Zone: 9.3% of the site, contributing to urban greening.

Incorporation of Ecologically Sustainable Design (ESD) principles to enhance environmental performance, energy efficiency, and residential amenity.

This proposal aligns with the Castle Hill Strategic Centre's role as a key residential and commercial hub within the Greater Sydney Region Plan. Its proximity to Castle Hill Metro Station and bus services supports transit-oriented development, delivering much-needed affordable housing and high-quality urban living to the area.

OVERALL VISION

NATURAL CONNECTION TO COUNTRY

The site's natural visual relationship with Castle Hill's historical tributary formations and rich ecological communities has been disrupted with industrial roads emphasis. Our vision strives to rejuvenate and reconnect the site's natural visual relationship with landscape, ecology, and instil direct connectivity, which has seeped through the cracks. Through a collaborative design process, we integrate shared knowledge into all facets of our design, fostering sustainable and inclusive spaces of belonging for Country, culture, and communities. These key design principles guide our steps to harmonise and pay respect to the Bidjigal people of the Dharug Nation, recognising the site's roots.

BIDJIGAL IDENTITY

Our vision for the site embraces the Bidjigal identity with a blending of community-minded residential living design at heart, and a material palette inspired by the locality, an homage to the traditional Dharug Country lands of the Cattai Creek and bordering brush forestry by Cumberland Plain.

RECIPROCITY AND PERMEABILITY

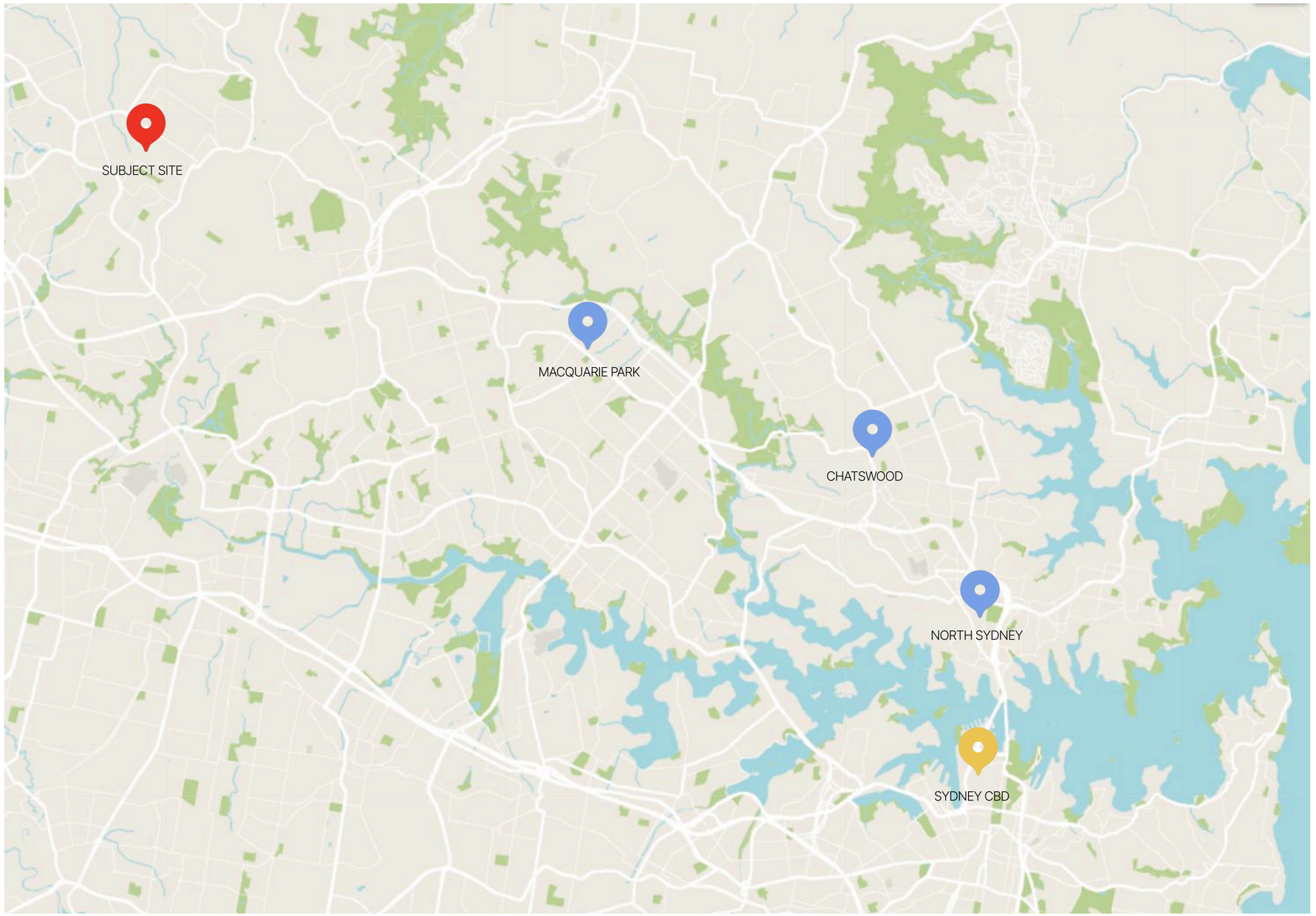
Taking inspiration from Country, our design seeks to harmonise built form with the landscape and honouring its natural rhythms. Water, as a symbol of the rolling heights of hills, informs the design, enhancing the connection through public domain spaces that narrate the story of Country. This is expressed through the reciprocity of collective works, such as facade art installations on buildings, the visual art to be applied to sunshade screening, pattern artwork to be embedded as part of the precast facade elements, and public art sculptures to encourage interaction and conversations. The proposal includes a public connection to the Metro via Roger Avenue on the southern side, creating a through-site link that acts as a canvas for storytelling.

DESIGN GROUP

01

CONTEXT & PLACE

SITE LOCALITY



The subject site is 93-107 Cecil Avenue and 9-10 Roger Avenue, Castle Hill, bound on the north-east by Cecil Avenue as the primary frontage, on the south by Roger Avenue, and on the west by Old Northern Road. It is located in the southern section of the Caste Hill precinct.

The site is currently occupied by a number of medium-density residential sites.

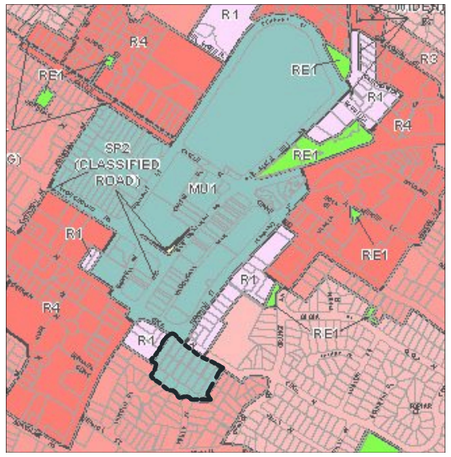
The site is located within approximately:

– 450m/7 minute walk Castle Hill Medical Centre
– 750m/10 minute walk to Castle Towers Shopping Centre
– 800m/10 minute walk to Castle Hill Station

Regionally, the site is also highly accessible to other metropolitan regional centres and sub-centres:

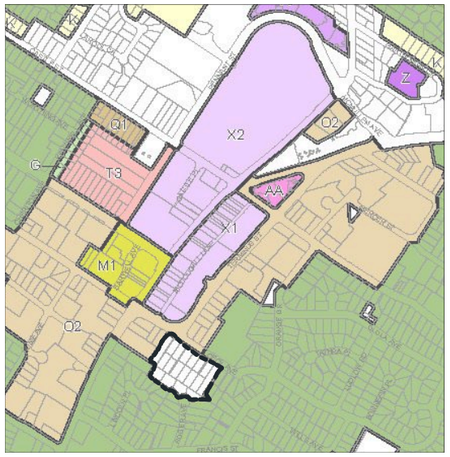
– 15 minute drive/13 minute Metro to Macquarie Park
– 15 minute drive/25 minute Metro to Hornsby
– 20 minute drive/20 minute Metro to Chatswood
– 25 minute drive/27 minute Metro to North Sydney
– 30 minute Metro to Sydney CBD

PLANNING CONTEXT



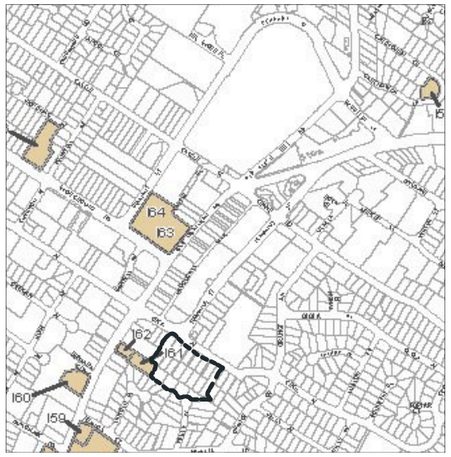
Land Zonning

MU1 - Mixed use



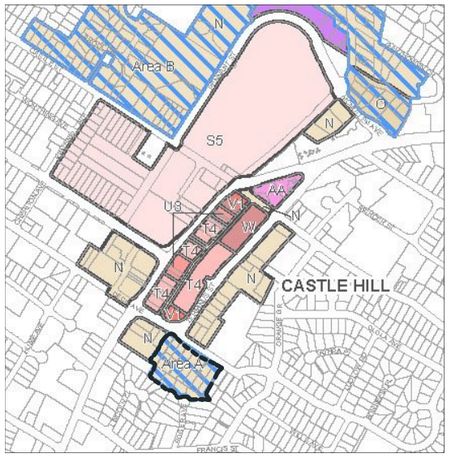
Height of Buildings

N/A



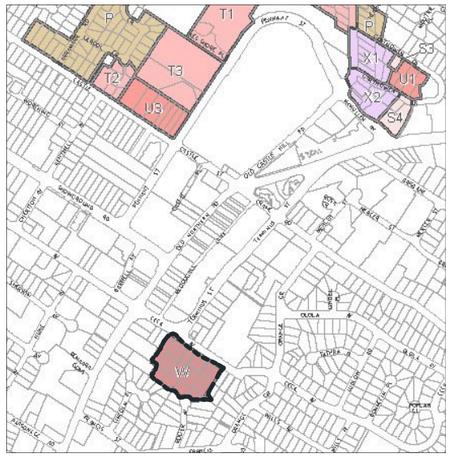
Heritage

N/A



Floor Space Ratio

Area A



Floor Space Ratio Incentive

W - 3.5:1

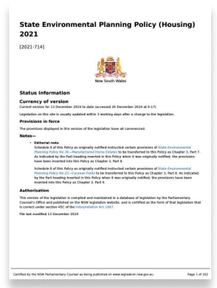
The Hills Local Environment Plan (LEP) 2019


The Hills Local Environmental Plan 2019

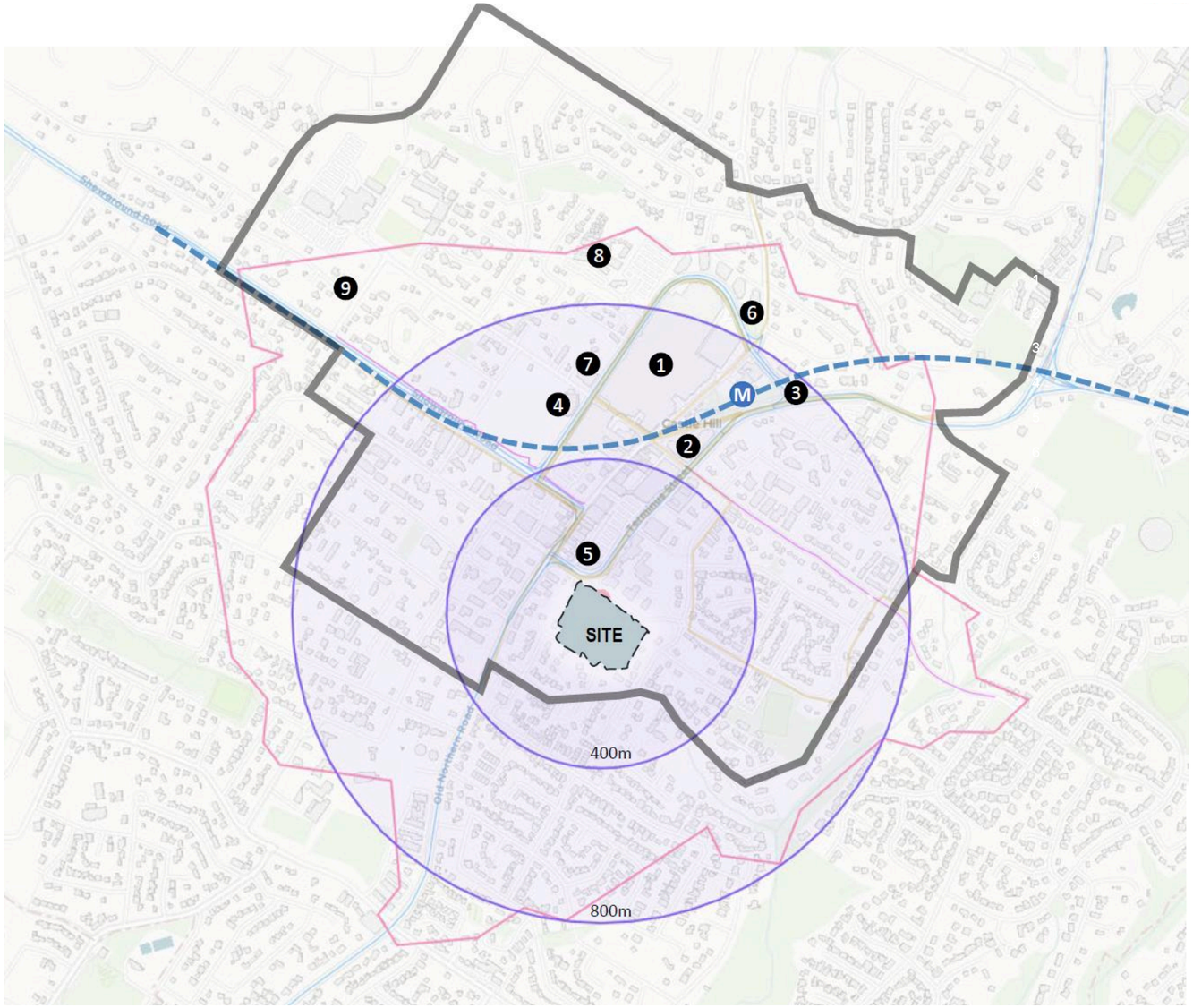
The Hills Development Controls Plan (DCP) 2012

The Hills Precinct Plan

Housing SEPP (HSEPP) 2021


State Environmental Planning Policy (Housing) 2021

URBAN CONTEXT



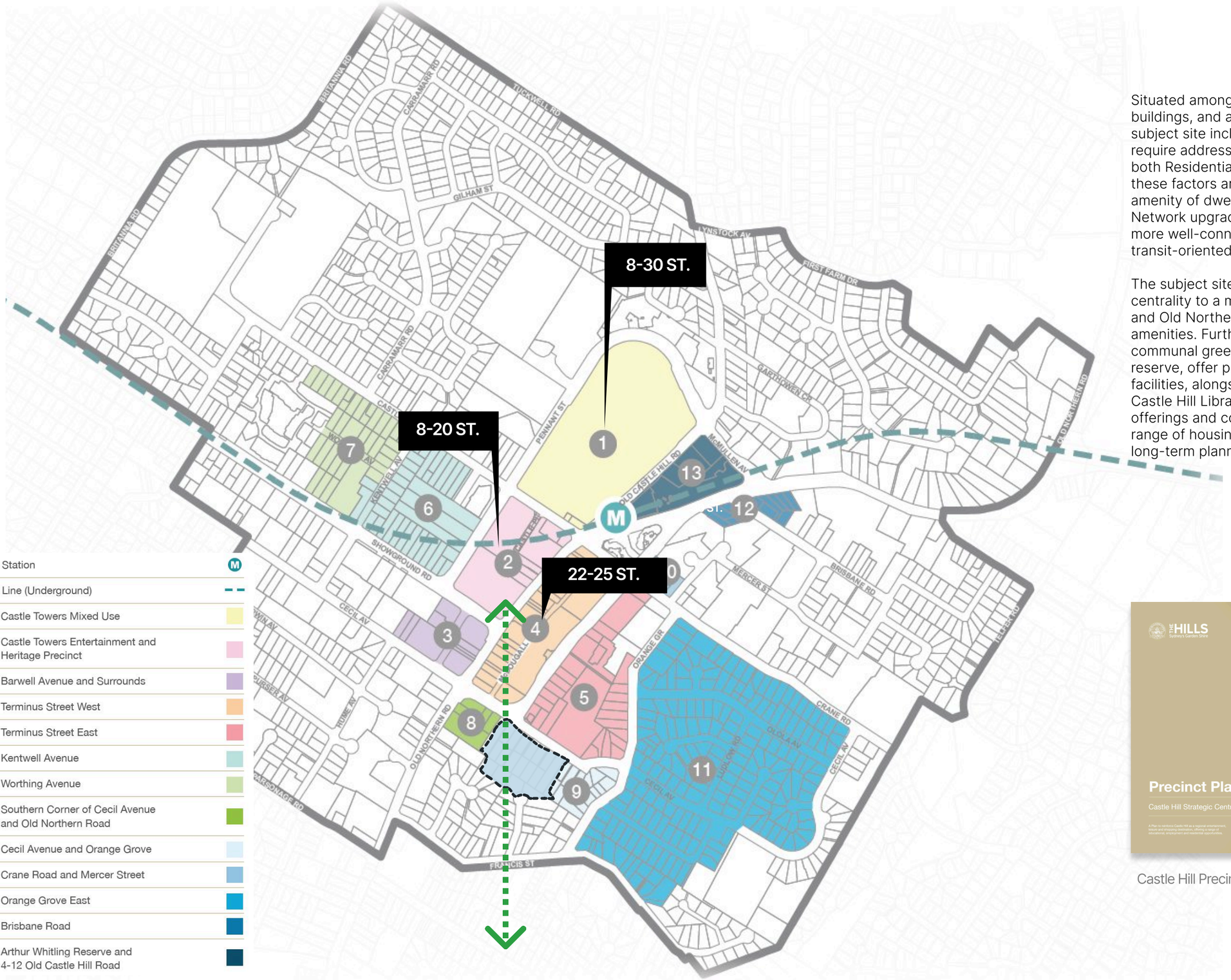
Castle Hill has undergone significant commercial and retail growth in response to trends of increasing population density, with majority of land usage residential and parkland. Castle Hill's growth is further aided by its location in Sydney's inner north-west along the North West Rail Line, diversifying transport links to expand connectivity across Sydney. These factors present family-friendly offerings, shifting the demographic to include a larger portion of families comprised of diverse cultures and backgrounds.

The subject site is situated at a leisurely walk 700m to the south west of Castle Towers and the Castle Hill Railway Station. The frontages of Cecil Avenue, the primary frontage, and Roger Avenue, a cul-de-sac running north-south and connecting to Francis Street, offers quietened areas away from the Old Northern Road arterial and Terminus Street junction.

1. Castle Towers Shopping Centre
2. Castle Hill Community Centre
3. Arthur Whitling Park Reserve
4. Castle Hill Library
5. Castle Hill Hospital
6. Eric Fenton Reserve
7. Castle Hill Police Station
8. Castle Hill Public Station
9. Castle Hill High School

METRO LINE
METRO STATION
CASTLE HILL STRATEGIC CENTRE
15 MINUTES WALK FROM SITE
400-800m RADIAL DISTANCE FROM SITE
BUS ROUTES (CURRENT)
BIKE LANE (CURRENT)
ARTERIAL ROAD

FUTURE URBAN CONTEXT



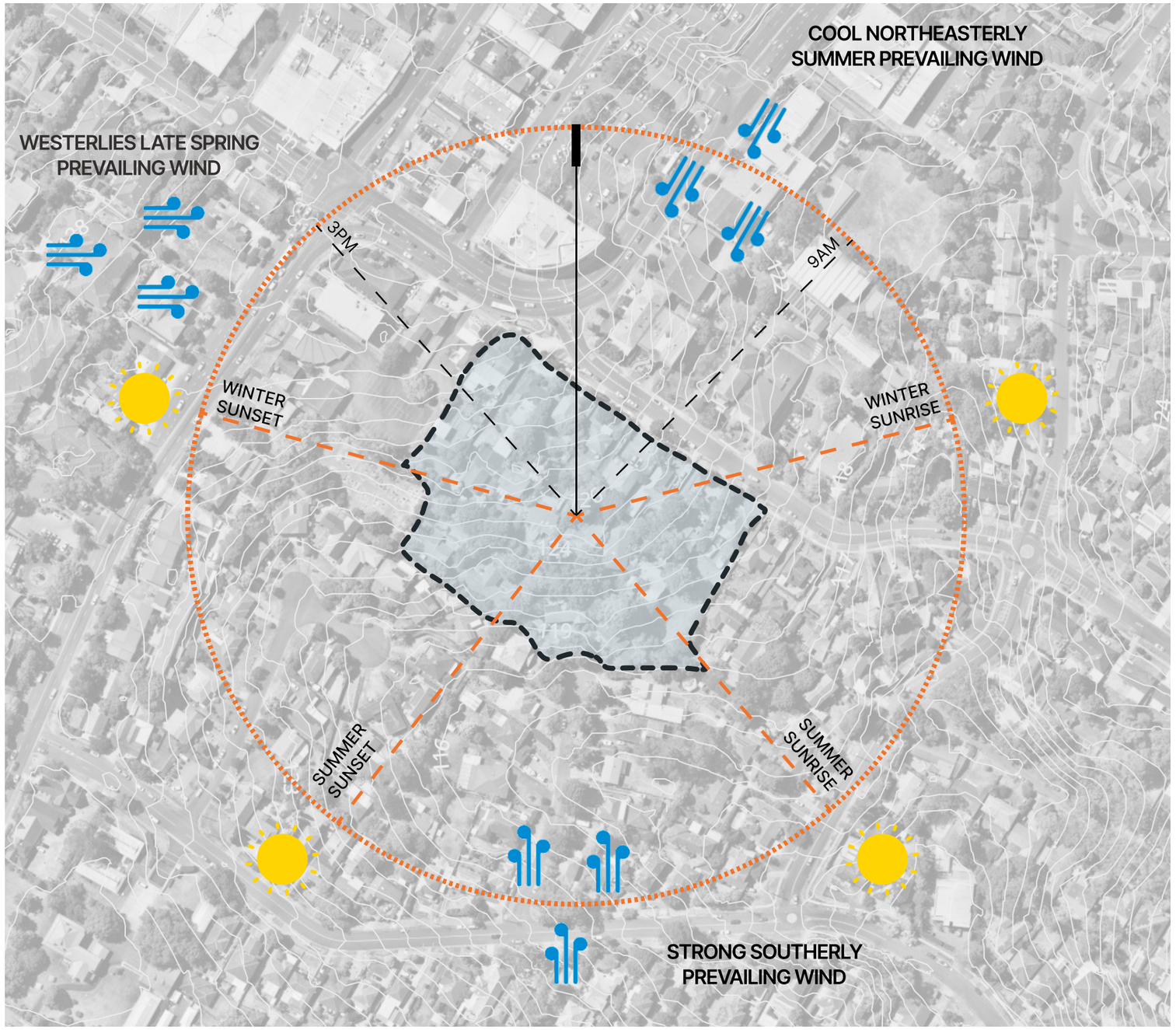
Metro Station	M
Metro Line (Underground)	
1 Castle Towers Mixed Use	
2 Castle Towers Entertainment and Heritage Precinct	
3 Barwell Avenue and Surrounds	
4 Terminus Street West	
5 Terminus Street East	
6 Kentwell Avenue	
7 Worthing Avenue	
8 Southern Corner of Cecil Avenue and Old Northern Road	
9 Cecil Avenue and Orange Grove	
10 Crane Road and Mercer Street	
11 Orange Grove East	
12 Brisbane Road	
13 Arthur Whitling Reserve and 4-12 Old Castle Hill Road	

Situated amongst low- to high-density residential buildings, and adjacent in public parkland spaces, the subject site includes a range of interfaces which require addressing. With neighbouring sites zoned both Residential and Mixed Use, consideration for these factors are necessary in future-proofing the amenity of dwellings. Additionally, Active Transport Network upgrades are expected, ensuring a safer and more well-connected pedestrian network in the transit-oriented centre.

The subject site's adjacent commercial areas and centrality to a major intersection of Terminus Street and Old Northern Road provides convenient location amenities. Furthermore, the site's close proximity to communal green spaces, such as Greenup Park reserve, offer passive and active recreational facilities, alongside community facilities such as Castle Hill Library. Castle Hill's existing parkland offerings and commercial hubs, combined with a range of housing options align with The Hills Shire's long-term planning goals.

Castle Hill Precinct Plan 11 June 2024

ENVIRONMENTAL CONTEXT



Climate

The site is surrounded by low- to high-rise buildings, enjoying year-round solar access. In summer, cool winds descend from the north-east, while in winter, colder winds prevail from the south.

Views

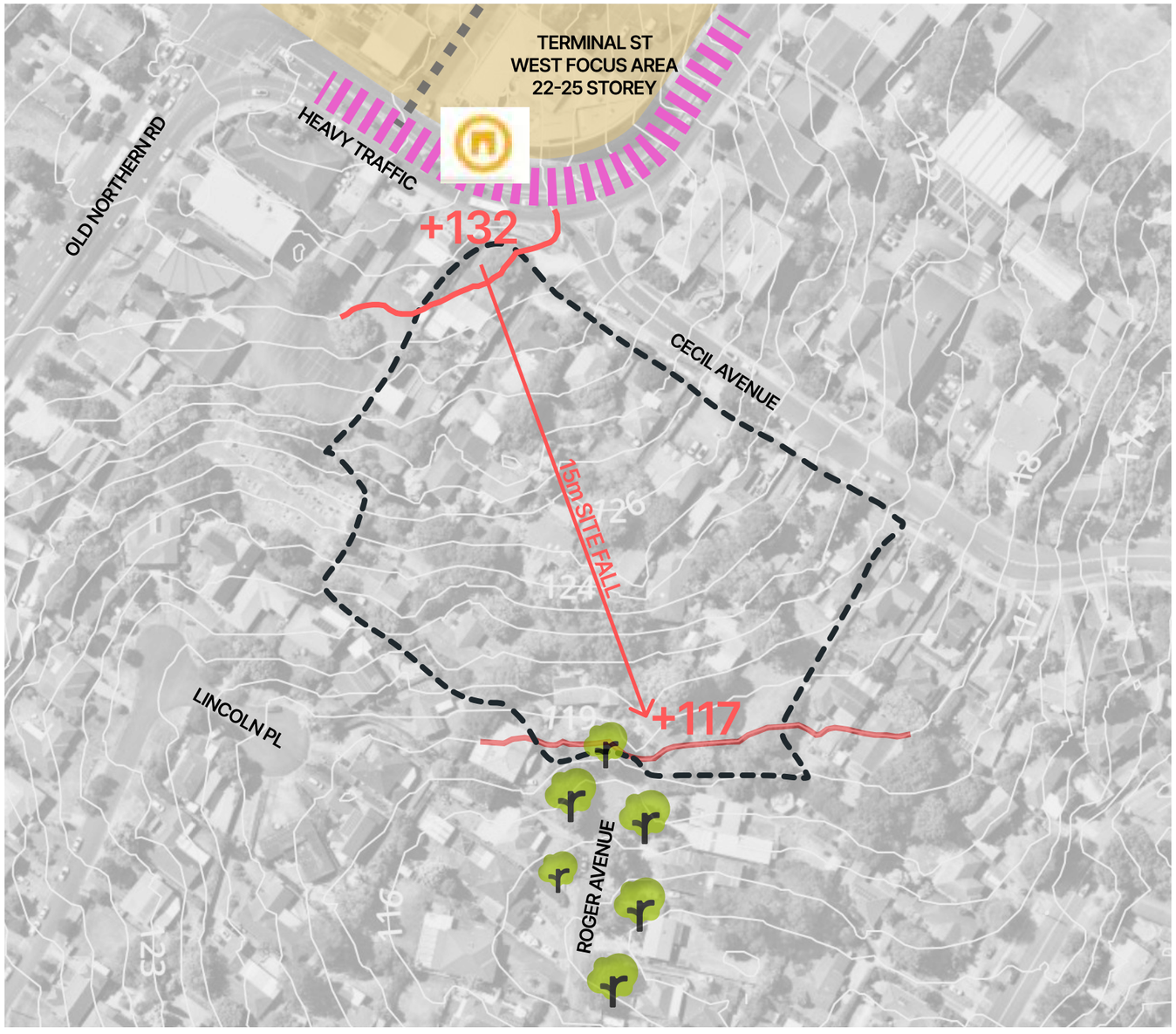
At higher elevations, the subject site features view of surrounding green corridor parklands, including the Cumberland State Forest to the east, and the Castle Hill Business Centre.

Pedestrian and Vehicular Access

Vehicles will be able to enter through Cecil Avenue frontage. The Cecil Avenue road features active pedestrian-friendly frontages along its length given the close proximity to the arterial road intersection along Terminus Street and Old Northern Road. Paved pathways ensure an accessible and safe public domain for thoroughfare.

OPPORTUNITIES & CONSTRAINTS

Revitalisation of Main Street / McDougall Lane Eat Street



CONSTRAINTS

Connectivity
Situated by the Old Northern Road arterial, the site's pedestrian access may be restricted due to limited crossing in key areas from Terminal Street West. Additionally, there is potential traffic noise introduced from close distance to the main road.

Site Orientation
The site boundary is irregular from the Roger Avenue frontage, with various angles of land, which may pose challenges for efficient apartment planning.

Geographical
Castle Hill's Southern topography has a high level of variability, with the site falling 15m from the corner of Old Northern Road and Cecil Avenue across to the ridge of Roger Avenue.

OPPORTUNITIES

Proximity to Infrastructure
The site's positioned a short walk to major retail centres and key public transportation access points, including the Castle Hill Metro Station and bus stops.

Site Orientation
The natural sitting and orientation to North of the site combined with unique site shape massively reduces shadow impact.

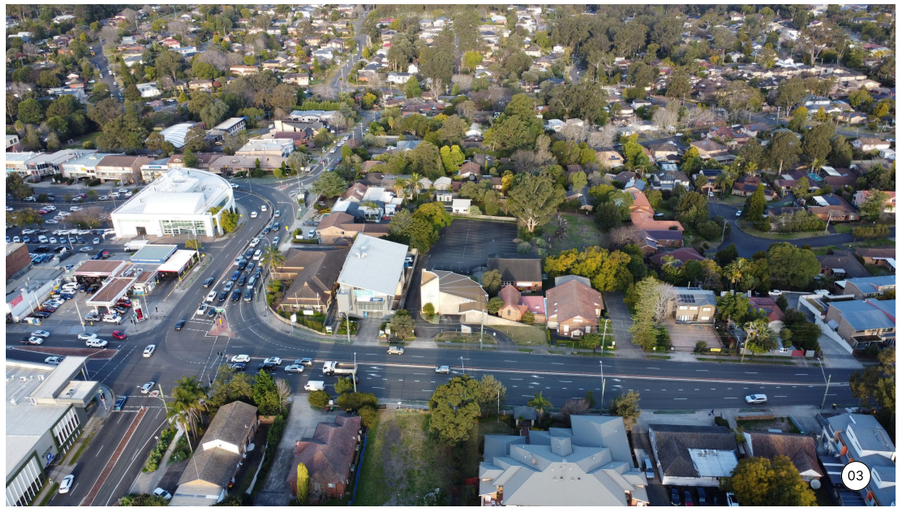
Geographical
Elevated site land offers a natural transitioning of building form and height, following the contour of the site.

Public Space Enhancement
The site delivers a public through-site link between north and south Castle Hill through a green corridor extension, providing a connection to the McDougall Lane main street via the Terminus Street junction.

LOCAL CHARACTER

Cecil Ave - South West Facing

Roger Ave - Aerial North Facing

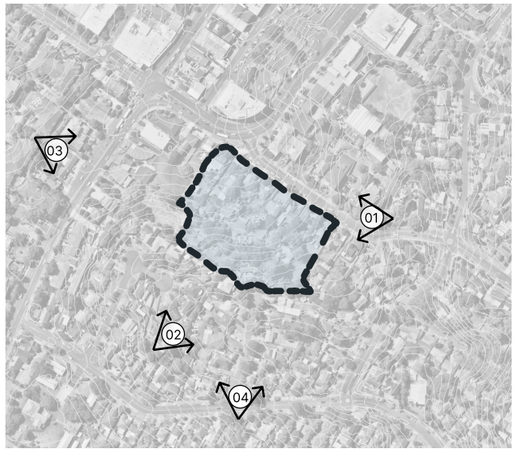


Old Northern Road - Aerial East Facing

Roger Ave - Aerial North West Facing

The eastern boundary of the site is located on the Old Northern Road, a major historic arterial featuring four lanes of traffic.

With close walkable proximity to various parkland green spaces such as Greenup Park reserve, the site has the potential to overlook with district views from all orientations a key opportunity for the site.



LOCAL CHARACTER

Roger Ave - North Facing

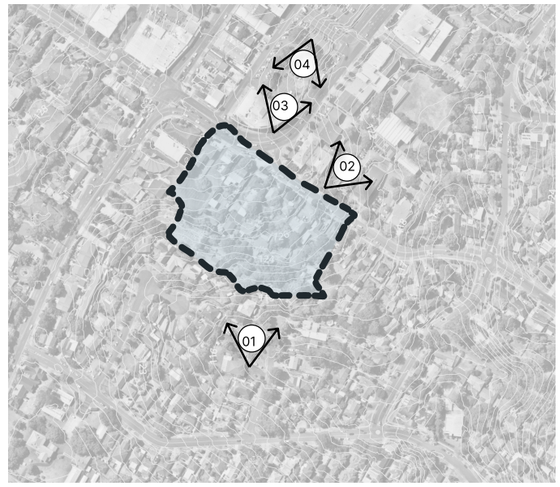
Cecil Ave - North Facing

Terminus St - South Facing

Terminus St - North Facing

The local character surrounding the site is diverse. The Castle Hill Station interface along the Old Castle Road features the underground Metro Station, alongside the high-rise Castle Towers.

Surrounding the site are low-scale commercial buildings. Along Roger Avenue, there is an existing established tree canopy, that provides additional shade and contributes positively to the character of the area.



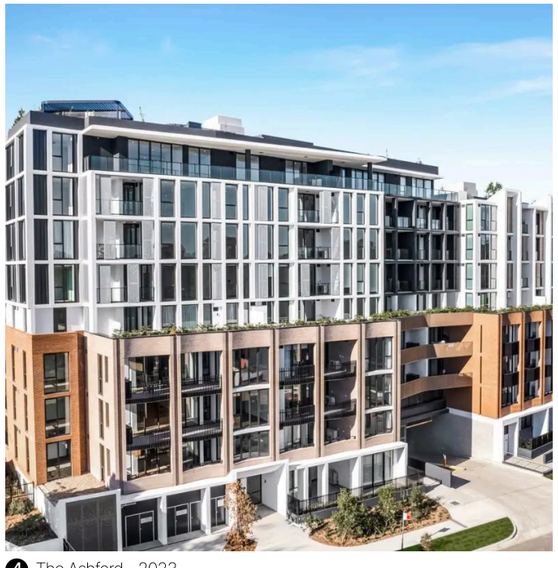
SURROUNDING BUILT ENVIRONMENT

1 Atmosphere - 2018

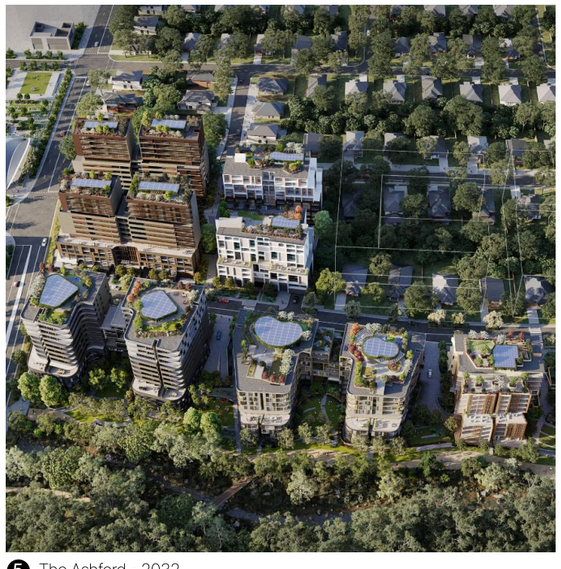
2 Grand Reve - 2024

3 Skyview - 2026

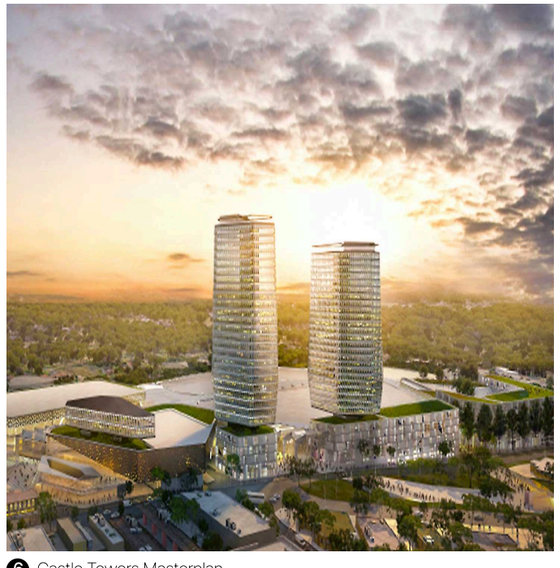
Castle Hill's strategic location near the Metro station and the North West Rail Link corridor, coupled with projected population growth, positions it as a key area for higher-density development. Designated as a 'Major Centre' in A Plan for Growing Sydney, Castle Hill supports the social needs of the surrounding community with access to facilities, services, and leisure options. Future development will focus on apartment living around the retail/ commercial core, offering high-density housing, increased job opportunities, and improved transport links, making it a high-growth area with a diverse range of services.



4 The Ashford - 2023



5 The Ashford - 2032



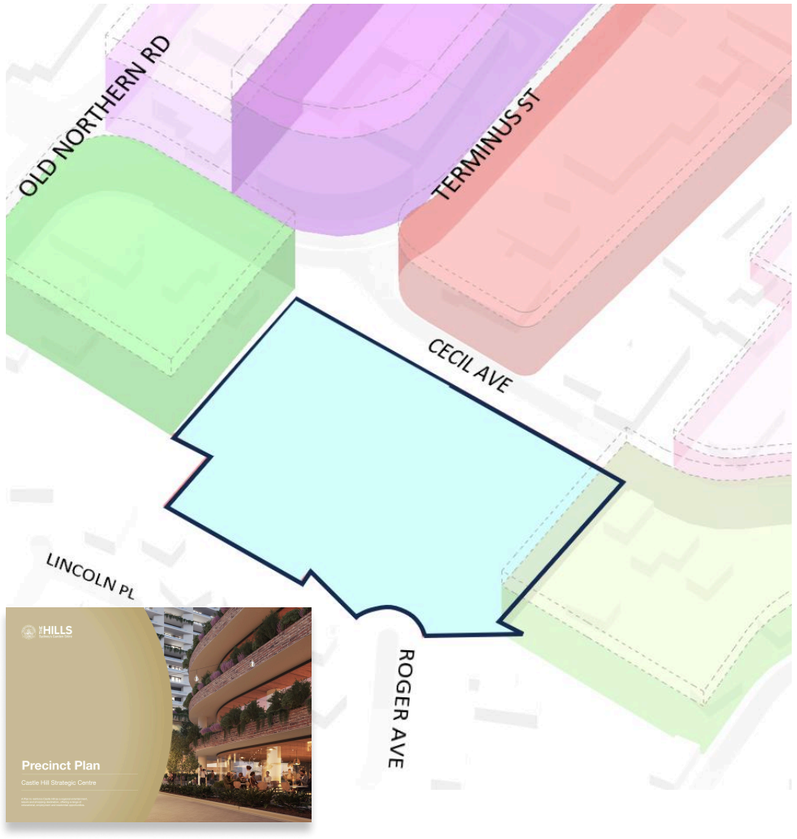
6 Castle Towers Masterplan

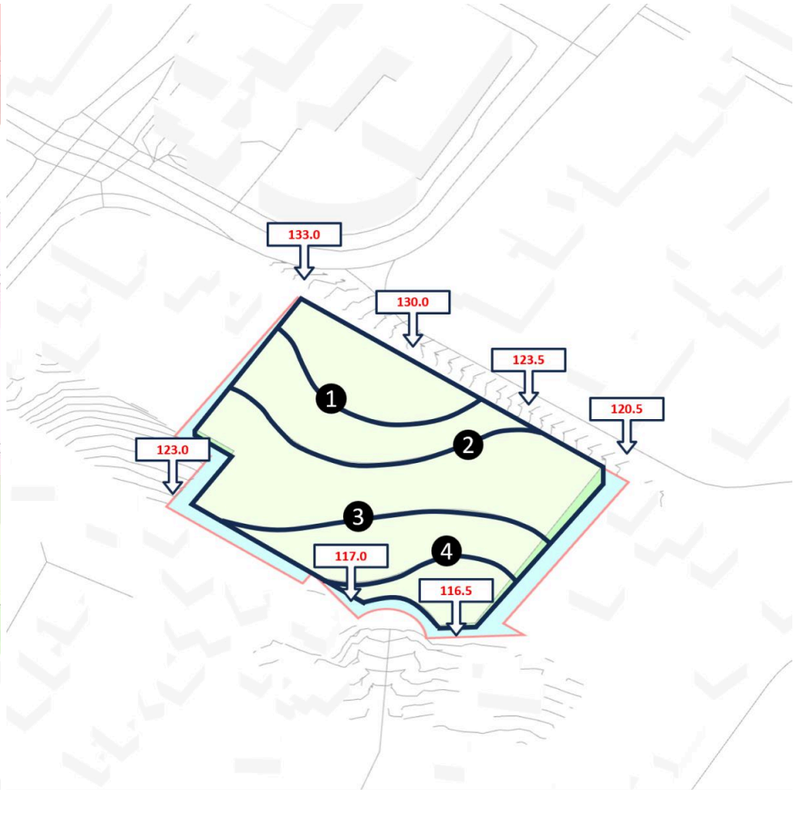
DESIGN GROUP

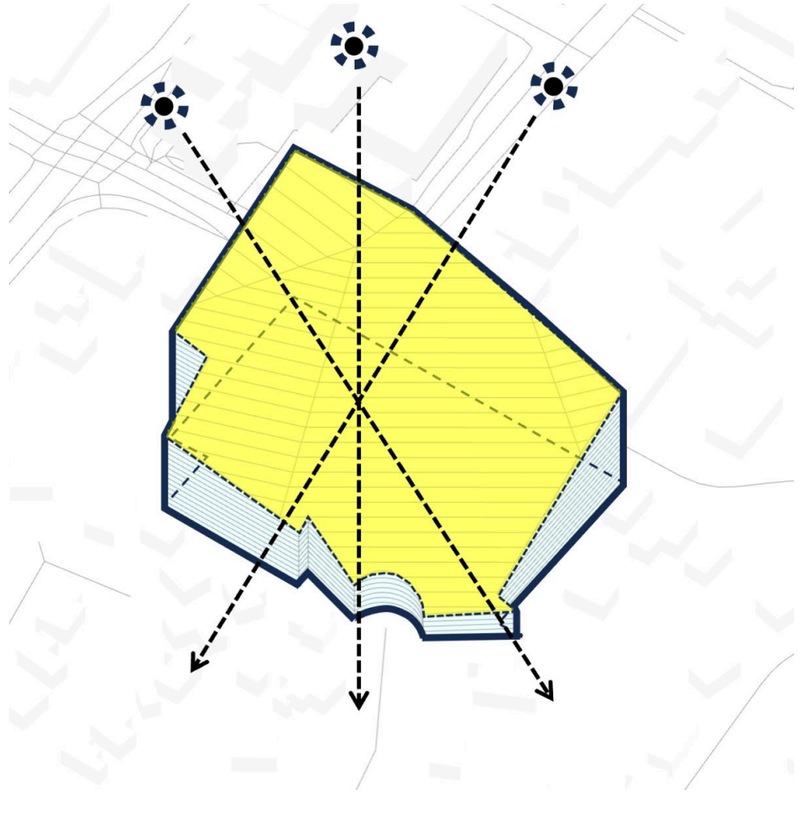
02

BUILT- FORM + URBAN DESIGN RESPONSE

DESIGN RATIONALE







SITE

The subject site is surrounded by a varied skyline of building heights and forms, with landscaping, setbacks, plazas, and building separation.

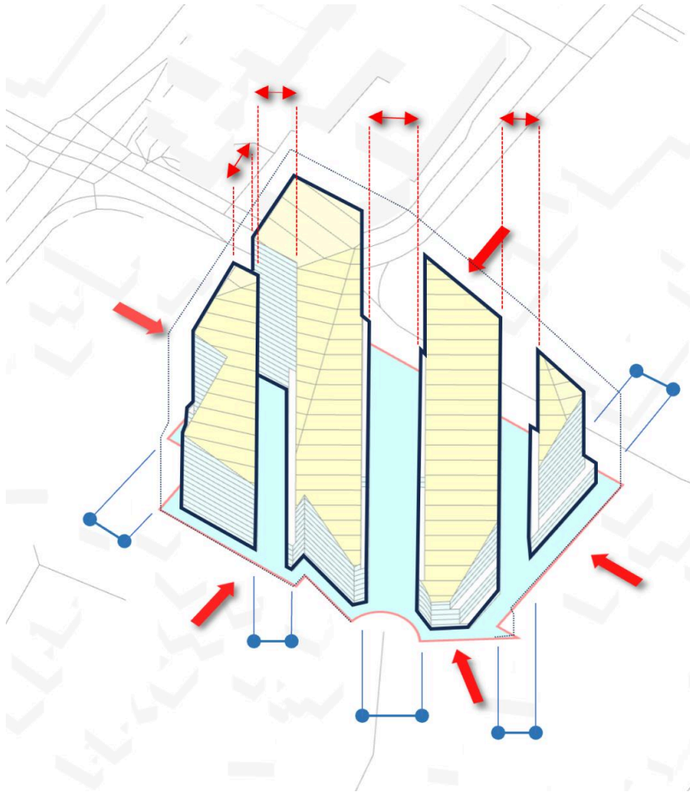
GROUND PLANE

The subject site typology falls 15m from RL133.0 at Terminus Street and Cecil Avenue junction to RL117.0 at Roger Avenue ridge.

SOLAR PLANE

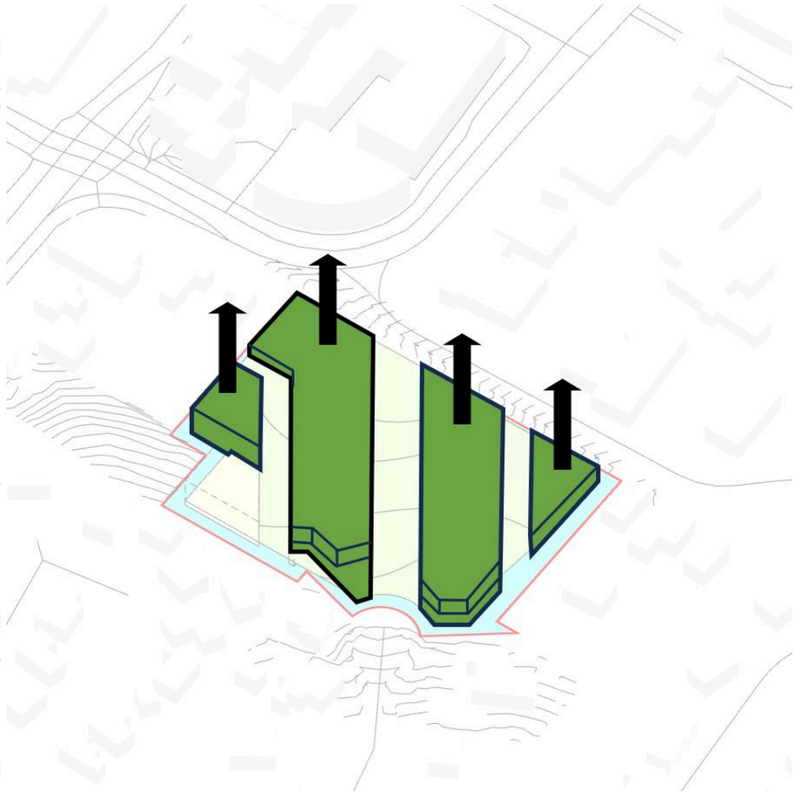
The site recognises the importance of solar access to neighbouring sites.

DESIGN RATIONALE



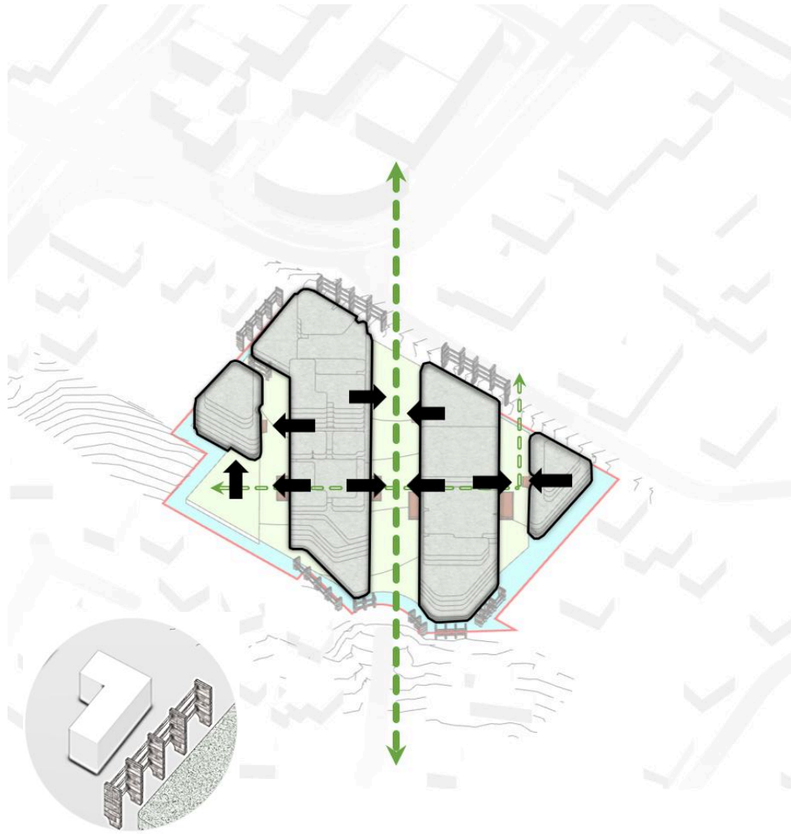
SETBACK & SEPARATION

The subject site complies with the Development Control Plan amd Apartment Design Guide controls .



GREEN PODIUM

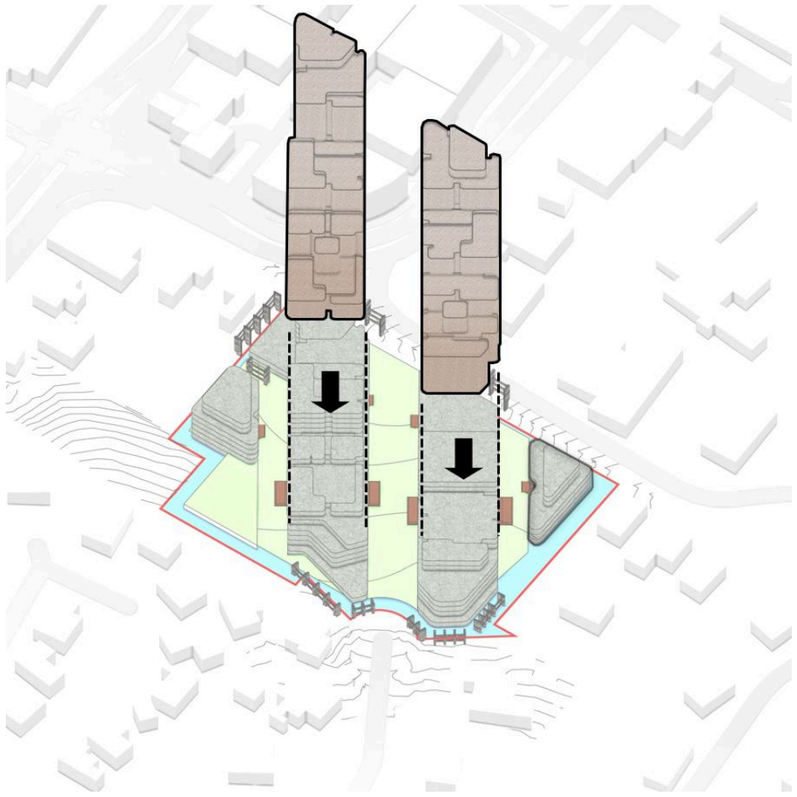
The landscape podium base provides green space within the subject site area.



HUMAN SCALE & WAYFINDING

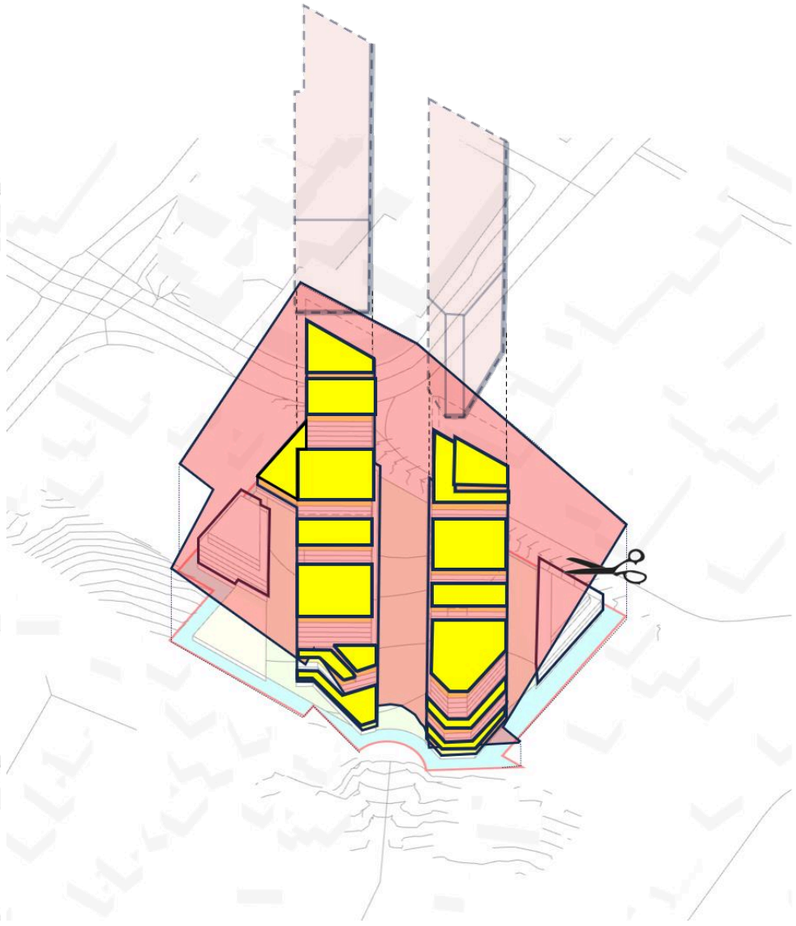
The subject site is human scale with clear wayfinding design between buildings and through-site link.

DESIGN RATIONALE



TOWER MODULES

The subject site tower modules reinforce the focus of built forms along the key axis of the through-site link between north and south.



HEIGHT & SCALE

The site height and scale of tower over podium overlays sun plan to ensure neighbouring surrounds achieve solar amenity.

GREENING & CONNECTIVITY

The subject site features greening along the main axis and rooftop cascading terraces.

URBAN DESIGN PRINCIPLES

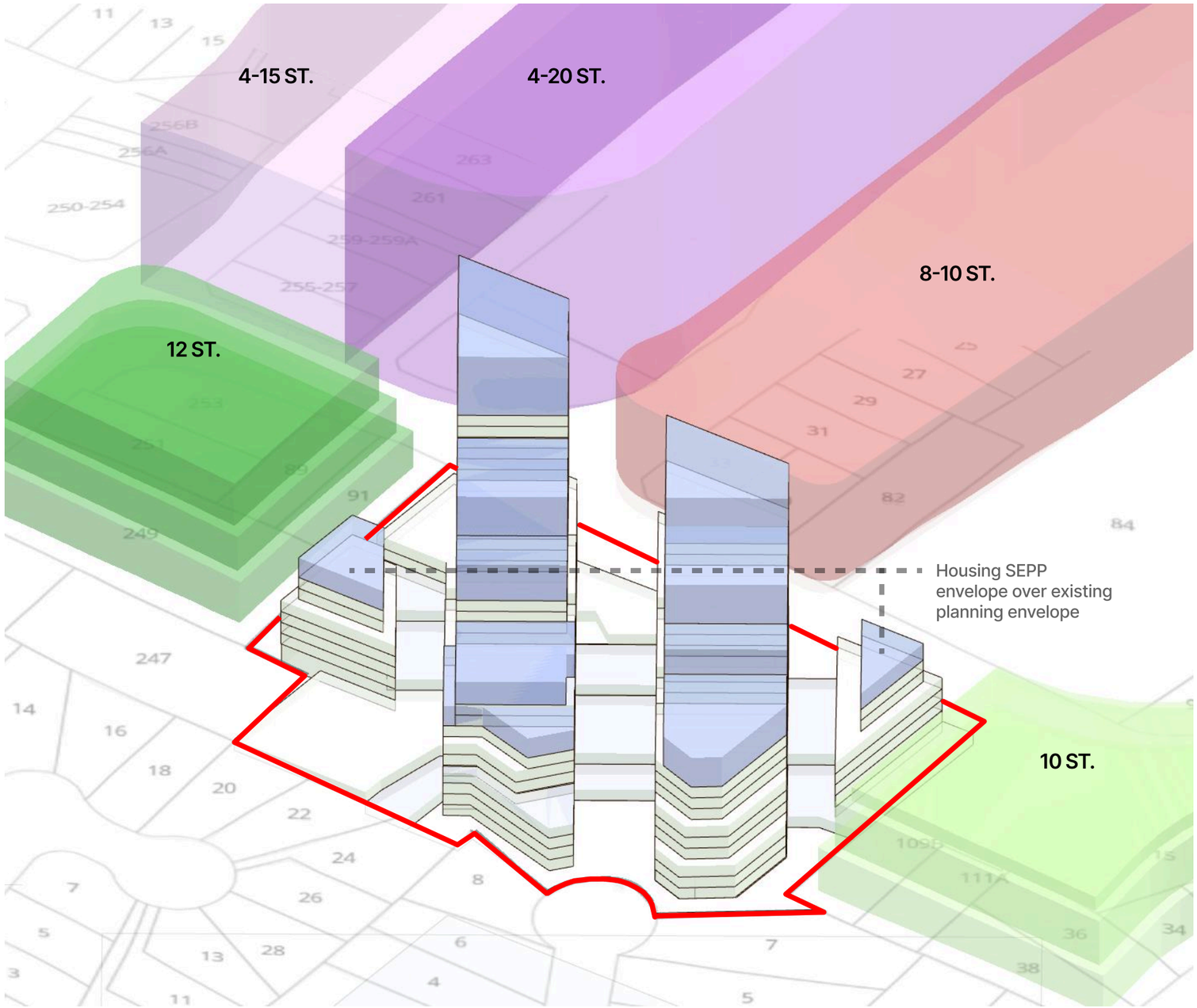
GREEN SPINE AND ENVELOPE

The green corridor within subject site along through-site link and bordering the site boundary enhances north-south connectivity.

HUMAN BIO-REGIONAL ECOSYSTEM

The subject site features various access points, both vehicular and pedestrian, as well as through the green corridor link enhanced through solar panels and green roofs.

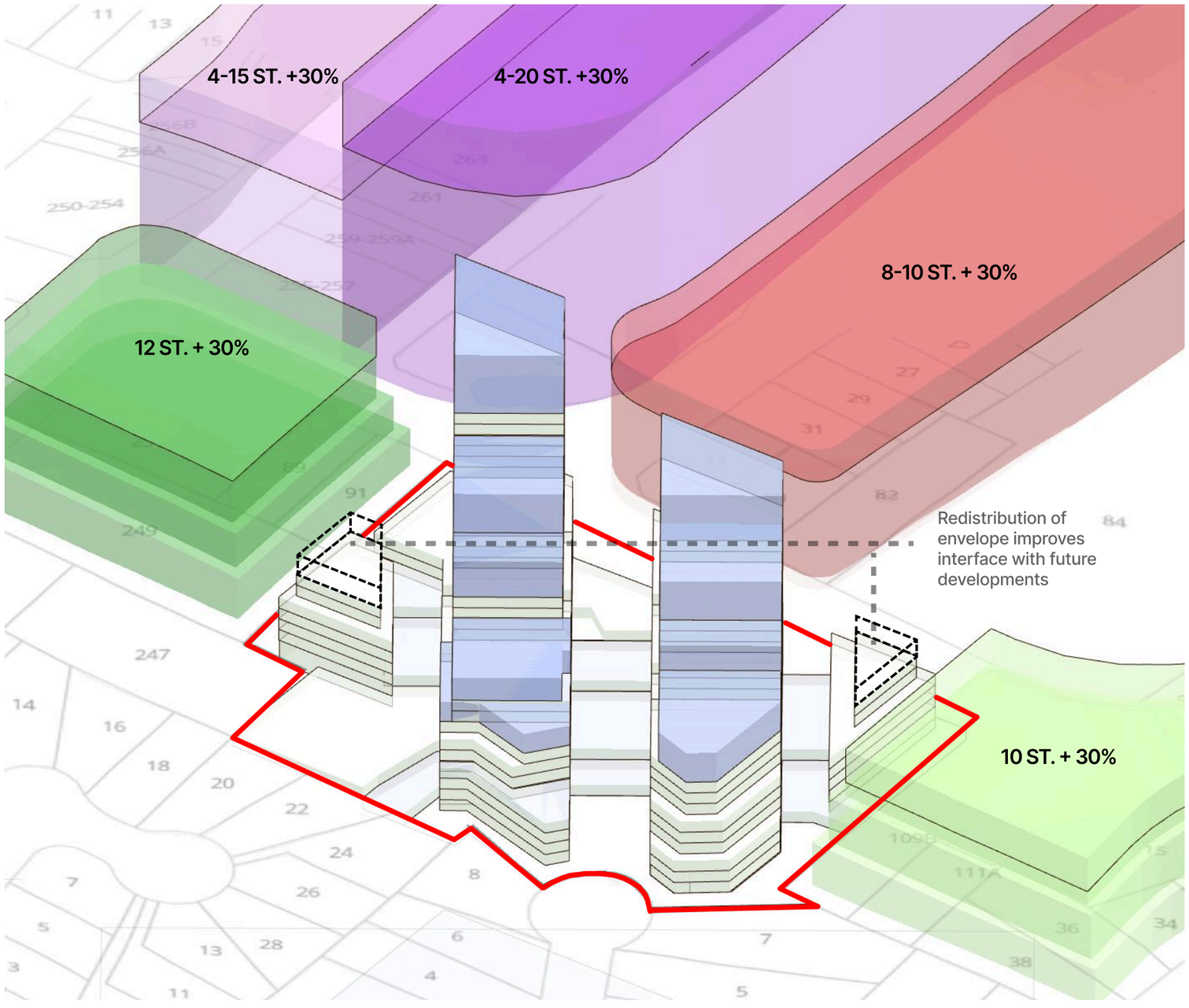
MASSING _PRECINCT PLAN VS HOUSING SEPP

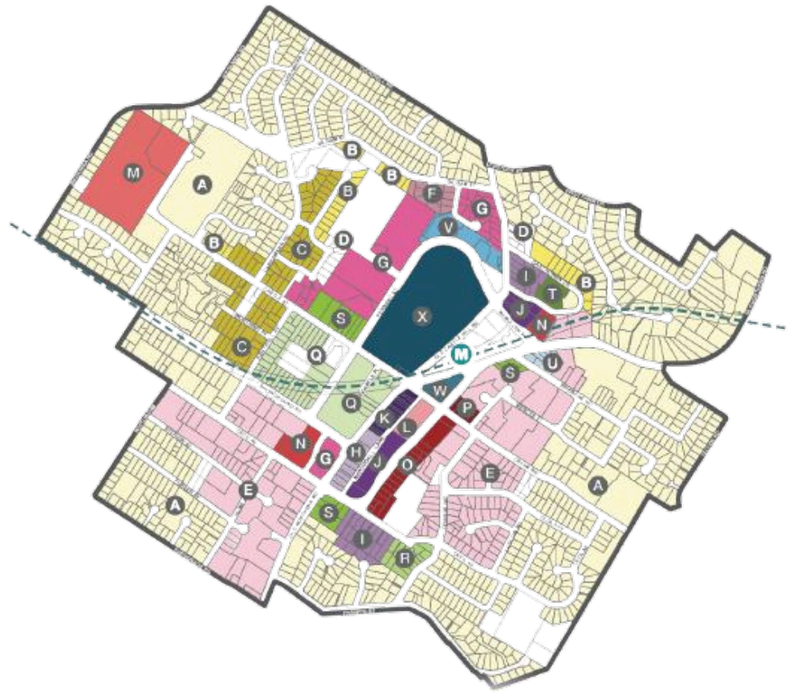


Metro Station	
Metro Line (Underground)	
Castle Hill Strategic Centre	
A 2-3 Storeys	
B 3 Storeys	
C 3-5 Storeys	
D 4-5 Storeys	
E 4-6 Storeys	
F 4-8 Storeys	
G 4-12 Storeys	
H 4-15 Storeys	
I 4-18 Storeys	
J 4-20 Storeys	
K 4-22 Storeys	
L 4-25 Storeys	
M 5-6 Storeys	
N 8 Storeys	
O 8-10 Storeys	
P 8-12 Storeys	
Q 8-20 Storeys	
R 10 Storeys	
S 12 Storeys	
T 13-18 Storeys	
U 16 Storeys	
V 18-23 Storeys	
W 20-21 Storeys	
X 8-30 Storeys	

Castle Hill Precinct Plan 11 June 2024

MASSING _ FUTURE CONTEXT





Metro Station	M	H 4-15 Storeys	
Metro Line (Underground)		I 4-18 Storeys	
Castle Hill Strategic Centre		J 4-20 Storeys	
A 2-3 Storeys		K 4-22 Storeys	
B 3 Storeys		L 4-25 Storeys	
C 3-5 Storeys		M 5-6 Storeys	
D 4-5 Storeys		N 8 Storeys	
E 4-6 Storeys		O 8-10 Storeys	
F 4-8 Storeys		P 8-12 Storeys	
G 4-12 Storeys			

Q 8-20 Storeys	
R 10 Storeys	
S 12 Storeys	
T 13-18 Storeys	
U 16 Storeys	
V 18-23 Storeys	
W 20-21 Storeys	
X 8-30 Storeys	

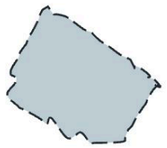
Castle Hill Precinct Plan 11 June 2024

DESIGN GROUP

03

COMPLIANCE

SUMMARY



SITE AREA
TOTAL

17,623.6m2

GROSS FLOOR AREA
PROPOSED TOTAL

80,187m2

Residential: 72,162m2
Commercial: 8,025m2

FLOOR SPACE RATIO
PROPOSED TOTAL

4.55:1

SOLAR ACCESS
ADG MINIMUM 70%

71%

UNITS
TOTAL

615

169 Affordable Units at
15% (12,032m2)

COMMUNAL OPEN SPACE
TOTAL

61%

DEEP SOIL
TOTAL

9.3%

CROSS VENTIALTION
ADG MINIMUM 60%

60.5%

CARPARKING BAYS
TOTAL

979

COMMERCIAL FLOOR SPACE
TOTAL

8,025m2

UNIT MIX SUMMARY

STUDIO	1 BED	2 BED	2 BED (>=110m2)	3 BED	3 BED (>=135m2)	4B	TOTAL
1	65	248	172	76	51	2	615
0.2%	10.6%	40.3%	28.0%	12.4%	8.3%	0.3%	100%

CLAUSE - AREA A

MAX STUDIO + 1B - 25%	MIN 40% ALL 2B>=110m2	MIN 40% ALL 3B>=135m2	MIN 20% 3B OR MORE
10.7%	41%	40.2%	21%

RESIDENTIAL GFA

Total Residential Floor Space: 72,162 m2

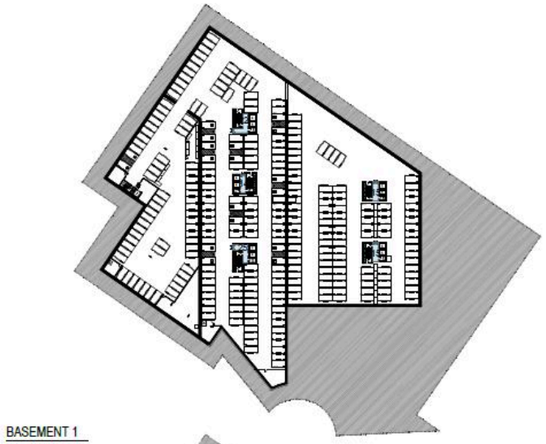
COMPLIES

Building A: 1,231 m2

Building B: 30,548 m2

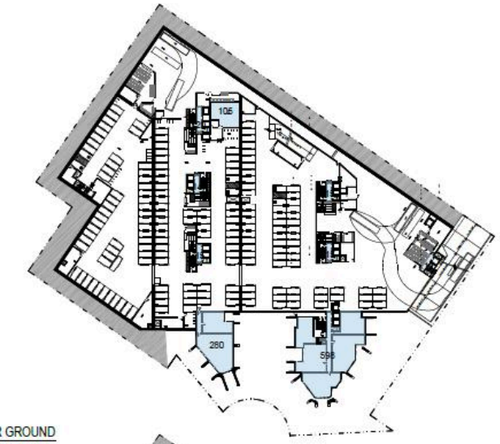
Building C: 38,783 m2

Building D: 1,600 m2

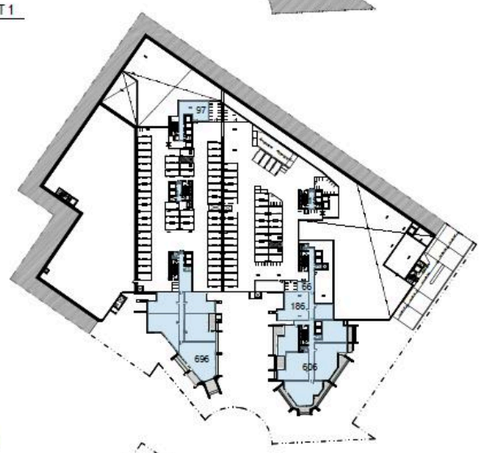


BASEMENT 1

BASEMENT 2



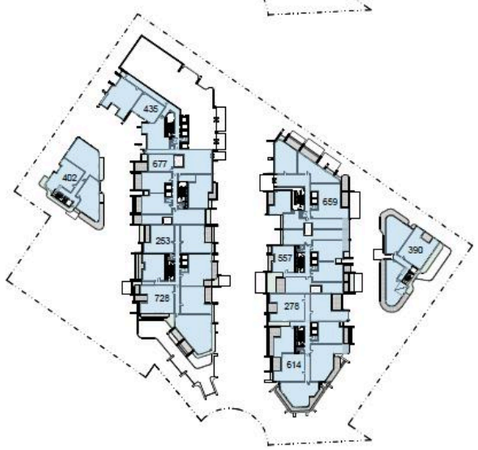
LOWER GROUND



GROUND

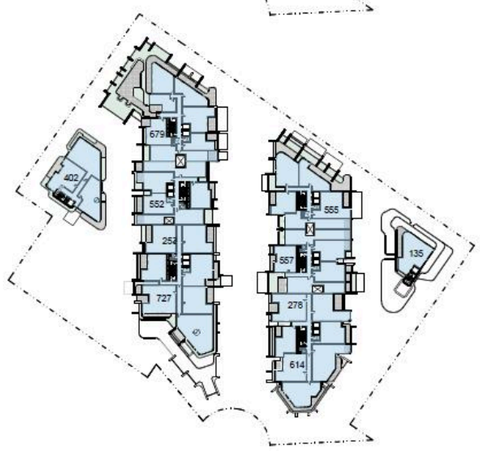
UPPER GROUND

LEVEL 1



LEVEL 2

LEVEL 3



LEVEL 4

RESIDENTIAL GFA

Total Residential Floor Space: 72,162 m2

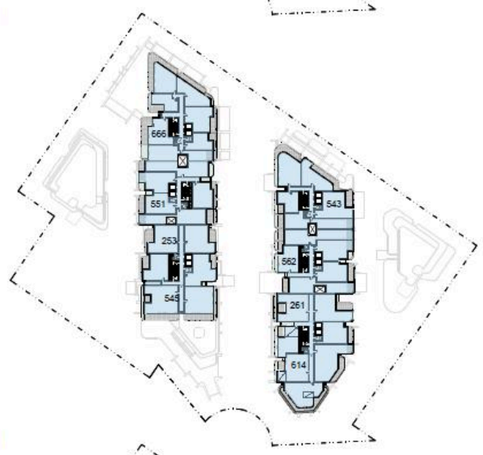
COMPLIES

LEVEL 05

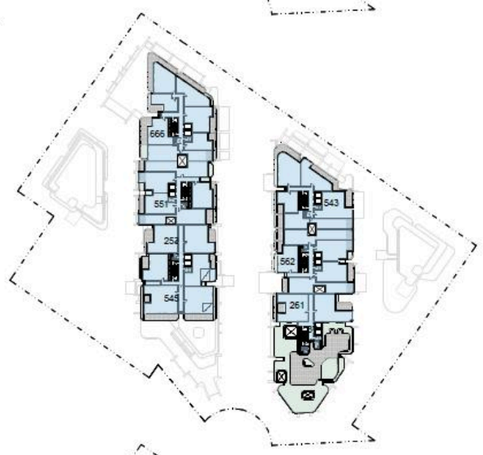
LEVEL 06

LEVEL 07

LEVEL 08



LEVEL 09



LEVEL 10

LEVEL 11

LEVEL 12

LEVEL 13

Building A: 1,231 m2

Building B: 30,548 m2

Building C: 38,783 m2

Building D: 1,600 m2

RESIDENTIAL GFA

Total Residential Floor Space: 72,162 m2

COMPLIES

LEVEL 14

LEVEL 15

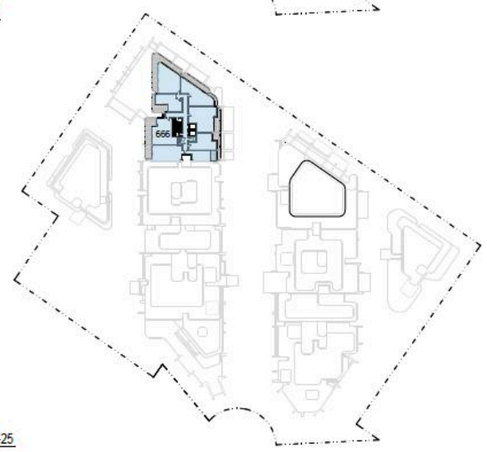
LEVEL 16

LEVEL 17

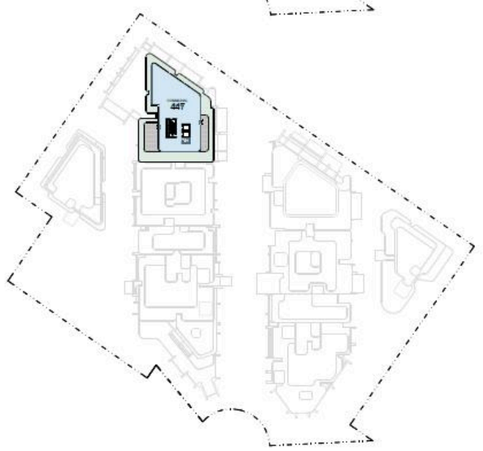
LEVEL 18

LEVEL 19

LEVEL 20



LEVEL 21-25



LEVEL 26

Building A: 1,231 m2

Building B: 30,548 m2

Building C: 38,783 m2

Building D: 1,600 m2

COMMERCIAL FLOOR SPACE

Total Commercial Floor Space: 8,025 m2

COMPLIES

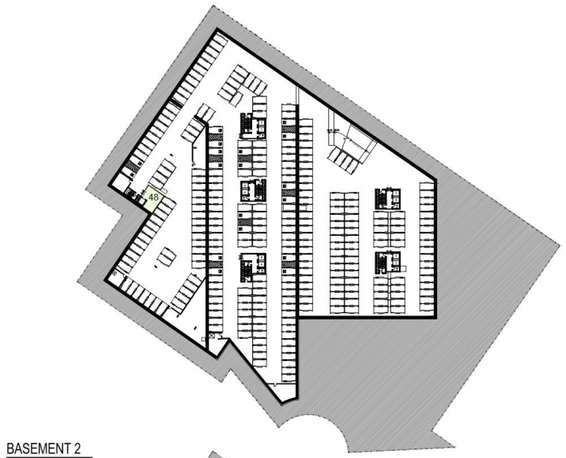
Minimum Requirement: 8,025m2

Building A: 130 m2

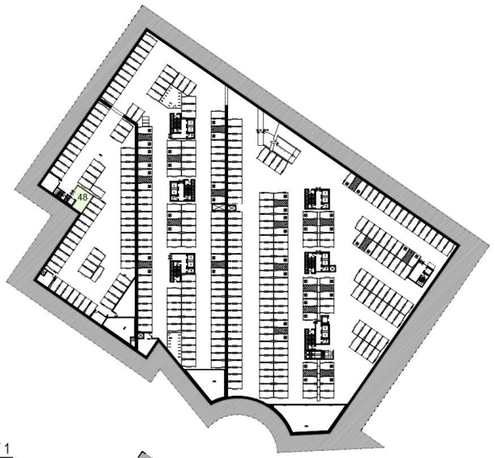
Building B: 1,658 m2

Building C: 2,135 m2

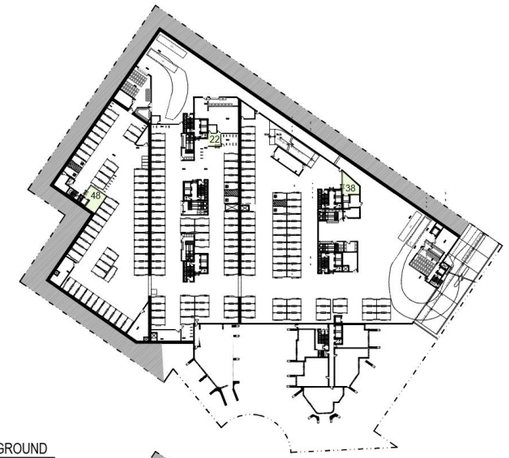
Building D: 4,102 m2



BASEMENT 2

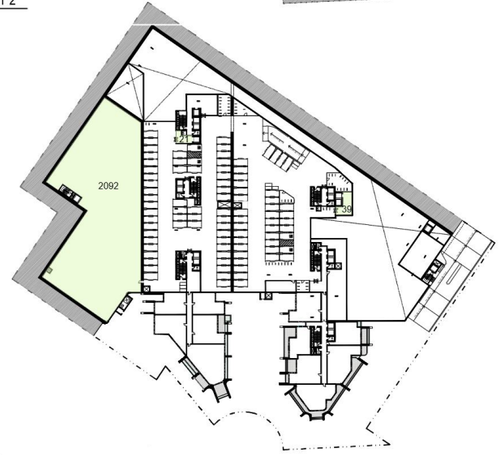


BASEMENT 1



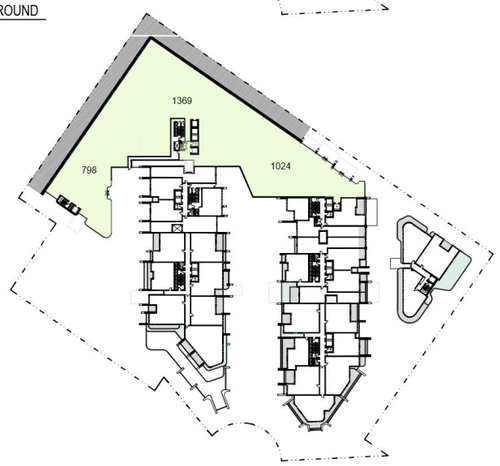
LOWER GROUND

LEVEL 2



GROUND

UPPER GROUND



LEVEL 1

SOLAR + CROSS VENTILATION

CROSS VENTILATION: 201/332 Apartment (60.54%)

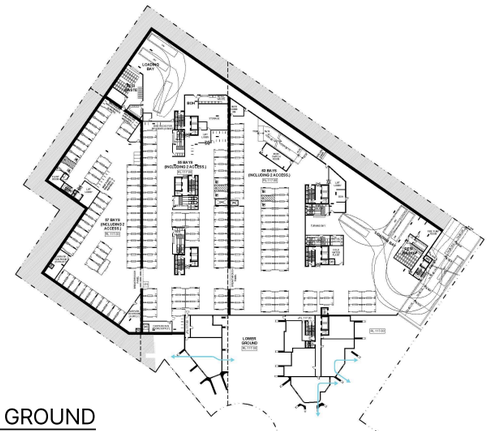
COMPLIES

Minimum Requirement: 60%
Apartments at 10 storeys or more are deemed to be cross ventilated

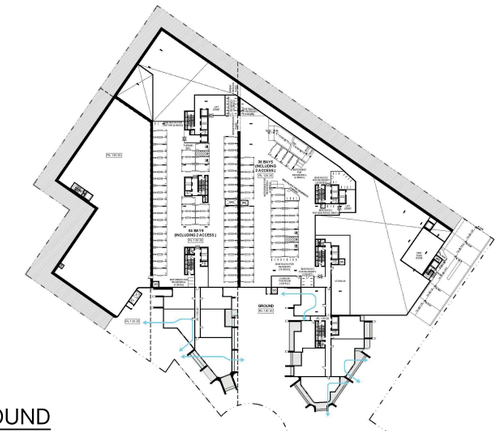
SOLAR: 437/615 Apartment (71.06%)

COMPLIES

Minimum Requirement: 70% 2hrs direct sun light during mid winter



LOWER GROUND



GROUND

UPPER GROUND

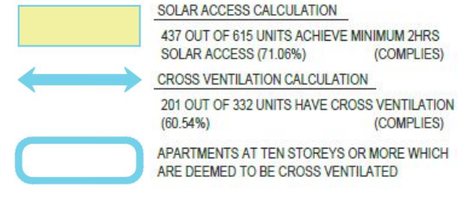
LEVEL 1

LEVEL 2

LEVEL 3

LEVEL 4

LEVEL 5



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COMPLIES

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SOLAR: 437/615 Apartment (71.06%)

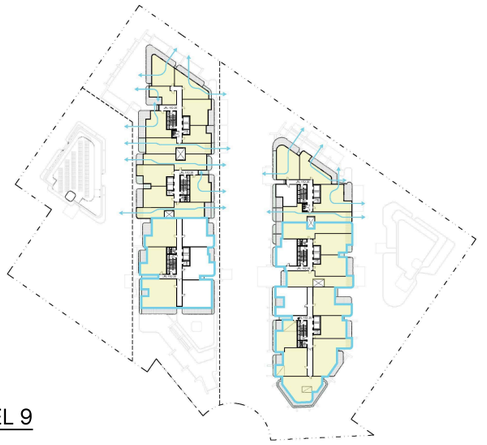
COMPLIES

Minimum Requirement: 70% 2hrs direct sun light during mid winter

LEVEL 6

LEVEL 7

LEVEL 8



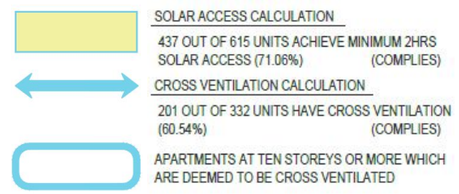
LEVEL 9

LEVEL 10

LEVEL 11

LEVEL 12

LEVEL 13



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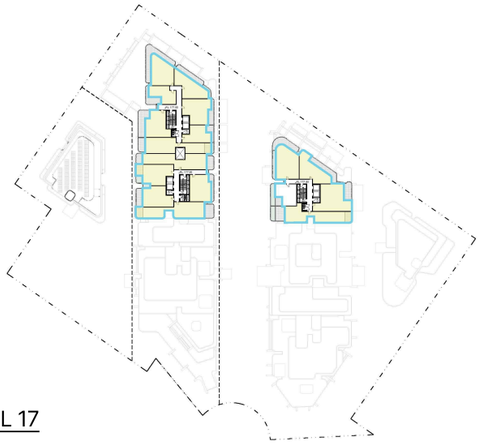
COMPLIES

Minimum Requirement: 70% 2hrs direct sun light during mid winter

LEVEL 14

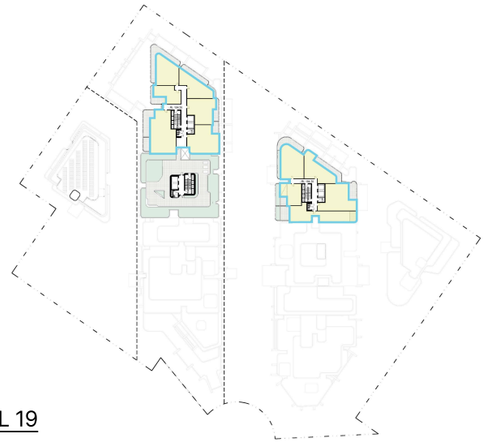
LEVEL 15

LEVEL 16



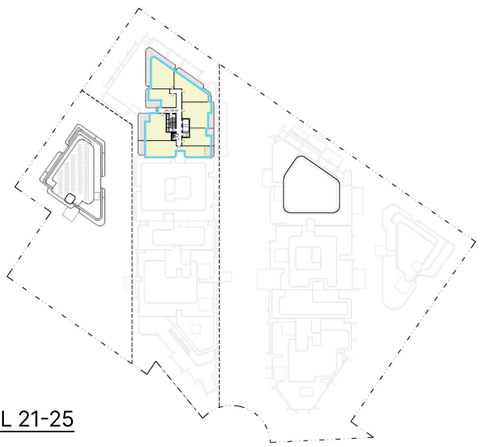
LEVEL 17

LEVEL 18

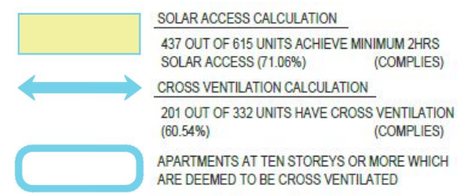


LEVEL 19

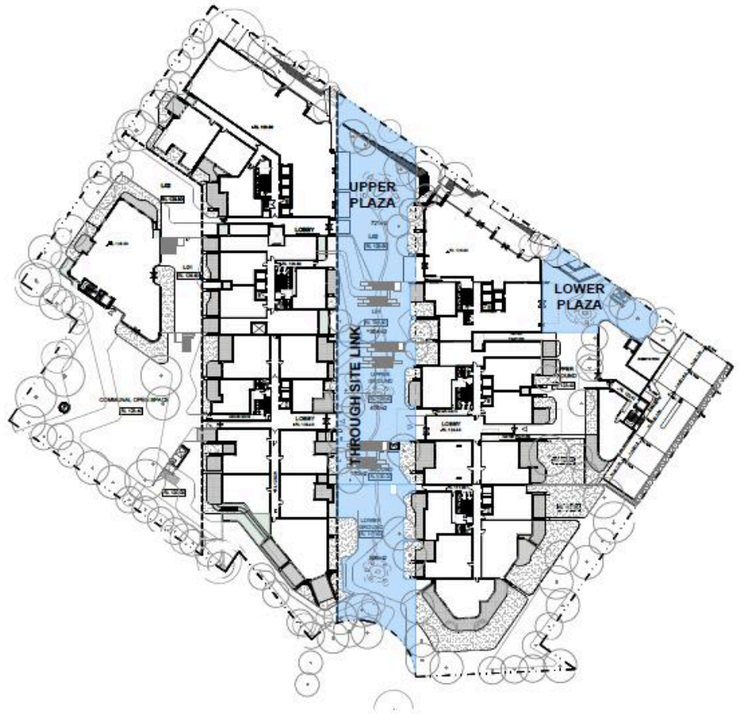
LEVEL 20



LEVEL 21-25



PUBLIC + COMMUNAL AMENITY



PUBLICLY ACCESSIBLE OPEN AREAS

COMMUNAL OPEN SPACE: GROUND LEVEL OPEN SPACE

Total Public & Communal Area: 10,749m2 (61%)

COMPLIES

Minimum Requirement: 25% of Site

Public Accessible Open Space:
2,723 m2

Ground Level Communal Open Space:
3,405 m2

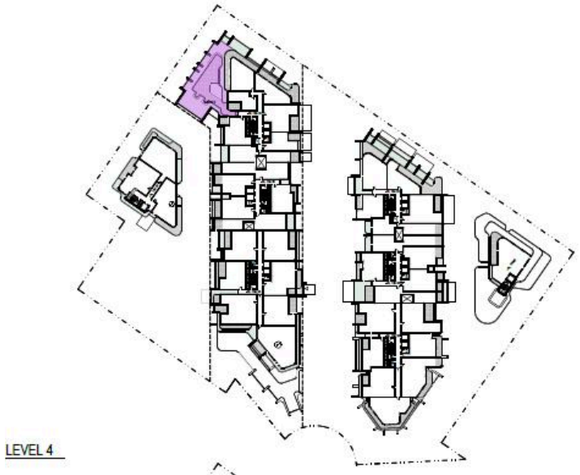
Rooftop Communal Open Space:
3,521 m2

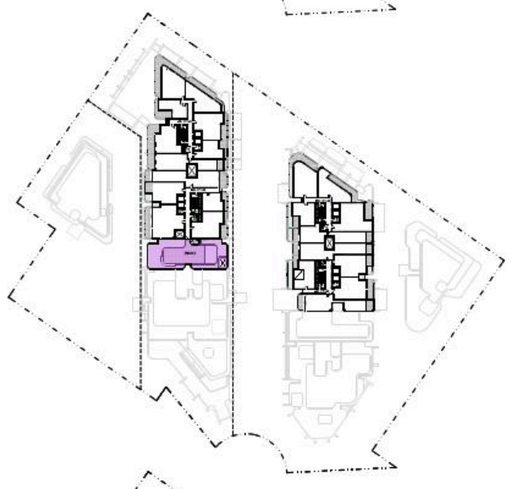
Communal Room:
1,100 m2

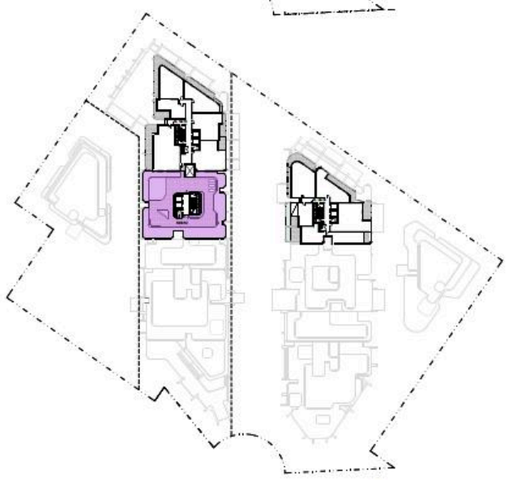
LEGEND

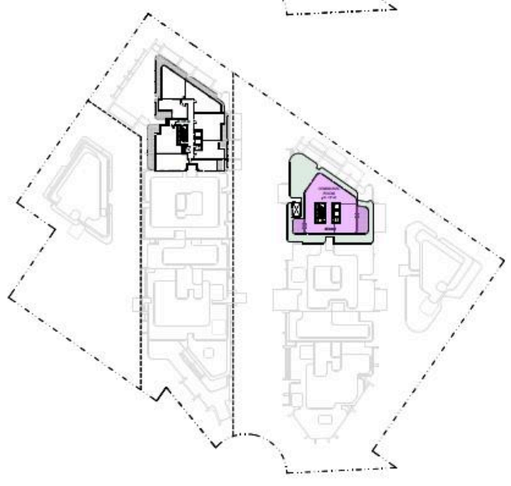
- PUBLIC ACCESSIBLE OPEN SPACE
- GROUND LEVEL COMMUNAL OPEN SPACE
- ROOFTOP COMMUNAL OPEN SPACE

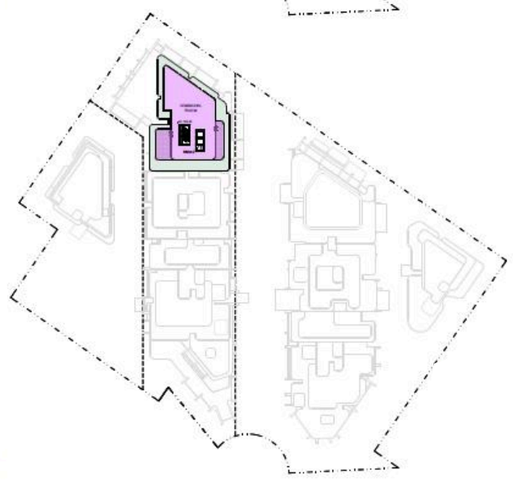
PUBLIC + COMMUNAL AMENITY











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Ground Level Communal Open Space:
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Rooftop Communal Open Space:
3,521 m2

Communal Room:
1,100 m2

LEGEND

- PUBLIC ACCESSIBLE OPEN SPACE
- GROUND LEVEL COMMUNAL OPEN SPACE
- ROOFTOP COMMUNAL OPEN SPACE

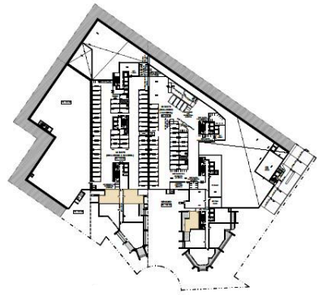
AFFORDABLE HOUSING UNIT

169 Apartments (12,032m2)

COMPLIES

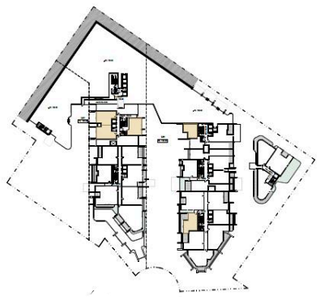
Minimum Requirement: 12,028.1 m2

LOWER GROUND

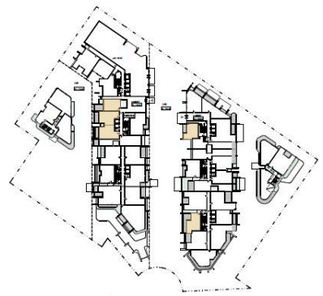


GROUND

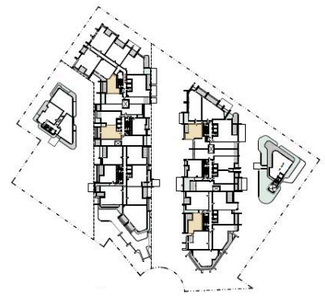
UPPER GROUND



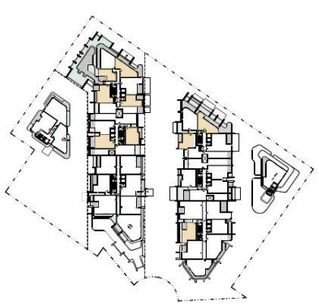
LEVEL 1



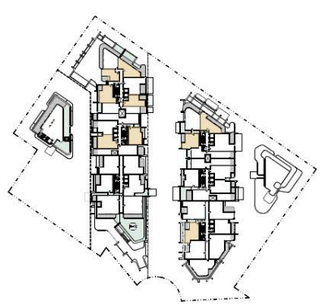
LEVEL 2



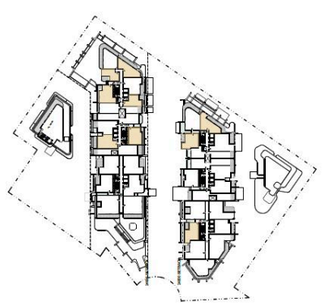
LEVEL 3



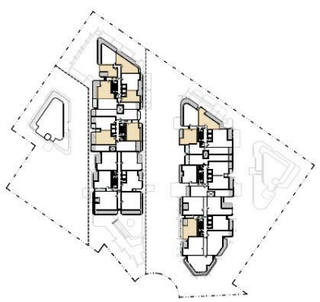
LEVEL 4



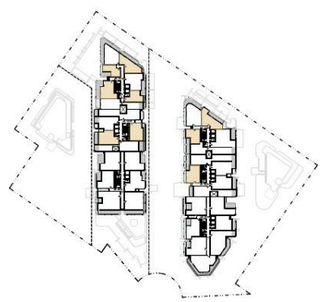
LEVEL 5



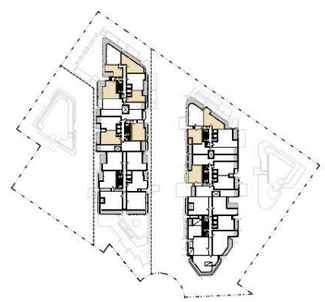
LEVEL 6



LEVEL 7



LEVEL 8



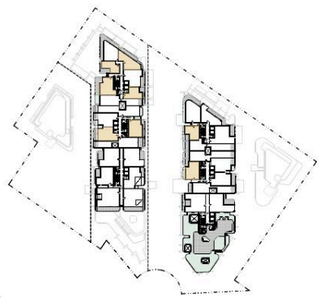
LEVEL 9

AFFORDABLE HOUSING UNIT

169 Apartments (12,032m2)

COMPLIES

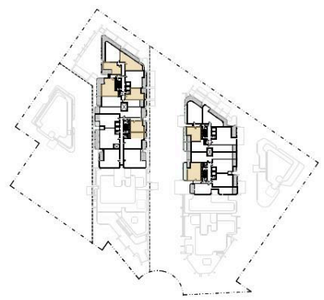
Minimum Requirement: 12,028.1 m2



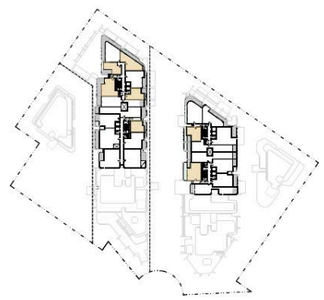
LEVEL 10

LEVEL 11

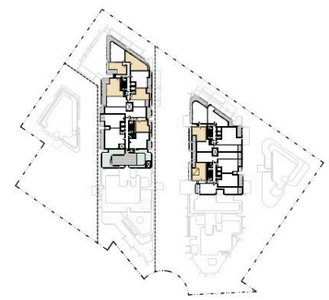
LEVEL 12



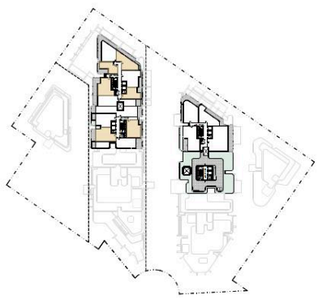
LEVEL 13



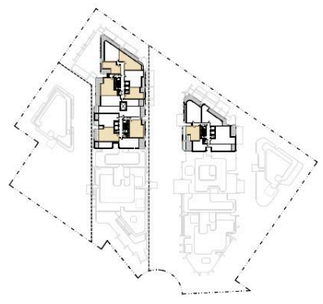
LEVEL 14



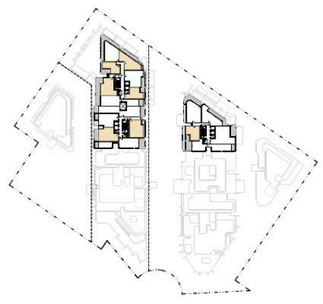
LEVEL 15



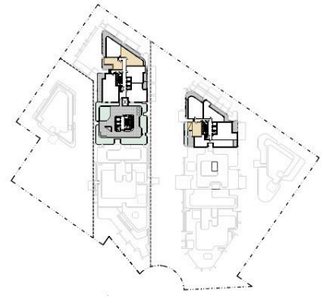
LEVEL 16



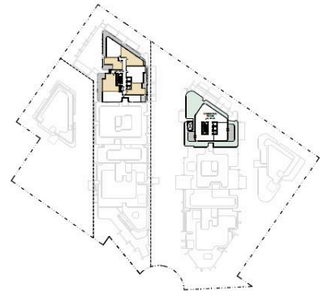
LEVEL 17



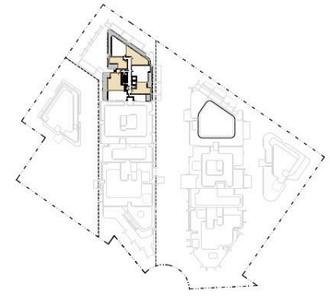
LEVEL 18



LEVEL 19



LEVEL 20



LEVEL 21-25

DESIGN GROUP

04

PUBLIC DOMAIN & COMMUNAL OPEN SPACE

LANDSCAPE VISION

In combination with Urban Design Principles, the proposal seeks to strengthen the connection between people and place through an interactive and integrated landscape.

An urban tree canopy achieves functional and aesthetic purposes, softening the built environment through lush native landscaping which cools these communal open spaces from urban heat.

Designed with the Castle Hill locale in mind, the green spaces encourage social connectedness. By engaging neighbourly care, stories can be shared, thus instilling a sense of belonging.

A Place for People

Creating places that are functioinal and usuable for residents and the public

Enhancing Urban Tree Canopy

Canopy mitigating urban heat island effect

A Connected Precinct

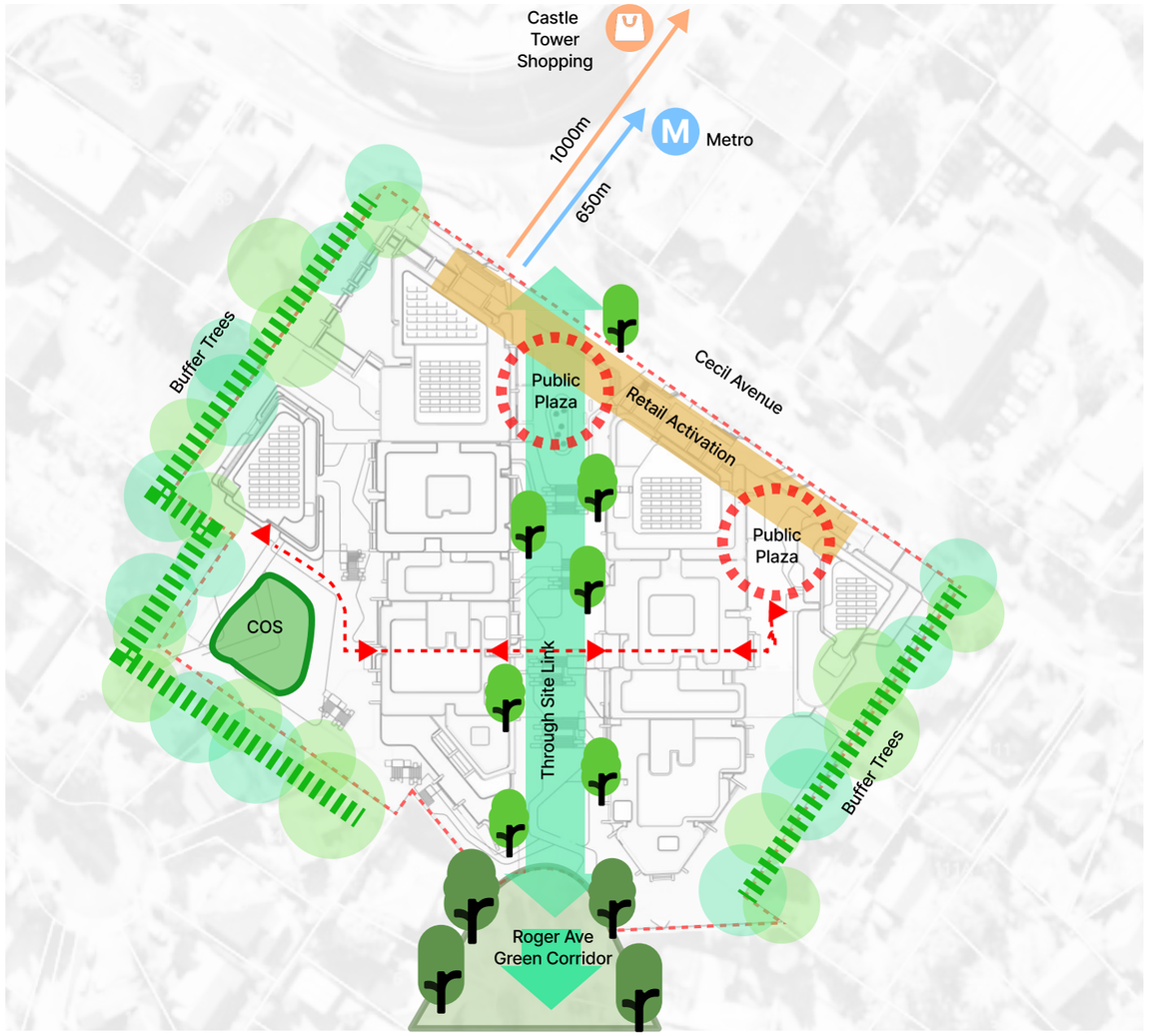
Links and connections for the public

Designing for Castle Hill

Desining for the Castle Hill locale

KEY PRINCIPLES

Movement Networks + Rooftop Green Space



Wayfinding and Connectivity

Residential Communal Open Space

PUBLIC AMENITY

1. Interactive Active Waterplay

2. Quite Waterplay

3. Transitional Breakout Space

4. Design for Otherkin

5. Connection to Flora Journey

6. Nature Discovery Space

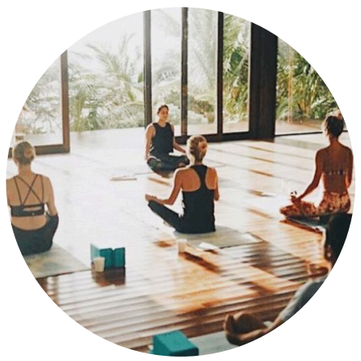
COMMUNAL AMENITY

1. Sky Lounge Communal Room

2. Rooftop Gardens

3. Kids Garden

4. Community Garden



5. Reflection and Meditation

6. Active Space

GROUND PLANE

A collaboration between Country and Landscape, consideration of communal passive open spaces sits at the forefront the ground plane.

The green corridor of Northern and Southern through-site linkages, in particular, enhance street continuity between Cecil and Roger Avenue, where landscaping is embedded seamlessly with the towering built forms.

The transition between the public and private domains are carefully considered, such as through natural retail and plaza areas along the primary frontage of Cecil Avenue, and water basins within.

The primary and secondary frontages of the site offer unique design responses, calling for a harmonisation of their individual environments.

1. Northern Through SIte Link & Retail/ Plaza Area
2. Southern Through site link and open space
3. Lower plaza
4. Deep soil to setbacks
5. Western Communal Open Space
6. WSUD Basins

ROOFTOP MASTERPLAN

The proposed development includes multiple communal open spaces on levels 4, 10, 11, 12, 15, 16 & 19, all of which are complimented by a layered planting scheme for landscaping featured on the upper levels. The number of spaces available allows for a diverse selection of functions & amenities, ranging from dining to respite & relaxation and even including flexible active use.

s utilise tree planting on slab to provide
olstered by layered planting to provide
privacy to users of the space.

DESIGN GROUP

05

ARCHITECTURE & MATERIALITY

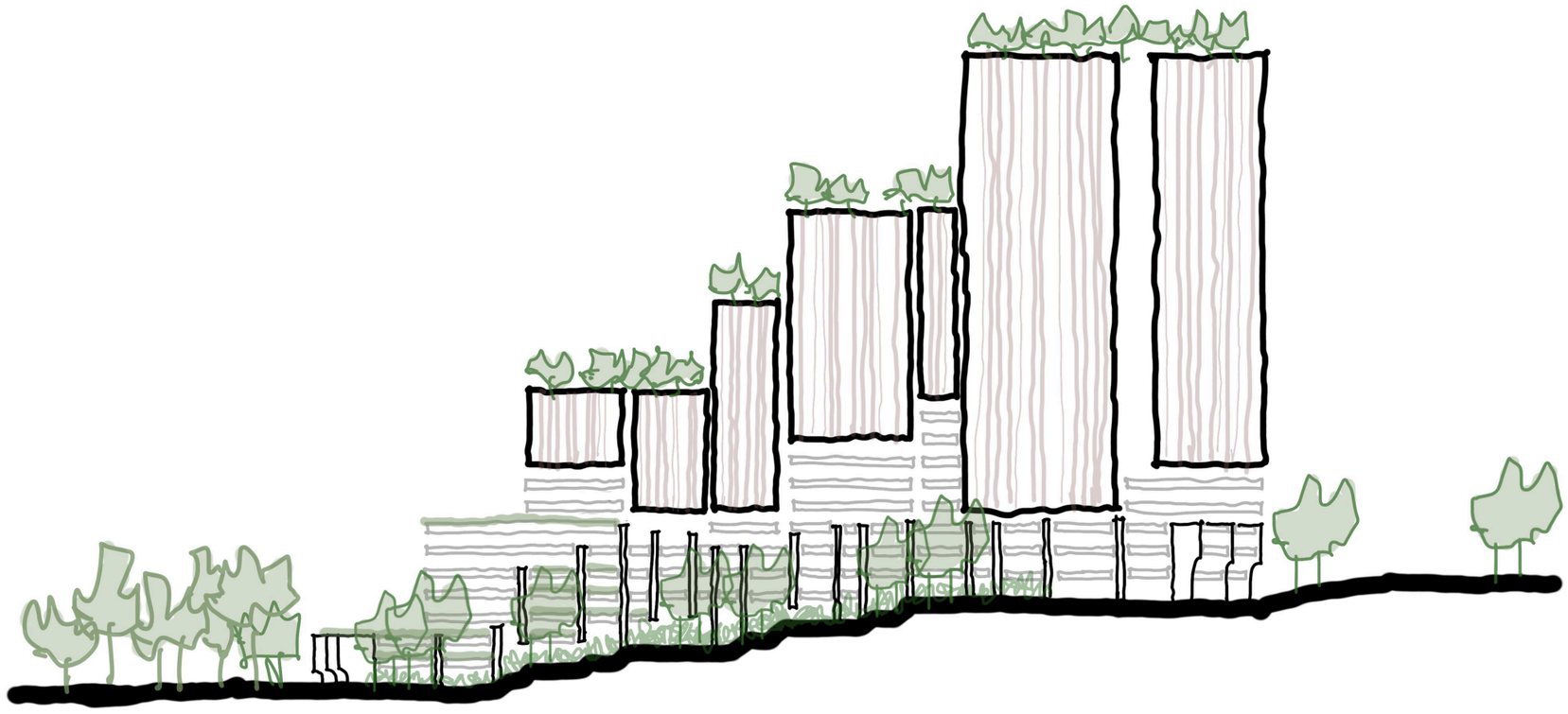
ARCHITECTURAL VISION

The architectural concept unfolds through the "Connecting with Country" consultation, where the building form is inspired by the storytelling of the Tree, Water, and Life, embodied by both human and non-human kin. This design explores the deep, interwoven relationship between people, place, and nature, focusing on how the built environment interacts with its natural context.

The site's through-link aims to connect the established green canopy corridor to the pedestrian pathways anticipated under the Castle Hill Precinct Plan. This link emphasises the immersive experience of Nature and non-human kin, with water playing a vital role in activating the garden space. As water flows through the site, it introduces dynamic changes in elevation, guiding movement and enriching the visitor's connection with the landscape.

Verticality is introduced through the thoughtful articulation of massing, shaping clear and distinct forms for the tower. The podium, in contrast, is defined by a rhythmic arrangement of vertical brick blades, which respond to the site's natural topography and shift gracefully along the changing slope. This interplay of rhythm reflects both the land's movement and the fluidity of water, seamlessly merging architectural form with the natural world.

Structural Plan - Castle Hill Strategic Centre

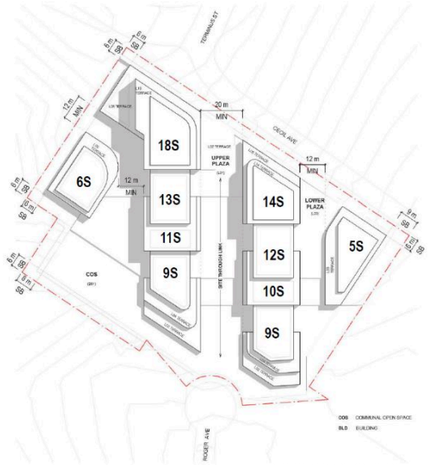


ARCHITECTURAL RESPONSE

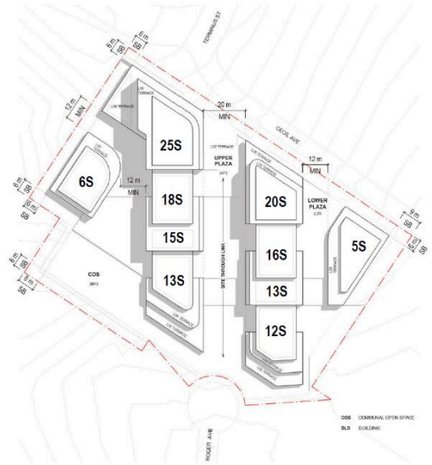
Consistent with Castle Hill Precint Plan and Current THLEP control

The buildings are sited with their long axis aligned north-south and with the main bulk positioned in the centre of the site to reduce the shadow impact on adjoining properties. The height in storeys is however increased as a consequence of the incentivised height under SEPP Housing, however, Buildings A and D at the edges of the site maintain the DCP number of storeys to minimise impact to the adjacent sites.

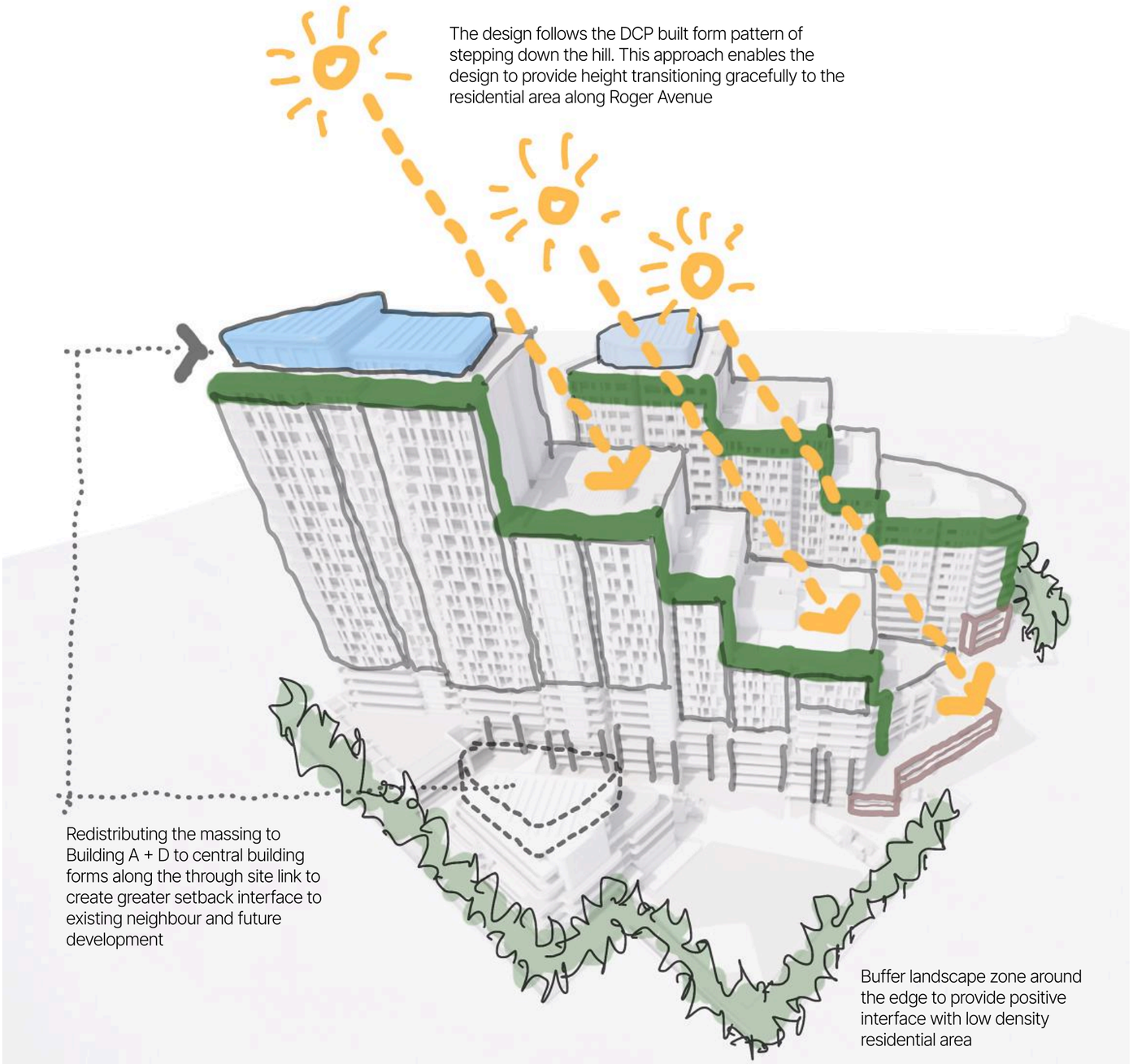
The increase in height still adheres to the principle of stepping of height down the site, and the need to minimise shadow impacts to adjacent properties to the south.

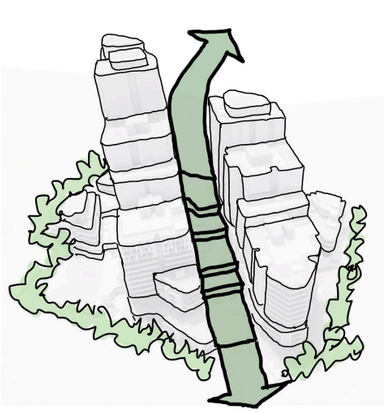


NO OF STOREYS UNDER THE HILLS DCP 2012 PART D SECTION 21

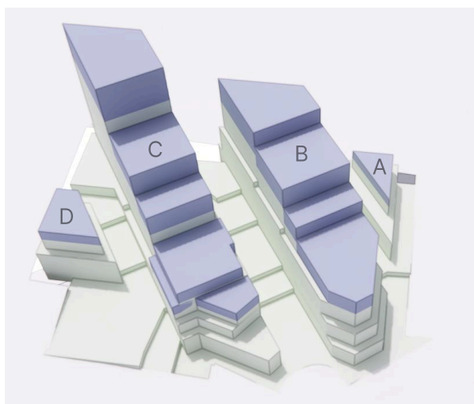


NO OF STOREYS UNDER SEPP (HOUSING) 2021



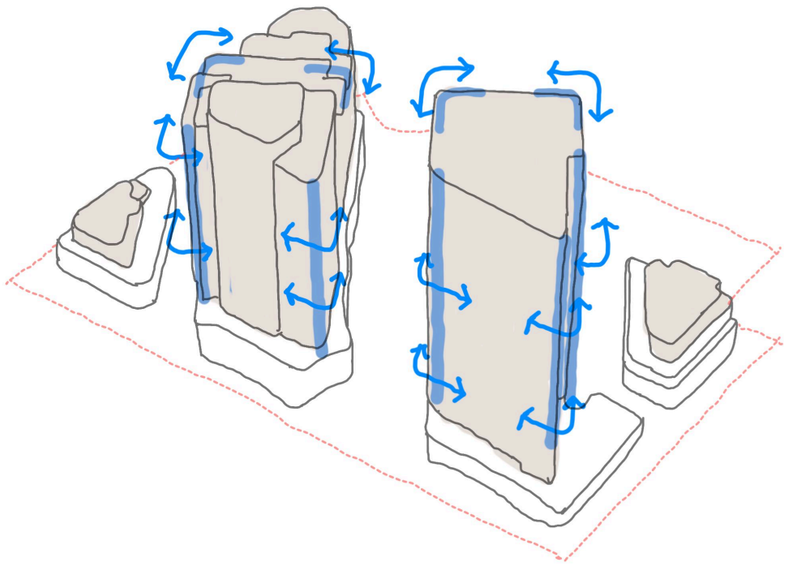


Reaffirming the DCP's commitment to extending the Green Corridor from Roger Avenue to the Metro Station and Castle Hill Town Centre



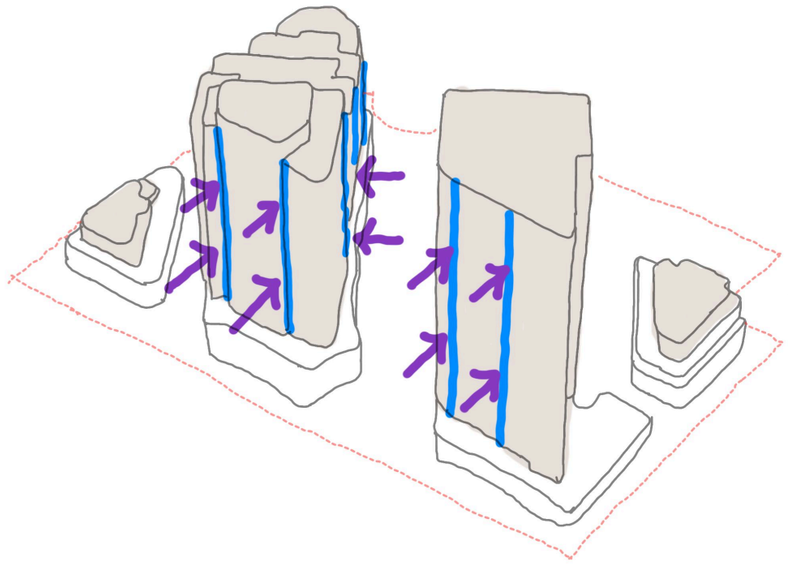
Compliant building envelope under the current THLEP 2019 and SEPP (Housing) 2021 uplift (highlighted in purple)

ARCHITECTURAL RESPONSE



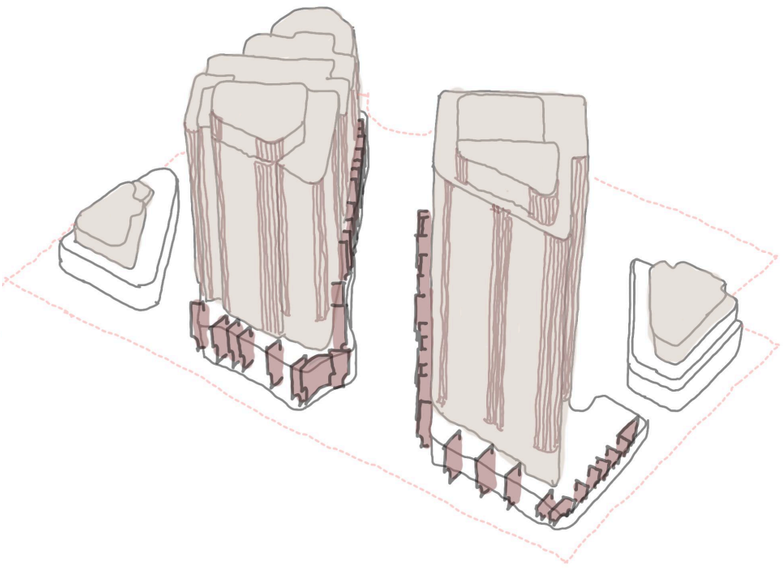
Softened Vertical Forms

Rounded edges have been incorporated to shape the buildings in harmony with their context, while vertical divisions address the facade's orientation and its surrounding vistas.



Vertical Recesses

Rounded vertical forms are separated by recesses that create play of shadow and enhance vertical emphasis, resulting in a slender and elegant proportion from every viewpoint.



Articulation

Facade screening has been utilised to enhance the towers' articulation, adding depth and texture to its appearance. At the podium level, feature blades have been introduced to create a sense of human scale, enhancing the pedestrian experience and establishing a cohesive connection with the surrounding environment.

ARCHITECTURAL RESPONSE

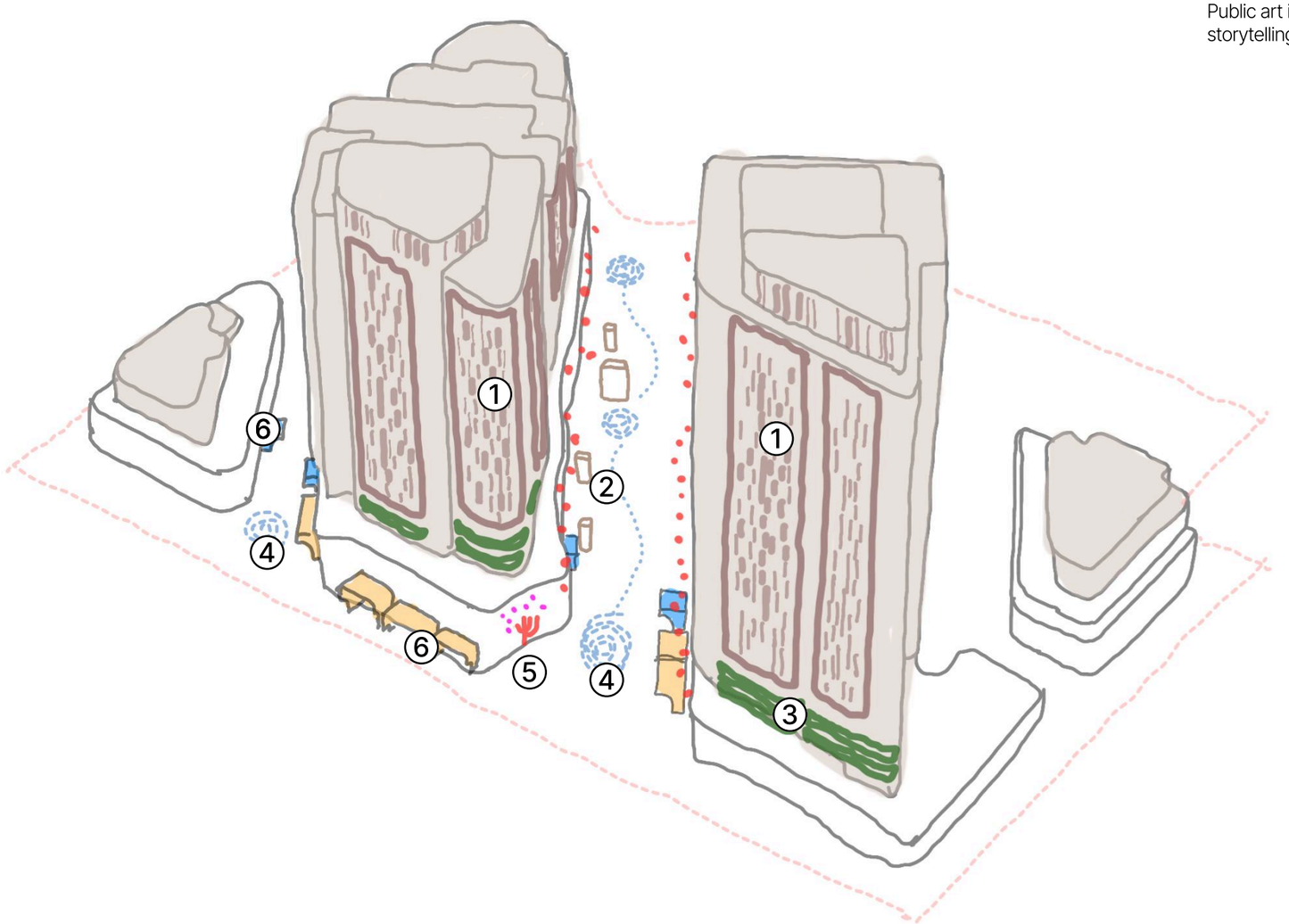
A ‘Connecting with Country’ Strategy, developed in collaboration with Dharug artist Leanne Redpath, embraces the essence of Country, integrating its stories and influences into the design process.

Through a detailed consultation process, the design was informed by a thematic palette of Country—encompassing story, site, colours, textures, and form. This comprehensive response to Country is embedded in the development, with particular attention given to the ground plane and materiality.

The design response includes addition of façade screening that incorporates patterns and textures inspired by Dharug cultural motifs, creating a visual language that pays homage to the stories and traditions of the land.

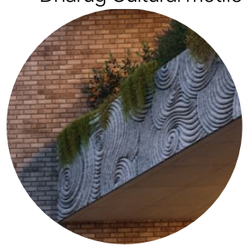
At the ground plane, patterns reflecting the natural flow of water have been incorporated, symbolising the connection between the site and its waterways, and emphasising the importance of water in sustaining life and Country.

Public art installations inspired by Dharug narratives will be integrated, offering spaces for reflection and storytelling that celebrate the heritage and significance of the land.

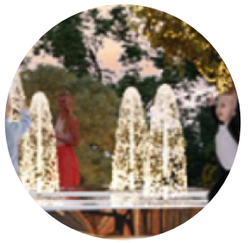


1. Movable perforated art screen as solar and privacy device with Dharug Cultural motifs

2. Perforated art screen over lift shaft with Dharug Cultural motifs



3. Balcony spandrel with Dharug Cultural motifs cast in concrete



4. Water feature element designed with Dharug Cultural pattern

5. Sculptural Artwrok as landmark by with Dharug Cultural Artist, with additional external wall art at the base of the brick blade wall

6. All apartment entry canopy soffit and glazing intergrated with Dharug Cultural motifs

ARCHITECTURAL RESPONSE

Despite the anticipated redevelopment of the eastern neighbouring interface into a 10-storey building under the Castle Hill Precinct Plan, along with a potential 30% height increase under the SEPP (Housing) 2021, resulting in a 13-storey development, the proposal retains the number of storeys specified in the DCP. This approach aims to provide a more gradual and sensitive design response that aligns with the overall character of the Castle Hill area

Top level set back from the edge of building to articulate the skyline at the top of the building form. Additional ceiling height has been introduced to this communal open space

Movable shading screens animate the facade and interface with the occupants of the building, create an ever changing play of living pattern.

Strengthening of vertical slender building form through the use of louvre screens at the corner of each tower

Podium form is softened by the play of vertical rhythm at the base of the building

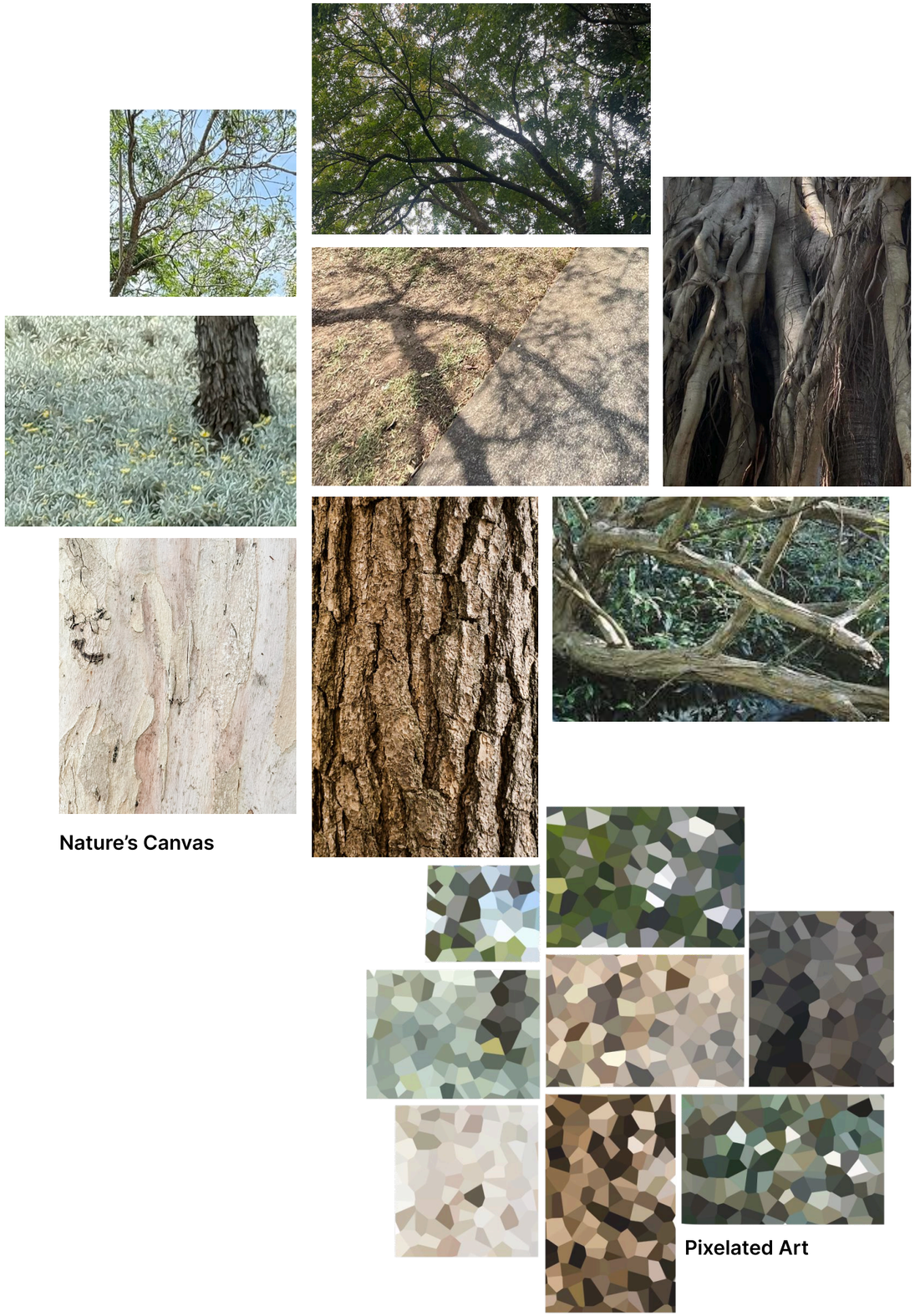
Position basement carparking entry away from intersection and public plaza

Clearly identifiable retail canopy provides wayfinding as well as sheltering for outdoor seating

Levelled public plaza provides a welcoming sense of entrance into the through site link, promoting connectivity and social engagement

A mixture of landscape buffer and steps along the sloping frontage provide opportunity for public to rest and connect

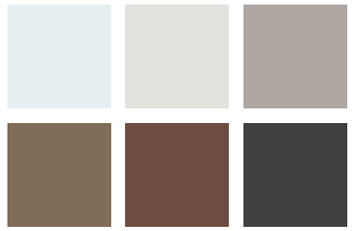
COLOUR PALETTE



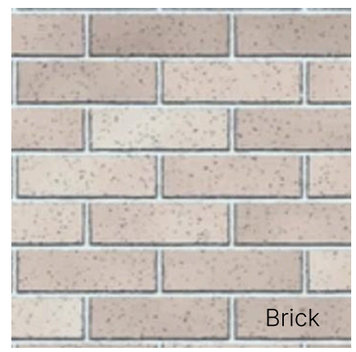
Nature's Canvas

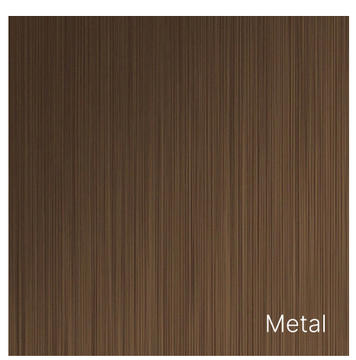
Pixelated Art

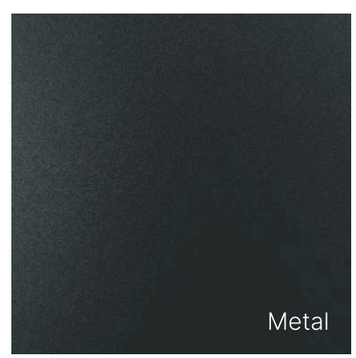
Colour Palette



The colour palette for the Castle Hill project is inspired by the natural environment of the site, drawing from the earthy tones of the Bidjigal identity and the traditional Dharug Country lands. Neutral browns, muted greens, and warm beige shades echo Cattai Creek vegetation, Cumberland Plain's brush forestry, and the surrounding natural textures. These hues create a grounded and harmonious connection to the landscape, fostering a sense of belonging and respect for the site's natural heritage.







Material Selection

Future
Development
Envelope : Castle
Hill Precinct Plan

Future
Development
Envelope : Castle
Hill Precinct Plan

93-107 CECIL AVE & 9-10 ROGER AVE, CASTLE HILL

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93-107 CECIL AVE & 9-10 ROGER AVE, **CASTLE HILL**

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DESIGN GROUP

MATERIALITY

PU

TEXTURED FINISH PRECAST UPSTAND

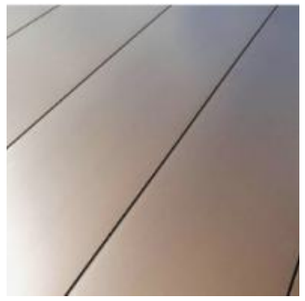
FB

FACEBRICK BRICKWORK

GB

GLASS BALUSTRADE PIN FIXED TO UPSTAND

AC



BUILDING ENTRY NON-COMBUSTIBLE ALUMINIUM CLADDING

AP

LASER CUT ALUMINIUM SLIDING SCREEN WITH ART PATTERN

VF

VERTICAL FENCING

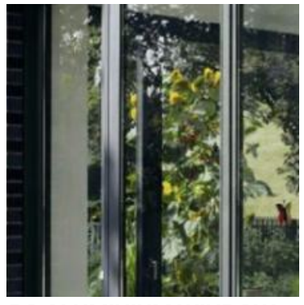
HP

HEBEL PANEL POWER PATTERN

VS

PC ALUMINIUM VERTICAL ADJUSTABLE LOUVRE

AW



PC ALUMINIUM WINDOW AND DOOR SYSTEM

MATERIALITY

PU

GB

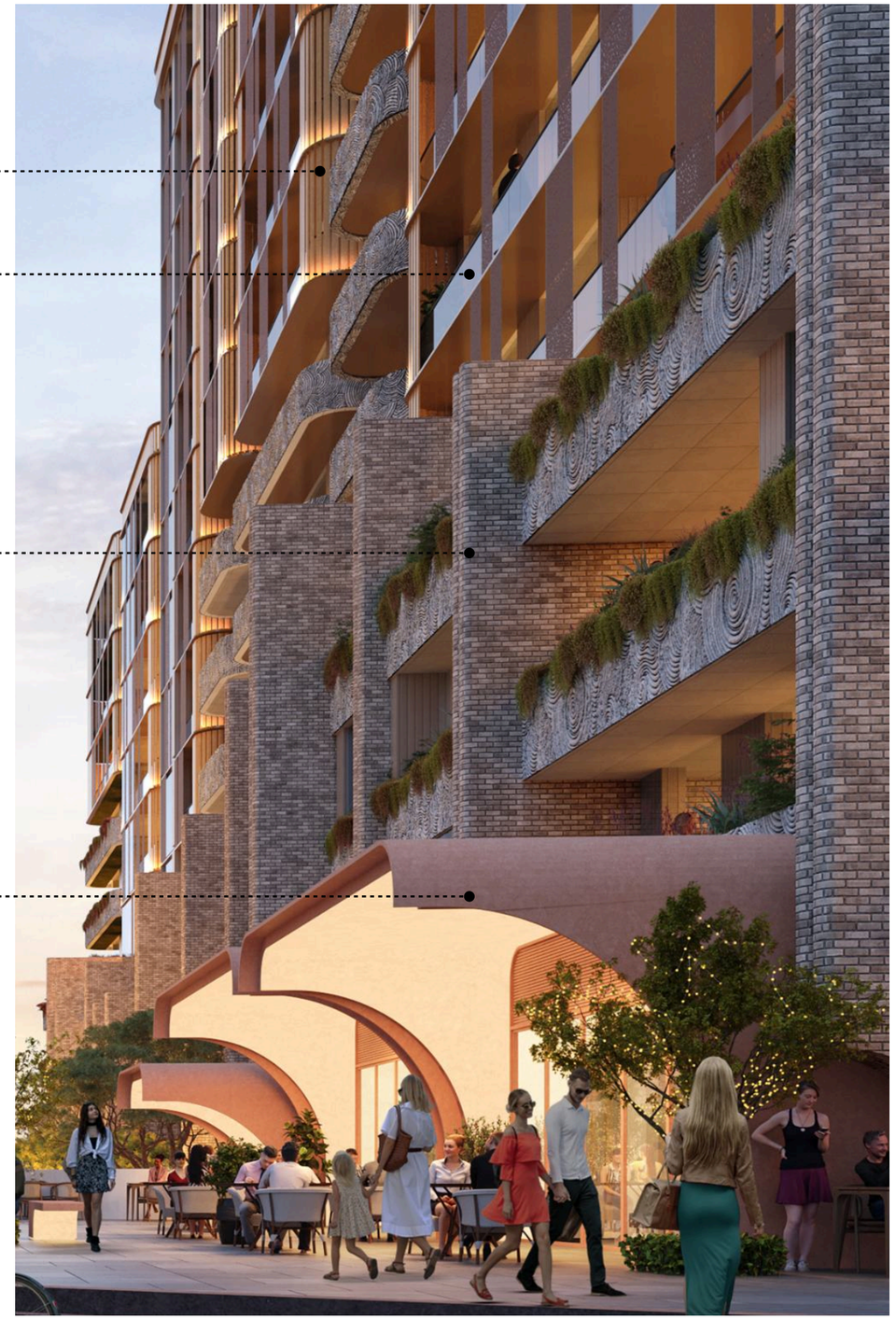
AP

FB

PU

AC

FB



DESIGN GROUP

06

ESD + RESIDENTIAL AMENITY

ESD STRATEGY

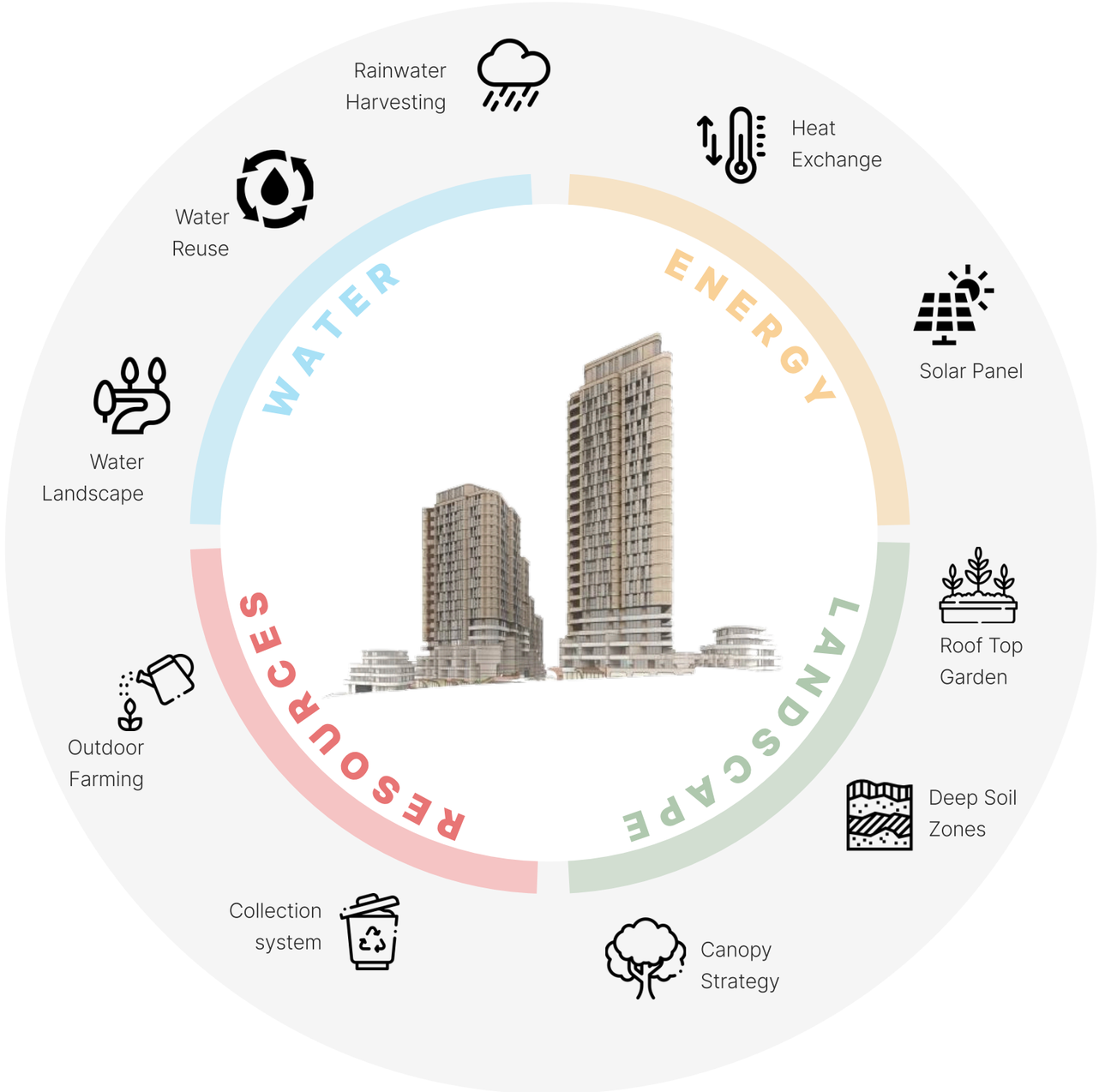
ENVIRONMENTAL SUSTAINABLE DESIGN

Water

Rainwater harvesting systems support sustainable irrigation and non-potable uses, reducing reliance on municipal water. Water-sensitive urban design (WSUD) features like bioswales, permeable paving, and cascading water features manage stormwater efficiently and improve water quality. Cascading features also reflect the site topology.

Resources

The development integrates efficient waste management and outdoor farming to promote sustainability. Vegetable gardens and communal planting areas provide fresh produce, cut food miles, and foster community collaboration. Native and edible plantings enhance biodiversity, linking waste reuse with sustainable food systems.



Energy

The project incorporates solar panels and rooftop gardens to reduce grid reliance and conserve energy, while natural ventilation and solar access enhance efficiency and comfort. By integrating water, resources, landscape, and energy strategies, it showcases sustainable urban design, fostering a liveable community that honours Castle Hills' natural and cultural heritage.

Landscape

The design prioritises a canopy strategy, retaining and replacing trees to increase canopy cover, support urban cooling, and provide shaded, pedestrian-friendly spaces. Native plantings enhance biodiversity, create wildlife habitats, and preserve cultural heritage. Deep soil zones sustain long-term green infrastructure, integrating ecological sensitivity and fostering urban resilience.

ESD INITIATIVES

Effective passive design strategies to reduce energy consumption and maintain thermal comfort.

Optimised shading design to maximise usable daylight while minimising harmful glare.

Target 90% diversion of construction and demolition waste.

High efficiency water fixtures to reduce potable water demand.

Renewable energy generation using solar PV to offset grid demand.

Provisions for EV ready infrastructure.

Extensive site landscaping, including native species.

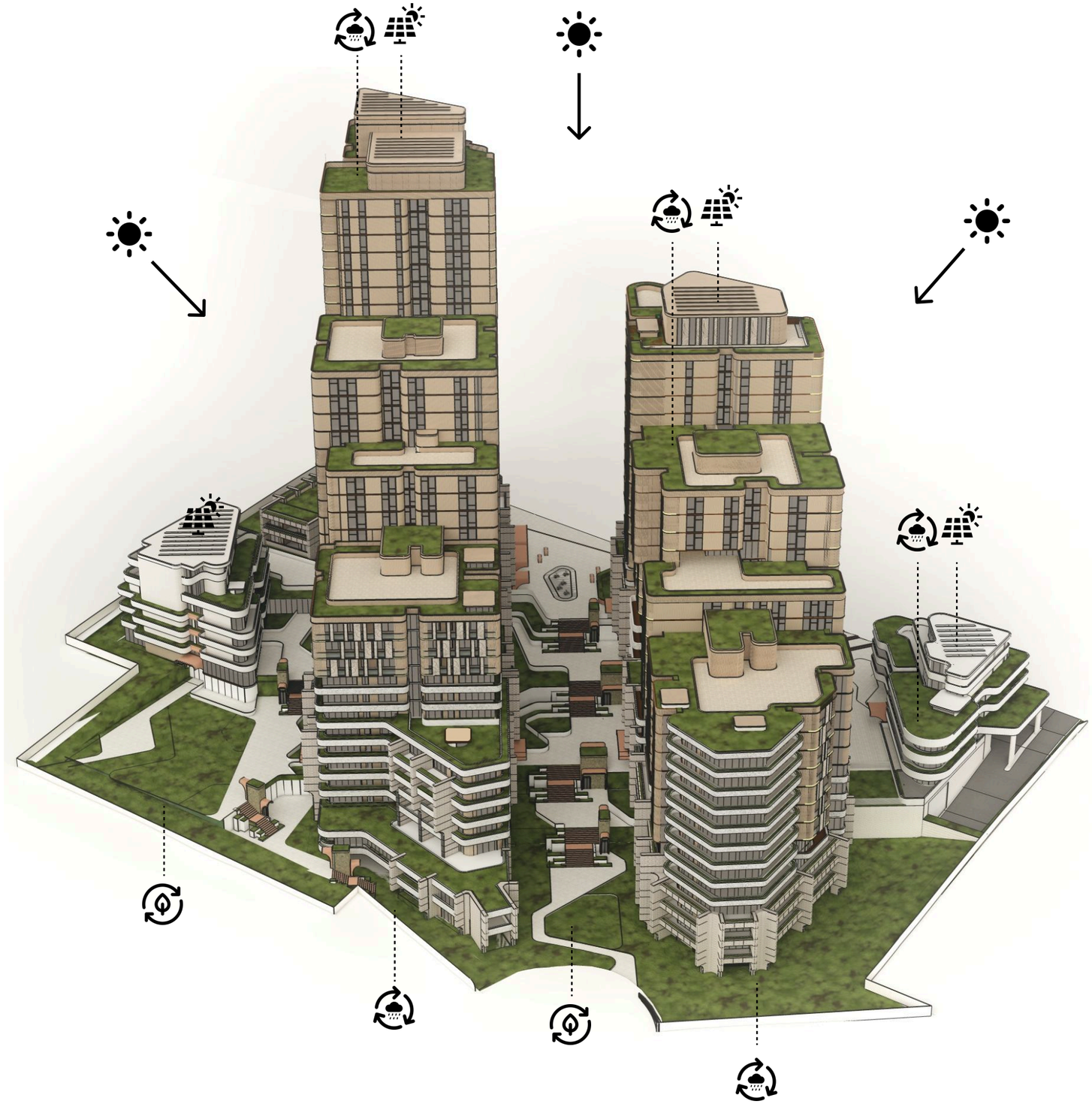
WSUD principles integrated with rainwater capture and reuse for landscape irrigation.

Exceeding natural ventilation requirements.

Reduced fossil fuel usage onsite, electric heating and hot water, gas only for private cooking, and meeting BASIX requirements for Energy, Water, and Thermal Comfort.

Ensure equitable access by connecting to good public transport, providing high-quality public open spaces, minimizing running costs, and incentivizing mobility and walkability.

Ensure resilience by adapting to changing climate conditions, mitigating urban heat, enhancing run-off water quality, and creating a comfortable outdoor environment.



RESIDENTIAL AMENITY

SOLAR ACCESS - Typical Plate

The typical plates have been optimised to ensure at least 70% of all apartments received minimum of 2 hours direct sunlight to living areas and private open spaces during mid winter

437 out of 615 units achieve minimum 2 hours solar access (71.06%) COMPLIES

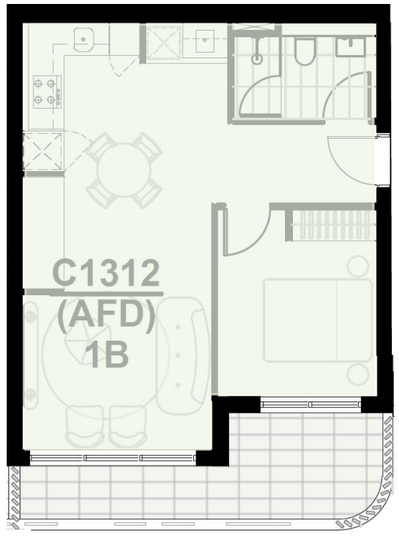
RESIDENTIAL AMENITY

NATURAL VENTILATION - Typical Plate

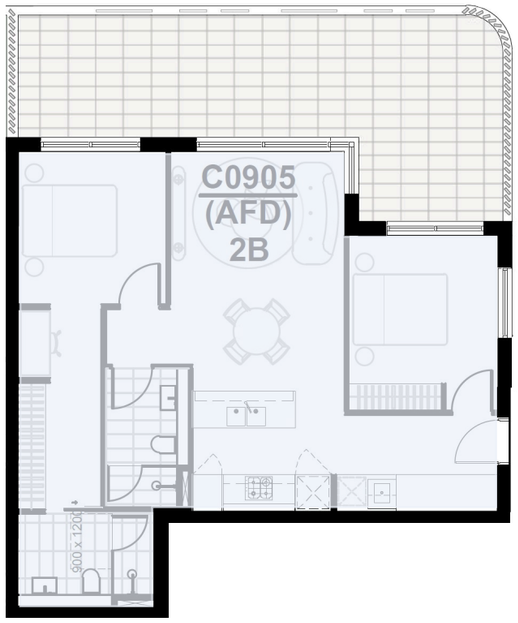
The typical plates have been optimised to ensure at least 60% of all apartments are naturally cross ventilates

Apartments at 10 storeys or more which are deemed to be cross ventilates, therefore,

201 out of 332 units achieve minimum 2 hours solar access (60.54%) **COMPLIES**



TYPICAL 1 BED APARTMENT



TYPICAL 2 BED APARTMENT

TYPICAL 3 BED APARTMENT

DAYLIGHT ACCESS (APARTMENT DEPTH)

The apartments feature open-plan layouts, with the living areas positioned along the building's external facade to optimize natural sunlight in key living spaces. The design ensures a maximum habitable room depth of 8m.

PRIVATE OPEN SPACE PROVISION

Apartment balconies are designed to comply with ADG requirements.

STORAGE

Apartment storage are designed to comply with ADG requirements.

APARTMENT & ROOM SIZE AND LAYOUT EFFICIENCY

Living rooms and bedrooms are designed to comply with ADG requirements. The layouts are arranged to separate access to bedrooms, bathrooms, and laundries from living areas, minimizing direct connections between living spaces and service zones.

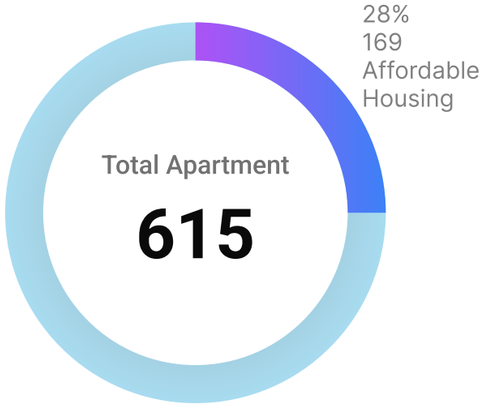
SOCIAL SUSTAINABILITY

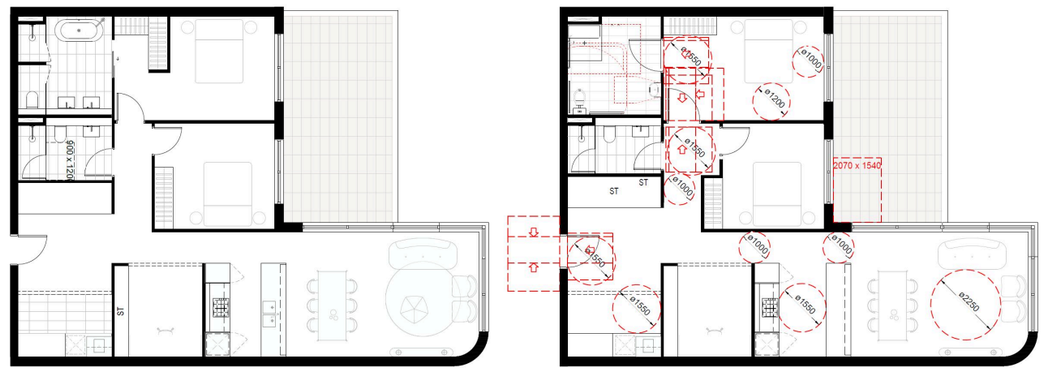
HOUSING DIVERSITY

A diverse mix of housing is provided to cater to a variety of housing needs.

Studio	0.2% (1 unit)
1 Bed	10.6% (65 unit)
2 Bed	68.2% (420 unit)
3 Bed	20.7% (127 unit)
4 Bed	0.3% (2 unit)

Total Apartments	615 apartments
Affordable Housing	169 apartments





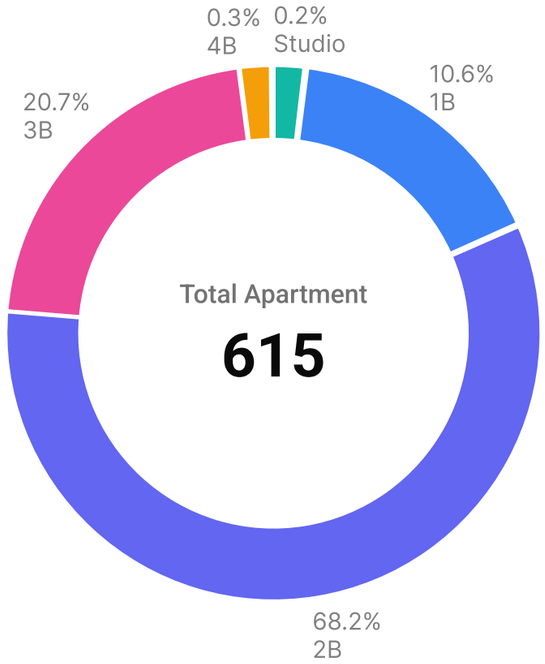
TYPICAL PRE AND POST ADAPTABLE APARTMENT

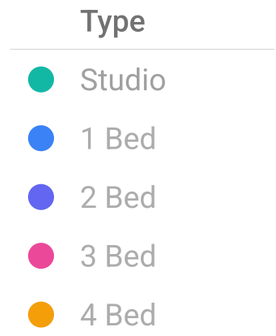
ACCESSIBLE HOUSING

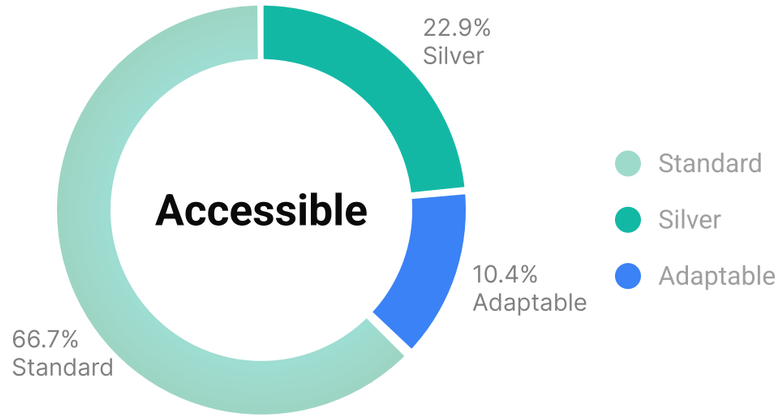
Silver Level Housing	22.9% (141 unit) (Min 20%)
Adaptable Housing	10.4% (64 unit) (Min 10%)

SOCIAL INTERACTION

The design incorporates a range of communal open spaces and internal shared amenities to encourage social interaction and foster a sense of community, both within the development and the broader Castle Hill area.







APPENDICIES

TO ACCOMPANY ARCHITECTURAL DESIGN REPORT REPARED BY

DESIGN GROUP

NOMINATED ARCHITECT: KAICHI LEUNG
NSW Architects Registration No. 7133

A: Level 3, 9 Barrack Street, Sydney, NSW 2000
Ph: 1300 377 789 I W: www.aplusdg.com.au

DESIGN GROUP

APPENDIX A
BETTER PLACED ASSESSMENT

BETTER PLACED - GOOD DESIGN OBJECTIVES

The following table provides a summary of how the proposed development, as illustrated by the Architectural Design Report, achieves the good design outcomes (identified by the Design Objectives for NSW) of GANSW's 'Better Placed policy. As the table shows, the elements of the proposed design have overlapping achievement of the objectives.

Better Placed is an integrated design policy for the built environment of NSW.

It reflects the collective aspirations and expectations for the places where we work, live, and play. It establishes a clear framework to ensure quality design that delivers architecture, public spaces, and environments that meet our current needs and those of the future.

Our design principles have been aligned with Better Placed to ensure the reference design achieves a contextually appropriate fit for Castle Hill. The proposal thoughtfully balances the distinct qualities of the Castle Hill context and creates meaningful spaces for people to live, work, and connect.

OBJECTIVE 1
Better Fit
contextual, local and of its place

Reconnect the site's natural relationship with the landscape and ecology, embracing the Bidjigal identity while instilling direct visual and physical connectivity.

OBJECTIVE 2
Better Performance
sustainable, adaptable and durable

Incorporate ESD principles through resource-efficient, energy-conscious designs utilizing solar, wind, and spatial understanding for sustainable living.

OBJECTIVE 3
Better Community
inclusive, connected and diverse

Provide communal open spaces on several floors, a through-site link to Roger Avenue Green Corridor, and buffer trees to enhance connectivity and inclusivity.

OBJECTIVE 4
Better For People
safe, comfortable and liveable

Design accessible, DDA-compliant layouts, green roofs, gardens, and landscapes, prioritizing comfort and liveability for people.

OBJECTIVE 5
Better For Working
functional, efficient and fit for purpose

Optimize apartment layouts to maximize solar access; design functional public and open spaces with clear intent and purposeful uses.

OBJECTIVE 6
Better Value
creative and adding value

Activate retail spaces along Cecil Avenue and introduce diverse commercial floor areas to boost the local economy and social engagement.

OBJECTIVE 7
Better Look And Feel
engaging, inviting and attractive

Select durable, nature-inspired materials reflecting the Bidjigal site's character, ensuring alignment with environmental needs and long-term quality.

DESIGN GROUP

APPENDIX B

DESIGN VERIFICATION STATEMENT & HOUSING SEPP - CHAPTER 4 ASSESSMENT

DESIGN VERIFICATION STATEMENT

DESIGN VERIFICATION STATEMENT

Pursuant to section 29(2) of the Environmental Planning and Assessment Regulation 2021, I hereby declare that I am a qualified designer, which means *a person registered as an architect in accordance with the Architects Act 2003* as defined by Clause 3 of the Environmental Planning and Assessment Regulation 2021.

I directed the design of the mixed use residential flat development stated above and confirm that the design achieves the design quality principles within State Environmental Planning Policy (Housing) 2021 and meets the objectives set out in the Apartment Design Guide 2015.

A table is annexed to this Design Verification Statement addressing the relevant design objectives and design criteria in Parts 3 and 4 Apartment Design Guide.

ACKNOWLEDGMENT OF COUNTRY

We acknowledge the Traditional Custodians of the land on which Castle Hill is situated, the Darug people. We pay our respects to their Elders past, present, and emerging, and recognise their enduring connection to the land, water, and community. This acknowledgment informs our approach to site analysis and design, ensuring that we honour the cultural significance and natural systems of this place.

Castle Hill, located in the Hills District of Sydney, is characterised by its mix of urban development, green spaces, and historical landscapes. Our approach to site analysis focuses on the interplay between natural systems and the built environment, incorporating sustainability and respect for cultural and ecological values.
Key considerations include:

1. **Water Flows and Hydrology**
   Castle Hill lies within the catchment areas feeding into nearby creeks and waterways, including Cattai Creek. The area features both natural and modified watercourses, requiring careful design to manage stormwater, reduce erosion, and protect downstream ecosystems. Strategies include integrating water-sensitive urban design (WSUD) principles to enhance water quality and support the natural hydrological cycle.

2. **Urban Canopy and Biodiversity**
   Castle Hill's urban canopy, including significant tree coverage and remnants of native bushland, plays a critical role in maintaining biodiversity and ecological health. Trees contribute to carbon sequestration, temperature moderation, and habitat provision. A detailed assessment of the existing vegetation has informed the design, ensuring the preservation and enhancement of the urban canopy while fostering local biodiversity.

3. **Cultural and Community Values**
   The community of Castle Hill values its blend of suburban living and green spaces. These values guide the design, which emphasises low-impact development, the preservation of natural landscapes, and alignment with the area's cultural heritage. Community engagement and sustainable design principles are central to ensuring the outcomes resonate with local aspirations and environmental priorities.

PRINCIPLE 1: CONTEXT AND NEIGHBOURHOOD CHARACTER

The site is known as Nos. 93-107 Cecil Avenue and 9-10 Roger Avenue, Castle Hill, and comprises eighteen adjoining allotments. The site encompasses a total area of approximately 17,623.6m2 and is irregular in shape with a frontage of approximately 160.925 metres to Cecil Avenue and 35.92 metres to Roger Avenue. The site has a fall of approximately 15 metres from the north (93 Cecil Avenue) to the south (9 Roger Avenue).

The site is not heritage listed and not located within a heritage conservation area.

The site is zoned MU1 Mixed Use zone pursuant to The Hills Local Environmental Plan 2019 (THLEP).

Immediately to the west are 91 Cecil Avenue and 249 Old Northern Road. The property at 91 Cecil Avenue is currently occupied by a building serving as a temporary exhibition home with an associated office, while 249 Old Northern Road houses St Columbia's Presbyterian Church.

To the rear of 93 Cecil Avenue and at 95A Cecil Avenue lies 247 Old Northern Road, which is occupied by the Castle Hill Christadelphians Church. Notably, St Paul's Cemetery and the Christadelphian Church are identified as local heritage items under The Hills Shire Local Environmental Plan 2019 (THLEP).

The surrounding development to the east and south predominantly consists of low-density residential housing.

The proposal involves demolition of the existing buildings and construction of a mixed-use residential flat development comprising 615 apartments and 8,025m2 of commercial floor space. 15% of the floor space will be allocated to affordable housing, which will be managed by a registered community housing provider for a period of 15 years. Vehicular access for residential, visitor, commercial parking, and service vehicles will be via Cecil Avenue. Additionally, the proposal incorporates a through-site pedestrian link connecting Cecil Avenue to Roger Avenue.

PRINCIPLE 2: BUILT FORM AND SCALE

The proposed development is generally consistent with the strategic work done for the site, including the site specific LEP and DCP provisions, with the exception that additional height in storeys is proposed in response to the incentive provisions of SEPP Housing which encourage the provision of affordable housing.

No height of buildings control applies to the site. The scale of the building has been carefully modulated in bulk, height, landscaped area and spatial separation controls to represent an expression of the desired character in the locality.

The proposed development achieves an appropriate built form in terms of building alignment, proportion and manipulation of building elements. The balconies have been designed to be an extension of the living spaces so that outdoor living can be maximised.

PRINCIPLE 3: DENSITY

The objective of the design proposal is to respect the character and scale of the desired future character of the site, with the buildings designed to contain generally within the established setbacks under the Planning Proposal.

The proposed development is generally consistent with the strategic work done for the site, including the site specific LEP and DCP provisions, with the exception that additional FSR is proposed in response to the incentive provisions of SEPP Housing which encourage the provision of affordable housing.

The maximum floor space ratio on the site is 3.5:1 based on the incentive floor space ratio provisions in clause 7.11 of THLEP plus an additional 30% FSR if 15% of the GFA is affordable housing. A floor space bonus of up to 1.05:1 is therefore permitted giving a total FSR of 4.55:1. The development complies with the applicable FSR.

DESIGN VERIFICATION STATEMENT

PRINCIPLE 4: SUSTAINABILITY

Sustainable design techniques have been employed to ensure resource, energy and water efficiency. The planning and arrangement of the units are repeated where possible to maximise the efficiency in planning and hence servicing.

201 of 332 units (60.5%) have been designed to achieve cross ventilation. The design of the building maximises passive solar design to the units. A majority of the units has a northerly aspect, achieving 71% solar access, as well as having the ability for solar control, with balconies providing outdoor living areas.

The building will also provide for use of energy efficient building materials and will achieve a compliant BASIX score and NatHERS Rating. The use of masonry construction provides good thermal control for the buildings. Use of low energy fixtures and fittings will also be implemented.

PRINCIPLE 5: LANDSCAPE

The proposed landscape design is an integral part of the overall design intent. Provision is made for a multitude of canopy trees around the perimeter of the site. Planting along the street frontages provides privacy and a softening to the built form, with planting along the eastern, western and southern boundaries creating a buffer from the adjoining properties. Communal open space is provided at ground level co-located with deep soil areas, as well as at the rooftop with a minimum area well in excess of 25% of the site.

The planting species have been selected for their endemic nature, low maintenance, tolerance to low water use and suitability to provide privacy and accent.

The proposal incorporates 9.3% of deep soil landscaped area, complying with Council DCP requirement.

PRINCIPLE 6: AMENITY

The planning and arrangement of the units have been designed to maximise solar penetration, natural ventilation and daylight, with a majority of units achieving solar access requirements, optimising solar orientation of windows to living areas and private open spaces.

437 of the 615 units (71%) will receive not less than 2 hours of direct sunlight to windows of habitable rooms and private open space between the hours of 9.00am and 3.00pm on 21 June.

PRINCIPLE 7: SAFETY

Safety and security are well considered within the design process of the proposal. The massing of the buildings means that there will be passive surveillance of Cecil and Roger Avenue. Appropriate lighting and active street frontages will ensure safety and security. Lobbies will only be accessible via security coded keying. Vehicular entry to the car parking levels will also be secured and an intercom system for the purposes of safety and security.

PRINCIPLE 8: HOUSING DIVERSITY AND SOCIAL INTERACTION

The proposed development contributes to the housing stock of the area, in keeping with demand in the marketplace for studio, 1, 2, 3 and 4 bedroom units. Accessible path of travel has been provided to/from Cecil and Roger Avenue, with 64 units (10.4%) designed as adaptable units, and 141 units (22.9%) designed in accordance with Silver Level under the Livable Housing Guidelines.

PRINCIPLE 9: AESTHETICS

The proposal contains an appropriate composition of building and landscape elements, textures, materials and colours to reflect the positive elements of the existing neighbourhood. The overall design proposal is intended to achieve a clean modern aesthetic through a selected palette of materials, as well as the articulation of the building mass.

CONCLUSION

The approach to the site is rooted in a deep respect for Country, guided by a thorough analysis of natural systems and an understanding of the community's values. By integrating these elements into the design, we aim to create a space that is sustainable, culturally sensitive, and in harmony with its natural surroundings.

The basis of the proposal is to provide a new standard in high quality residential development. The proposed development responds to the context of the site by providing built forms that sit in a landscaped setting to provide a positive contribution to the public domain, with provision made for a multitude of large canopy trees around the perimeter of the site.

The proposed development achieves the design quality principles and meets the objectives set out in Apartment Design Guide 2015, ensures that a modern and dynamic development is created and provides a benchmark for architectural design in the locality.

Yours Sincerely,

KAICHI**LEUNG**
Registered Architect NSW 7133

Apartment Design Guide – Design Objectives and Design Criteria

Part 3 Siting the Development and Part 4 Design the Building

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
Site Analysis	Objective 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		The proposed development is generally orientated along the street frontages. The buildings have been designed to respond to the surrounding streetscape.
Orientation	Objective 3B-1 Building types and layouts respond to the streetscape and site while optimising solar access within the development		The development has been orientated to maximise solar access to living spaces.
	Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid winter		The proposal is not considered to adversely impact on the solar access of adjoining development and minimise overshadowing to adjacent buildings.
Public Domain Interface	Objective 3C-1 Transition between private and public domain is achieved without compromising safety and security		Landscaping has been used to delineate private and public space. Vehicular entry to the basement carpark will be secured and an intercom system for the purposes of safety and security.

<table>
<tr><th></th><th>OBJECTIVE</th><th colspan="3">DESIGN CRITERIA</th><th>PROPOSED</th></tr>
<tr><td></td><td colspan="2">Objective 3C-2 Amenity of the public domain is retained and enhanced</td><td colspan="3">The proposal complies with this control.</td></tr>
<tr><td>Communal and Public Open Space</td><td>Objective 3D-1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping</td><td colspan="3">Communal open space has a minimum area equal to 25% of the site

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 9am and 3pm on 21 June (mid winter)</td><td>Communal open space is provided at ground level co-located with deep soil areas, as well as at the rooftop with a minimum area well in excess of 25% of the site. The proposal also provides for two communal rooms at the topmost floor of Building B and C.

Greater than 50% of the area of the primary communal open space will receive 2 hours of direct sunlight 9am-3pm on 21 June.</td></tr>
<tr><td>Deep Soil Zones</td><td>Objective 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</td><td colspan="3">Deep soil zones are to meet the following minimum requirements:</td><td>The proposal provides 9.3% deep soil zone of minimum dimension of 6m.</td></tr>
<tr><td></td><td></td><td>Site Area</td><td>Min. Dimensions</td><td>Deep soil zone (% of site area)</td><td></td></tr>
<tr><td></td><td></td><td>Less than 650m^2</td><td>-</td><td rowspan="4">7%</td><td></td></tr>
<tr><td></td><td></td><td>650m^2 – 1500m^2</td><td>3m</td><td></td></tr>
<tr><td></td><td></td><td>Greater than 1500m^2</td><td>6m</td><td></td></tr>
<tr><td></td><td></td><td>Greater than 1500m^2 with significant tree cover</td><td>6m</td><td></td></tr>
<tr><td>Visual Privacy</td><td>Objective 3F-1 Adequate building separation distances are shared equitably between neighbouring sites, to</td><td colspan="3">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:</td><td>The proposal complies. Layouts take into consideration of privacy for occupants to reduce the possibility for overlooking.</td></tr>
</table>

	OBJECTIVE	DESIGN CRITERIA			PROPOSED
	achieve reasonable levels of external and internal visual privacy Note: Separation distances between buildings on the same site should combine required building separations depending on the type of room	Building height	Habitable rooms and balconies	Non-habitable rooms	
		Up to 12m (4 storeys)	6m	3m	
		Up to 25m (5-8 storeys)	9m	4.5m	
		Over 25m (9+ storeys)	12m	6m	
	Objective 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				The proposal generally complies with this requirement. Careful consideration has been made to the location of windows to increase privacy without compromising daylight access and views.
Pedestrian Access and Entries	Objective 3G-1 Building entries and pedestrian access connects to and addresses the public domain				Building entrances face the through-site link and address the public domain. Apartments at the podium level are designed with direct access from the through-site link, providing each apartment with its own independent entrance.
	Objective 3G-2 Access, entries and pathways are accessible and easy to identify				The buildings have been designed to provide with identifiable, secure, safe and accessible entries, to support surveillance and safety of the pedestrians.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
	Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		Provision has been made for through-site pedestrian link from Cecil Avenue to Roger Avenue, to provide excellent connectivity and amenity within the site, and to and from the surrounding locality.
Vehicle Access	Objective 3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes		The driveway has been designed to have minimum impact on the streetscape. Pedestrian and vehicular entries are provided for separately.
Bicycle and Car Parking	Objective 3J-1 Car parking is provided based on proximity to public transport in metropolitan Sydney and centres in regional areas	For development in the following locations: • on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or • on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre the minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less The car parking needs for a development must be provided off street.	The proposed development makes provision for satisfying Council's and SEPP 65 requirements.
	Objective 3J-2 Parking and facilities are provided for other modes of transport		The proposal includes car spaces, motorcycle and bicycle parking within the 3 levels of basement which complies with council controls.
	Objective 3J-3 Car park design and access is safe and secure		Access is clear of visual obstructions and basement design minimises opportunities for hiding and concealment.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
	Objective 3J-4 Visual and environmental impacts of underground car parking are minimised		The proposal complies with this control.
	Objective 3J-5 Visual and environmental impacts of on-grade car parking are minimised		Not applicable.
	Objective 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised		Not applicable.
Solar and Daylight Access	Objective 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 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas	The proposed development has been orientated to maximise the northern aspect and to minimise the number of south facing units. The layout of units and window locations provide satisfactory daylight access. 437 of 615 units (71%) receive 2 hours direct sunlight at the winter solstice.
		2. In all other areas, living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 3 hours direct sunlight between 9 am and 3 pm at mid winter	Not applicable.
		3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	No more than 15% of apartments receive no direct sunlight between 9 am and 3pm at mid winter.
	Objective 4A-2 Daylight access is maximised where sunlight is limited		Full height windows are proposed to achieve maximum daylight.
	Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months		The proposal complies with this control.

	OBJECTIVE	DESIGN CRITERIA		PROPOSED
Natural Ventilation	Objective 4B-1 All habitable rooms are naturally ventilated			The layout of all units and window locations provide access to natural ventilation.
	Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation			The layout and design of single aspect apartments maximises natural ventilation
	Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed		60.5% of apartments are naturally cross ventilated.
		2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line		Overall depth of cross-through apartments does not exceed 18m, measured glass line to glass line
Ceiling Heights	Objective 4C-1 Ceiling height achieves sufficient natural ventilation and daylight access	Measured from finished floor level to finished ceiling level, minimum ceiling heights are:		Minimum floor to ceiling height of 2.7m is provided to the main living areas and habitable rooms.
		Minimum ceiling height for apartment and mixed use buildings		
		Habitable Rooms	2.7m	
		Non-Habitable	2.4m	
		For 2 Storey Apartments	2.7m for main living area floor 2.4m for second floor, where its area does not exceed 50% of the apartment area	

<table>
<tr><th></th><th>OBJECTIVE</th><th colspan="2">DESIGN CRITERIA</th><th>PROPOSED</th></tr>
<tr><td rowspan="6"></td><td rowspan="3"></td><td>Attic Spaces</td><td>1.8m at edge of room with a 30 degree minimum ceiling slope</td><td rowspan="3"></td></tr>
<tr><td>If located in mixed use areas</td><td>3.3m for ground and first floor to promote future flexibility of use</td></tr>
<tr><td colspan="2">Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms</td><td>The proposal complies with this control.</td></tr>
<tr><td colspan="2">Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building</td><td>The proposal complies with this control.</td></tr>
<tr><td>Apartment Size and Layout</td><td rowspan="2">Objective 4D-1 The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</td><td colspan="2">1. Apartments are required to have the following minimum internal areas:
<table><tr><td>Apartment Types</td><td>Minimum Internal Area</td></tr><tr><td>Studio</td><td>35m^3</td></tr><tr><td>1 bedroom</td><td>50m^3</td></tr><tr><td>2 bedroom</td><td>70m^3</td></tr><tr><td>3 bedroom</td><td>90m^3</td></tr></table>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m^2 each.
A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m^2 each.</td><td>All proposed units comply with the minimum unit size requirements.</td></tr>
<tr><td colspan="2">2. Every habitable room must have a window in an external wall with a total minimum glass</td><td>The proposal complies with this control.</td></tr>
</table>

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
		area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms	
	Objective 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	The proposal complies with this control.
		2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window	The proposal complies with this control.
	Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs	1. Master bedrooms have a minimum area of $10m^2$ and other bedrooms $9m^2$ (excluding wardrobe space)	The proposal complies with minimum areas of master bedrooms and other bedrooms.
		2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)	The proposal complies with this control.
		3. Living rooms or combined living/dining rooms have a minimum width of: • 3.6m for studio and 1 bedroom apartments • 4m for 2 and 3 bedroom apartments	The proposal complies with this control.
		4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	The width of cross-through apartments are at least 4m internally.
Private Open Space and Balconies	Objective 4E-1 Apartments provide appropriately sized private open space	1. All apartments are required to have primary balconies as follows:	The proposal complies with this control, with each unit having access to at least one private open space of the minimum area.

<table>
<tr><th></th><th>OBJECTIVE</th><th colspan="3">DESIGN CRITERIA</th><th>PROPOSED</th></tr>
<tr><td rowspan="8"></td><td rowspan="7">and balconies to enhance residential amenity</td><td>Dwelling type</td><td>Minimum Area</td><td>Minimum Depth</td><td rowspan="6">Balconies have been designed to articulate the building façades with compliant minimum depth.</td></tr>
<tr><td>Studio</td><td>4m^3</td><td>-</td></tr>
<tr><td>1 bedroom</td><td>8m^3</td><td>2m</td></tr>
<tr><td>2 bedroom</td><td>10m^3</td><td>2m</td></tr>
<tr><td>3+ bedroom</td><td>12m^3</td><td>2.4m</td></tr>
<tr><td colspan="3">The minimum balcony depth to be counted as contributing to the balcony area is 1m</td></tr>
<tr><td colspan="3">2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m^2 and a minimum depth of 3m.</td><td>For apartments at ground level or on a podium, a private open space is provided instead of a balcony, with minimum area of 15m2 and minimum depth of 3m.</td></tr>
<tr><td colspan="4">Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents</td><td>Generous balconies are provided adjacent to the living areas and designed to be an extension of the living areas.</td></tr>
<tr><td colspan="4">Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building</td><td>Balconies have been designed to articulate the building façades.</td></tr>
<tr><td colspan="4">Objective 4E-4 Private open space and balcony design maximises safety</td><td>Balconies have been designed to comply with this control.</td></tr>
<tr><td></td><td>Objective 4F-1 Common circulation spaces achieve good amenity and</td><td colspan="3">1. The maximum number of apartments off a circulation core on a single level is eight</td><td>There are 1-7 apartments off a circulation core in the proposed development. The common lobbies have been designed with a high level of amenity including access to daylight and natural ventilation, and also</td></tr>
</table>

	OBJECTIVE	DESIGN CRITERIA		PROPOSED
Common Circulation and Spaces	properly service the number of apartments			greater than minimum requirements for corridor widths allowing comfortable movement outside lifts and at apartment entry doors.
		2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40		Two lifts provided to each of the circulation cores in Building B and C.
	Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents			The proposal complies with this control.
Storage	Objective 4G-1 Adequate, well designed storage is provided in each apartment	In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided:		All units comply with minimum storage requirements. At least 50% of the required storage is located within the apartment.
		Dwelling Type	Storage size volume	
		Studio	$4m^3$	
		1 bedroom	$6m^3$	
		2 bedroom	$8m^3$	
		3+ bedroom	$10m^3$	
		At least 50% of the required storage is to be located within the apartment		
	Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments			The proposal complies with this control.
Acoustic Privacy	Objective 4H-1 Noise transfer is minimised through the siting of buildings and building layout			The proposal complies with this control.
	Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments			The proposal complies with this control.

APARTMENT DESIGN GUIDE (ADG)

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
Noise and Pollution	Objective 4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings		Noise from external sources will be treated to ensure compliance.
	Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission		The proposal complies with this control.
Apartment Mix	Objective 4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future		A range of apartment sizes is provided.
	Objective 4K-2 The apartment mix is distributed to suitable locations within the building		The proposed development provides an appropriate mix in keeping with demand in the market place.
Ground Floor Apartments	Objective 4L-1 Street frontage activity is maximised where ground floor apartments are located		The proposal complies with this control.
	Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents		The proposal complies with this control.
Facades	Objective 4M-1 Building facades provide visual interest along the street while respecting the character of the local area		The building elements have been designed with regard to the elements, textures, materials and colours of the existing neighbourhood. The façade design is intended to reduce the visual bulk of the building and offers an interesting dialogue of horizontal and vertical elements. Schedule of materials and finishes has been submitted.
	Objective 4M-2 Building functions are expressed by the facade		The proposal complies with this control.
Roof Design	Objective 4N-1 Roof treatments are integrated into the building design and positively respond to the street		The roof design is appropriate as it relates to the desired built form and minimises overshadowing and visual impact.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
	Objective 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised		The proposal incorporates quality communal open space at the rooftop, to enhance residential amenity and provide opportunity for social interaction amongst residents.
	Objective 4N-3 Roof design incorporates sustainability features		The proposal incorporates photovoltaic panels on the roof to maximise solar energy capture.
Landscape Design	Objective 4O-1 Landscape design is viable and sustainable		The proposal complies with this control. Please refer to landscape design.
	Objective 4O-2 Landscape design contributes to the streetscape and amenity		The proposal complies with this control. Please refer to landscape design.
Planting on Structures	Objective 4P-1 Appropriate soil profiles are provided		The proposal complies with this control. Please refer to landscape design.
	Objective 4P-2 Plant growth is optimised with appropriate selection and maintenance		The proposal complies with this control. Please refer to landscape design.
	Objective 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces		The proposal complies with this control. Please refer to landscape design.
Universal Design	Objective 4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members		The apartments in the development have been designed to: - Be an appropriate mix for the local market. - Allow modifications over time. - Respond to site characteristics. - Provide appropriate kitchen and storage facilities. - Enable furniture removal and replacement. - Provide adequate solar access and natural ventilation.

APARTMENT DESIGN GUIDE (ADG)

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
	Objective 4Q-2 A variety of apartments with adaptable designs are provided		The proposed development provides an appropriate mix which is considered appropriate for the local market.
	Objective 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		The proposal complies with this control.
Adaptive Reuse	Objective 4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place		Not applicable.
	Objective 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse		Not applicable.
Mixed Use	Objective 4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement		The proposal encourages a mix of uses on the site with the focus on residential development, whilst activating key frontages and thoroughfares through the site.
	Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		Through-site pedestrian link and plazas, and the Cecil Avenue frontage are activated by commercial, and retail located at the Upper Ground, Level 1 and 2, with residential uses located in tower forms above.
Awnings and Signage	Objective 4T-1 Awnings are well located and complement and integrate with the building design		Appropriate awning and lighting will be provided to the building entry.
	Objective 4T-2 Signage responds to the context and desired streetscape character		The proposal complies with this control.
	Objective 4U-1 Development incorporates passive environmental design		The proposal complies with this control.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
Energy Efficiency	Objective 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer		The proposal complies with this control.
	Objective 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation		Natural ventilation requirements have been addressed. The proposal complies with this control.
Water Management and Conservation	Objective 4V-1 Potable water use is minimised		The application achieves a compliant BASIX score and NatHERS Rating. Low energy fixtures and fittings will be implemented. Native and drought tolerant vegetation have been incorporated into the Landscape Plan.
	Objective 4V-2 Urban stormwater is treated on site before being discharged to receiving waters		Not applicable.
	Objective 4V-3 Flood management systems are integrated into site design		Flood management systems are integrated through overland flow and stormwater management strategies, with design of bio-retention basins combining stormwater management with natural filtration to improve water quality while managing flow. Please refer to stormwater design.
Waste Management	Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents		The proposal complies with this control.
	Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling		The proposal complies with this control.
Building Maintenance	Objective 4X-1 Building design detail provides protection from weathering		The proposal complies with this control.
	Objective 4X-2 Systems and access enable ease of maintenance		The proposal complies with this control.

	OBJECTIVE	DESIGN CRITERIA	PROPOSED
	Objective 4X-3 Material selection reduces ongoing maintenance costs		Materials will be durable and cleanable.

DESIGN GROUP

APPENDIX C
SOLAR ACCESS ANALYSIS

WINTER EQUINOX

9AM

LEGEND

SINGLE DWELLING NEIGHBOURING PROPERTIES ACHIEVING AT LEAST 3 HOURS SOLAR ACCESS TO PRIVATE OPEN SPACE BETWEEN 9AM - 3PM ON 21 JUNE

BOUNDARY LINE

	ADDRESS	8am-9am	9am-10am	10am-11am	11am-12pm	12pm-1pm	1pm-2pm	2pm-3pm	3pm-4pm	9am-3pm	8am-4pm
A	20 Lincoln Place									4.5hrs	5.5hrs
B	22 Lincoln Place									4 hrs	5 hrs
C	24 Lincoln Place									3.5hrs	4.5hrs
D	8 Roger Avenue									3hrs	4hrs
E	6 Roger Avenue									3.5 hrs	4.5 hrs
F	7 Roger Avenue									3.5 hrs	5.5 hrs
G	5 Roger Avenue									4.5 hrs	6.5 hrs
H	109B Cecil Avenue									4.5hrs	5.5hrs
I	109A Cecil Avenue									6 hrs	8 hrs

CRITICAL PERIOD

10AM

	ADDRESS	8am-9am	9am-10am	10am-11am	11am-12pm	12pm-1pm	1pm-2pm	2pm-3pm	3pm-4pm	9am-3pm	8am-4pm
A	20 Lincoln Place									4.5hrs	5.5hrs
B	22 Lincoln Place									4 hrs	5 hrs
C	24 Lincoln Place									3.5hrs	4.5hrs
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G	5 Roger Avenue									4.5 hrs	6.5 hrs
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I	109A Cecil Avenue									6 hrs	8 hrs

CRITICAL PERIOD

WINTER EQUINOX

11AM

12PM

LEGEND

SINGLE DWELLING NEIGHBOURING PROPERTIES ACHIEVING AT LEAST 3 HOURS SOLAR ACCESS TO PRIVATE OPEN SPACE BETWEEN 9AM - 3PM ON 21 JUNE

BOUNDARY LINE

	ADDRESS	8am-9am	9am-10am	10am-11am	11am-12pm	12pm-1pm	1pm-2pm	2pm-3pm	3pm-4pm	9am-3pm	8am-4pm
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CRITICAL PERIOD

WINTER EQUINOX

1PM

2PM

LEGEND

SINGLE DWELLING NEIGHBOURING PROPERTIES ACHIEVING AT LEAST 3 HOURS SOLAR ACCESS TO PRIVATE OPEN SPACE BETWEEN 9AM - 3PM ON 21 JUNE

BOUNDARY LINE

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CRITICAL PERIOD

WINTER EQUINOX

3PM

LEGEND

SINGLE DWELLING NEIGHBOURING PROPERTIES ACHIEVING AT LEAST 3 HOURS SOLAR ACCESS TO PRIVATE OPEN SPACE BETWEEN 9AM - 3PM ON 21 JUNE

BOUNDARY LINE

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CRITICAL PERIOD

WINTER EQUINOX

9AM - 3PM

9 AM

10 AM

11 AM

12 PM

1 PM

2 PM

3 PM

	ADDRESS	8am-9am	9am-10am	10am-11am	11am-12pm	12pm-1pm	1pm-2pm	2pm-3pm	3pm-4pm	9am-3pm	8am-4pm
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CRITICAL PERIOD

LEGEND

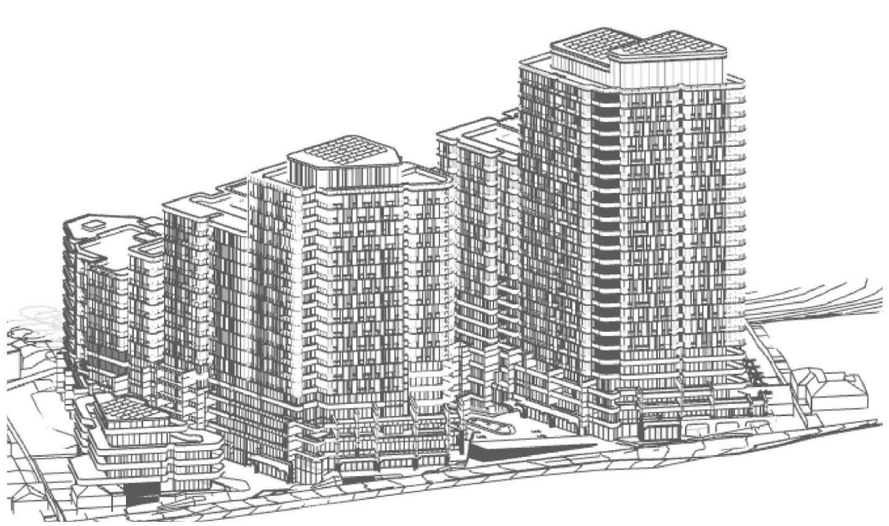
SINGLE DWELLING NEIGHBOURING PROPERTIES ACHIEVING AT LEAST 3 HOURS SOLAR ACCESS TO PRIVATE OPE SPACE BETWEEN 9AM - 3PM ON 21 JUNE

BOUNDARY LINE

PROPERTY GETTING SOLAR ACCESS

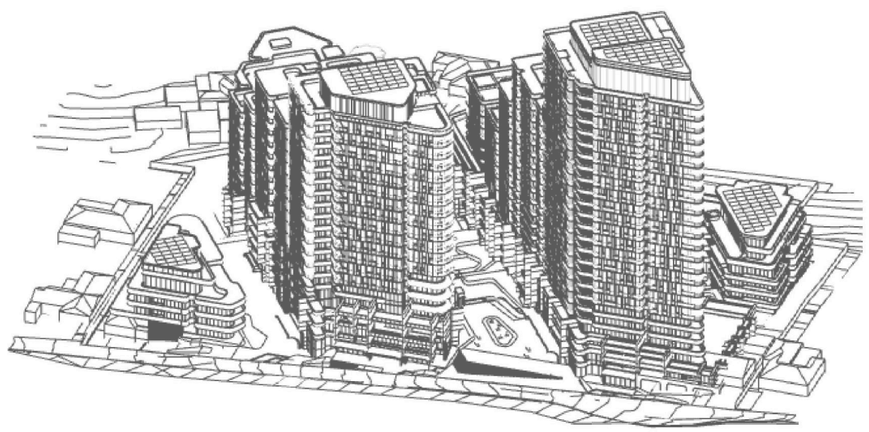
SOLAR EYE VIEW

9AM - 12PM

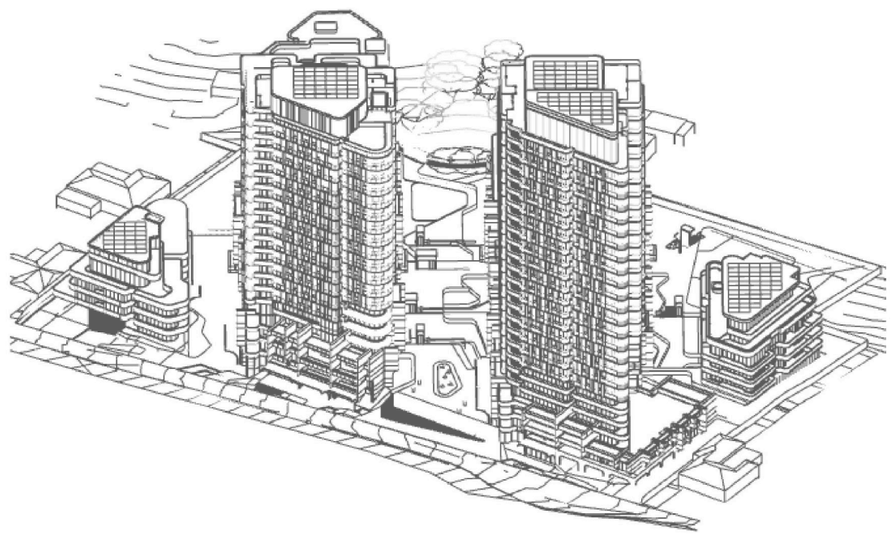


JUNE 21ST - 9AM

JUNE 21ST - 10AM



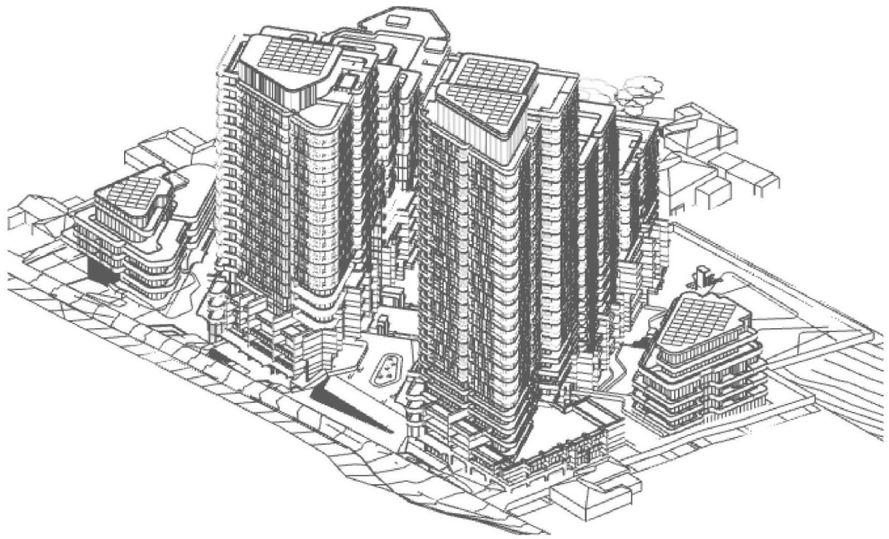
JUNE 21ST - 11AM



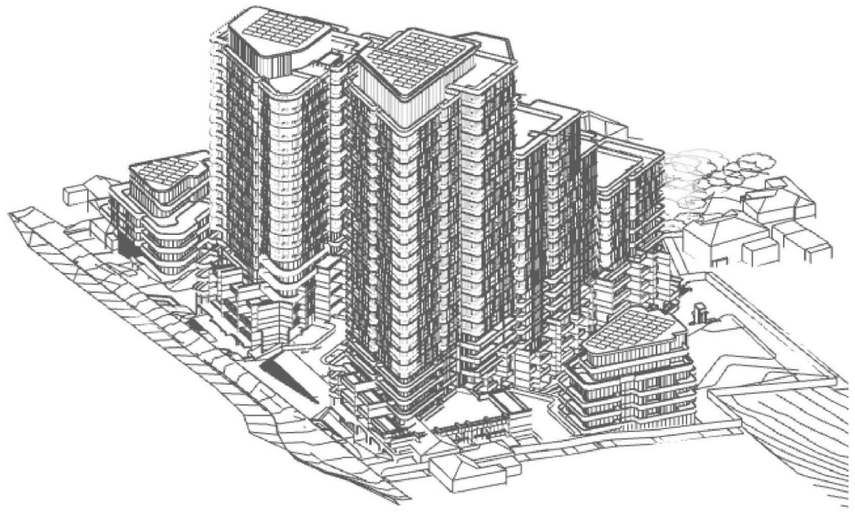
JUNE 21ST - 12PM

SOLAR EYE VIEW

1PM - 3PM



JUNE 21ST - 1PM



JUNE 21ST - 2PM

JUNE 21ST - 3PM

DESIGN GROUP

APPENDIX D
STATE DESIGN REVIEW PANEL RESPONSE

STATE DESIGN REVIEW PANEL RESPONSE

SDRP Comment	Response
Connecting with Country This is a significant project for Castle Hill, and an understanding of Country offers the potential to inform richer and more place-responsive design solutions Connecting with Country themes should be integral to the whole project and not limited to artwork and signage. The concept that the building form is inspired by Aboriginal "storytelling of the Tree, Water and Life" and is not currently evident in the proposed design. 1. Engage more widely with a range of Aboriginal knowledge-holders from the Dharug community and ensure that the response to Country is guided by them. 2. Embed the significance of Country in the design and deliver a site-specific response by acquiring a deep understanding of the site's topography and natural systems. 3. Demonstrate how the project can contribute to the reciprocal care of Country by responding to site-specific environmental conditions and through the delivery of environmentally sustainable design initiatives, landscape and biodiversity. 4. Establish Indigenous Cultural and Intellectual Property (ICIP) protocols to ensure all proposed artwork designs and motifs that are based on stories of Country have the artists' consent and are correctly attributed. 5. Refer to the Connecting with Country Framework and case studies on the GANSW website for information and guidance.	The Panel process provides only a limited opportunity to deeply explain the Connecting with Country strategy for the project. However, this has been a central and essential element informing the proposed design, also noting that each building has been named after a native tree species found within the Dharug region using the native name. The proposal has taken inspiration from Country, and our design seeks to harmonise built form with the landscape and honouring its natural rhythms. Water is a key element of the public domain. Indigenous art will be embedded as a component of the buildings, being applied to sunshade screening, part of the precast facade elements, and public art sculptures are also proposed. The applicant is willing to provide further detail in relation to these measures as part of a Response to Submissions process.
Site Strategy and Built Form The proposal is not currently demonstrating that the site is suitable for the 30% uplift proposed under the Infill Affordable Housing scheme. The long, deep, and tall built form of Buildings B and C creates a visually and physically impermeable mass. These buildings create a canyon effect for pedestrians in the through-site link and present as a 'wall' from key vantage points beyond the site. The proposed massing is also unconvincing due to the detrimental impacts on residential amenity and the overshadowing of public and communal open space.	The proposed building lengths and site layout are entirely consistent with the building footprints and lengths established by the site specific DCP. The DCP represents the culmination of detailed site assessment by The Hills Shire Council and the proposal respects and honours that process. The additional height and density have been arranged to respect the hierarchy of height established by the DCP and also to preserve residential amenity for adjacent properties.

6. Break down the unrelenting mass of the built form to provide permeability and improved amenity for the apartment buildings. 7. Note: the recommended residential floor plate size is 750m2 GFA to ensure adequate views of the sky, solar access, and building separation. A typical residential tower footprint in the Sydney region is 21m wide by 42m long. 8. Continue to develop a series of nuanced massing options to demonstrate the development's urban response, improve residential amenity, deliver better permeability and to offer potential for the site to become a self-contained 'village' by delivering a series of diverse spaces, services and activities for residents. In doing so, study and demonstrate: a) smaller built forms through reduced building depths and lengths (as noted above) improved wayfinding and pedestrian circulation, including east- west connections and open spaces between buildings b) building separation distances that meet the minimum requirements of the ADG to improve solar access and cross-ventilation, allow visual privacy between towers, achieve permeability of the built form from key vantage points, and improve outlook from the apartments c) overshadowing impacts to determine where built form height is best accommodated (refer items 8 and 9 below) d) strategies to break down the mass of the built form through variation in height and legible vertical articulation e) increased tower setbacks above the podium to mitigate wind impacts at ground level f) a view impact analysis from eye level at key vantage points 9. Interrogate the scheme in the context of current and future development on the adjacent sites along Cecil Avenue (which may be 10-12 storeys or more) to test whether some of the proposed additional density should be located on the eastern and/or western sides of the site. a. Illustrate the overshadowing impacts of the massing options tested. In doing so: b. provide shadow diagrams from 9am to 3pm in mid-winter that compare the massing options tested	The applicant notes the Panel's preference for increased height for Buildings A and D based on a future context. Notwithstanding, the applicant is willing to explore design refinements once further feedback is received from the Department in relation to potential departures from the DCP, as part of a Response to Submissions process.

c. include a comparison of a DCP compliant scheme with the preferred option and illustrate the impact on surrounding residences and future development d. test the overshadowing impacts on the proposed rooftop and ground level communal open space and public open space and shape the built form to maximise winter solar access to these spaces. e. The minimal tower façade setback from the podium has the potential to create unfavourable wind conditions at ground level, which may be exacerbated by the vertical expression of the podium facades. 10. Undertake wind studies and design the buildings to mitigate downdrafts and ensure comfortable wind conditions for users of the public domain and rooftop open spaces. 11. Explore options to shape the buildings and increase the tower setbacks to mitigate wind at ground level without reliance on awnings.	
Public Through Site Link The through-site link has the potential to be a positive urban space and an asset to residents of the development and the wider community, however it requires further development to ensure its long-term success and to avoid it becoming a sterile, static or inhospitable environment. The through-site link connects a busy, public and commercial area at the north to quiet residential cul-de-sac at the south. The current design for the through-site link is homogeneous along its length and does not respond to the existing and future urban character. 12. Illustrate how the design responds to the two different environments at the north and south so that there is a clear rationale for how the through-site link is used. 13. Consider the types of spaces within the podium that address the through- site link and propose uses that will activate it where appropriate and provide passive surveillance.	The design and programming for the through site link is dynamic and comprises integrated stair seating, timber seating, trees and soft landscaping, and water features. The design is coordinated and consistent, and provides for a change in character at the northern and southern ends. In particular, the northern end has reduced soft landscaping and presents as a plaza space reflective of the adjacent commercial tenancies. The southern end is a more intimate arrangement with increased soft landscaping which is reflective of the adjacent residential apartments. The proposal carefully manages the fall along the through site link and interface with adjacent ground floor tenancies and apartments.

14. Define the purposes of the through-site link and consider the experience of the people who will use it. Provide zones of varying character to cater for different activities, such as circulation, gathering, dining, rest, etc. 15. Undertake evidence-based testing and provide an analysis of solar access and wind in the through-site link to ensure the various zones are fit for purpose and that user comfort can be achieved. 16. Provide dimensioned plans and sections that illustrate the interface between the public through-site link and the apartments that address it. 17. Provide drawings with levels and gradients indicating the accessible routes for all publicly accessible areas The intention for the through-site link to become a 'green corridor' was presented as a key design objective, however this is not evident in the design response. 18. Examine the ratio of hard surfaces to softscape throughout the through-site link. Provide a generous amount of soft landscaping to ensure the through-site link does not become a sterile environment, dominated by paving. 19. Where possible, co-locate landscape zones with deep soil to allow trees to thrive and grow to a significant size. 20. Where deep soil cannot be achieved, use the level changes along the through-site link to provide deep planters that can accommodate trees of a significant size. Provide dimensioned sections illustrating the proposed approach. 21. Locate trees adjacent to building entries to assist with intuitive wayfinding. 22. Provide shadow studies to demonstrate that the plants and trees along the through-site link will receive adequate sunlight to thrive. The idea of incorporating water in the landscape design for the through-site link has potential to add a unique and dynamic element to the scheme. 23. Incorporate WSUD features in the design of the proposed water features and ensure that they do not become 'sterile' elements in hard landscaping.	Evidence based testing has been undertaken, with the submitted Wind Report confirming that wind conditions for all trafficable outdoor locations within and around the development will be suitable for their intended uses, subject to incorporation of the suggested recommendations. Notwithstanding, the applicant is willing to explore design refinements once further feedback is received from the Department in relation to the proposal, as part of a Response to Submissions process.

24. Ensure that there is adequate budget allocated for the maintenance and running costs of the proposed water features to ensure the long-term success of the design	
Public Domain and Streetscape The character and purpose of each of the public open spaces is currently unclear. 25. Create a series of diverse public open spaces of varying sizes, each with a unique character. Provide drawings and 3D views to describe the character of each area. 26. Demonstrate how CPTED principles are achieved through the design of the public spaces and the buildings that address them. Further design development of the podium is required to create a clearly defined and appropriately scaled street wall. 27. Express the podium as a distinct built form element that responds to the scale and character of the public domain (i.e., fronting the through-site link, the public plazas, and Cecil Avenue). 28. Increase the floor-to-floor height of the ground and first floors to comply with the minimum 3.3m ceiling height required under the Apartment Design Guide (ADG) (refer section 4C-1) and to enable future flexibility. Note that greater ceiling heights for retail and commercial floors of mixed-use developments are required for café and restaurant uses to accommodate additional servicing needs. The commercial tenancies facing Cecil Avenue do not currently interface well with the existing footpath levels. 29. Step the floor levels of the proposed commercial tenancies on Cecil Avenue to ensure a seamless connection with the public domain and mitigate the need for stairs, ramps and handrails. 30. Provide dimensioned sections and ground plane drawings that illustrate the public domain interface in key locations around the perimeter of the buildings, including tower and podium setbacks, footpath and public domain	The proposal does provide a series of public open spaces of varying size and character, as identified in the Landscape Report prepared by Site Image which identifies an Upper plaza, Lower plaza and through site link. The proposal provides a 4 to 5 storey podium, which properly defines and responds to Cecil Avenue as well as the through site link with an appropriate scale relative to the width of the through site link. The floor levels of the commercial tenancies have been intentionally established to ensure a balanced approach towards interface with the adjacent northern plaza, the street levels, and also the need to achieve a commercially viable level tenancy. For example, the commercial tenancy on Level 2 in Building C has a floor level of RL 129.80 which matches the level of the northern plaza and the adjacent footpath to the plaza. However, along the frontage of this tenancy to Cecil Avenue there is a steep fall of approximately 3m and so stepping of the floor level is not practical. Notwithstanding, the applicant is willing to explore design refinements once further feedback is received from the Department in relation to the proposal, as part of a Response to Submissions process.

zones, ground levels, road widths, carpark and building entries, and adjacent buildings. The scale of the development has the potential to support an active retail and commercial centre. 31. Ensure the location, mix and number of commercial outlets provided is designed to foster the growth of a thriving and active precinct over time. Demonstrate how the through-site link can contribute to activation of the public plazas and the Cecil Avenue streetscape.	
Communal Open Space It is critical that the communal outdoor areas receive ample solar access throughout the year to ensure they are well-used, have good amenity, and that the proposed planting will thrive. 32. Provide an analysis of the amenity of all residential communal open spaces. This should include solar and wind analyses, the proposed plant species, and the location of outdoor seating areas. Demonstrate how user comfort can be achieved throughout the year. 33. Demonstrate that there is adequate solar access for the proposed planting to thrive in all locations, including the south-facing roof terraces. 34. Describe the purpose of the western communal open space adjacent to the cemetery, which is largely overshadowed. Illustrate how this space is connected to the through-site link and how residents will find it. The rooftop communal spaces will benefit from district views, however the current design proposes continuous perimeter planting. 35. Create pockets of usable and accessible space around the perimeter of the external terraces, rather than dedicating the edges entirely to planting. These spaces could be strategically placed and linked to Country by emphasising views to sky or significant places. 36. Explore opportunities to physically connect the landscaped rooftop terraces. Ensure that the connections are integrated in the design of the built form and landscape. 37. Ensure that communal space is located and designed so that access to it is equitable and there is a sense of ownership for all residents.	The proposal provides a variety of communal open space areas, with a quantum which is more than double the minimum requirement. The communal open space has maximised the use of rooftop space and solar access to the communal open space has been optimised. Notwithstanding, the applicant is willing to explore design refinements and to provide additional analysis once further feedback is received from the Department in relation to the proposal, as part of a Response to Submissions process.

Apartment Planning The Panel reviewed the detailed plans following the meeting and have concerns regarding the apartment planning. The development must demonstrate consistency with the design quality principles for residential apartment development (Housing SEPP) and the ADG objectives to achieve design excellence. Refer to the 'Apartment Design Guide case studies' for additional guidance. The long and wide built form is limiting the development's ability to achieve adequate levels of cross-ventilation and meet the objectives and minimum requirements of the ADG. The diagrams provided include several apartments in the calculations that will not achieve adequate cross-ventilation due to the lack of pressure differential between windows. These apartments are not considered to be cross-ventilated. Some apartments appear to be excessively deep and narrow with a lightwell in the centre of the plan, which will be costly to build and provide limited benefit to the apartments. 38. Improve the efficiency of the planning and amenity of the apartments by reducing the floor plate sizes and providing generous vertical articulation in the built form to allow more dual-aspect apartments. 39. Demonstrate that the balcony blade walls do not impede solar access to living areas of the apartments. 40. Provide updated solar and cross ventilation diagrams to illustrate compliance 41. Address the poor amenity of the proposed affordable apartments. Ensure that the percentage of affordable apartments benefiting from solar access and cross-ventilation is commensurate with the market apartments. The communal corridors are long and lack access to natural light, ventilation and outlook. 42. Revise the apartment planning to remove dog-leg corridors and ensure that the common corridors have direct access to natural light and outlook from each of the lift lobbies.	The applicant is willing to explore refinements to apartment planning once further feedback is received from the Department in relation to the proposal, as part of a Response to Submissions process.
Sustainability	The proposed development has been designed to reflect best practice sustainable building principles

As the design develops, demonstrate an ambitious sustainability strategy, that encompasses the operational aspects of the building and is embedded in the architecture. 43. Provide details of the proposed ESD performance targets and initiatives and how the project will achieve them. 44. Explore the potential for the proposed water features to be solar-powered and to filter and re-use stormwater. 45. Provide strategies for how a net-zero building can be achieved. This is highly encouraged to reach NSW's Net Zero emissions goal by 2050. Refer to 'NSW, DPIE, Net Zero Plan, Stage 1: 2020-2030' for further information.	to improve environmental performance, in relation to energy and water efficient design and technology and use of renewable energy. An ESD report prepared by Credwell accompanies the subject application which details how ESD principles have been incorporated in the design and construction of the project and are intended to be incorporated in the ongoing operation of the development.

DESIGN GROUP
NOMINATED ARCHITECT: KAICHI LEUNG
NSW Architects Registration No. 7133

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