135 BADGERYS CREEK ROAD BRADFIELD

Scoping Report

December 2024
Rev B | 3.12.24

Prepared for Bradfield Corporation

GROUPGSA

GroupGSA acknowledges First Nations peoples and their continuing connection to land, waters and culture, because we strongly believe in reconciliation and collaborative engagement for a better future.

We pay our respects to Elders past and present, whose knowledge, traditions and stories guide custodianship on what will always be their ancestral lands.

LOCAL CONTEXT

The site is situated on Badgerys Creek Road on the outskirts of the proposed Bradfield City Centre Master Plan study area, within walking distance of the future Metro Station.

The Bradfield City Centre Master Plan study area refers to a large singular lot owned by State Government gazetted for urban redevelopment, though the realised strategic centre will extend throughout the Aerotropolis Core precinct.

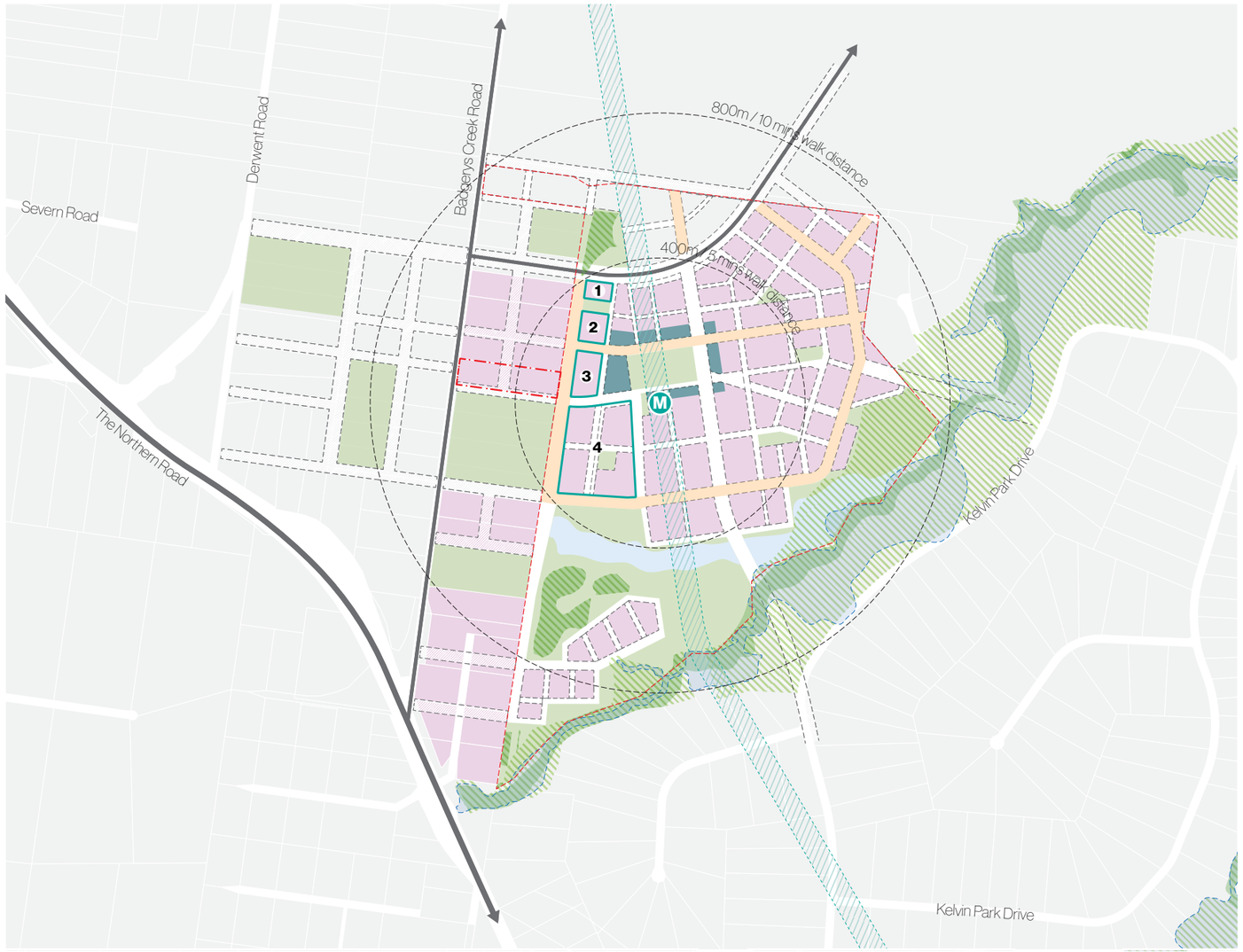
Future residential and retail development will be concentrated within the identified mixed-use zone, which extends throughout the City Centre and along Badgerys Creek Road including the subject site.

The mixed-use zone will accommodate a blend of commercial, civic, and residential uses to support the growth of the surrounding economic enterprise area.

There are four ongoing development proposals within the City Centre study area which include:

1. **First Building**
   Advanced Manufacturing Research Facility Stage One
2. **Second Building**
   Advanced Manufacturing Research Facility Stage Two
3. **Third Building**
   Proposed CSIRO
4. **Superlot 1**
   - 4.8ha site area
   - Mixed-use development
   - 237,000m2 GFA
   - 1,000 dwellings

A mixed-use development of the site will accommodate early growth within the City Centre, while providing much needed housing nearby to approved AMRFs.




First Building. Source: Hassell


Superlot 1. Source: WPCA

OPPORTUNITIES AND CONSTRAINTS

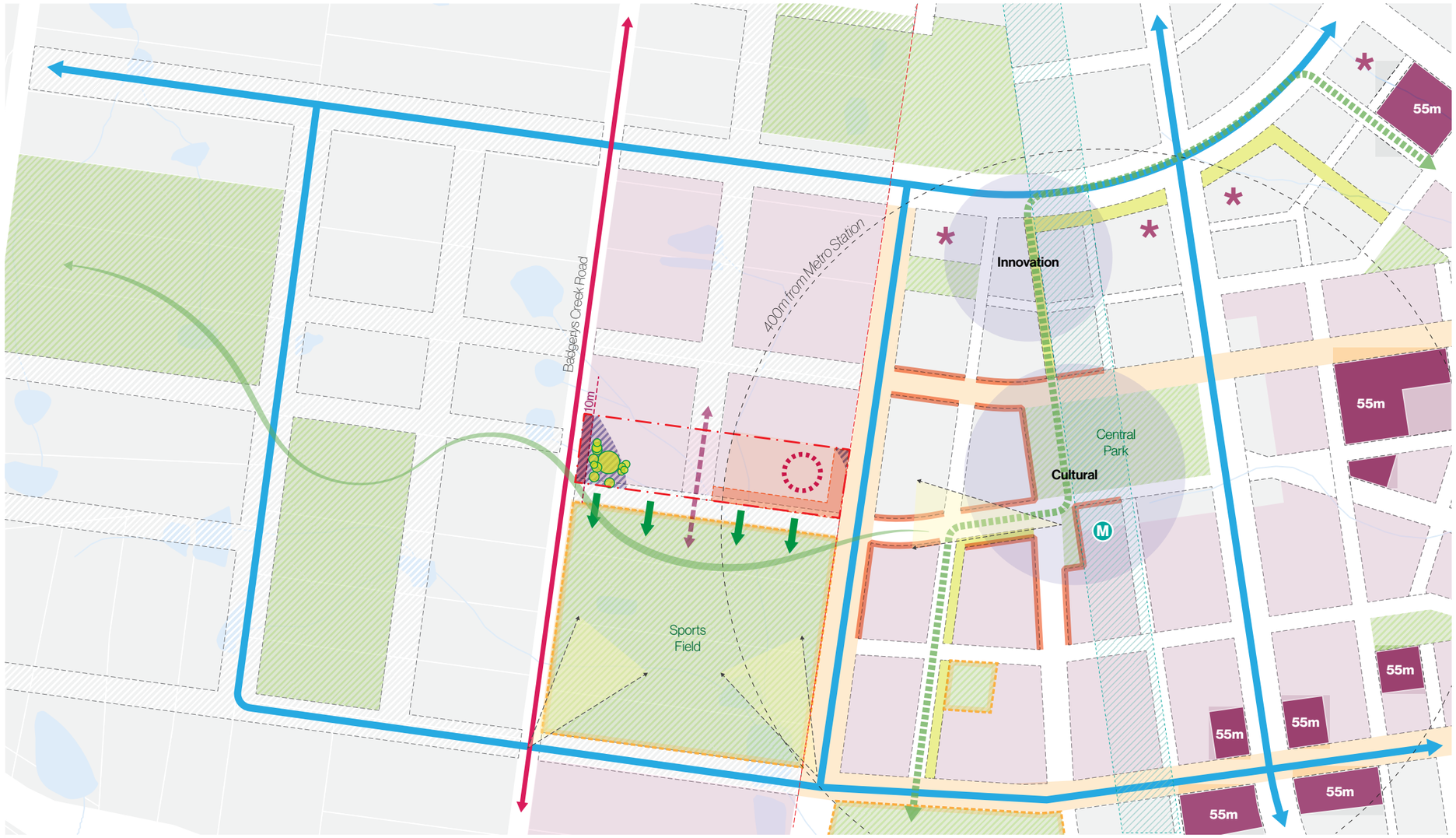
The site is situated at a convenient and prominent position within proximity of the future City Centre, with opportunity to provide an active, landscape-oriented mixed-use development.

Opportunities

- Extend ground level retail activation along southern and eastern interfaces, integrating into the wider activity network.
- Locate primary active node within 400m walking distance of City Centre, facing east towards the Commercial High Street.
- Allow north-south through-site connectivity, reducing total massing and improving overall permeability.
- Retain existing canopy along Badgerys Creek Road, minimising ecological impact and providing a buffer to the sub-arterial road.
- Incorporate the general east-west open space network with a south-facing facade and public domain which responds to the proposed sports field.
- Increased height at the City Centre's periphery aligns with the wider building height strategy which reduces towards the central Metro Station.
- Community facilities within walking distance of the site, providing a high degree of residential amenity.

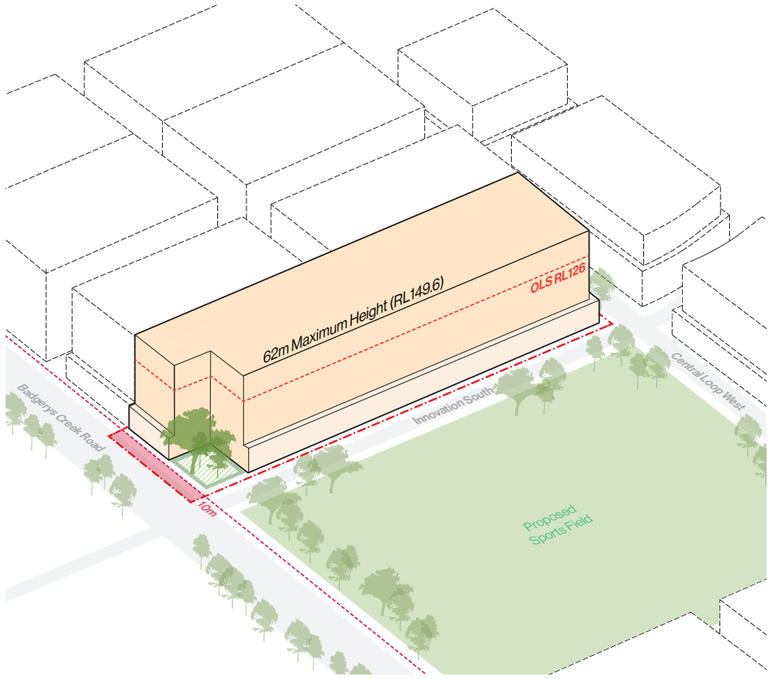
Constraints

- Proposed sports field is likely a district level park, requiring minimum 3 hours solar to at least 70% of its total area (21st June, 09.00am-03.00pm).



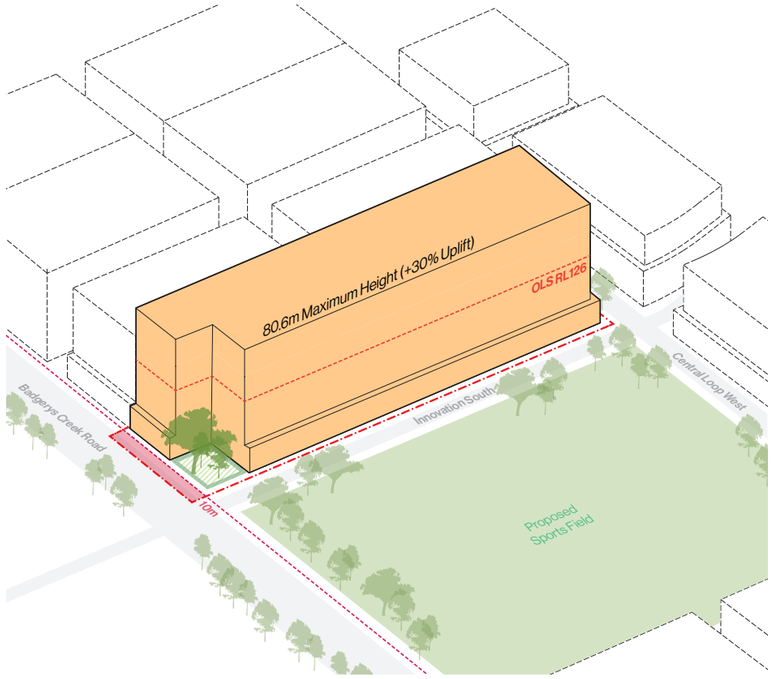
ENVELOPE COMPARISON

Three envelopes are illustrated below which show a comparison between the LEP envelope; LEP envelope with 30% bonus height and FSR; and an envelope with additional height aligning to the presumed PANS-OPS height limit.



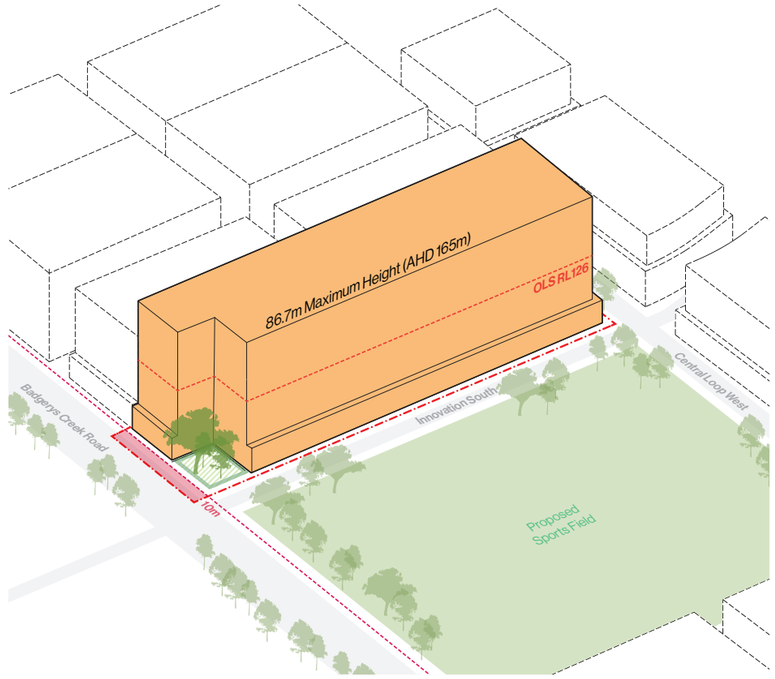
Western Sydney Aerotropolis Precinct Plan 2023

- LEP Height: 62m
- LEP FSR: 3.5:1



SEPP (Housing) In-fill affordable housing (30%) height bonus

- Uplift Height: 80.6m (RL 161.6)
- Uplift FSR: 4.55:1



Proposed Envelope

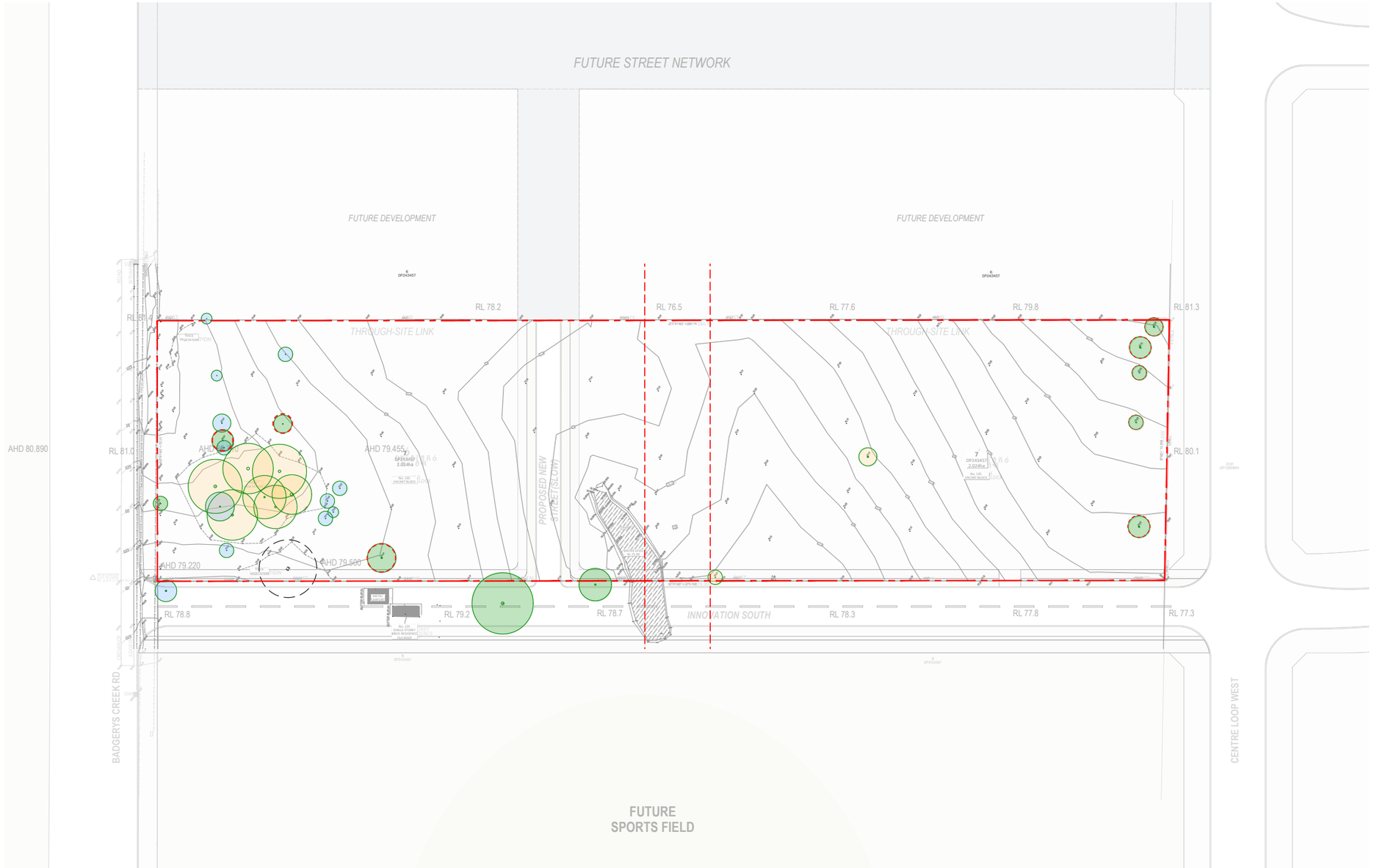
- Proposed Maximum Height: 86.7m (RL165)
- Proposed FSR: 5.01:1

SITE FEATURES

The site currently sits in its natural state, featuring low grass over undulating topography.

Site Features

- Taller gum trees are regarded as having low retention value, however may have high project value. These could form part of a shaded open space, ideal for this western sydney location.
- The small outlier trees, with higher retention value should be reviewed for species compatibility.
- There is a dormant water body located in the centre of the site, however, it is noted that the future Innovation South road will cut off circulation to the stream.
- Civil and Stormwater consultants recommend a culvert in a similar position under the future road. There may also be ability to include a bio-retention swale as part of the new mid-block road.
- There was an appreciation for the undulating topography on the site and how this may translate into the design or skyline.



Legend

- High Retention Value
- Medium Retention Value
- Low Retention Value

VISION FOR BRADFIELD

Defining Bradfield's western gateway, 135 Badgerys Creek Road will be a landmark development supporting the growth of the Aerotropolis. A dynamic mixed-use community with an engaging retail precinct at its heart, residents and hotel guests will dine in energetic laneways, overlooking a key open space

Basecase Scheme:
FSR: **3.5 : 1**
Total GFA: **70,826 sqm**

Affordable Housing Bonus
FSR: **4.55 : 1**
Total GFA: **92,073 sqm**

Preferred Scheme:
FSR: **5.01 : 1**
Total GFA: **101,421 sqm (+10%)**

74.8% of facades achieve at least 2 hours of direct sunlight - Improved from 69% in other schemes

Larger floorplates align with industry standards and allow for greater **variation in tower heights**

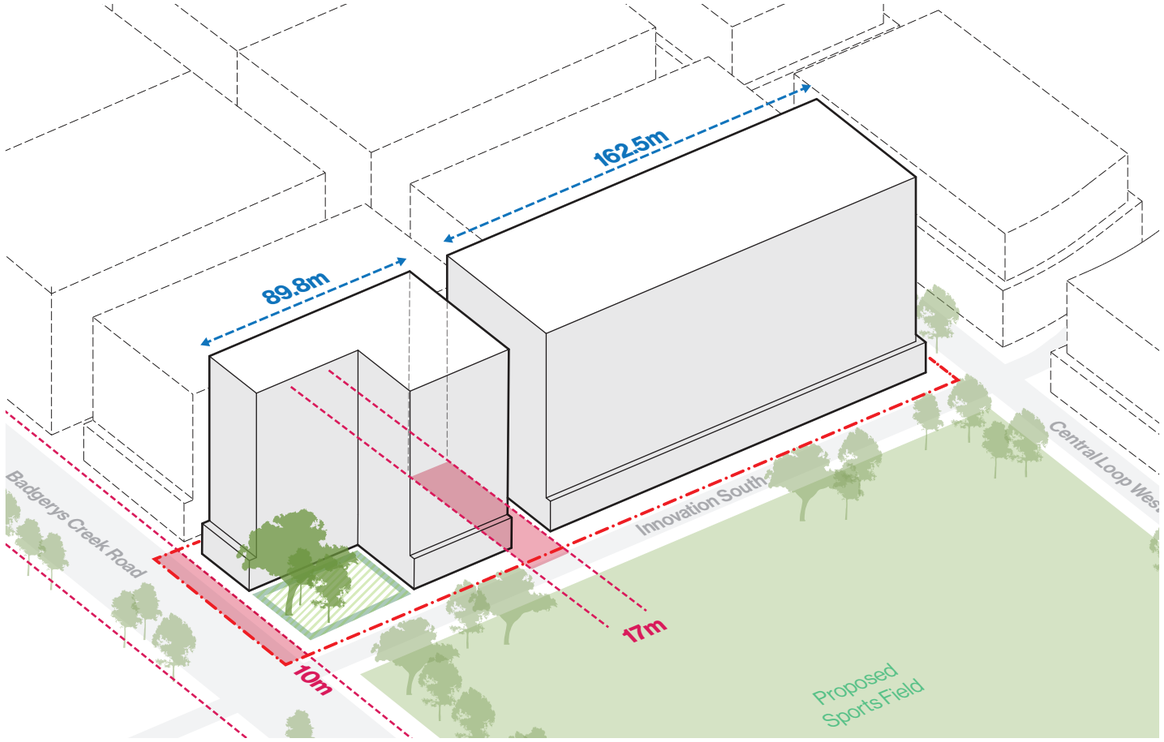
PRINCIPLES

01 \

Incorporate the Bradfield City Centre street network.

A 17m wide ‘City Street’ is identified to the site’s north to provide through-site connectivity and integration with the wider Bradfield City Centre Master Plan, resulting in two distinct masses of suitable dimensions.

Provision is made for the widening of Badgerys Creek Rd, resulting in a land dedication of 10m to the west.

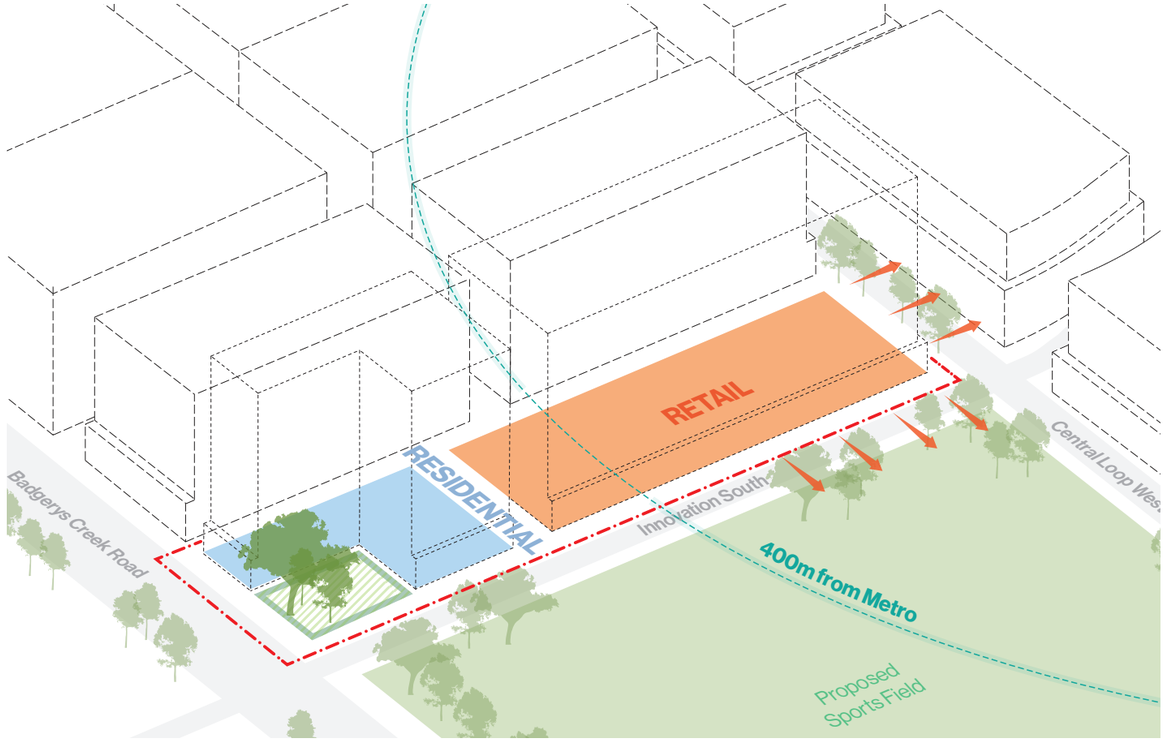


02 \

Distribute land uses to respond to future context and concentrate activation

Ground level activation and a concentrated retail offering are located within 400m of the future Metro Station and City Centre.

This transitions towards a residential interface across the new through-road and along Badgerys Creek Road.



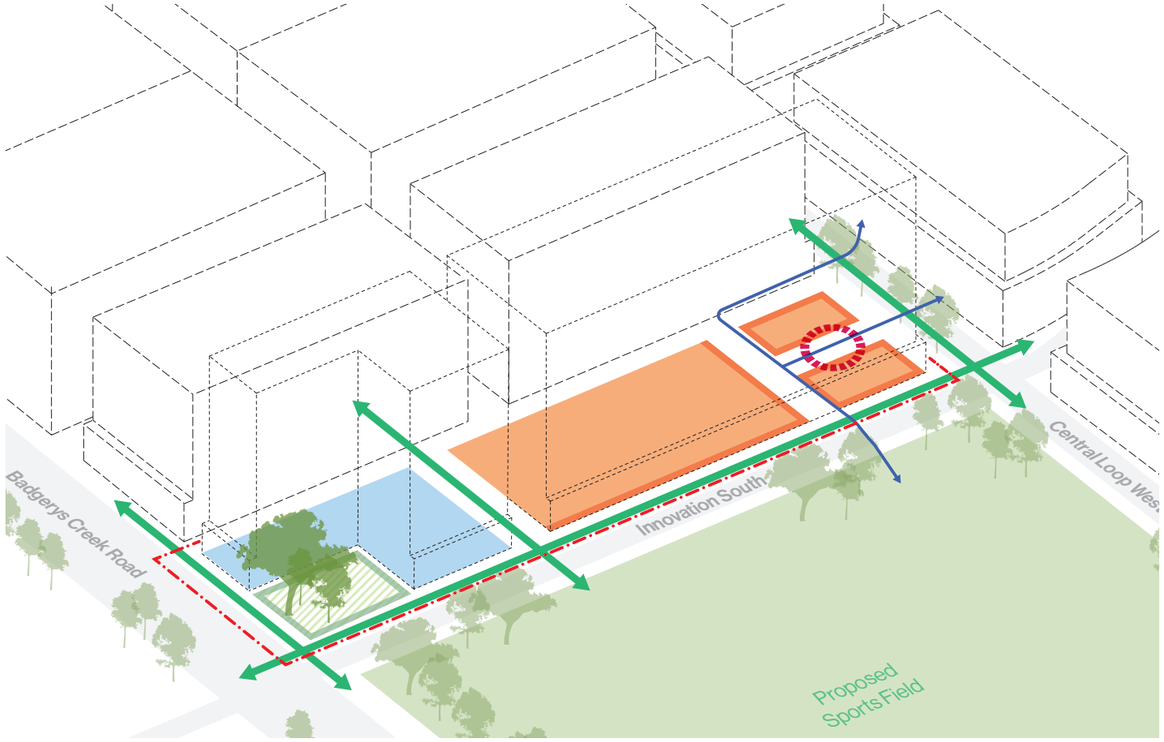
PRINCIPLES

03 \

Create a permeable network of pedestrian laneways to activate the ground plane.

Within the site's active eastern interface, a civic plaza and fine-grain retail offering will draw pedestrian traffic and maximise the utilisation of the groundplane.

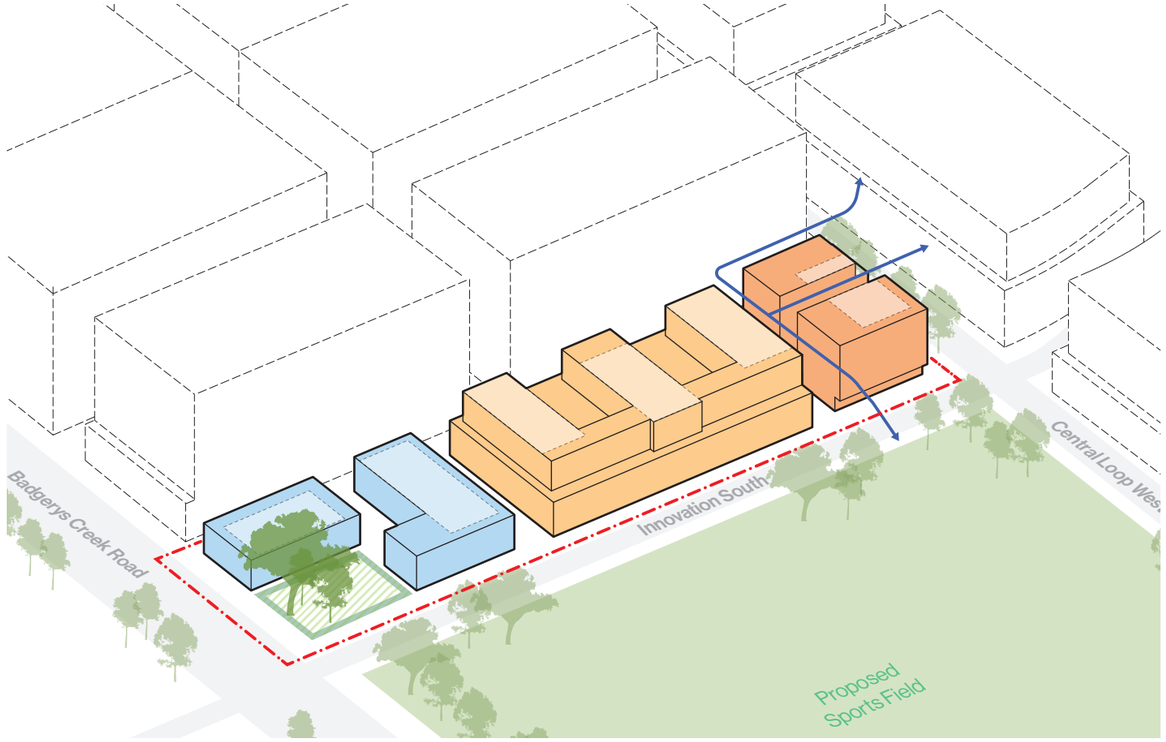
The site will expand the pedestrian-focused masterplan through inclusion of a mid-block street and provide greater connectivity to the new sports field.



04 \

Appropriate podium forms to accommodate desired land uses.

The proposed podium forms reflect their respective land uses, accommodating big-box retail within the site's centre, and a more fine-grain ground plane experience within its active and residential areas.



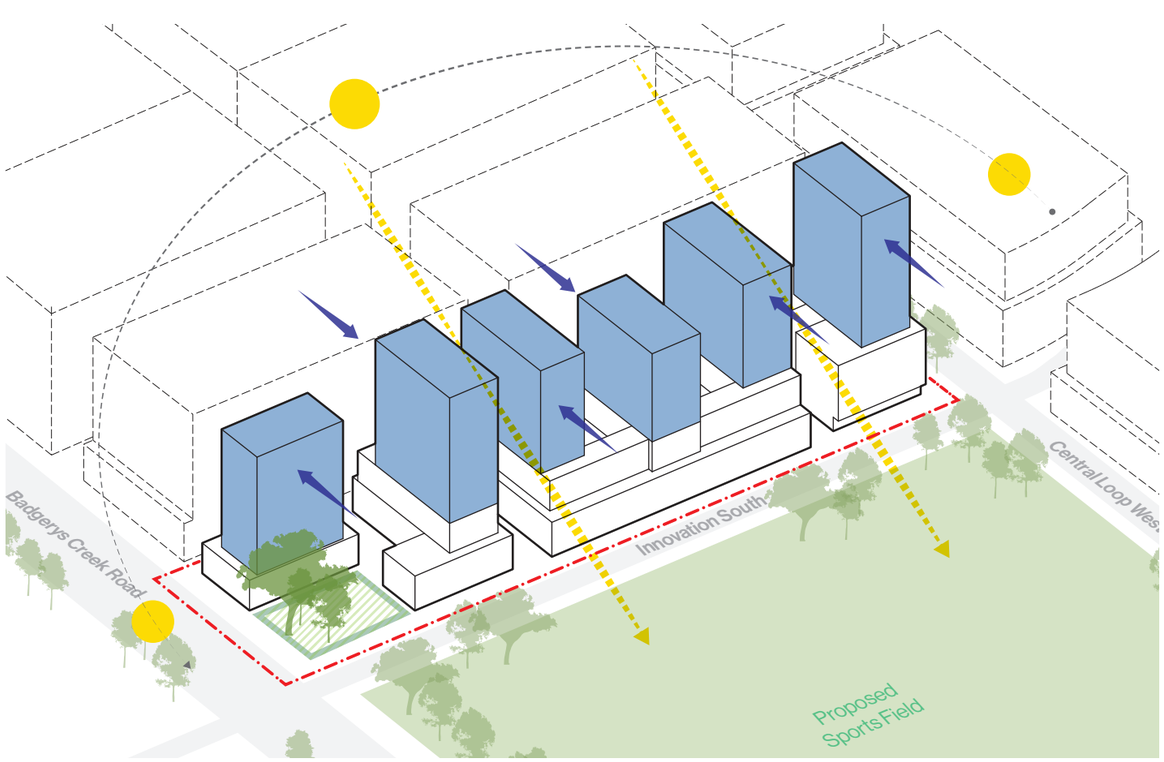
PRINCIPLES

05 \

Locate towers to maximise internal amenity and create a varied skyline.

Towers are positioned in a staggered manner to ensure view and outlook are maximised.

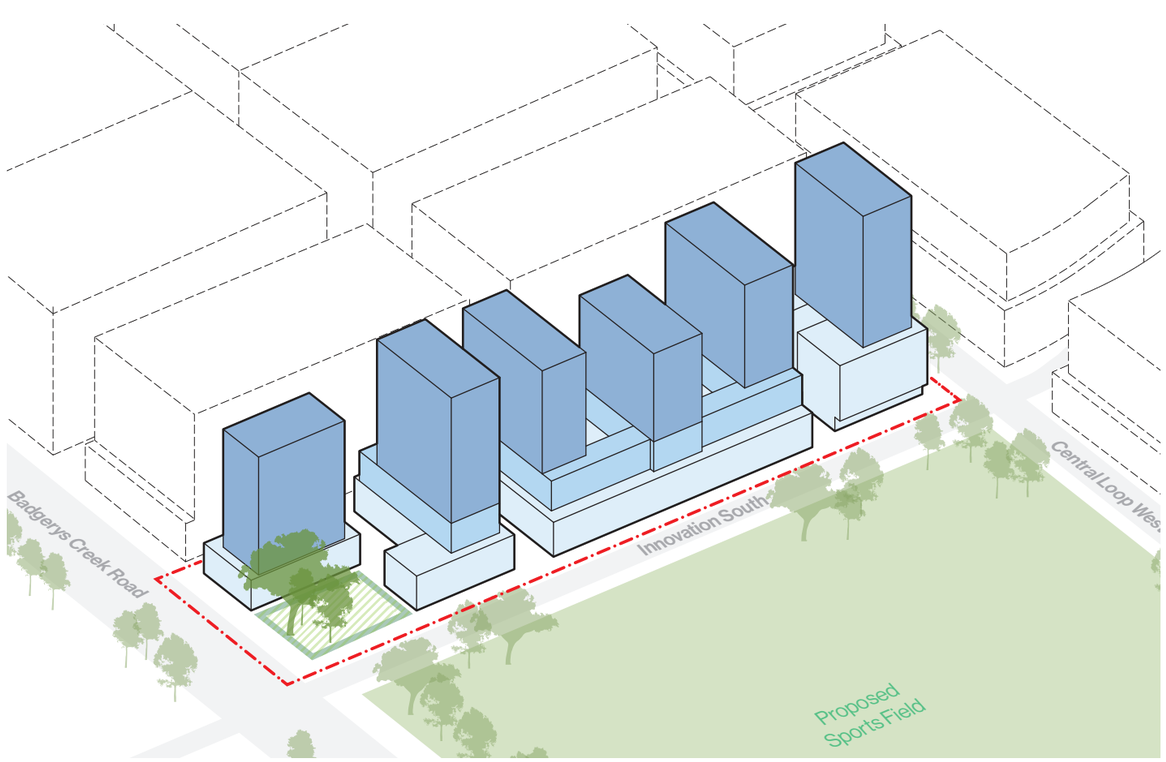
This enables an appropriate building separation, which allows for compliant solar amenity to facades and also to the proposed sports field.



06 \

Provide housing for all: with a variety of typologies, scale and mix of dwellings.

The proposed scheme will seek to provide a range of housing to meet the needs of the new city, particularly key workers with a targeted **30%** mix of In-fill Affordable Housing.

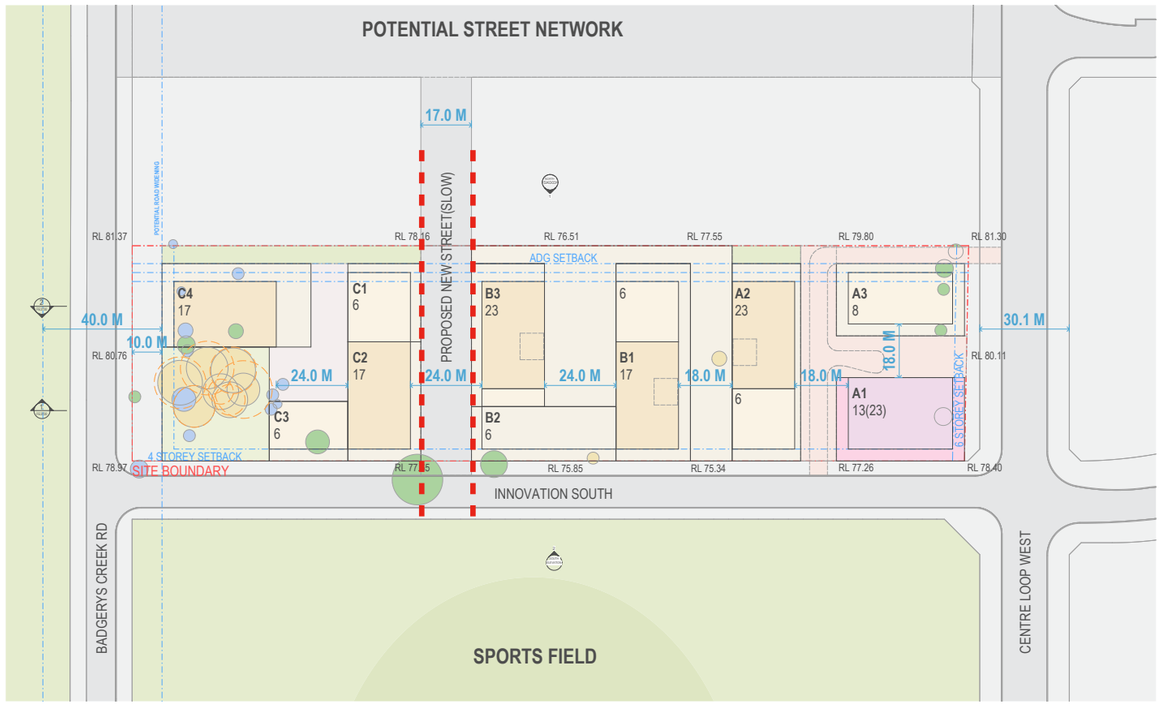


MASTERPLAN DEVELOPMENT

BCC Road Alignment Options

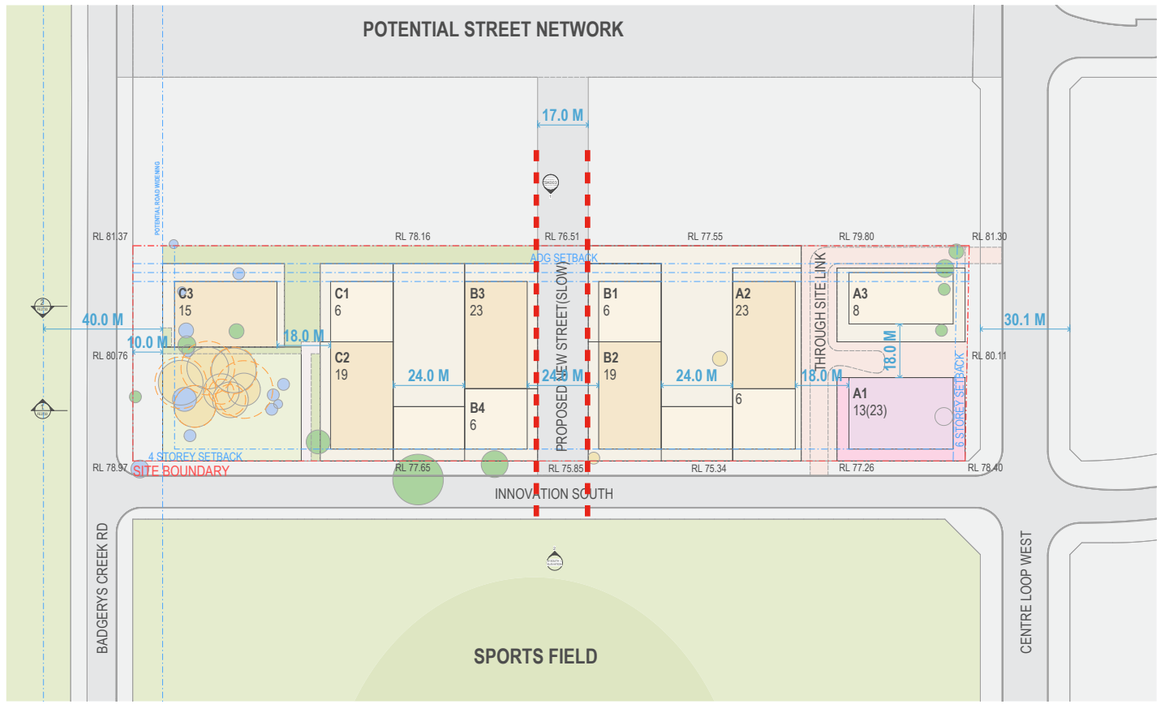
A 17m wide 'City Street' is identified to the site's north to provide through-site connectivity and integration with the wider Bradfield City Centre Master Plan. Its assymmetric position relative to the existing blocks result in two uneven masses.

In a combined response to the retained vegetation and alignment of site features, as well as analysis of future built form, the road position is rationalised to a central location.



Road Alignment | Masterplan

Alignment with BCC Masterplan street network.



Road Alignment | Rationalised

Centrally located road and aligned with the existing creek

MASTERPLAN DEVELOPMENT

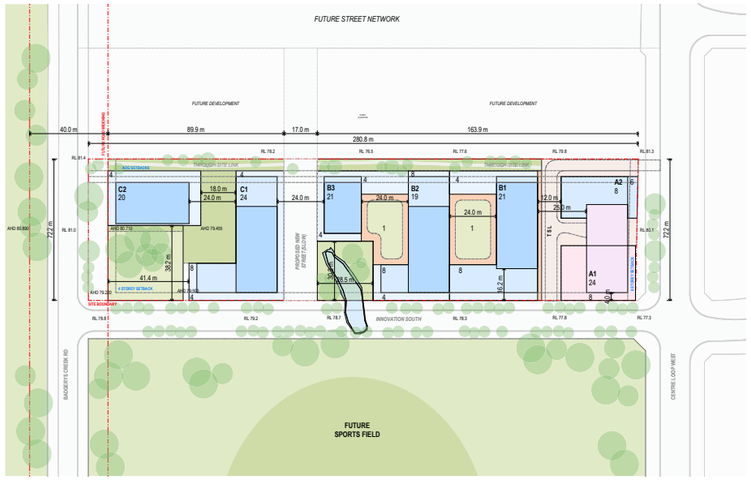
Innovation South Alignment Options

We have recently engaged with a number of stakeholders such as DPHI, BDA & Sydney Water.

They have shared near finalised designs for the extension of Innovation South (SMEC). The road design will ultimately sit 3.3m above natural ground level (NGL), removing the existing pond.

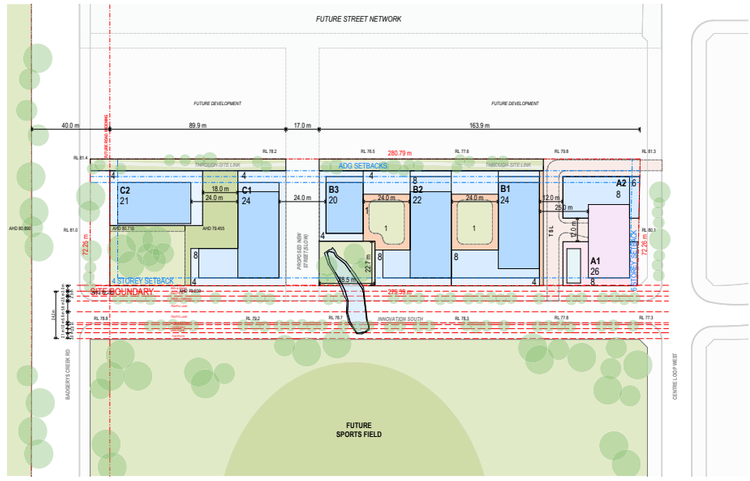
The road has also planned for all run-off to be diverted away from the sportsfield / stormwater management area, towards the SE under Centre Loop West.

These masterplan options look at the various alignments of Innovation South, following from the new road designs.



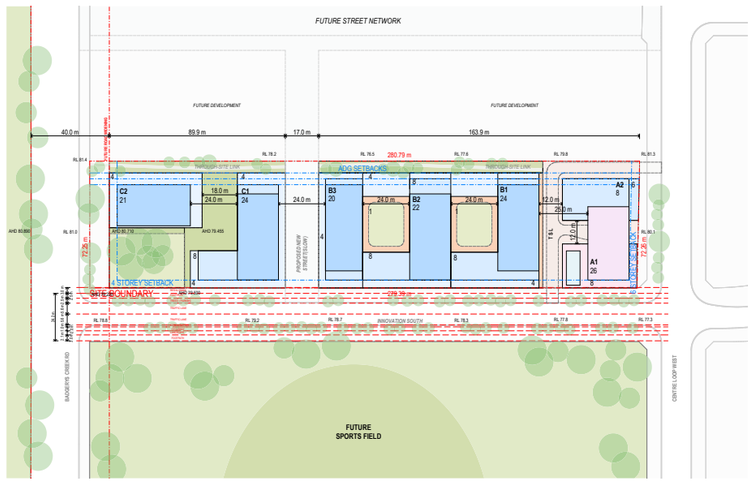
Developed Scheme 1

Original Innovation South Road
Alignment with BCC masterplan N/S street network
Retention of the Pond & Vegetation in SW corner



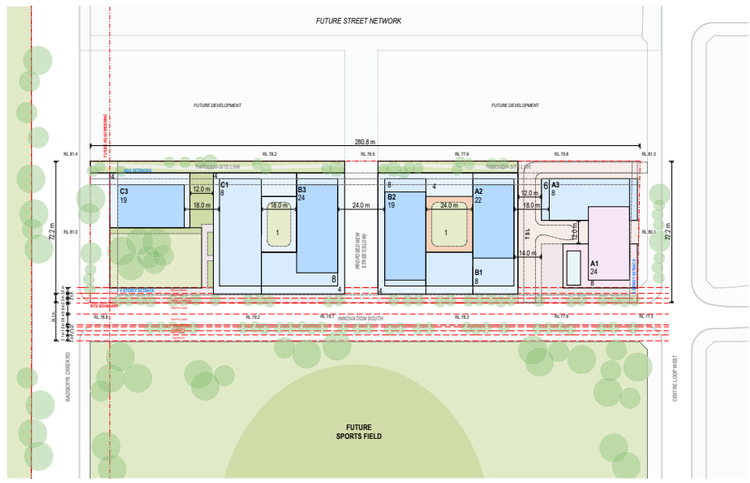
Developed Scheme 2

Extended BCC Innovation South Road
Alignment with BCC masterplan N/S street network
Retention of the Pond (reduced) & Vegetation in SW corner



Developed Scheme 3

Extended BCC Innovation South Road
Alignment with BCC masterplan N/S street network
Retention of the Vegetation in SW corner



Developed Scheme 4

Extended BCC Innovation South Road
Centered N/S street network
Retention of the Vegetation in SW corner

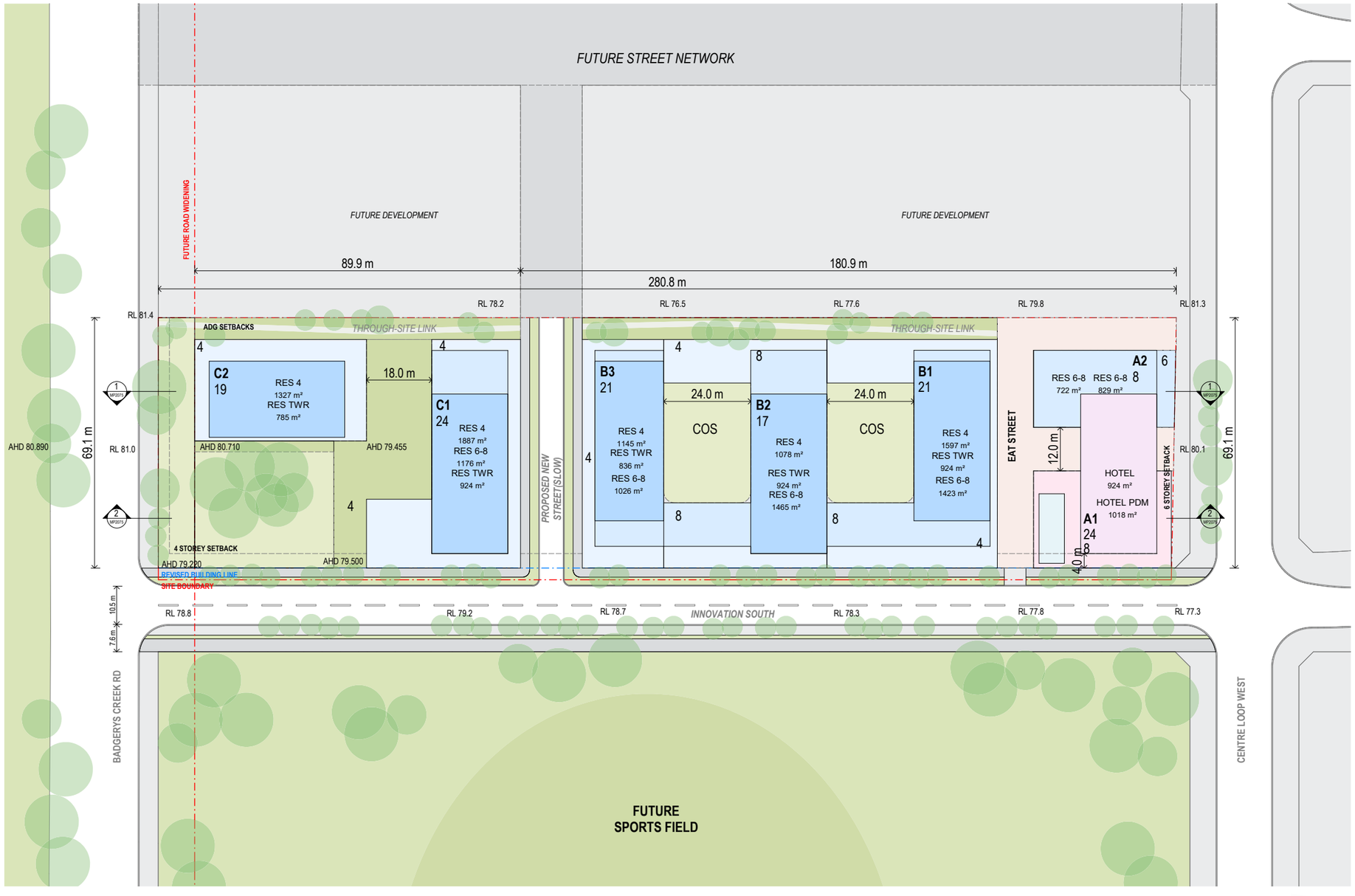
MASTERPLAN

Approximately 10% of the site forms part of a land dedication for expansion of Badgerys Creek Road (10m) & new mid-block road (17m), as well as an expansion of Innovation South.

Significant vegetation on the SW corner can be retained as part of the communal open space and deep soil strategy.

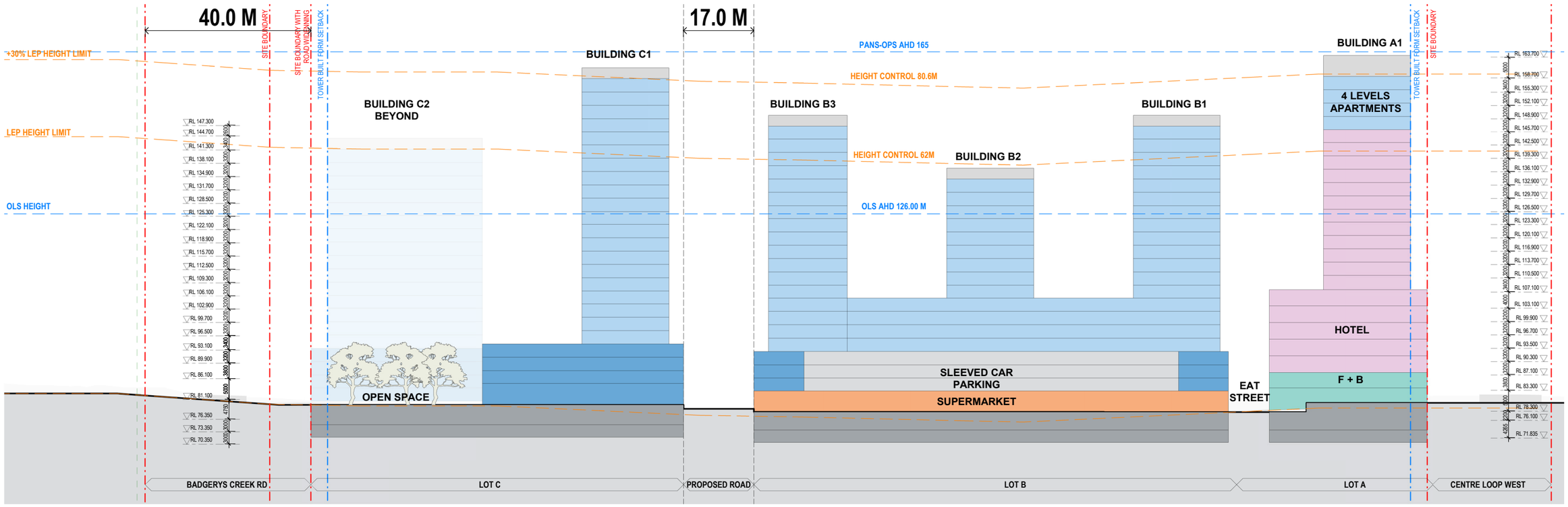
A highly active ground plane is formed around a pedestrian focused laneway, allowing for retail & F+B opportunities, as well as a hotel (pink) that sits within the 8 storey podium of building A1.

Residential towers sit atop the 4-6 storey podiums, varying between 19-24 storeys.



SITE SECTIONS

The tallest building is situated closest to the new city centre, tapering down towards Badgerys Creek Road with a smaller 19 storey residential tower



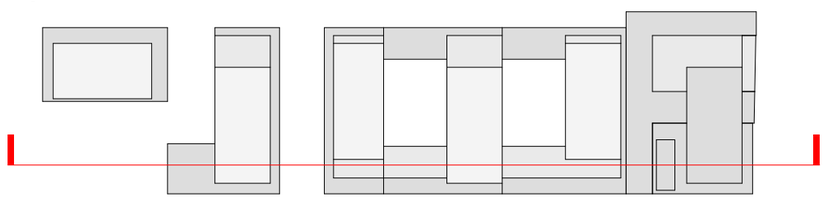
North Section 1

1:1000 @ A3

Legend

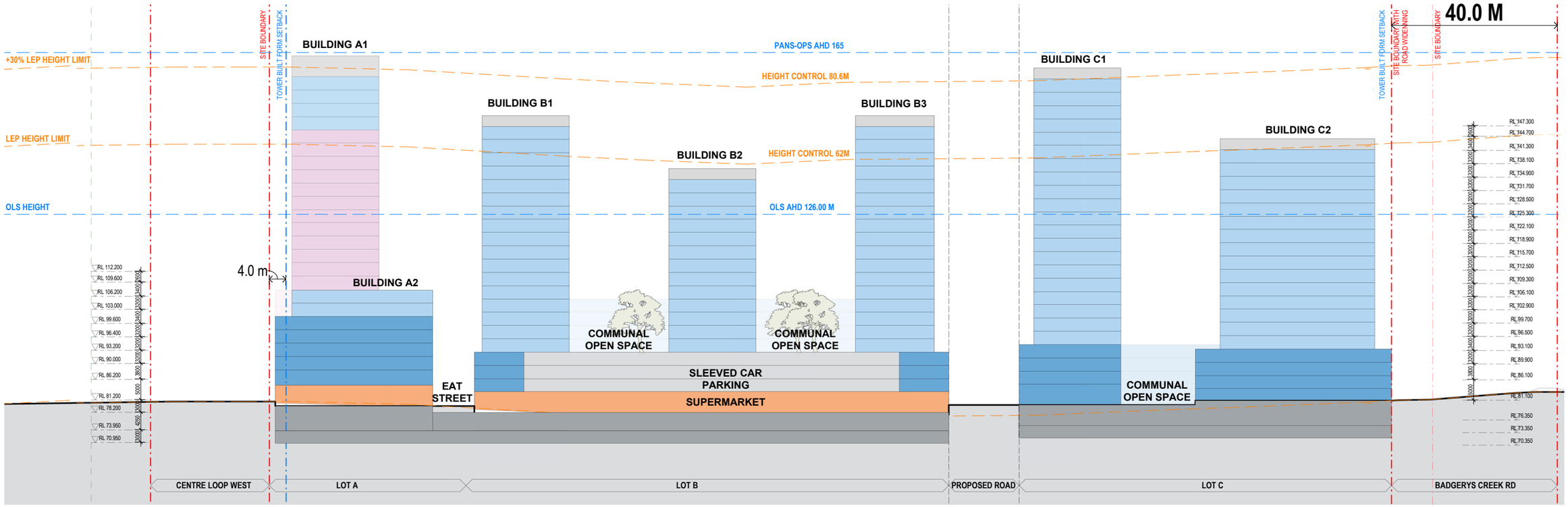
- F+B
- Hotel
- Retail
- Residential
- Residential Podium
- Loading/BOH/Basement

Key Plan



SITE SECTIONS

The skyline of the proposed built form seeks to reflect the undulating topography, using various building heights to create variation.



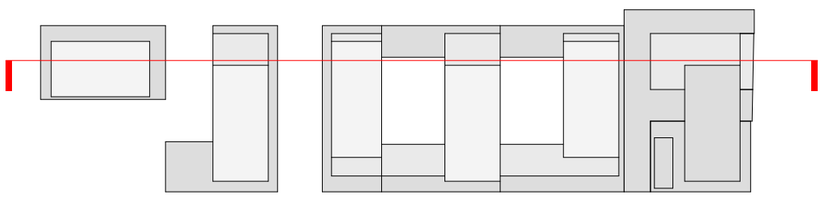
South Section 2

1:1000 @ A3

Legend

- F+B
- Hotel
- Retail
- Residential
- Residential Podium
- Loading/BOH/Basement

Key Plan



DEVELOPMENT SCHEDULE

Development Schedule

Site Area: 20,236 m²
FSR(with bounus): 4.55 : 1
GFA: 92,074 m²
Required Deep Soil(10% of Site Area): 2,024 m²

FSR(achieved): 5.01 : 1
Total achieved GBA: 135,108 m²
Total achieved GFA: 101,421 m²
GFA/GBA Efficiency(Resi): 74.5%
Achieved Deep Soil: 2,572 m²

Legend
- F+B
- Hotel
- Retail
- Residential
- Residential Podium
- Loading/BOH/Basement

Area Schedule	**OPT_D1.6 (New Road)**																								
Building No.				*A1*				*A 2*			*B 1*			*B 2*			*B 3*			*C 1*		*C 2*			
Typology				*Hotel, F+B Residential*				*Mixed Use*			*Mixed Use*			*Mixed Use*			*Mixed Use*			*Residential*		*Residential*			
No. of Storeys				**24**				**8**			**21**			**17**			**21**			**24**		**19**			
Temporary Crane Zone (m)			*15.0 m*				*15.0 m*												*15.0 m*						
Max. Bld Height (AHD AHD)		**AHD**	**165.0 m**				**108.5 m**			**150.4 m**			**137.6 m**			**150.6 m**			**160.6 m**		**145.5 m**				
Presumed PANS-OPS																									
		165.0																							
30% Bonus Height 80.6m	**Roof**	160.0	5.0 m																2.6 m						
	Level 23	156.4	3.6 m	924															3.4 m	924			**924**		
	Level 22	153.2	3.2 m	924															3.2 m	924			**1,848**		
	Level 21	150.0	3.2 m	924						2.6 m						2.6 m			3.2 m	924			**1,848**		
	Level 20	146.8	3.2 m	924						3.4 m	924					3.4 m	836		3.2 m	924			**3,608**		
	Level 19	143.4	3.4 m	924						3.2 m	924					3.2 m	836		3.2 m	924	2.6 m		**3,608**		
LEP Height Limit 62m	**Level 18**	140.2	3.2 m	924						3.2 m	924					3.4 m	836		3.2 m	924	3.4 m	785	**4,393**		
	Level 17	137.0	3.2 m	924						3.2 m	924		2.6 m			3.2 m	836		3.2 m	924	3.2 m	785	**4,393**		
	Level 16	133.8	3.2 m	924						3.2 m	924		3.4 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 15	130.6	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 14	127.4	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
OLS AHD 126 m	**Level 13**	124.2	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 12	121.0	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 11	117.8	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 10	114.6	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 9	111.4	3.2 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
Podium Form [8 storeys]	**Level 8**	107.8	3.6 m	924						3.2 m	924		3.2 m	924		3.2 m	836		3.2 m	924	3.2 m	785	**5,317**		
	Level 7	103.3	4.5 m	1,018			3.4 m	722		3.4 m	1,423		3.4 m	1,465		3.4 m	1,026		3.2 m	1,176	3.4 m	785	**7,615**		
Podium Form [6 storeys]	**Level 6**	100.1	3.2 m	1,018			3.2 m	722		3.2 m	1,423		3.2 m	1,465		3.2 m	1,026		3.2 m	1,176	3.2 m	785	**7,615**		
	Level 5	96.9	3.2 m	1,018			3.4 m	829		3.2 m	1,423		3.2 m	1,465		3.2 m	1,026		3.2 m	1,176	3.2 m	785	**7,722**		
Podium Form [4 storeys]	**Level 4**	93.7	3.2 m	1,018			3.2 m	829		3.2 m	1,423		3.2 m	1,465		3.2 m	1,026		3.2 m	1,176	3.2 m	785	**7,722**		
	Level 3	90.5	3.2 m	1,018			3.2 m	829		3.4 m	1,597		3.4 m	1,078		3.4 m	1,145		3.4 m	1,887	3.4 m	1,327	**8,881**		
	Level 2	87.3	3.2 m	1,018			3.2 m	829		3.2 m	1,597		3.2 m	1,078		3.2 m	1,145		3.2 m	1,887	3.2 m	1,327	**8,881**		
	Level 1	83.3	4.0 m	0	1,018		3.2 m	829		3.2 m	1,597		3.2 m	1,078		3.2 m	1,145		3.2 m	1,887	3.2 m	1,327	**8,881**		
	Ground Level	78.3	5.0 m	304	105	79	5.0 m	75	323	5.0 m	100	758	5.0 m	75	3,647	5.0 m	75	619	4.0 m	1,189	4.0 m	1,043	**8,392**		
	Basement 1	76.7	4.0 m																				**Baseme 14500**	382	
	Basement 2	73.7	3.0 m																				**14500**	382	
	Basement 3																						**Podiun 10191**	268	
Natural Ground Level [AHD]		AHD	78.3 m			AHD	80.7 m		AHD	78.2 m		AHD	78.2 m		AHD	78.2 m		AHD	80.0 m	AHD	80.7 m		**Spaces**	**1031**	
Total Area																									
Gross Building Area				**22,398**				**5,987**			**23,353**			**21,132**			**19,101**			**26,338**		**16,799**	**135,108**	**sqm**	
Gross Floor Area by Efficiency																									
Residential GFA			74.5%	2,754			74.5%	4,220		74.5%	16,833		74.5%	13,026		74.5%	13,769		74.5%	19,622	74.5%	12,515	**82,739**	**sqm**	**82%**
Non-Resi GFA (Retail)			90.0%	71			90.0%	291		90.0%	682		90.0%	3,282		90.0%	557		90.0%	0	90.0%		**4,883**	**sqm**	**5%**
Non-Resi GFA (F+B)			60.0%	674																			**674**	**sqm**	**1%**
Hotel GFA			75.0%	13,125																			**13,125**	**sqm**	**13%**
Total				**16623**				**4510**			**17515**			**16309**			**14326**			**19622**		**12515**	**GFA 101,421**	**sqm**	
																							FSR 5.01	**: 1**	

DEVELOPMENT SCHEDULE

Yield Schedule

Site Area:	**20,236 m²**	**FSR(achieved):**	**5.01 : 1**
FSR(with bounus):	**4.55 : 1**	**Total achieved GBA:**	**135,108 m²**
GFA:	**92,074 m²**	**Total achieved GFA:**	**101,421 m²**
Required Deep Soil(10% of Site Area):	**2,024 m²**	**GFA/GBA Efficiency(Resi):**	**74.5%**
		Achieved Deep Soil:	**2,572 m²**

Natural Ground Level [AHD]	AHD 78.3 m		AHD 80.7 m		AHD 78.2 m		AHD 78.2 m		AHD 78.2 m		AHD 80.0 m		AHD 80.7 m		**Spaces**	**1031**	
Total Area																	
Gross Building Area		**22,398**		**5,987**		**23,353**		**21,132**		**19,101**		**26,338**		**16,799**		**135,108 sqm**	
Gross Floor Area by Efficiency																	
Residential GFA	74.5%	2,754	74.5%	4,220	74.5%	16,833	74.5%	13,026	74.5%	13,769	74.5%	19,622	74.5%	12,515		**82,739 sqm**	**82%**
Non-Resi GFA (Retail)	90.0%	71	90.0%	291	90.0%	682	90.0%	3,282	90.0%	557	90.0%	0	90.0%			**4,883 sqm**	**5%**
Non-Resi GFA (F+B)	60.0%	674														**674 sqm**	**1%**
Hotel GFA	75.0%	13,125														**13,125 sqm**	**13%**
Total		**16623**		**4510**		**17515**		**16309**		**14326**		**19622**		**12515**	**GFA**	**101,421 sqm**	
															FSR	**5.01 : 1**	
DEVELOPMENT YIELD																	
GFA for Residential		**2,754**		**4,220**		**16,833**		**13,026**		**13,769**		**19,622**		**12,515**		**82739**	
Assumed GFA to NSA Efficiency		85%		85%		85%		85%		85%		85%		85%			
NLA for Residential		**2,340**		**3,587**		**14,308**		**11,072**		**11,704**		**16,679**		**10638**		**70328**	
Target NLA for Affordable Dwellings		**0%**	**0**	**30%**	**1076**	**30%**	**4292**	**30%**	**3322**	**30%**	**3511**	**30%**	**5004**	**30%**	**3191**	**30%**	**20396**
	Size	**Mix**															
1 Bed	50	35%	0		5		22		17		18		25		16		103
2 Bed	75	50%	0		8		31		24		25		36		23		147
3 Bed	95	15%	0		2		9		7		8		11		7		44
Target AH Dwellings		**100%**	**0**		**16**		**62**		**48**		**51**		**72**		**46**		**295**
Target NLA for Market Dwellings		**100%**	**2340**	**70%**	**2511**	**70%**	**10016**	**70%**	**7751**	**70%**	**8193**	**70%**	**11675**	**70%**	**7447**	**70%**	**49932**
	Size	**Mix**															
1 Bed	55	25%	8		8		33		26		27		39		25		166
2 Bed	75	50%	16		17		67		52		55		78		50		333
3 Bed	95	25%	8		8		33		26		27		39		25		166
Target Market Dwellings		**100%**	**31**		**33**		**134**		**103**		**109**		**156**		**99**		**666**
Total Dwellings		100%	**31**	100%	**49**	100%	**196**	100%	**151**	100%	**160**	100%	**228**	100%	**145**	100%	**960**

PARKING SCHEDULE

Car Spaces (Residential):	**965**
Car Spaces (Non-Residential):	**83**
Bike Spaces (Combined):	**1257**
Motorbike Spaces:	**105**

PARKING ANALYSIS

Non-Residential Parking Requirements

		Rate		Spaces	Total
	Office/business permises	*1 : 100*	*sqm*	-	0
	Shop, restaurant/café	1 : 90	sqm	11	11
	Recreational Facility	*5 : /100*	*sqm*		0
	Hotel	1 : 5	room	30	30
	Hotel Staff	1 : 5	staff	15	15
	Supermarket	1 : 200	sqm	14	14
	F + B	1 : 90	sqm	11	11
Subtotal				**81**	**81**
	Car Share (Non-Res)	1 : 40	space	2	2
Total Non-Residential Parking				**83**	**83**

Residential Parking Requirements

		Rate		Apts	Cars	Total	Area (1:40)	# of Basements
	Market 1 bed	1 :	unit	217	108	108		
	2 bed	1 :	unit	433	433	433		
	3+ bed	1 :	unit	217	217	217		
AHA	**1 bed**	0 :	unit	58	23	23		
	2 bed	1 :	unit	83	41	41		
	3+ bed	1 :	unit	25	25	25		
Subtotal				**1033**	**848**	**848**		
	Visitor	1 : 10	space		103	103		
	Car Share (Residential)	1 : 60	space		14	14		
Total Residential Parking						**965**		
Total Parking						**1048**	**41939**	**2.6**
							Basement Footprint ~16000m²	

Bicycle Parking Requirements

		Rate		Bikes	Total
	Supermarket Staff	1 : 200	sqm	14	14
	Supermarket Customers	1 : 300	sqm	9	9
	Shop, restaurant/café staff	1 : 25	sqm	40	40
	Shop, restaurant/café customers	2 + 1 100	sqm	12	12
	F + B staff	1 : 100	sqm	10	10
	F + B customer	1 : 100	sqm	10	10
	Hotel Staff	1 : 4	staff	19	19
	Hotel customers	1 : 20	room	8	8
	Medical Centres/ health consulting	*1 : 5*	*practitioners*		0
	Medical Centres customers	*1 : 200*	*practitioners*		0
Subtotal Non-Residential				**121**	**121**
	Residential	1 : 1	dwelling	1033	1033
	Residential visitors	1 : 10	dwelling	103	103
Subtotal Residential				**1136**	**1136**
Total Bicycle Parking					**1257**

Motorcycle Parking Requirements

		Rate			Total
	Residential	1 : 10	Cars	97	97
	Non-Residential	1 : 10	Cars	8	8
Total Motorcycle Parking				**105**	**105**

SOLAR ACCESS ANALYSIS

Overall

~74.8%

of achieves at least 2 hours of direct sunlight between 9am to 3pm on 21 June

Stage 01

~76%

of achieves at least 2 hours of direct sunlight between 9am to 3pm on 21 June

Stage 02

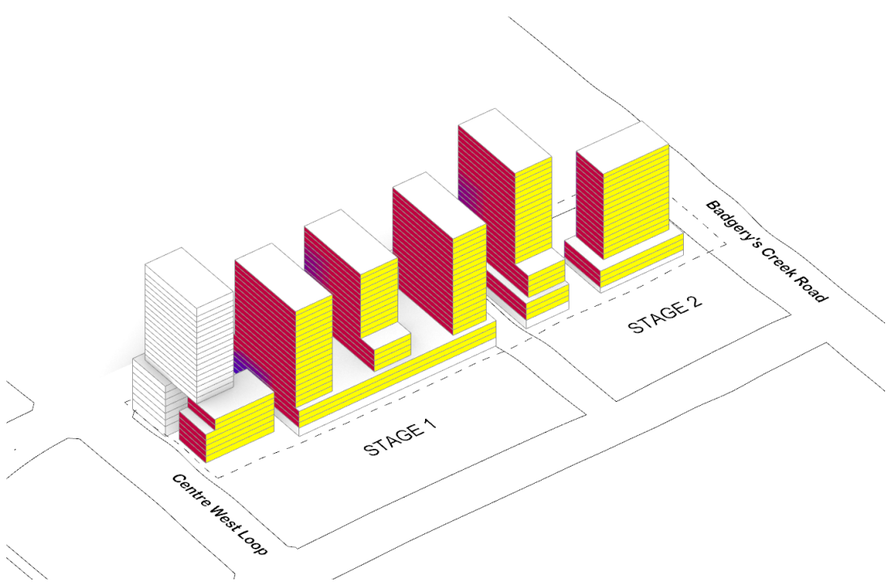
~72.7%

of achieves at least 2 hours of direct sunlight between 9am to 3pm on 21 June

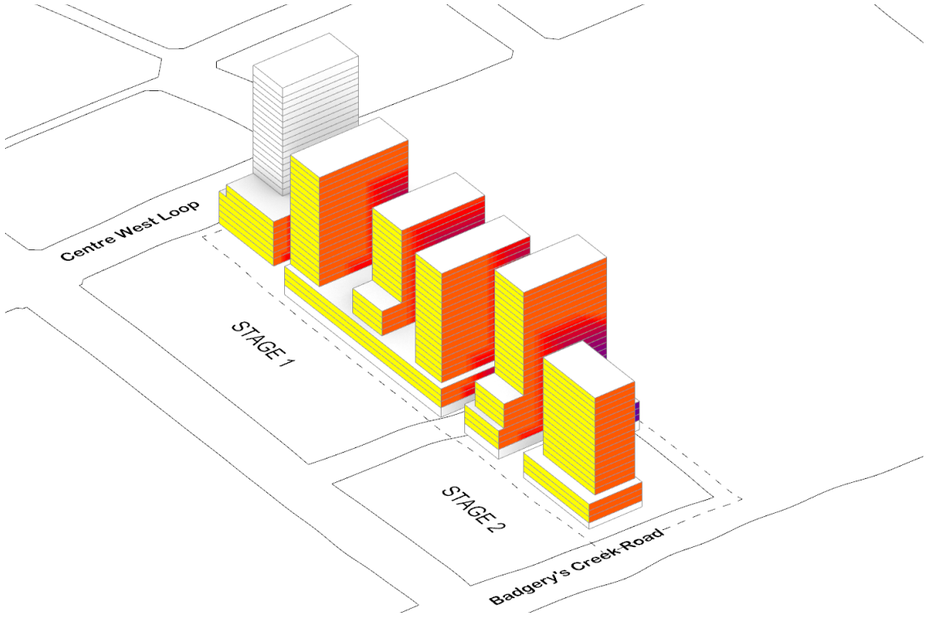
Park Solar Access

~85.6%

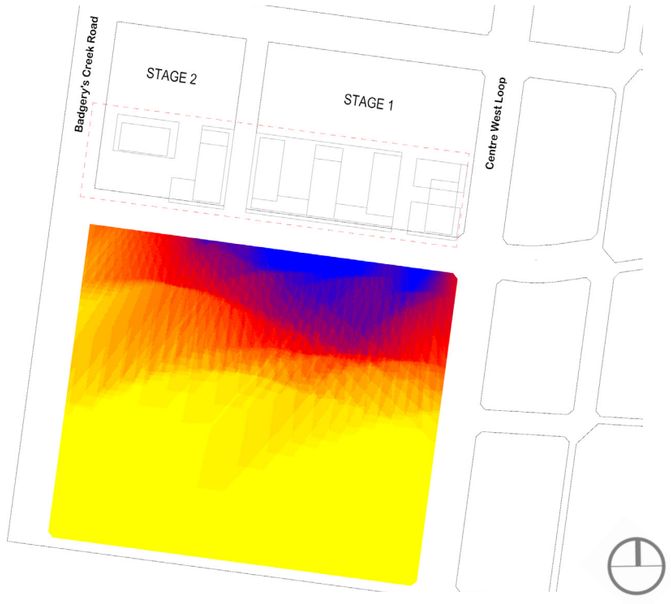
of achieves at least 3 hours of direct sunlight between 9am to 3pm on 21 June



NE Axo View



NW Axo View



Park Solar Access Mapping

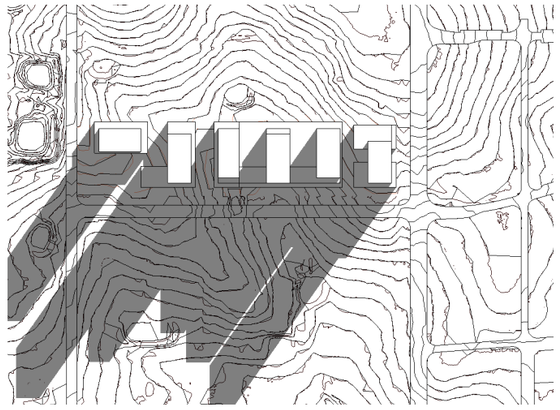
LEGEND

7 hr	4 hr	1 hr
6 hr	3 hr	0 hr
5 hr	2 hr	

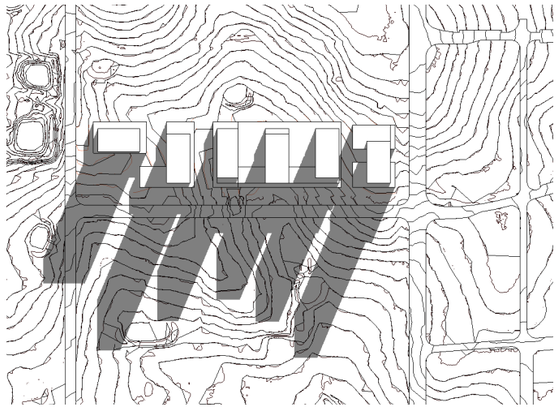
Solar performance analysis measured at 21st June between 9:00 am to 3:00 pm.

Note: Solar access to facades measured all built form faces, including residential and non-residential uses as design guidance, indicates general solar performance instead of actual ADG compliance

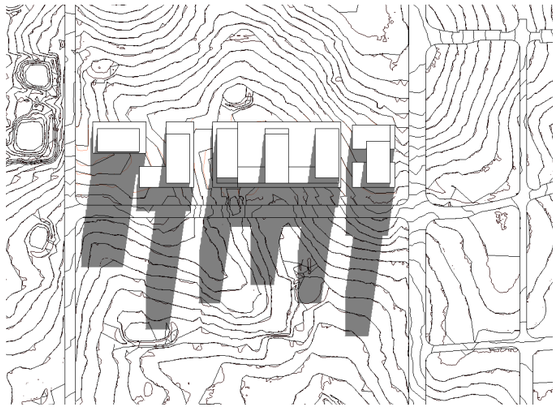
OVERSHADOWING ANALYSIS



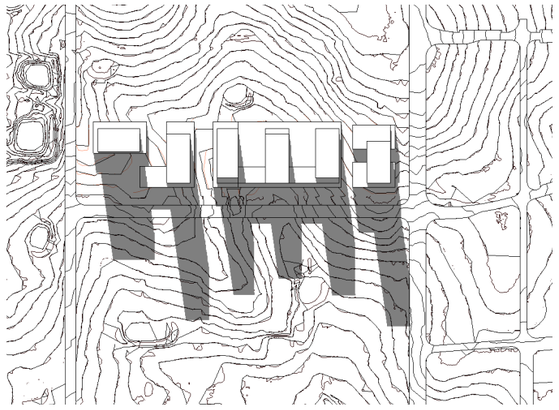
9am, June 21st



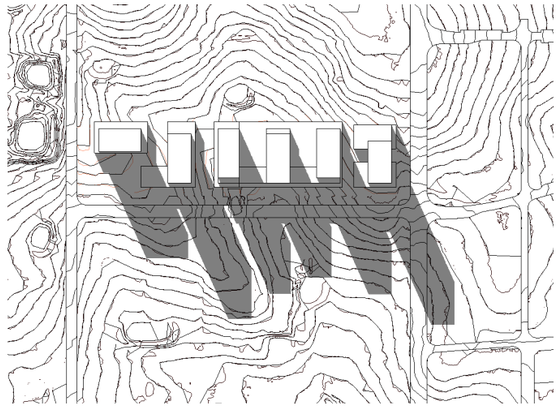
10am, June 21st



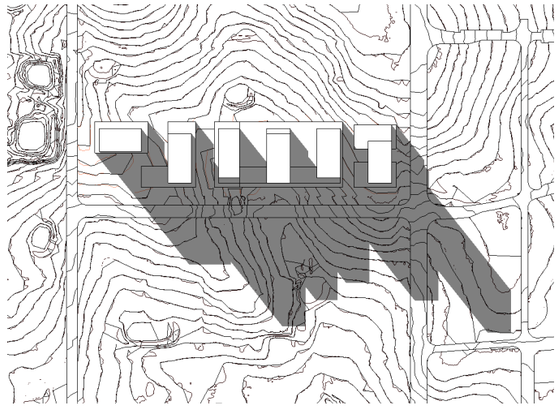
11am, June 21st



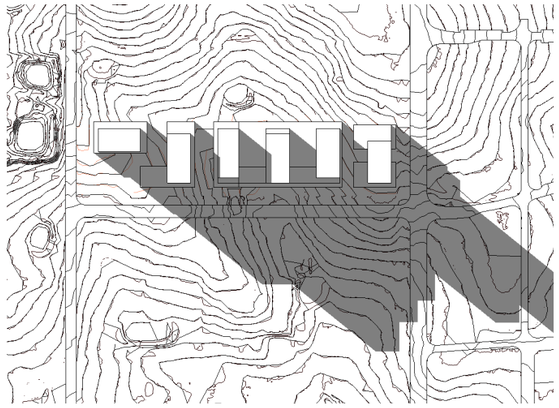
12pm, June 21st



1pm, June 21st



2pm, June 21st



3pm, June 21st

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