59-77 BEECROFT ROAD & 72 RAWSON STREET, EPPING

DESIGN REPORT

DEVELOPMENT APPLICATION
SEPTEMBER 2021

TURNER LYON GROUP AUSTRALIA

QUALITY ASSURANCE

REPORT CONTACT

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QUALITY CONTROL

This document is for discussion purposes only unless signed and dated by a Director of Turner

Reviewed by:	**Dated:**
Dan Szwaj	27.09.2021

REPORT DETAILS

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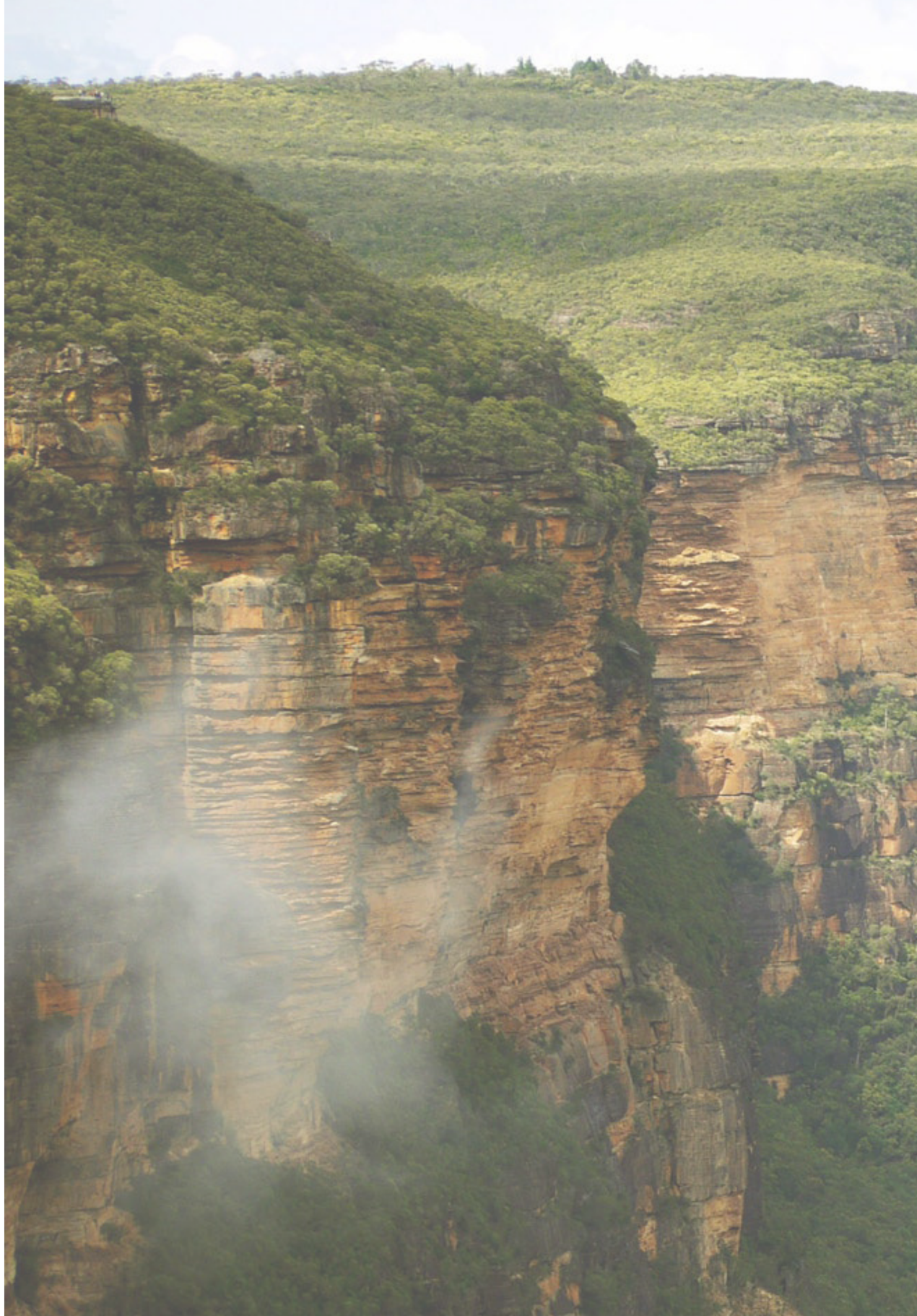
Date:	27th September 2021

Client /

LYON GROUP AUSTRALIA

Team /

TURNER ARCADIA



Photograph of Blue Mountains
Source: Alamy

Proposed Development View from Public Lane
Source: TURNER

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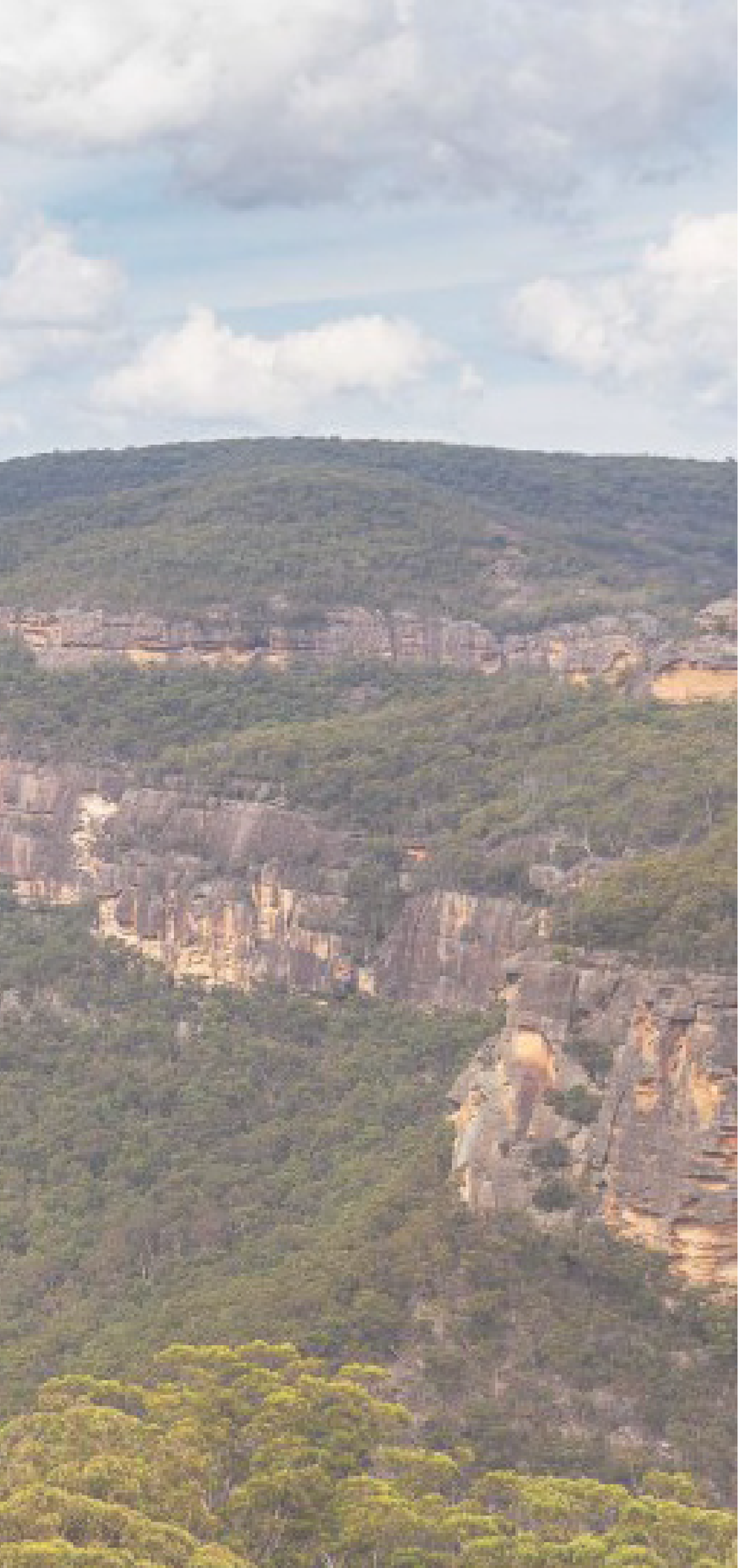
Blue Mountains
Source: Travel Awaits



1.0 INTRODUCTION

1.01 TURNER TEAM

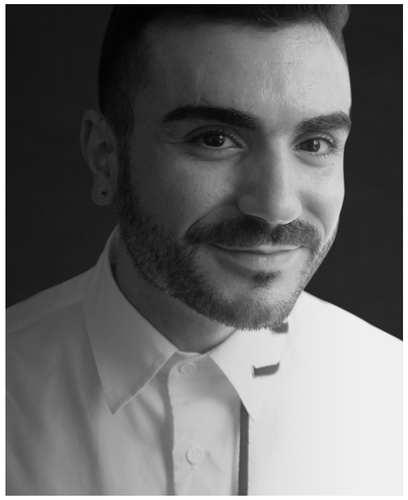
A diverse team to enrich the project and make living better

Dan Szwaj
Director

As the project lead Dan brings a strong conceptual framework that is underpinned by a wide range of project experience, intuition and a desire to continually improve on the places and spaces that we create.

Yvette Olsen
Senior Associate

With over 20 years experience as an architect, Yvette thoroughly enjoys working closely with clients, consultants and her team to deliver high quality projects. Yvette has a well-rounded approach and enjoys working on projects from inception to completion on site.



Adam Carabott
Associate

Adam brings a meticulous approach to planning that is based on a breath of experience across the full spectrum of residential typologies.

Martin Petru
Senior Project Designer

From the conceptual stages of a project Martin brings a holistic and considered approach to design and will continually refine and explore how an idea can be woven into the DNA of a project.

Khoa Nguyen
Senior Designer

Khoa's enthusiasm for design and translating this into a tectonic reality drives his commitment to achieving high quality design outcomes.

1.02 PROJECT TEAM

A collaboration from concept to DA submission

Working closely with the project team since July 2020, we have prepared a comprehensive proposal that has been developed through an evidence based approach, with option testing, technical input and coordination to create a place making development.

KPMG
Project manager

DFP Planning
Planner

Arcadia
Landscape Architects

TTPP
Traffic Engineer

Elephants Foot
Waste Management Consultant

RWDI
Wind Consultant

Morris Goding
Accessibility Consultants

Stantec
Acoustic Engineer
Electrical Engineer
ESD/ BASIX
Fire Safety
Hydraulic Engineer
Mechanical Engineer

BG&E
Structural Engineer

PGA
Fire Engineer

AED
BCA

Northrop
Civil Stormwater

Proposed Development View from Beecroft Road
Source: TURNER

1.03 EXECUTIVE SUMMARY

Site Description

This Design Report is prepared in support of the Development Application on behalf of Lyon Group Australia. The application seeks consent for the proposed mixed use development on 59-77 Beecroft Road & 72 Rawson Street Epping and from herein referred to as the Site.

The site is legally described as Lot 7_DP29138, Lot A_DP28758, Lot B_DP28758, Lot E_DP28758, Lot F_DP28758, Lot C_DP28758, Lot D_DP28758, Lot 5_DP29138, Lot 4_DP29138, Lot 2_DP29138, Lot 1_DP29138, Lot 6_DP29138 and Lot 3_DP29138.

The site is irregular in shape and has a total site area of 2,990 square meters.

Approximately 10km from Parramatta CBD and 24km from Central Sydney, the Site is bounded by Beecroft Road to the east which is adjacent from Epping Transport Hub and Rawson Street to the West.

The proposed development fits within the future vision for the Epping Town Centre Urban Activation Precinct.

Proposal

The development proposal is Mixed Use and comprises of Retail on ground floor and Level 1, Commercial on level 2 & 3 and 126 residential apartments above. Reinforcing the objectives of the Parramatta Council DCP, the proposed development is generally compliant with setbacks and building height across the development.
There are 5 basement levels providing carparking for 193 cars and 140 bicycle spaces. A end of Trip facility is provided on ground floor providing an additional 64 spaces for non-residential uses.

The development proposal builds upon the vision and objectives of the Epping Town Centre Urban Activation Precinct Structure Plan and creates a true mixed use building that responds to local needs by supporting the existing and future culture of the local community.

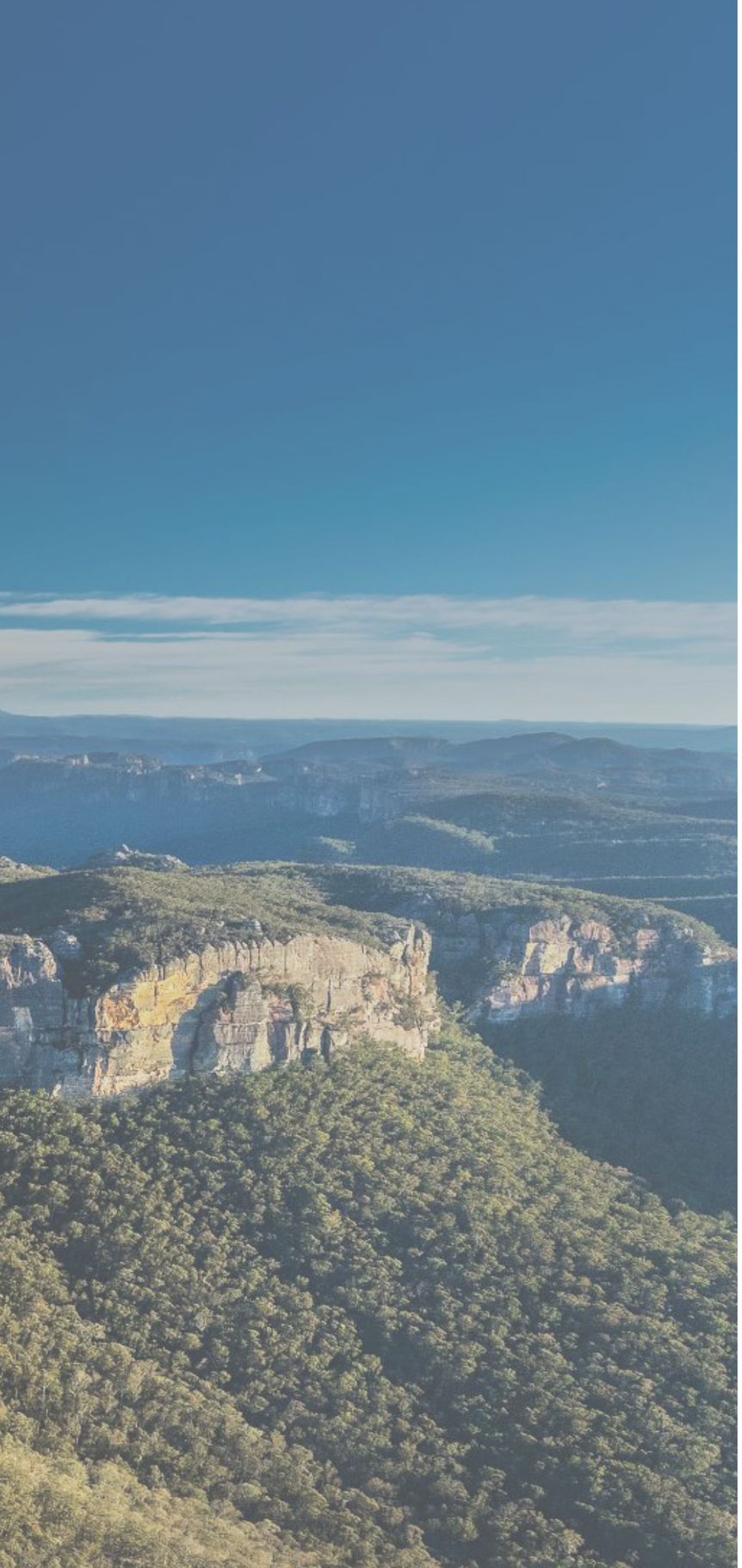
Epping is a place of **dualities** where the sites environment creates a division between the East and West, defining the border between two site conditions. The concept of the **"Ridge Line"** reinforces the **local and urban** environments of the site creating key places and spaces that relate to elements in the landscape.

The proposed development provides two residential buildings that responds to the unique environment of the Site. The proposed 22 storey landmark development is envisioned to provide a fine grain experience supported by retail and active hubs that will play an important role in creating the character and identity for the development within the local urban framework.

The diversity of housing types proposed will suit different family structures, age groups and individuals to promote and encourage a integrated community.

This report should be read in conjunction with the accompanying architectural design package prepared by Turner, landscape report prepared by Arcadia and the Statement of Environmental Effects with appendices prepared by DFP Planning.

Cape Tree Valley - Blue Mountains
Source: https://www.visitmudgeeregion.com.au

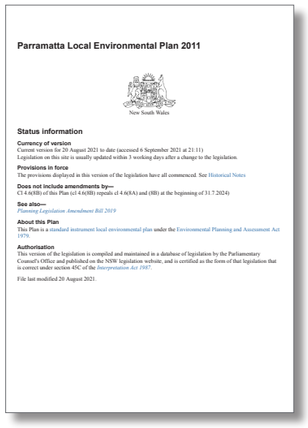


1.1 STRATEGIC CONTEXT

1.11 POLICY CONTROLS

The vision and objectives for the site align with the strategies and goals set out across State and Local Policies

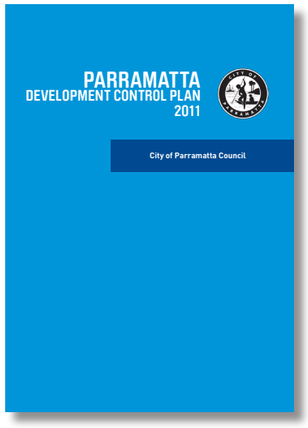
Parramatta Local Environmental Plan 2011



Building Height, Use and FSR

Current applicable provisions of Parramatta Local Environmental Plan (LEP) 2011 have been considered and complied with in the proposed development application.

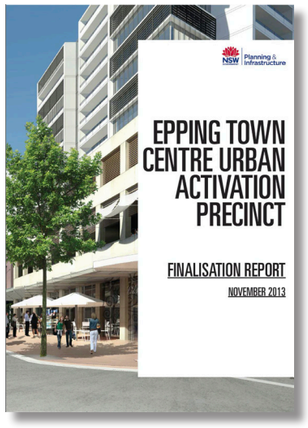
Parramatta Development Control Plan 2011



Local Controls

Current applicable provisions of Parramatta Development Control Plan 2011 (DCP) have been considered and complied with in the proposed development application.

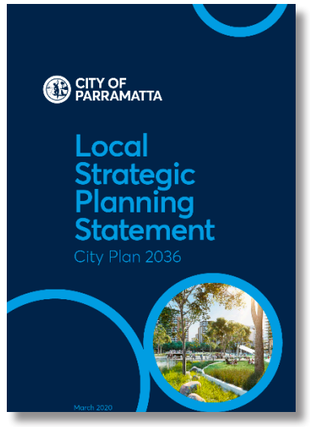
Epping Town Centre Urban Activation Precinct Report November 2013



Established Vision

The key visions in the Epping Town Centre Urban activation precinct report have been considered with in the development application.

Parramatta: Local Strategic Planning Statement, City Plan 2036



A sustainable future

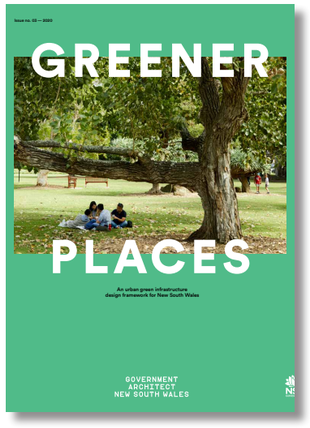
The 20 Year vision to reinforce Parramatta as one of Greater Sydney's Metropolitan City centres, Key elements of the document have been considered with in the development application.

Apartment Design Guide 2015

Planning and Design standards

The development has aimed to meet and excel the core objectives within the ADG to create good apartment design that will benefit residents and visitors.

Greener Places 2020



Framework to a Greener Place

Greener Places is a design framework for urban green infrastructure. The proposal seeks to align with objectives to create a healthier, more liveable, and sustainable urban environment.

Better Placed 2017

Objectives to enhance Living

Better Placed key objectives Better Fit, Better Performance, Better for Community, Better for People, Better Working, Better Value and Better look and Feel have been considered in the proposal to enhance the viability of the development.

1.12 STRATEGIC ALIGNMENT

AN EVOLVING CONTEXT

The site is located within an evolving context

The proposed development aligns with the following objectives highlighted in the Parramatta DCP:

GROUND LEVEL EXPERIENCE
To ensure that new development within the business zones provides active ground level uses, creating vibrant local centres.

IMPROVED INTERFACE
To ensure that new development provides an interface to adjoining public spaces, including roads, laneways, pedestrian connections and parks.

PEDESTRIANS FIRST
To encourage the provision of new pedestrian and vehicular connections within town and neighbourhood centres.

TRUE MIXED USE
To provide high quality retail, commercial and residential development within town and neighbourhood centres.

GENUINE PLACES
To encourage the revitalisation of the public domain in town and neighbourhood centres.

INTEGRATED GROUND PLANE
To encourage opportunities for additional public open spaces in town and neighbourhood centres.

IMPROVED CONNECTION
To ensure that new development provides a strong interface to Epping Railway Station and improves connections between the railway station and the eastern and western sides of the centre.

RESPONSIVE BUILT FORM
To provide high quality built form and to ensure that new buildings provide articulation, modulation and attractive composition of building elements.

LOCAL CHARACTER
To ensure that new development responds well to heritage items and conservation areas.

IMPROVED AMENITY
To ensure new development is suitably treated to reduce noise and vibration impacts from Beecroft Road and Railway Line.

Proposed existing Public Lane and Through Site Link experience

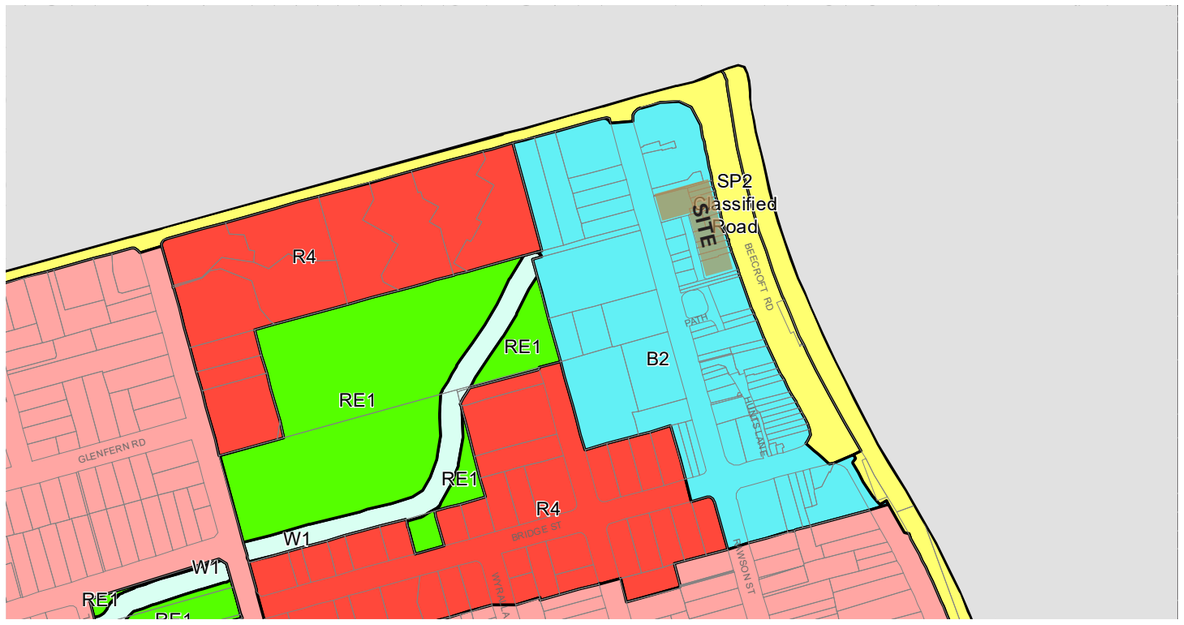
1.13 LEP

EPPING TOWN CENTRE

The Site is located within the Epping Town Centre Urban Renewal Precinct where the LEP controls have been rezoned to align with the future vision of Epping

The site is located within the B2 local centre zone where the objective is to provide a range of retail, business, entertainment and community uses that serve the needs of people who live in, work in and visit the local area.

The Site is located within the AA1 FSR zone which permits a FSR of 6.0:1. The sites allowable GFA is 17,940m² based on a site area of 2,990m².



LAND ZONING

Zone

B2 Local Centre

Key Objectives are:
- To encourage employment opportunities in accessible locations.
- To maximise public transport patronage and encourage walking and cycling.
- To encourage the construction of mixed use buildings that integrate suitable commercial, residential and other developments and that provide active ground level uses.

FLOOR SPACE RATIO

Maximum Floor Space Ratio (n : 1)

AA1 6.0

The Site is located within the AA4 Height zone which permits a maximum building height of 72m or 22 stories including plant and higher floor to floor for Non Residential uses.

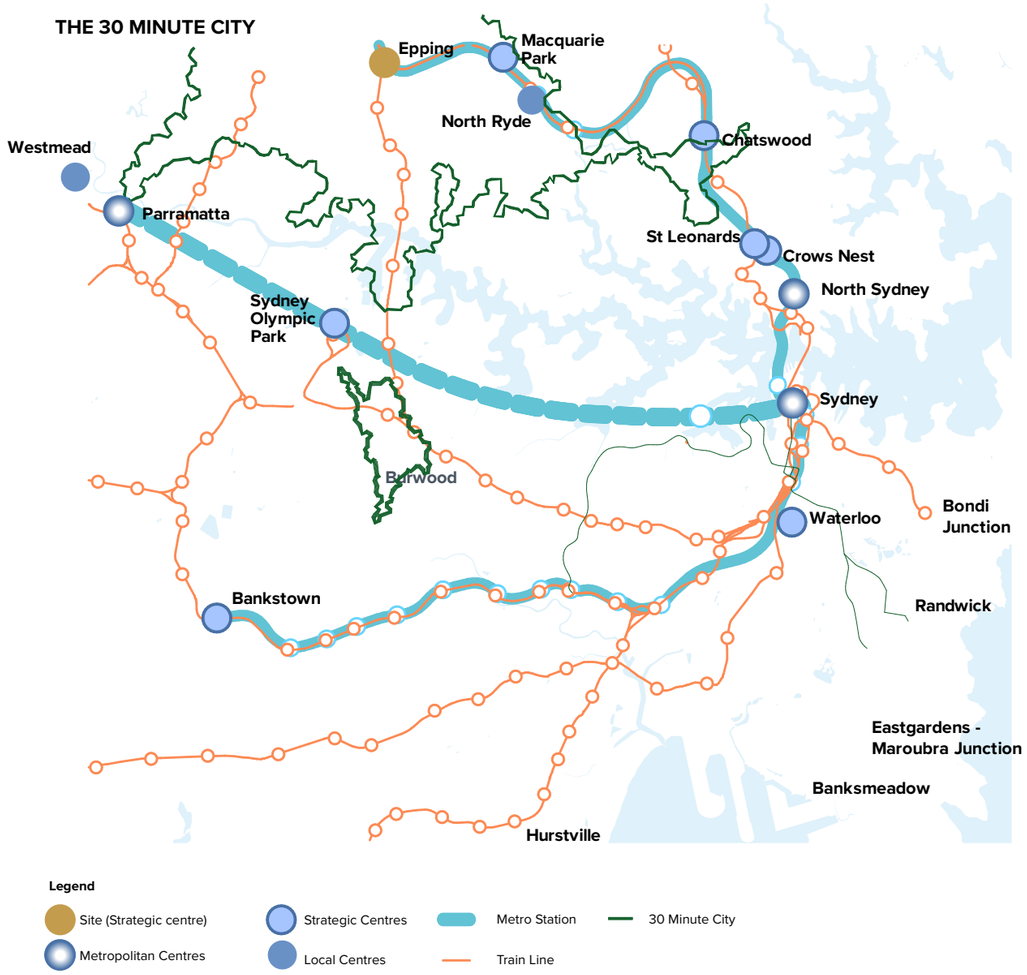
HEIGHT OF BUILDINGS

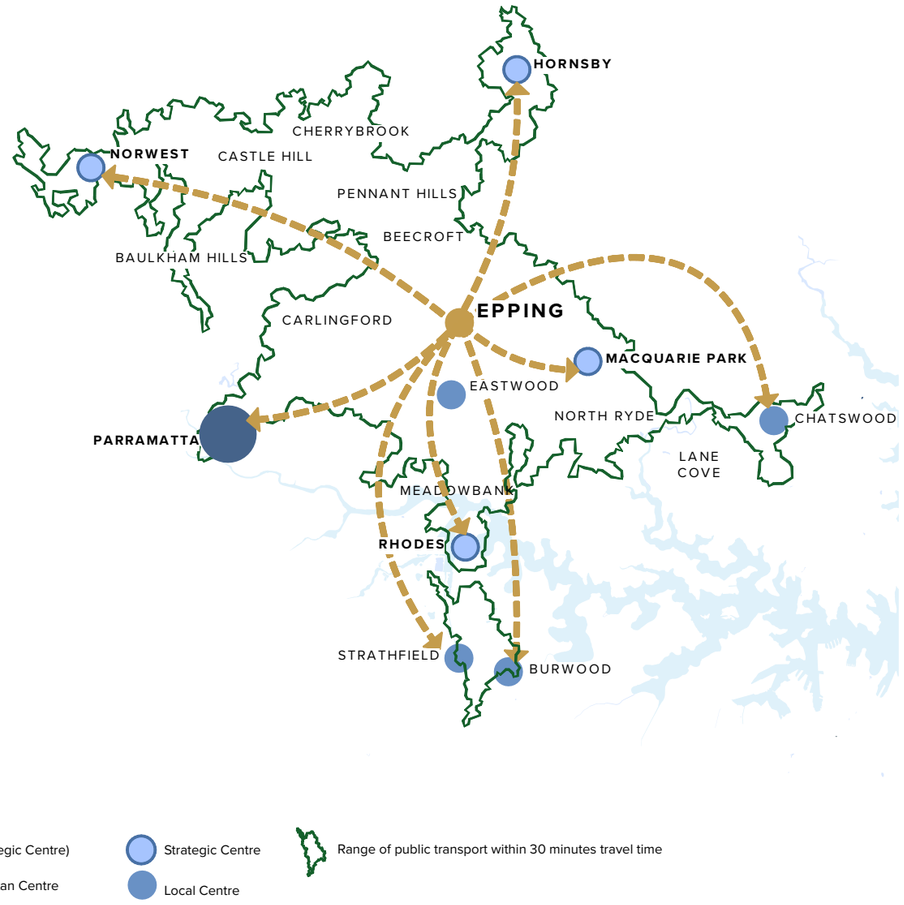
Maximum Building Height (m)

AA4 72

1.14 STRATEGIC CENTRES

Epping is a centrally located centre within 30 minutes of Parramatta, Macquarie Park, Norwest and Chatswood





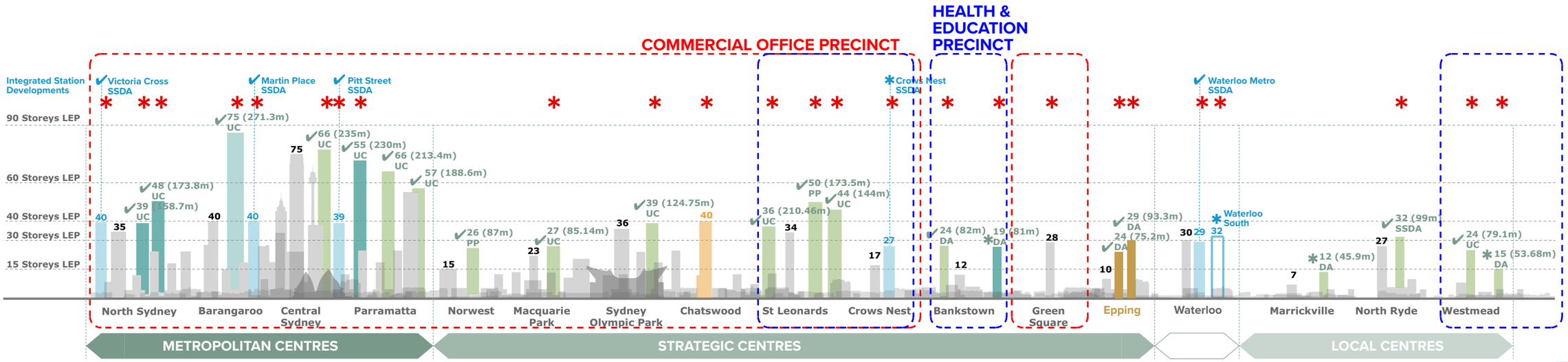
30 Minute City

The 30 Minute City: A new urban configuration to enhance living at a community and neighbourhood level, reduce congestion and emissions and increase wellness. The site benefit from excellent public transport and is serviced by three major lines.

A connected centre

Epping is a part of the vision for Greater Sydney where people can access jobs and services in their nearest metropolitan and strategic centre within 30 minutes. Epping has the opportunity to become an active transport hub that prioritises walking and cycling. Key destinations from the site within 30 minutes are: Parramatta, Macquarie Park, Norwest and Chatswood.

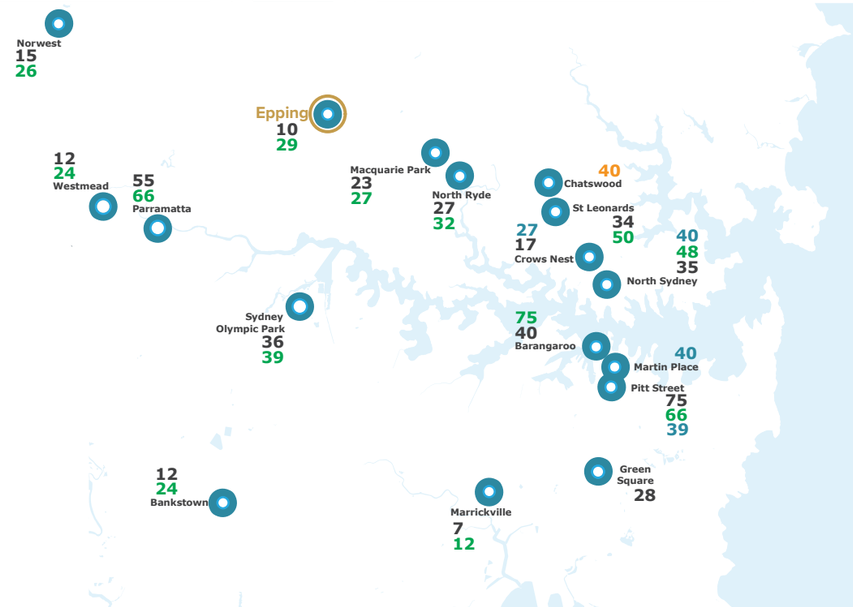
Epping is a strategic centre and supports increased density due to its location in close proximity to public transport and excellent access to employment opportunities



Legend

20	Existing maximum number of storeys
20	Proposed maximum number of storeys
20	ISD Proposed maximum number of storeys
	Existing buildings
	Proposed Sydney Metro integrated station development (ISD)
	Mixed use (predominantly residential)
	Mixed use (predominantly non-residential)
	Non-Residential
	Transport interchange station development

PP	Planning proposal
DA	Development application
SS	State significant development application
UC	Under construction
*	Subject to approval
✔	Approved
*	Within 400m walking distance from Metro station



Urban Form Around Strategic Centres

Increased density and intensity of uses is typically provided within 4-5 minutes walk of a station (400m). Mixed use developments, with integrated residential uses are critical to that mix.

1.15 CONNECTION TO COUNTRY

Epping is part of the traditional lands of the Wallumedegal, the proposal uses initiatives to celebrate and strengthen culture

Originally woodland's, Epping is part of the traditional lands of the Wallumedegal Aboriginal Tribe who lived in the area between the Lane Cove River and Parramatta River.

To the west of Beecroft is the ridge along which Pennant Hills Road runs and then the road to Castle Hill. This ridge seems to provide a contemporary divide between the dialects of the coastal and inland peoples. It divides the people able to readily access salt water from those of the woodlands.

This divide is also where the surface geology changes from ridge top shale to sandstone. The trees change from a predominant Blue Gum forest to turpentine.

Source: Beecroft Cheltenham History Group, accessed 7 September 2021

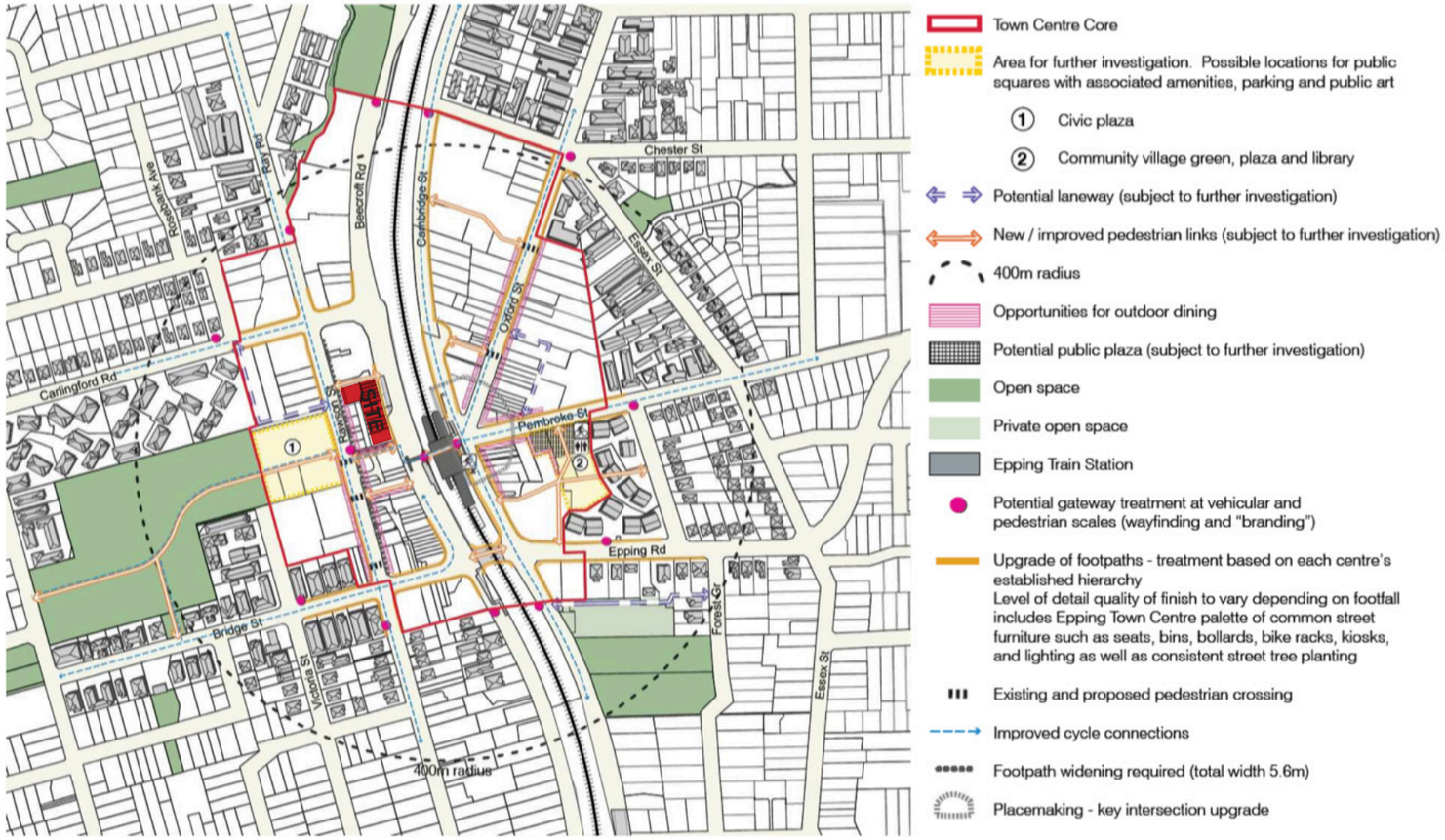
The proposal uses landscape, sustainability initiatives and a integrated public art strategy to strengthen culture and connect to Country.

Artwork
Source: Chris Toben, Journey to the Sky Country

1.16 FUTURE PLACE CHARACTER

Epping Town Centre is an Urban Activation Precinct and will play an important role in meeting Sydney's future growth needs through the creation of a high quality urban area.

Rawson Street Vision
Source: Epping Town Centre Urban Activation Precinct Finalisation Report November 2013



Public Domain Concept Plan
Source: Epping Town Centre Urban Activation Precinct Finalisation Report November 2013

Epping is an area in transition. The site is located within the Epping Town Centre Precinct.
The proposal seeks to respond and contribute to the context of Epping both in its present state, as well as the desired future character of the precinct.
The revised Parramatta LEP 2011 and DCP 2011 documents were determined through the Epping Town Centre Urban Activation Precinct Structure Plan by Architectus.
The report objective was to assess Council's current planning controls and identify the opportunities to create the appropriate built form outcomes that can achieve the vision for the Epping Town Centre. This study was used to determine the LEP and DCP controls for the Precinct.

It envisions a transformation of the area with a key desire to:

- Renew and revitalise the Epping Town Centre.
- Provide increased growth capacity with in Epping..
- Provide greater housing sustainability.
- Revitalise the public domain to create a lively centre where people can enjoy spending time
- Improved connections for pedestrians and cyclists

Epping Town Centre
Source: Google Maps/ Turner

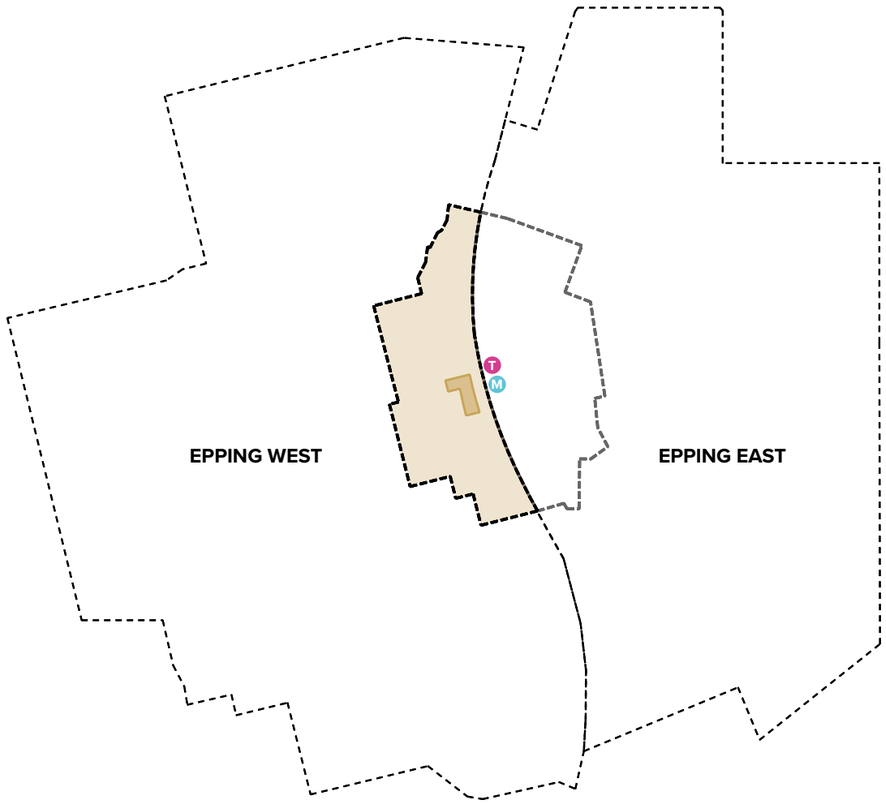
1.2 CONTEXTUAL ANALYSIS

The Site is located in the Epping town Centre Activation Precinct and is within 100m walking distance to Epping Metro and Train stations

1.21 CONTEXT
NEIGHBOURHOOD SCALE

East and West Epping are divided by two main roads and Epping Metro/ Train Station

STRATEGIC CENTRE - NEIGHBOURHOOD

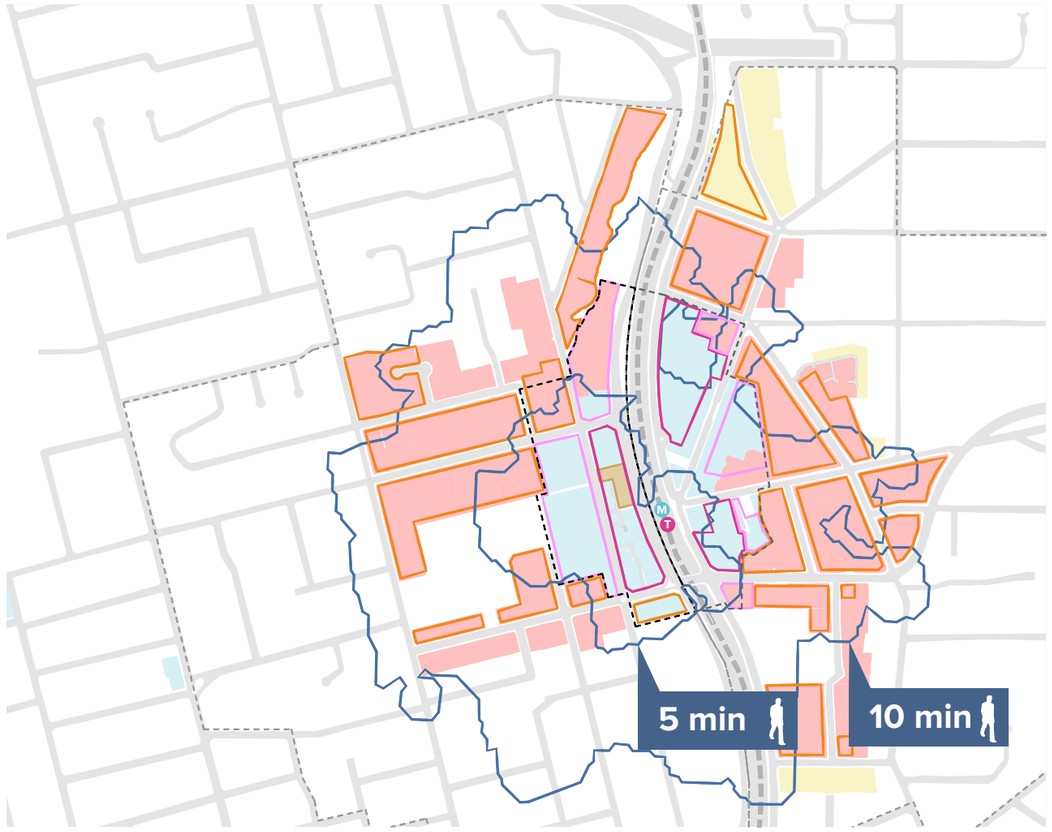


Legend
- Epping West Town Centre
- Epping East Town Centre
- Epping Town Centre
- Site
- Epping Station

Epping as a Strategic Centre
Epping Town Centre is divided into two centres by a physical barrier - Beecroft Road and the Metro/ Train Station.
Key Findings:
- Safe access between the East and West of Epping Centre is via the station pedestrian bridge.
- It takes approximately 5 minutes to get across Blaxland Road to the East of Epping from the site.

There is density and height in close proximity to transport nodes

NEIGHBOURHOOD URBAN FORM



Legend
- B2 Local Centre
- R4 High density residential
- R3 Medium density residential
- R2 Low density residential
- Max 22 storey
- Max 15 storey
- 5 - 8 storey
- Site

Urban Form
Epping Town Centre covers an area 10min walking radius around the train station. It is predominately residential with retail concentrated within 400m from the station.
Key Findings:
- Retail and office activity is currently concentrated within 5 minutes of the railway station.
- Existing Building heights range from 2-8 storeys, however is predominately low density residential.
- There is a small scale business park located between Beecroft Road and Rays Road on the West side of the railway line.

1.22 GREEN GRID
NEIGHBOURHOOD SCALE

The site is within 10 minute walking distance to parks and reserves surrounding Epping

PARKS AND RESERVES

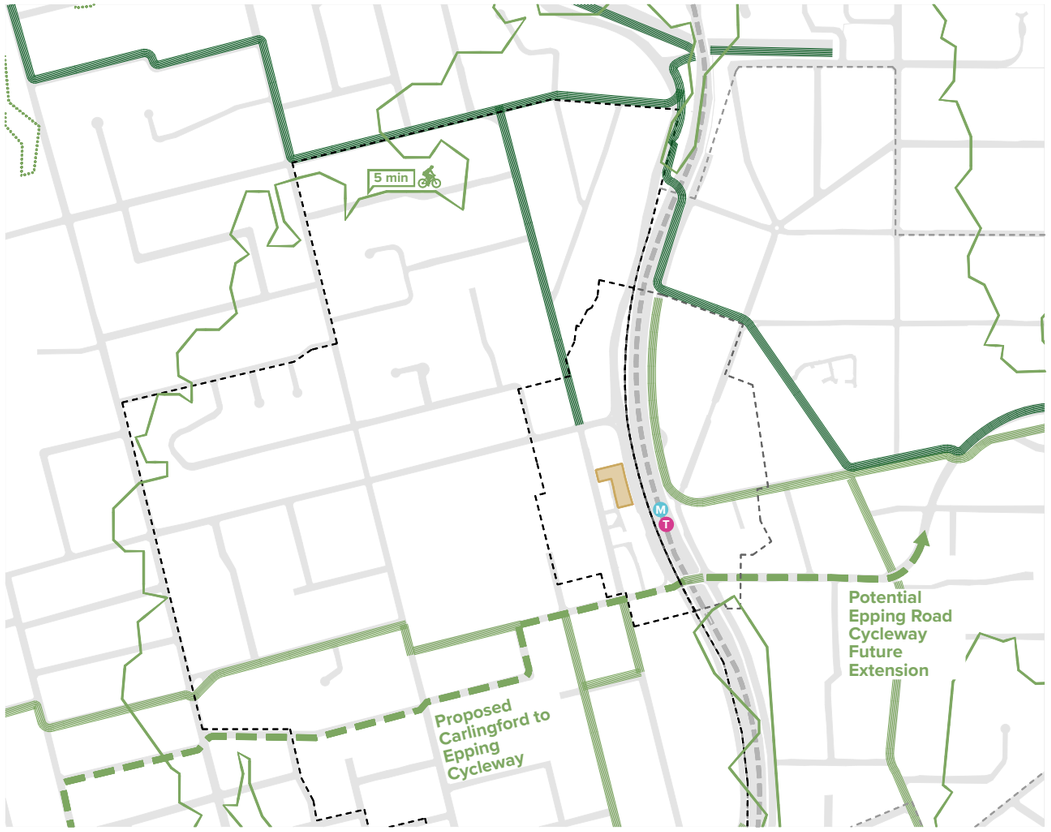
Parks and Reserves
Epping Town Centre is surrounded by parks and reserves within 10 minutes walking distance, however Epping town centre currently has minimal trees. There is an opportunity to contribute to this green network and bring a vital piece into the heart of the centre
Key Findings:
- There is an opportunity to reinforce the existing green links and pedestrian connections through the town centre.
- The site could strengthen the green connection between Boronia Park and the Future Square.

1.23 MOVEMENT NETWORKS

NEIGHBOURHOOD SCALE

Epping will be well connected through regional and local cycle routes

CYCLING NETWORK

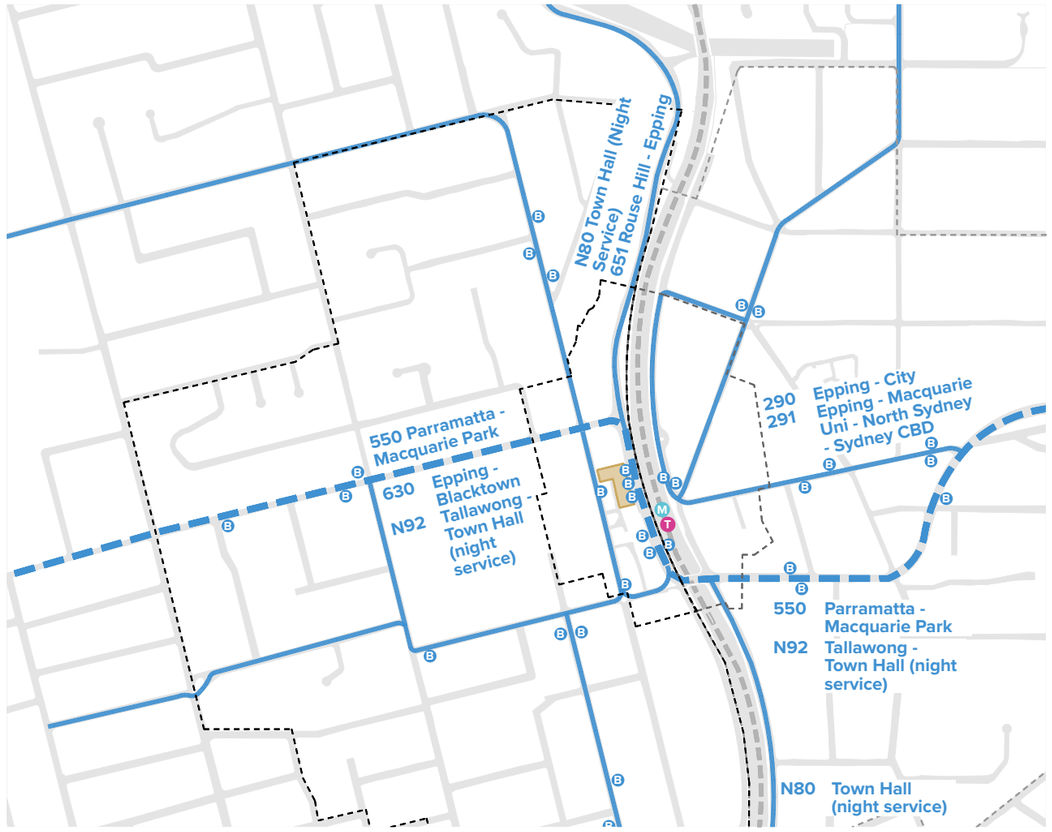


Legend

- Regional cycling route
- Local cycling route
- Future cycling route
- Cycling range within 5 minutes
- Epping Town Centre
- Site

Epping is connected to local and regional bus services

BUS NETWORK



Legend

- Parramatta - Epping - Macquarie main bus route
- Bus routes
- Bus stop
- Epping Town Centre
- Site

Cycling Network

The proposed improvements to the Cycleways surrounding the centre will provide the local neighbourhood with safe access to the centre, improve connections and promote healthy and active lifestyles within the community.

Key Findings:

- Epping is well connected through regional and local cycle routes. Future cycle routes will further enhance these connections.

Bus Network

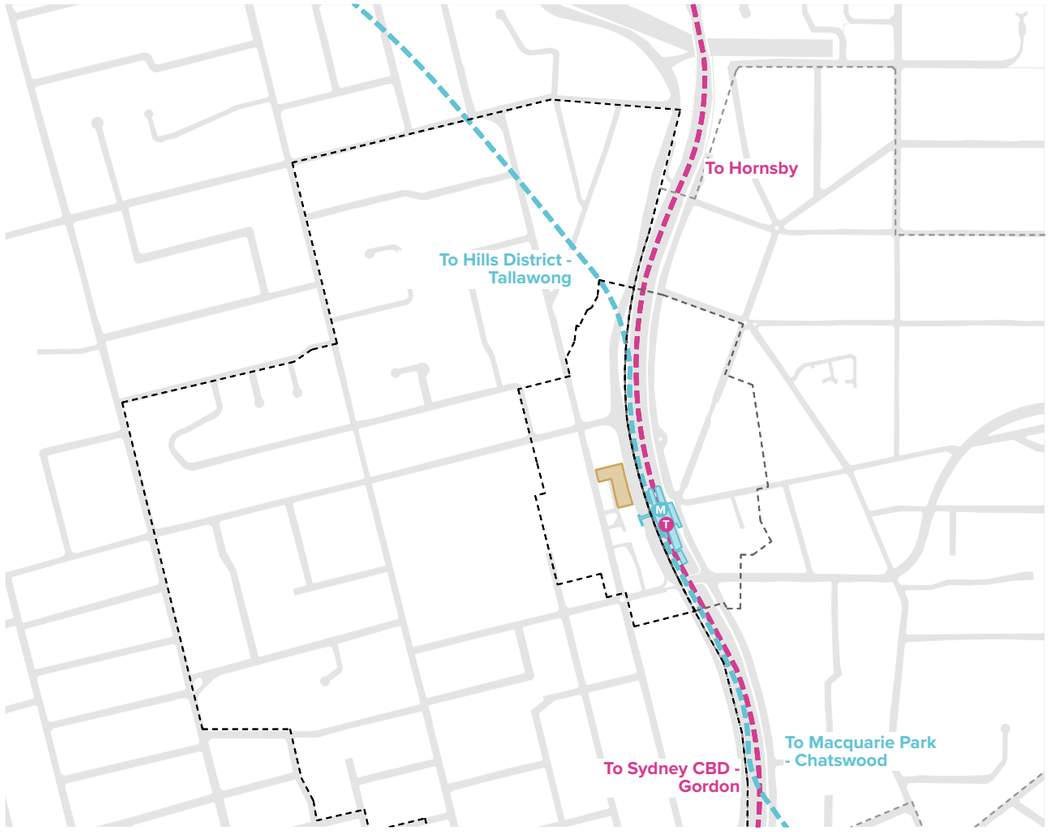
Epping is well served by an interconnected bus network connecting key destinations to the East and West as well as to Central Sydney.

Key Findings:

- The site is located adjacent to the main bus interchange.
- Residents and employees within the Town Centre have multiple points of access to bus services.

Epping town centre is well connected to Local and regional centres through the Train and Metro lines

TRAIN AND METRO NETWORK



Legend

- Train line
- Metro line
- Epping Station
- Epping Town Centre
- Site

Train & Metro Line

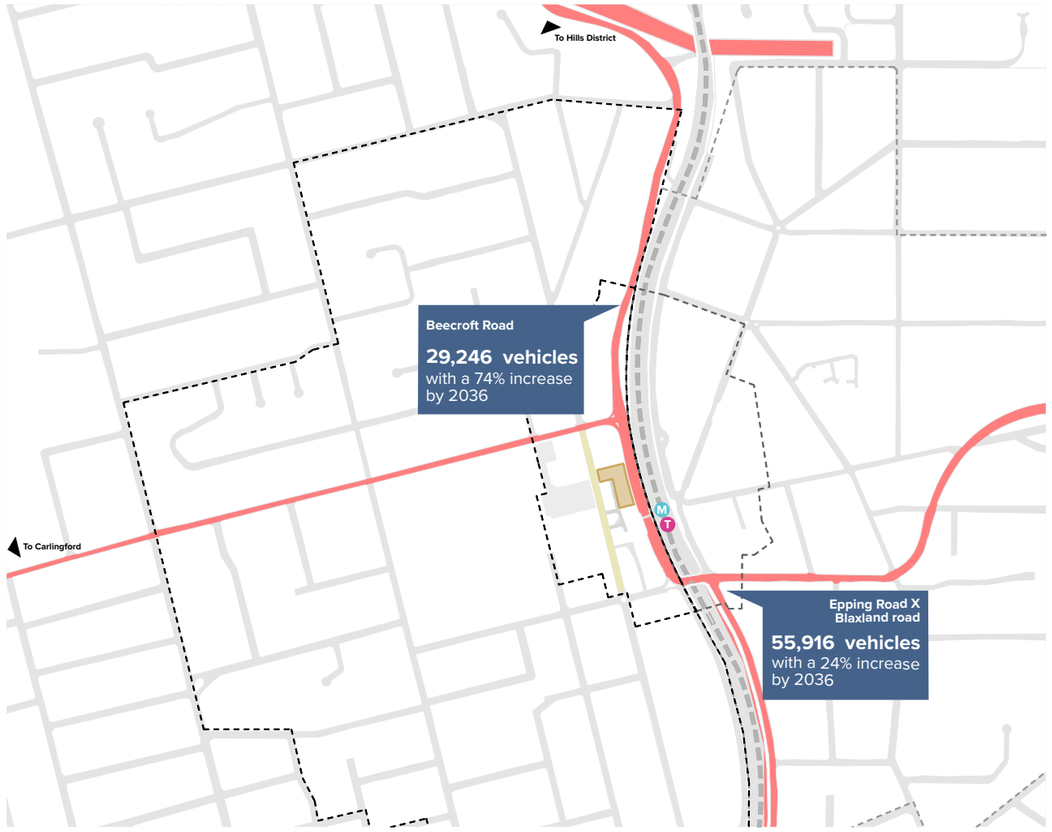
Epping Town Centre is part of the Greater Sydney strategic vision to locate future growth within close proximity to well-connected rail infrastructure.

Key Findings:

- The Train and Metro Lines connect Epping to surrounding local and regional centres.

The major roads in Epping will continue to get busier. Future developments will need to consider ways to mitigate noise and pollution

TRAFFIC ANALYSIS - 2017



Legend

- Arterial roads
- Adjacent roads and lanes
- Epping Town Centre
- Site
- Average annual daily traffic count

Figures referenced from Transport for NSW - Traffic Volume Viewer and Epping Town Centre Traffic Study Prepared for Parramatta Council 2018

Traffic analysis

Significant increases in traffic are predicted along the main North/South and East/West roads through the Town Centre.

Key Takeouts:

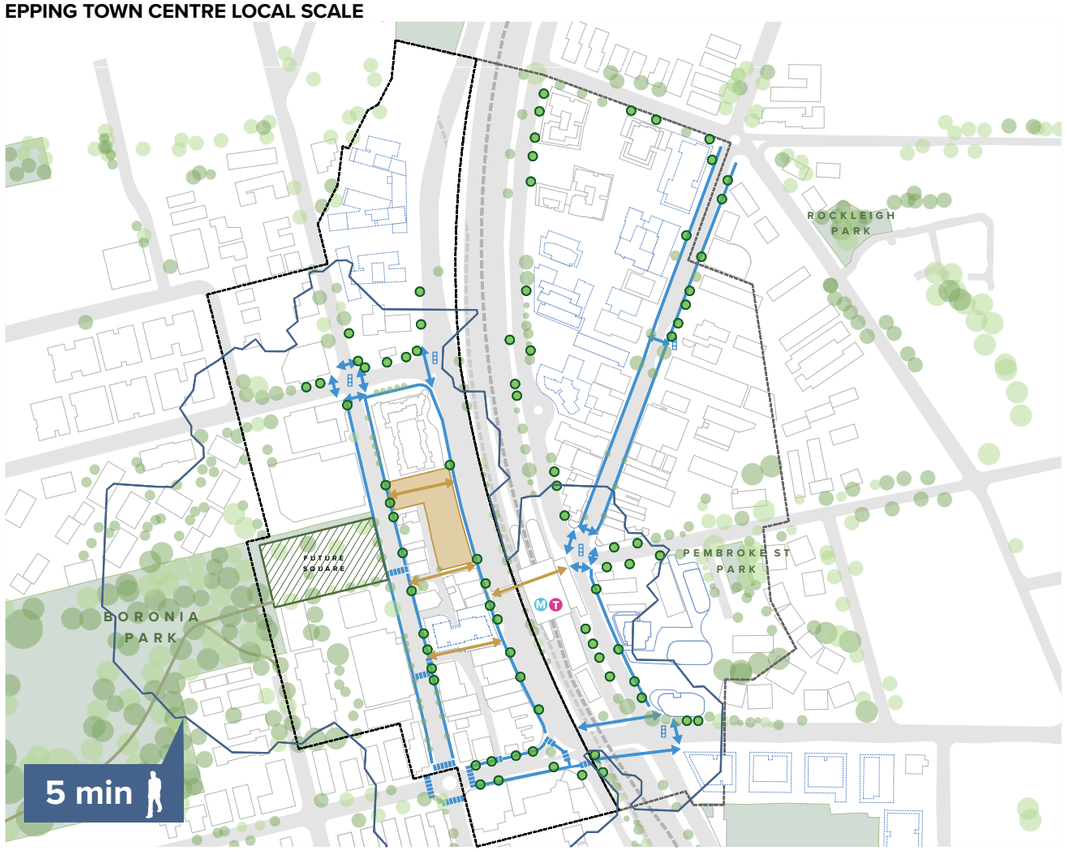
- The traffic volume near the site averages 55,916 vehicles which is comparable to Parramatta Road near Camperdown.
- The site is adjacent to Beecroft Road which has a 74% increase in traffic volume predicted by 2036.
- An innovative way to mitigate noise and pollution would need to be considered in the design.

1.24 OPEN SPACE & ENVIRONMENT

LOCAL SCALE

Epping will become a pedestrian focused environment with improvements to the public domain

EPPING TOWN CENTRE LOCAL SCALE



Legend
- Primary walking network
- Range within 5 minutes of walking
- Traffic light crossing
- Pedestrian crossing
- Site through connections Epping Town Centre
- Site
- Landscape and greenery
- Future square

Whilst Epping is green the town centre has less than 10% canopy cover

LOCAL OPEN SPACE AND AMENITY

Legend
- Existing Trees
- Future Trees
- Epping Town Centre
- Site
- Landscape and greenery
- Future square
- Epping Station

Epping Town Centre

The re-development of the Epping Town Centre precinct provides opportunities to create a pedestrian focused environment.

Key Findings:

- Improved pedestrian connections are proposed between Beecroft Road and Rawson Street.
- The proposed public domain strategy will ensure street trees are provided within the Town Centre.
- There is potential for the Existing Council carpark to become a Public square and extend the pedestrian connection from the town centre to Boronia Park.

Local Landscape & Amenity

There is an opportunity to extend the extensive green network of the local neighbourhood into the heart of the Town Centre, which currently has less than 10% canopy cover.

Key Findings:

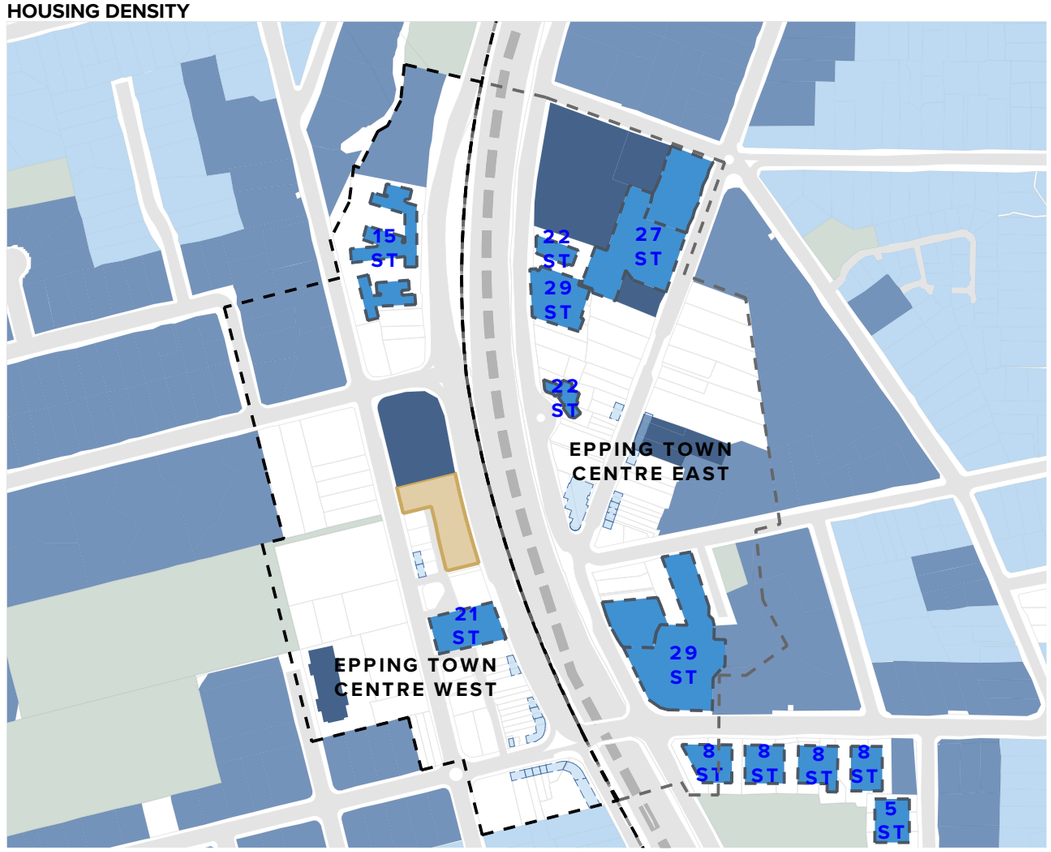
- The immediate Town Centre adjacent to the Transport Hub has minimal trees and urban greenery.
- There is opportunity to increase tree planting, shading and canopy cover to complement future retail and residential activity and contribute to a greener Epping City Centre

1.25 DENSITY & URBAN FORM

LOCAL SCALE

The site will be one of the first future high rise developments in West Epping

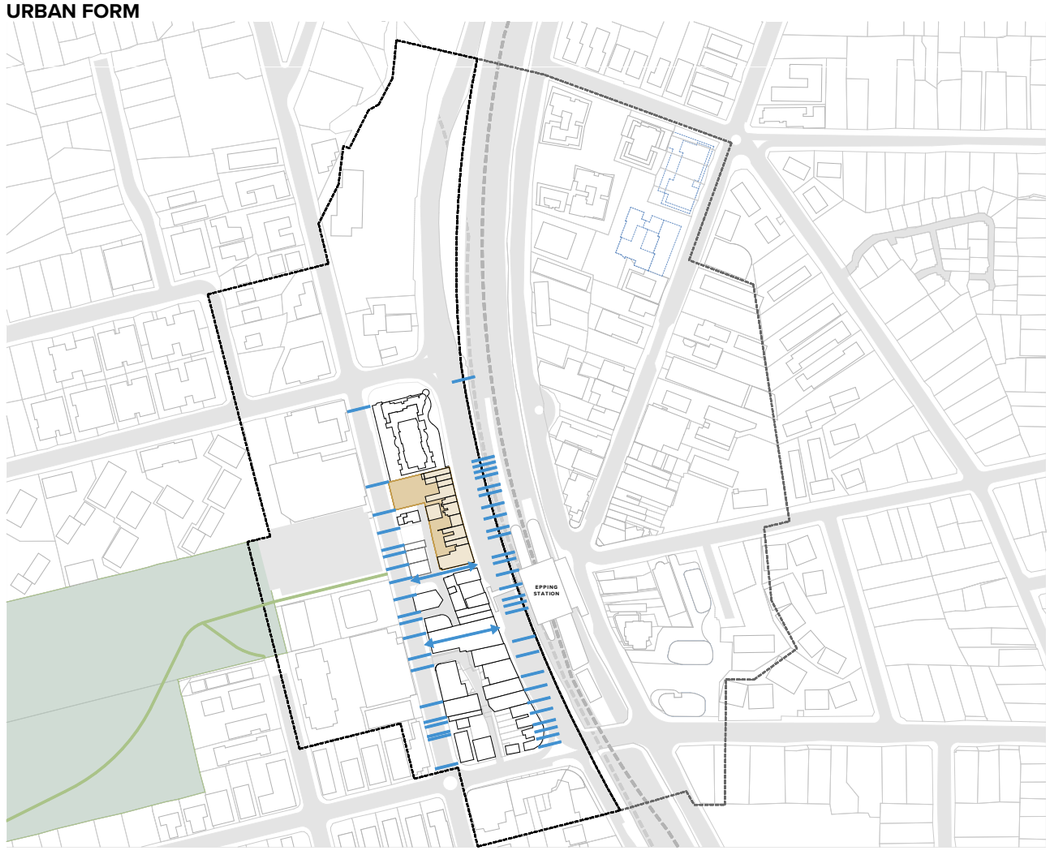
HOUSING DENSITY



Legend
- Future high density housing (8+ Storeys)
- High density housing (8+ Storeys)
- Low-Medium density housing (3-5 Storeys)
- Single housing (1-2 Storeys)
- Shop Top Housing
- Site

The existing urban grain of the town centre is broken into small and medium lots sizes

URBAN FORM



Legend
- Site
- Lot Breakup

Housing Density

Town Centres located next to well-connected rail infrastructure can accommodate higher density living.
Mixed use residential developments can complement and enhance a local centre and the local community it serves.
Key Findings:

- West Epping has the capacity to accommodate an increased density and the site will be one of the first future high rise residential developments.

Urban Form

The existing lot sizes in Epping show a fine grain Town centre with 5m to 16m frontages along Rawson Street and Beecroft Road.
Key Findings:

- The existing lot sizes within the town centre vary in size for new and older developments.
- The original High Street show smaller blocks with a fine grain pattern. As you move out of the City Centre the lot sizes vary with Multi residential and single house dwellings.

1.26 PUBLIC DOMAIN

STREETSCAPE SCALE

Improving pedestrian permeability and increasing tree canopy within the town centre will encourage an active and vibrant ground plane

PUBLIC DOMAIN

Legend
- Proposed future site link or improvement to existing site link
- Future site link based on an approved DA
- Existing site link removed on an approved DA
- Bus stop
- Epping Station
- Epping Town Centre
- Outdoor dining encouraged
- Footpath widening
- Continuous Awning required
- Range within 2 minutes of walking
- Landscape and greenery
- Future square
- Site

Public Domain

There is an opportunity to provide a pedestrian focused, well connected ground plane that will provide crucial links and connections through the town centre to the local neighbourhood.

Key Findings:

- The overall objective is to improve the pedestrian street level experience
- Footpath upgrades, increased street trees and canopy coverage and improving pedestrian permeability will encourage an active and vibrant town centre

A holistic landscape strategy will promote the growth of a healthy, resilient and socially connected community

SITE OPEN SPACE AND AMENITY

Legend
- Trees
- Epping Town Centre
- Site
- Landscape and greenery
- Future square
- Epping Station
- Range within 2 minutes of walking

Site Open Space & Amenity

There is an opportunity to extend the existing green network into the immediate town centre which is currently lacking.

Key Findings:

- A green centre will assist to mitigate the noise and pollution impact from the surrounding roads
- The development will need to increase the urban green cover to improve liveability by reducing ambient temperatures and mitigating heat island effect.

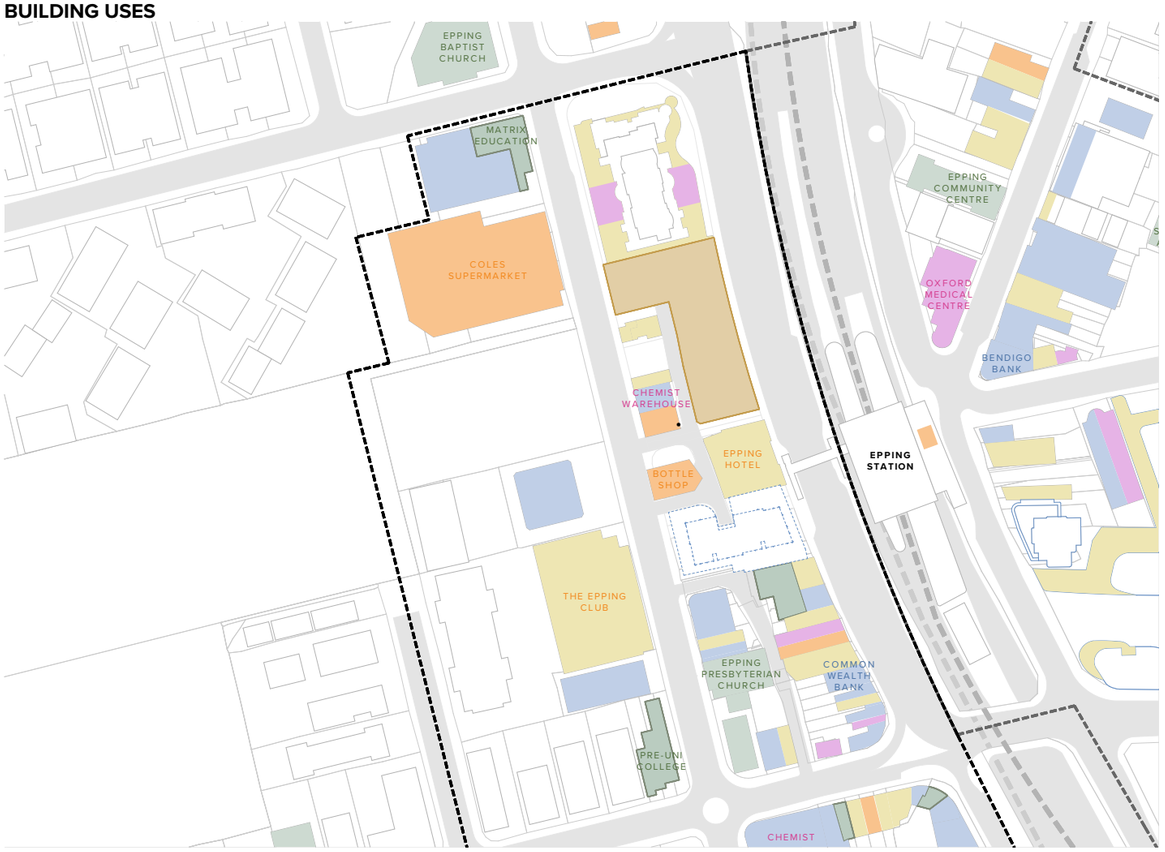
1.27 SERVICE & AMENITY

STREETSCAPE SCALE

There is an opportunity to add to the existing diversity by creating an 'urban heart', a place for people, a destination that serves the needs of locals, visitors and fosters a sense of community

There is an opportunity to create a hybrid precinct that offers a range of attractive places to suit different purposes at all times of the day/night/week and weekend

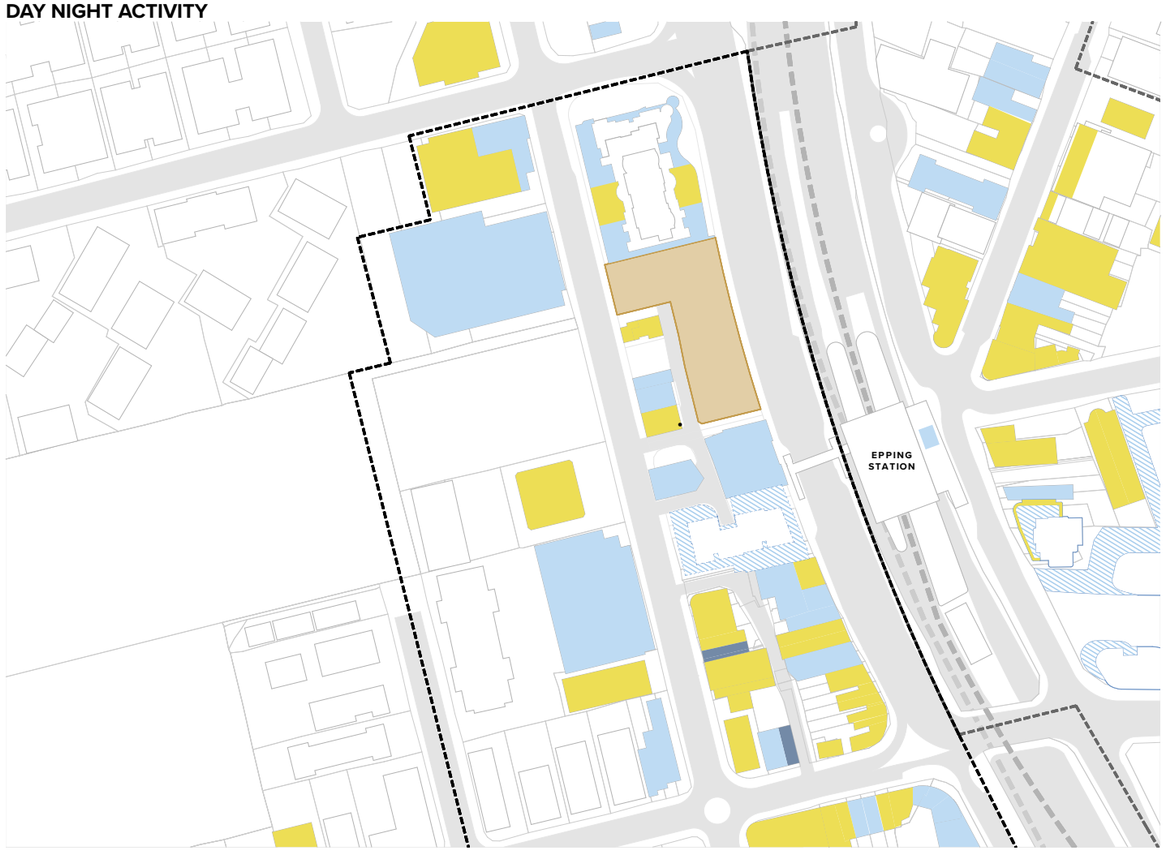
BUILDING USES



Legend

- Food & beverage
- Supermarket & grocery
- Health
- Commercial & Retail
- Cultural & Religious
- Education
- Epping Town Centre
- Site

DAY NIGHT ACTIVITY



Legend

- Night time trading
- day/night trading
- Day time trading
- Potential future day/night trading
- Epping Town Centre
- Site

Building Uses

Epping Town Centre currently provides a diverse range of uses to cater for daily needs of the local residents.

Key Findings:

- A diverse range of services and building uses are scattered throughout both sides of the town centre, including supermarkets, essential retail, places of worship and social clubs.
- A central 'heart' is lacking to cohesively bring the community together.

Day Night Activity

Current activation in the Town Centre is predominantly tailored to suit day time office hours.

Key Findings:

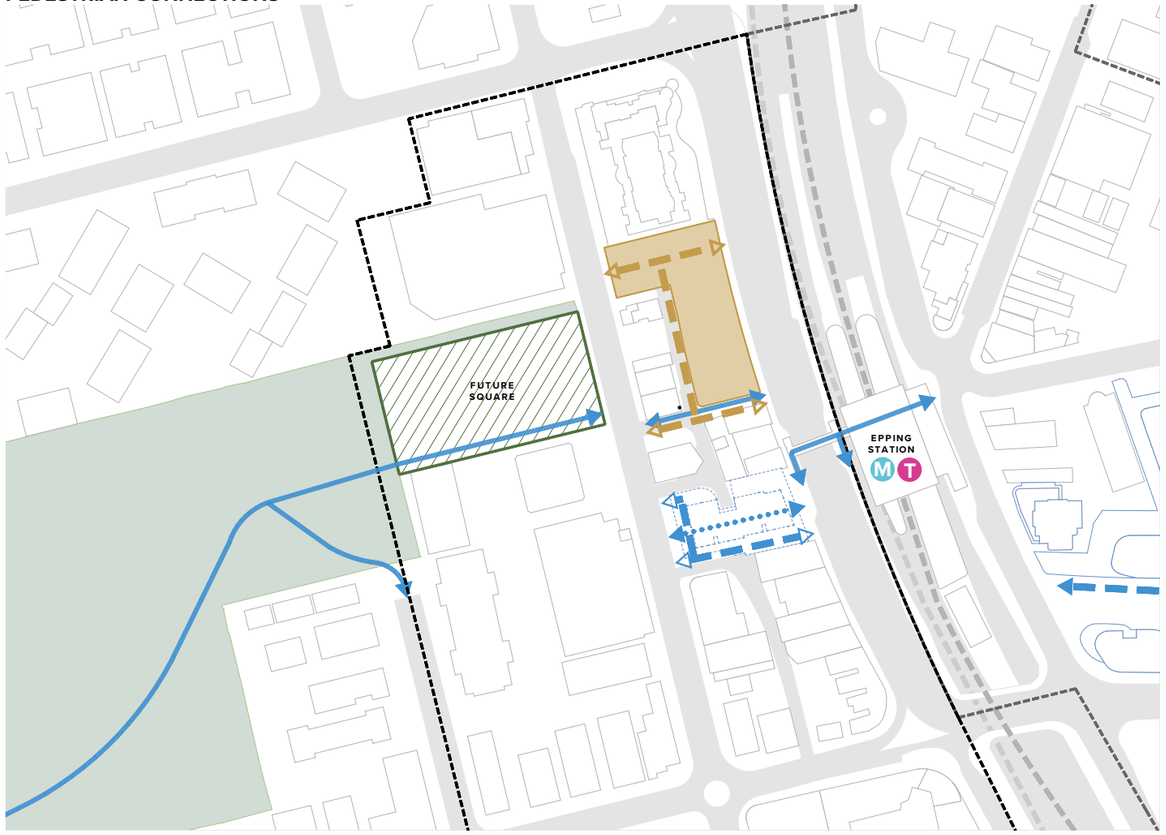
- Epping Town Centre has the capacity to provide the local neighbourhood with a range of spaces to suit the needs of the community.
- The majority of night time and day/night business's are takeaway food stores, supermarkets, and grocery services.

1.28 ACCESS

STREETSCAPE SCALE

There is an opportunity to provide a vibrant, active and safe street level pedestrian experience

PEDESTRIAN CONNECTIONS



Legend
- Proposed future site link or improvement to existing site link
- Future site link under construction or on approved DA
- Future site links
- Existing site link removed on an approved DA
- Existing site link
- Epping Town Centre
- Site
- Landscape and greenery
- Future square

Pedestrian connections

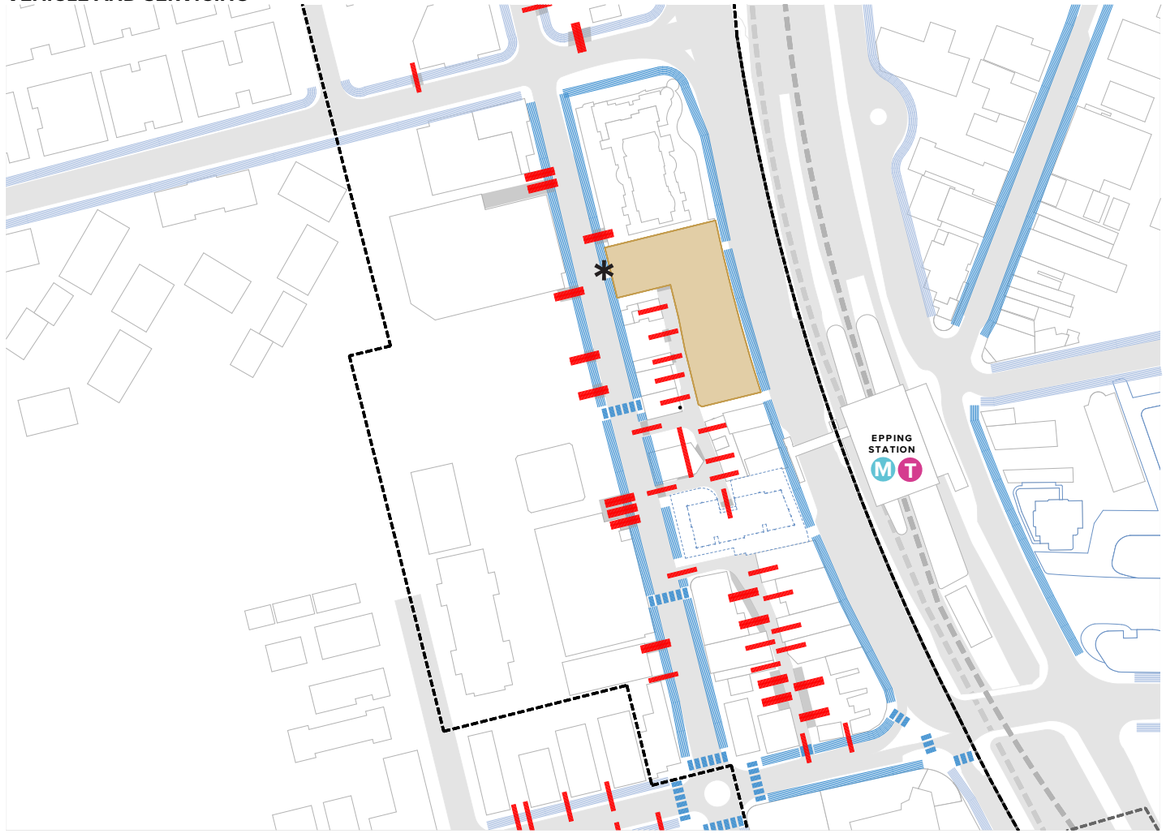
The proposed locations for the through site links will improve the permeability through West Epping centre, connecting Beecroft road to Rawson Street.

Key Findings:

- Current Laneways between Beecroft Road and Rawson Street do not provide safe and appealing Pedestrian access.
- There is an opportunity to enhance these connections with public art, and local community attractions.

There is an opportunity to consolidate servicing and vehicle movements to ensure a pedestrian focus, and to minimise conflicts

VEHICLE AND SERVICING



Legend
- Primary walking network
- Local walking network
- Pedestrian crossing
- Proposed drive way location
- driveway or carpark access
- Road/ Laneway
- Site
- Epping town centre

Vehicle and servicing

The current vehicle and servicing strategy throughout the town centre does not prioritise pedestrian activity.

Key Findings:

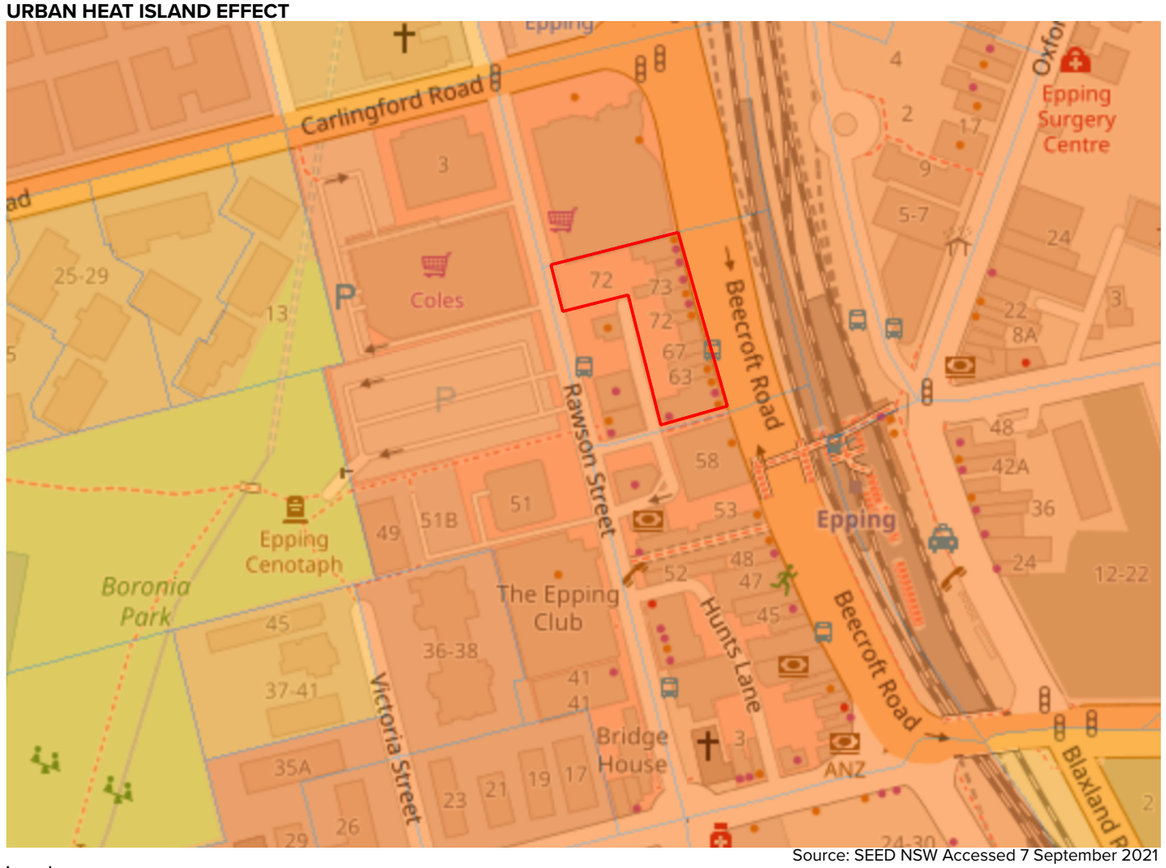
- Future development will need to ensure pedestrian safety and provide a consolidated solution along the local streets.

1.29 ENVIRONMENT

STREETSCAPE SCALE

The Site is currently 8.2 Degrees above baseline.(SEEDS Data)

URBAN HEAT ISLAND EFFECT



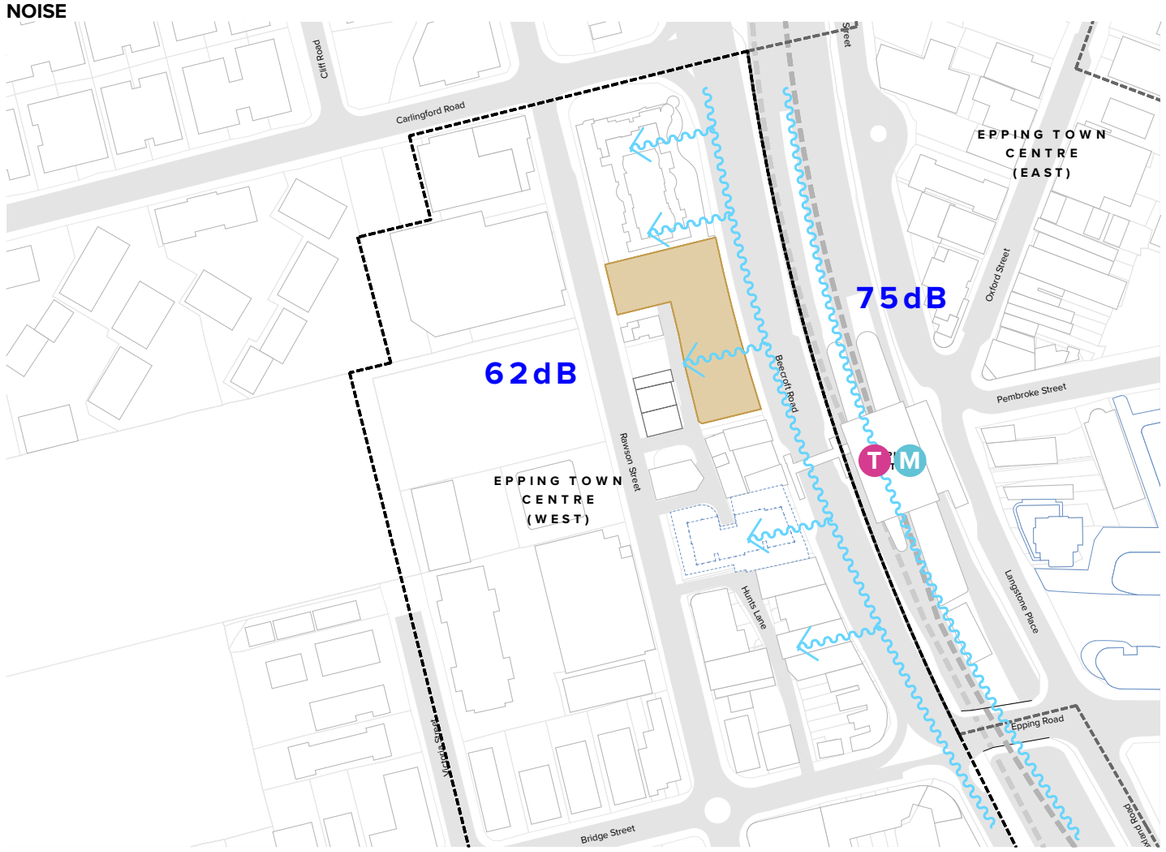
Source: SEED NSW Accessed 7 September 2021

Legend

- Cooler than baseline
- 0 - 3 degrees warmer
- 3 - 6 degrees warmer
- 6 - 9 degrees warmer
- Warmer than 9 degrees

Existing background noise from the train and Metro and surrounding roads exceeds current standards for residential accommodation

NOISE



Legend

- Primary noise source
- Epping Town Centre
- Site
- Epping Station

Urban Heat Island Affect

Urban areas become significantly warmer than surrounding areas when there is less green cover and more hard surfaces which absorb, store and radiate heat.

Key Findings:

- Business as Usual: It is predicted by 2030 that the temperature in Epping will increase by 7% (4.1 to 4.8 degrees) if no changes are made to improve the UHI.
- Paris Agreement: It is predicted if the Paris agreement targets are adopted by 2030 a increase of 1.5 degrees is possible.

Noise

The recommended design sound level according to the SEEP (Infrastructure) 2007 is: Living areas 40dB and sleeping areas 35dB.

In 2016 Beecroft Road measured 75dB and Rawson Street measured 62dB. It is predicted by 2029 this will increase 1dB on Beecroft road and 2dB on Rawson Street.

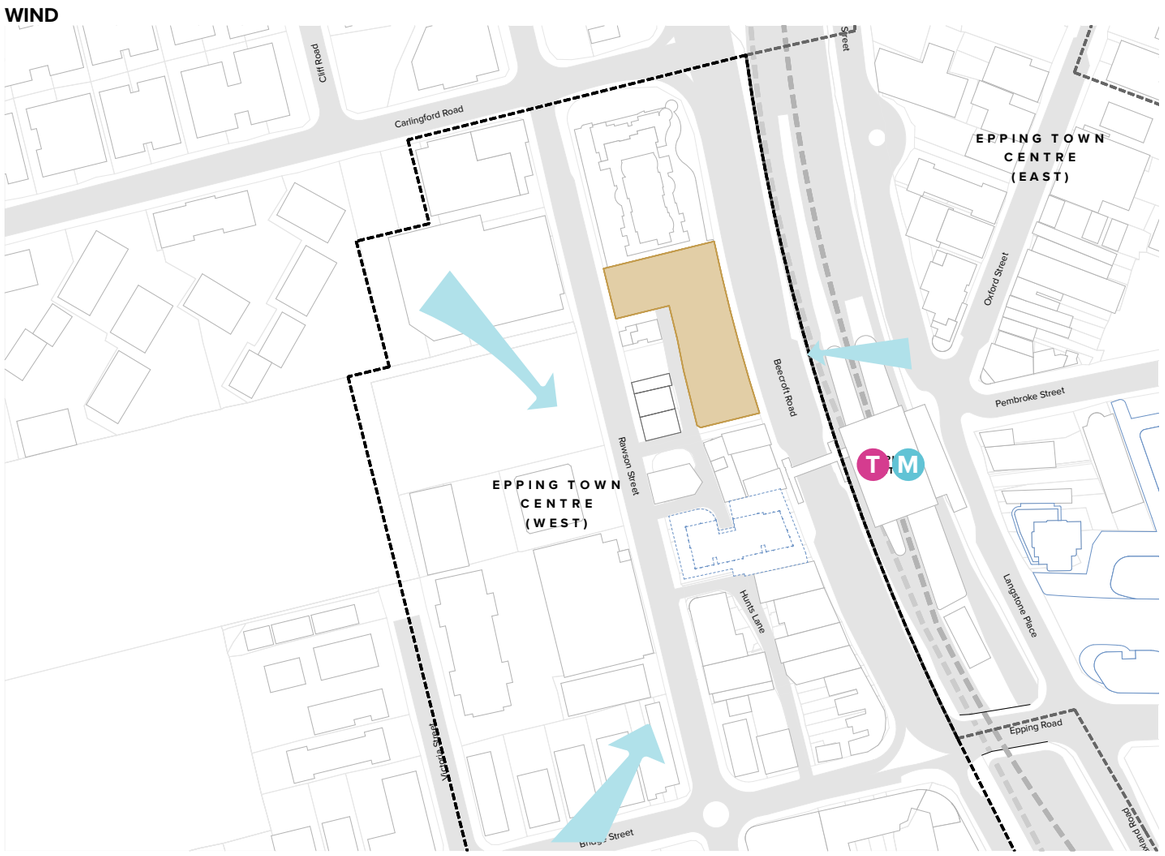
The impact of these noise sources will need to be mitigated through design measures.

(Source ttm Acoustic Assessment Report - 48-54 Beecroft road & 52-54 Rawson Street, Epping)

1.30 ENVIRONMENT

STREETSCAPE SCALE

The prevailing winds that impact the site are the southerly and westerly winds



The development will benefit from increased landscaping to improve the air quality

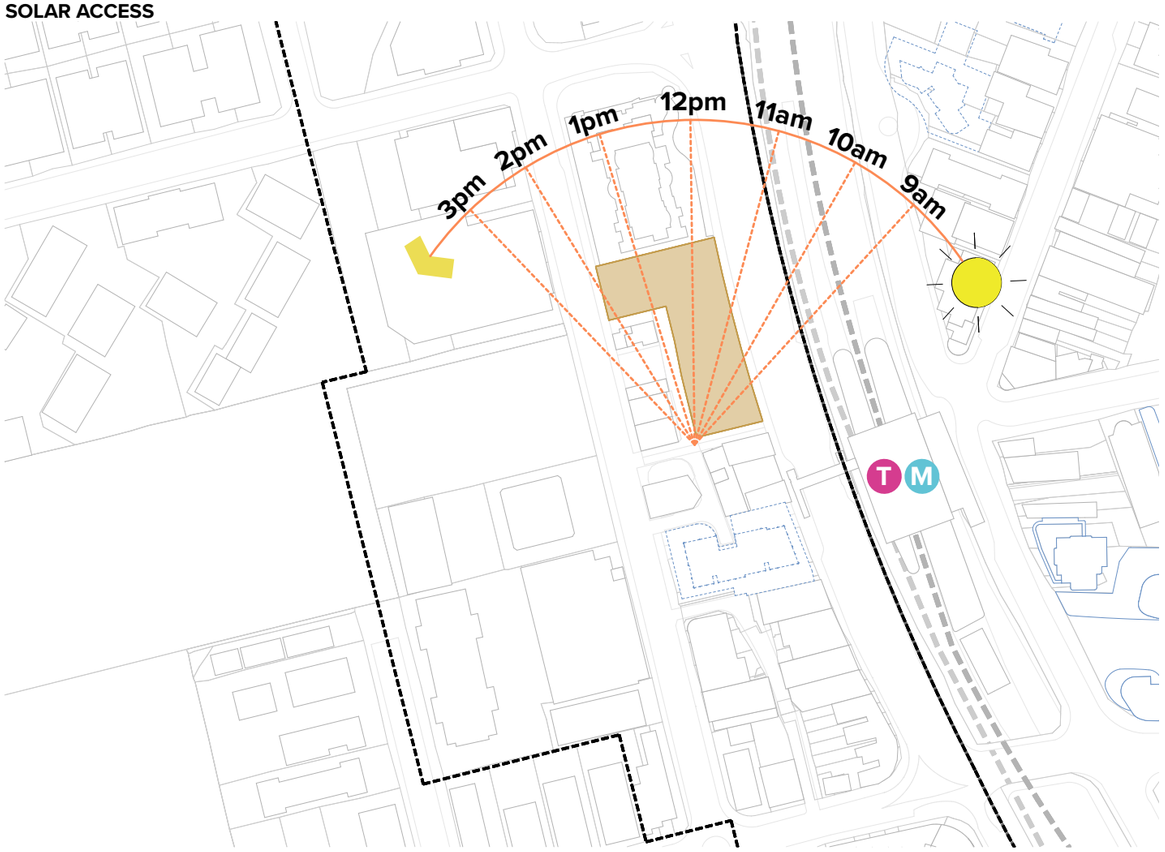
Wind
The impact of these winds on the future development will need to be mitigated to ensure the public domain is not adversely affected.

Air Quality
The average daily traffic count for Beecroft Road is 29246 cars. It is predicted to have a 74% increase in traffic volume by 2036.

1.31 ENVIRONMENT
STREETSCAPE SCALE

Innovative design measures will be required to maximise daylight to western façades

SOLAR ACCESS

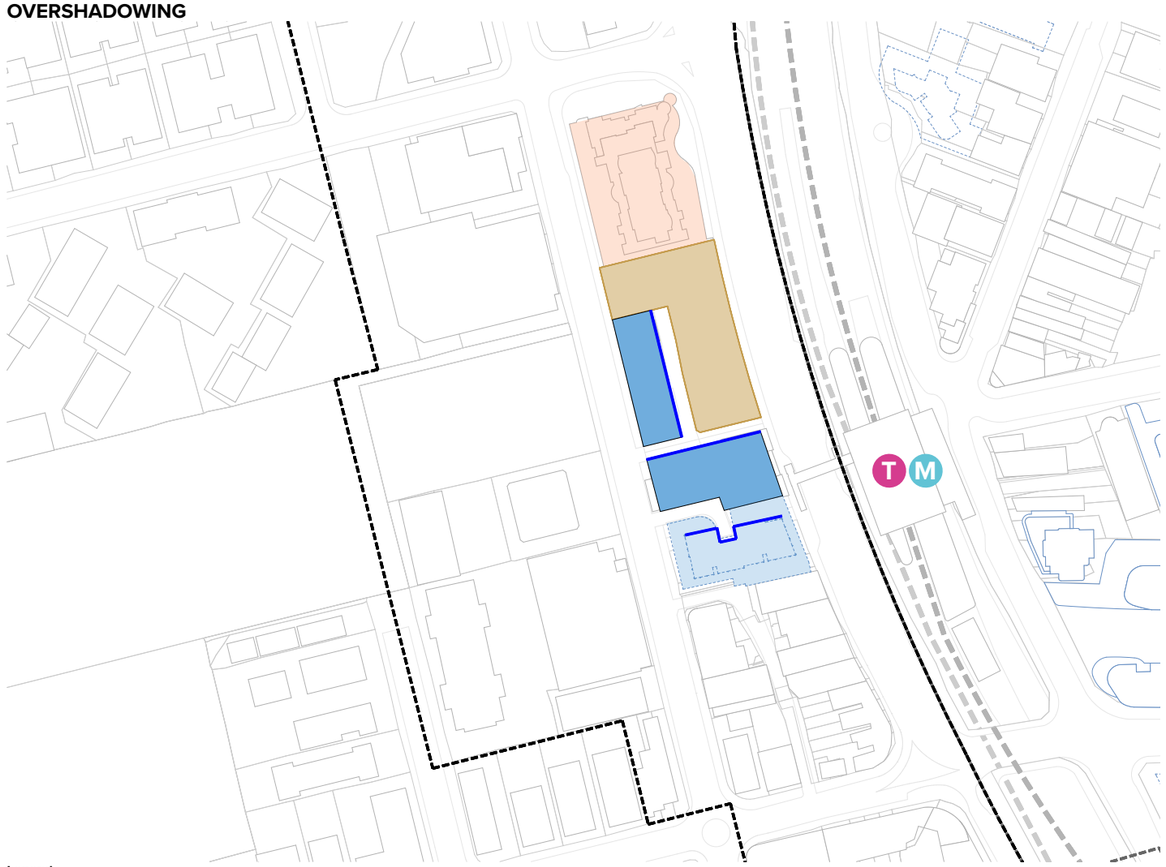


Legend

Sun angle

Consideration of potential future developments will need to be considered

OVERSHADOWING



Legend

Future Developments

DA approved development

Key Facades impacted by development

Existing Development

Solar Access
Due to the sites urban alignment the design of the western facade will require innovative design measures to maximise daylight.

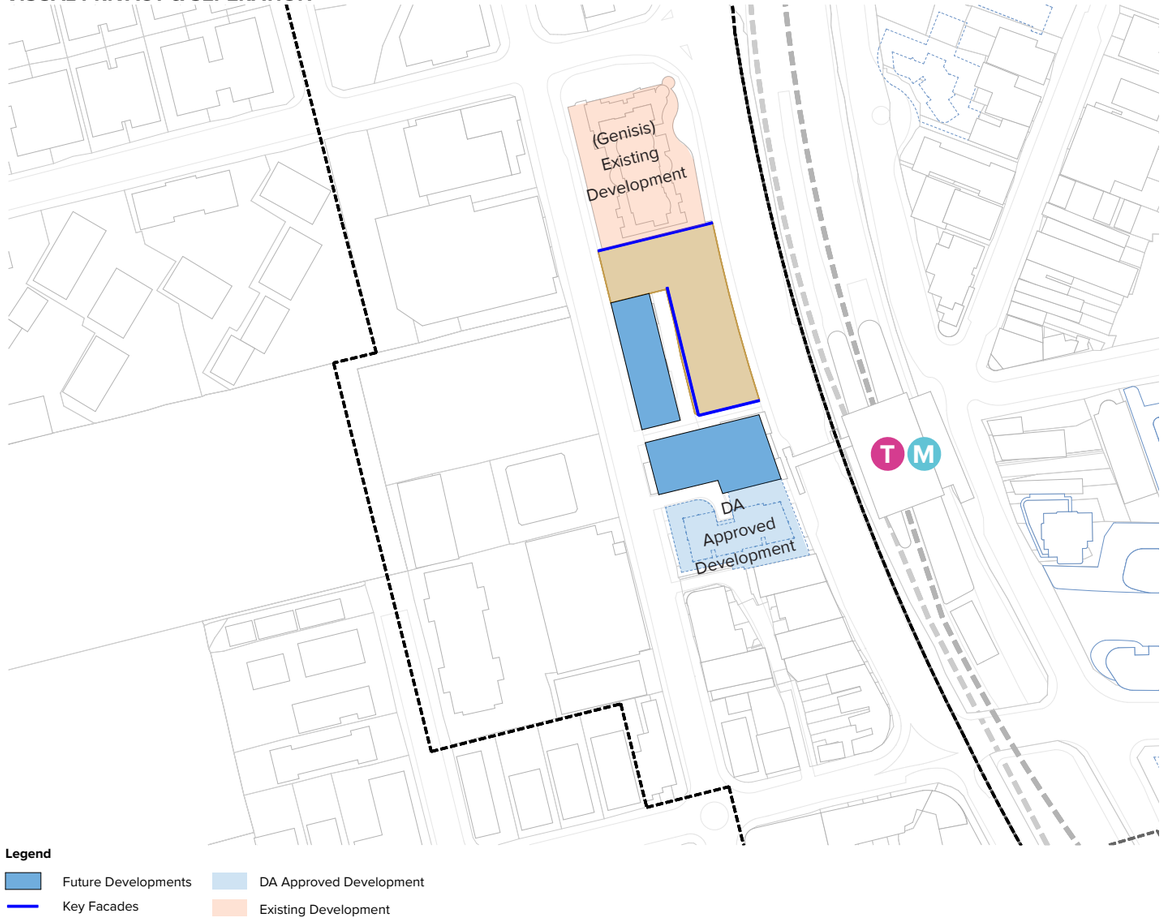
Overshadowing
The development will need to consider the bulk and scale of the west and south of the site to reduce impact on neighbouring sites and future developments.

1.32 ENVIRONMENT

STREETSCAPE SCALE

Visual privacy to existing and potential future developments will need to be considered

VISUAL PRIVACY & SEPERATION



The existing laneway to the west of the site is predominately a service lane

ACTIVATED GROUND PLANE

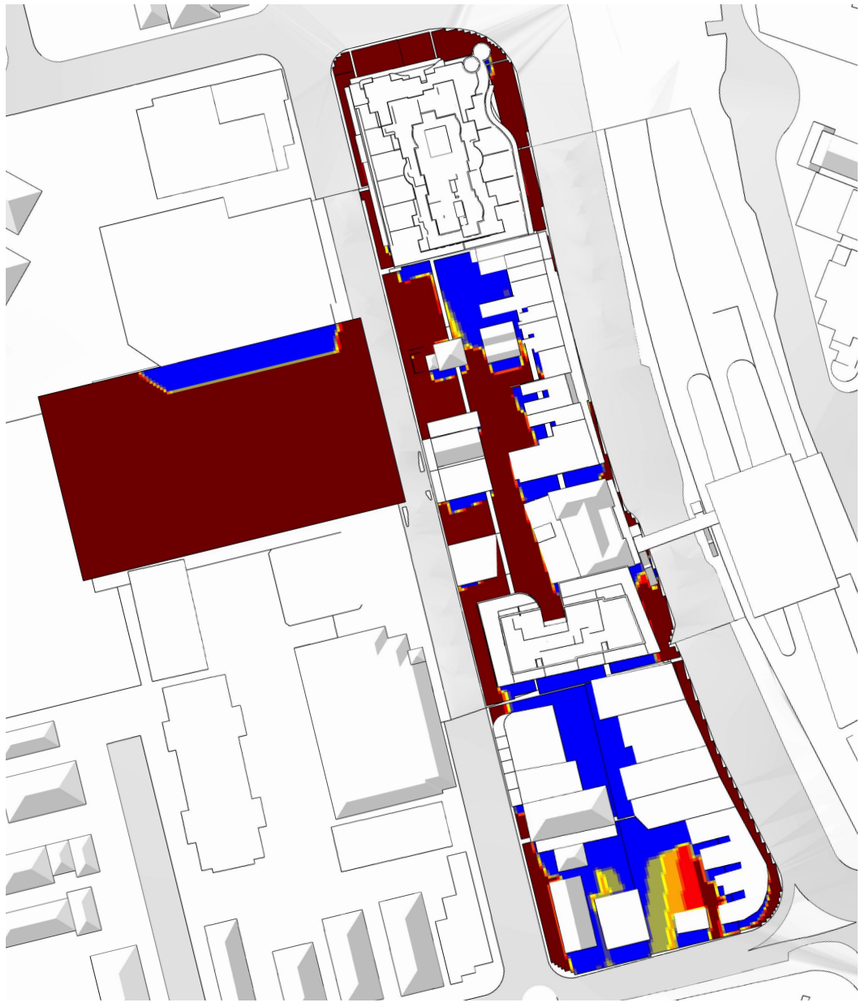
Visual Privacy & separation
The development will need to consider the existing and future context and provide design measures that allow for visual privacy to neighbouring sites.

Activated ground plane
The existing laneways are predominately service lanes. The development will need to create a heart within the site to cohesively bring the community together.

1.33 OPEN SPACE

STREETSCAPE SCALE

Future developments will need to preserve solar access to public open space and future square



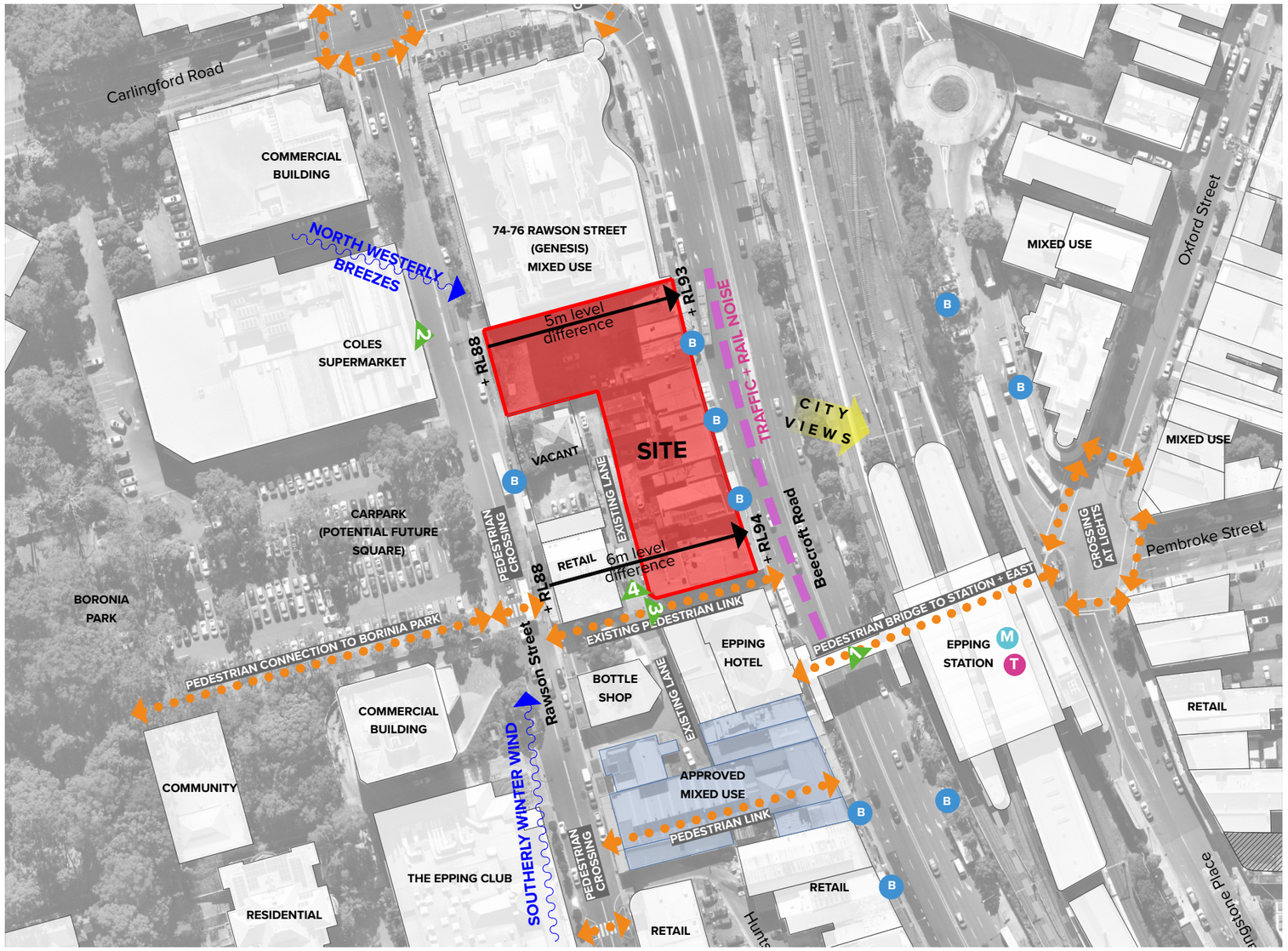
120 mins

45 mins Open space receives at least 45 mins between 12 and 2PM

0 min

1.34 THE EXISTING SITE IN DETAIL

The site is located in the heart of the Town Centre in close proximity to the Train and Metro Station



Key Observations

- The development is bounded by Beecroft Road to the East, Rawson Street and Public Lane to the West and pedestrian through site link to the South.
- The existing buildings along Beecroft Road are 2 storey with Commercial/Retail uses.
- The East of the site fronting Beecroft Road is adjacent to the Train and Metro lines.
- Along Rawson Street the site comprises of vacant land.
- The neighbouring site to the North (Genesis) is 10 storey mixed use building with bedrooms, kitchens and bathrooms facing to the South of the proposed development.
- The West of the site is bounded by an Existing Lane predominately for service vehicles.
- There is a 5m level difference between Beecroft Road and Rawson Street to the North of the Site.
- The Existing Pedestrian Through Site Link to the South provides access for pedestrian from Beecroft Road to Rawson Street (6m level difference) via a steep graded walkway. There are no trees along the Eastern end of the Laneway.
- Across the Through Site link to the South is the Epping Hotel facing Beecroft Road and Bottle shop Facing Rawson Street.
- In the broader neighbourhood of the town centre there is a Coles supermarket, Epping Club, commercial and retail uses. To the far west is Baronia park
- There is a approved DA for a mixed use 22 storey development to the South end of the site (48-54 Beecroft Road)

Legend

- Site
- Pedestrian Crossings
- Prevailing Winds
- Noise & Pollution
- Bus stop
- Sydney Metro
- Sydney Trains
- City Views
- Location of Photograph

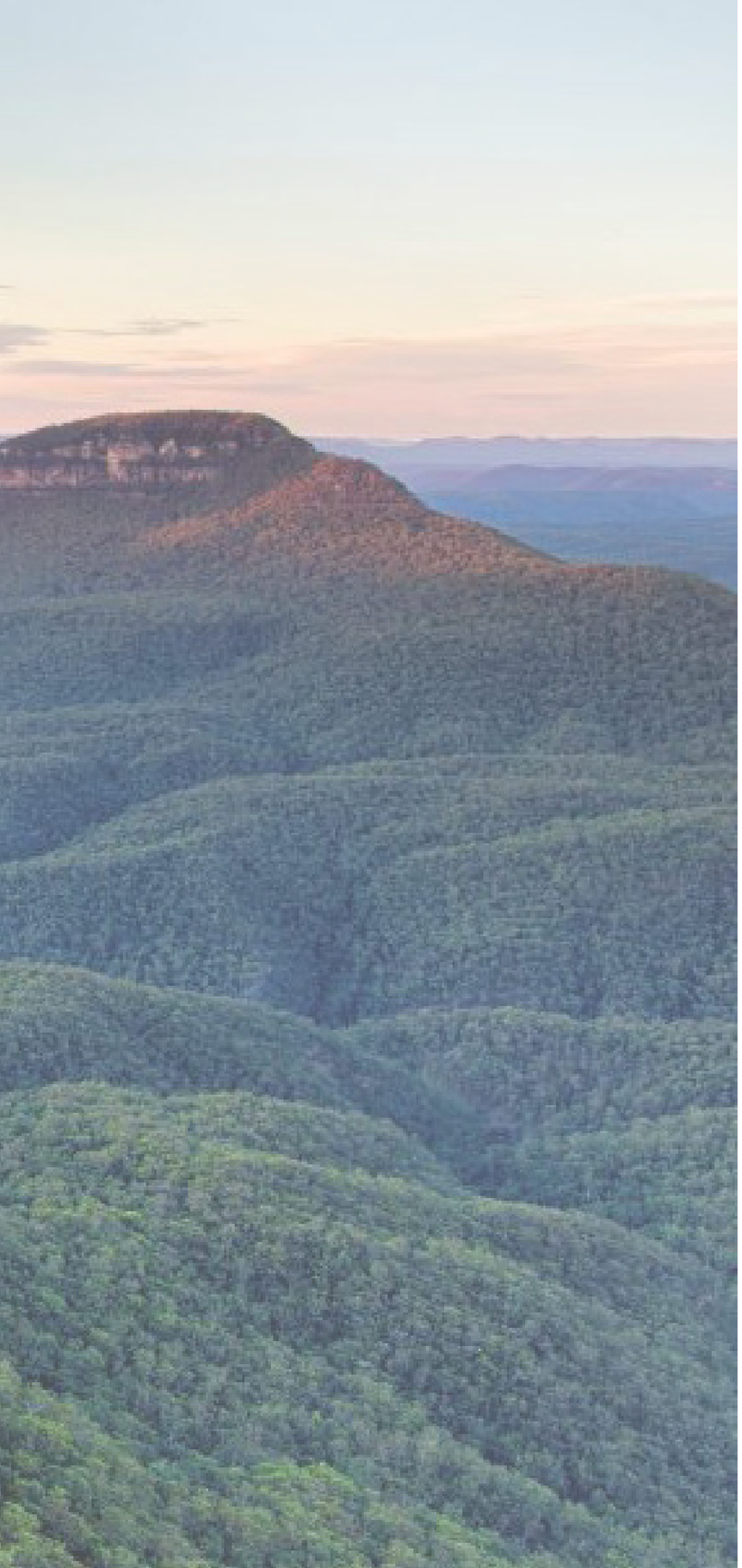
1. Beecroft Road looking North
Environment :
- Traffic Noise
- Railway Noise
- Poor air quality
- Poor Pedestrian amenity
- High Street Retail
- No Street trees

2. Rawson Street looking East
Environment :
- Local traffic
- Local Shopping
- Pedestrian streets
- Fine grain retail edge

3. Public Lane Looking North
Environment :
- Service lane
- Not pedestrian friendly
- Visual clutter of rubbish bins

4. Existing through site link looking West
Environment :
- Through Site link
- No trees
- Steep ramp gradient

Three Sisters, Blue Mountains
Source: The Green Travel Guide



1.4 EARLY MASSING ANALYSIS

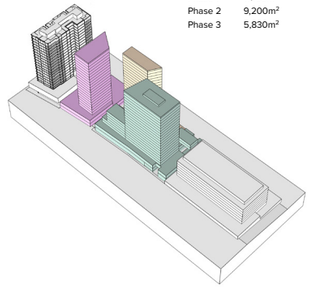
The following testing has been undertaken to ensure reasonable development potential and amenity outcomes, as well as balancing objectives of the future vision and proposed density in the Epping Town Centre

1.41 FORM TESTING

The preferred massing for the site was derived from testing many iterations of built form to provide envelopes that would maximise amenity to current and future developments

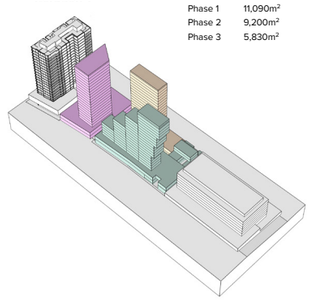
Iteration 0

Phase	GFA	FSR
Phase 1	17,100m²	5.72
Phase 2	9,200m²	5.33
Phase 3	5,830m²	5.24



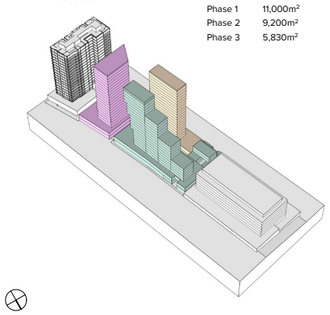
Iteration 1

Phase	GFA	FSR
Phase 1	11,090m²	3.71
Phase 2	9,200m²	5.33
Phase 3	5,830m²	5.24



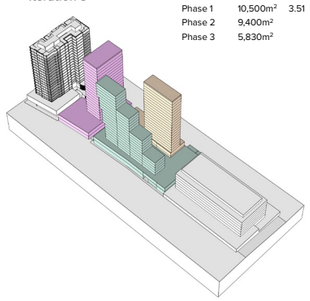
Iteration 2

Phase	GFA	FSR
Phase 1	11,000m²	3.68
Phase 2	9,200m²	5.33
Phase 3	5,830m²	5.24



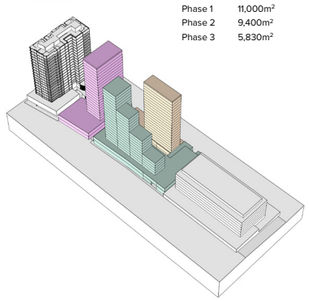
Iteration 3

Phase	GFA	FSR
Phase 1	10,500m²	3.51
Phase 2	9,400m²	5.45
Phase 3	5,830m²	5.24



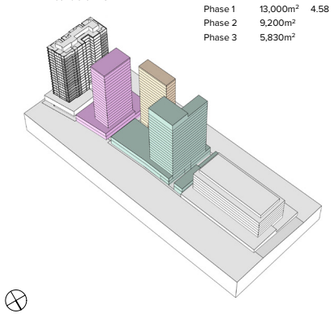
Iteration 4

Phase	GFA	FSR
Phase 1	11,000m²	3.68
Phase 2	9,400m²	5.45
Phase 3	5,830m²	5.24



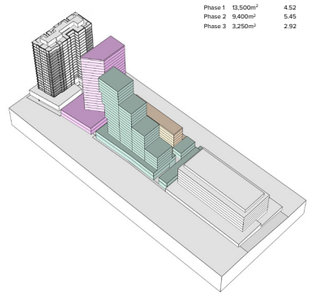
Iteration 5

Phase	GFA	FSR
Phase 1	13,000m²	4.58
Phase 2	9,200m²	5.33
Phase 3	5,830m²	5.24



Iteration 6

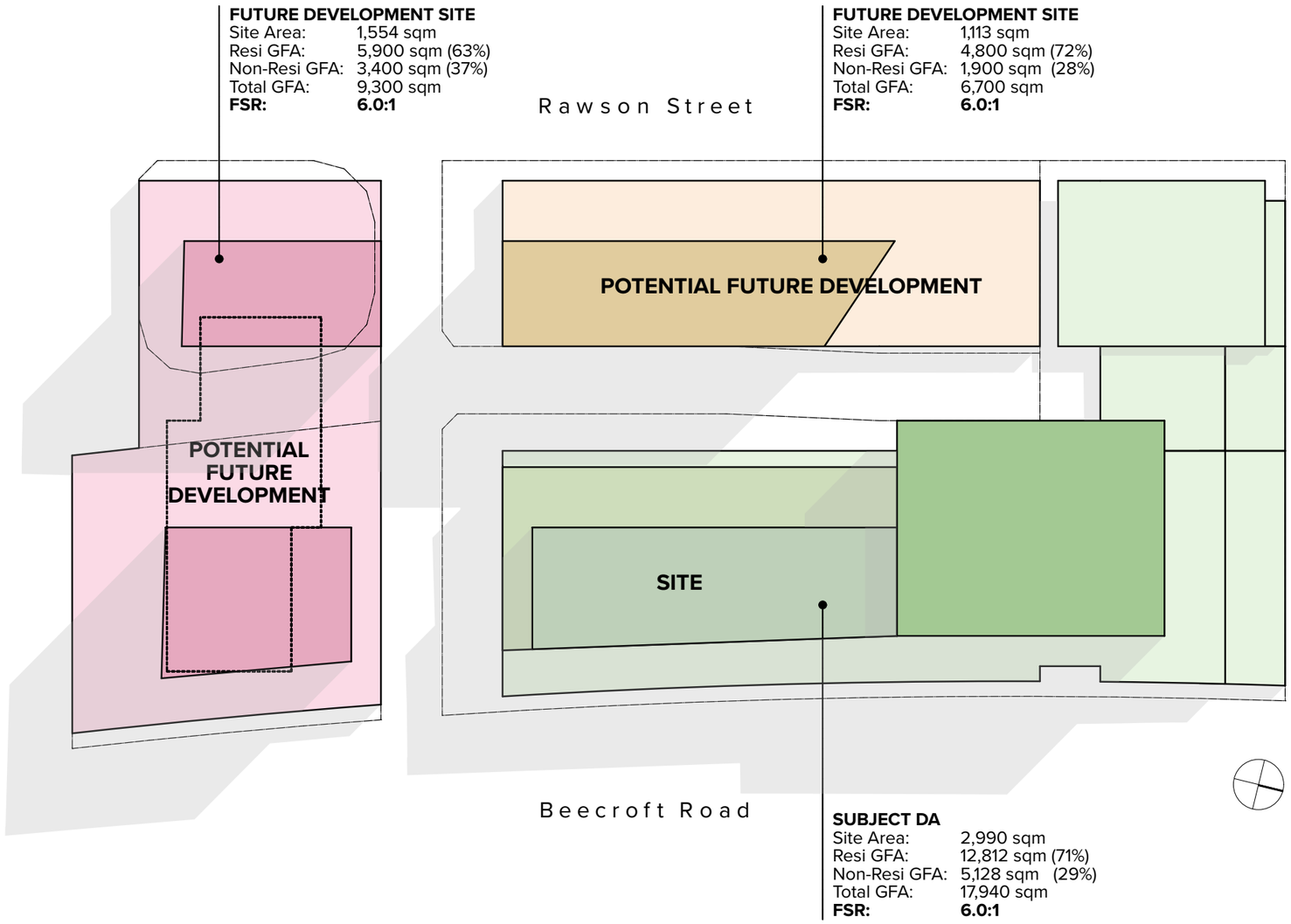
Phase	GFA	FSR
Phase 1	13,500m²	4.52
Phase 2	9,400m²	5.45
Phase 3	3,250m²	2.92



Different options were explored to understand the best outcome for the site

1.42 FSR & GFA DISTRIBUTION

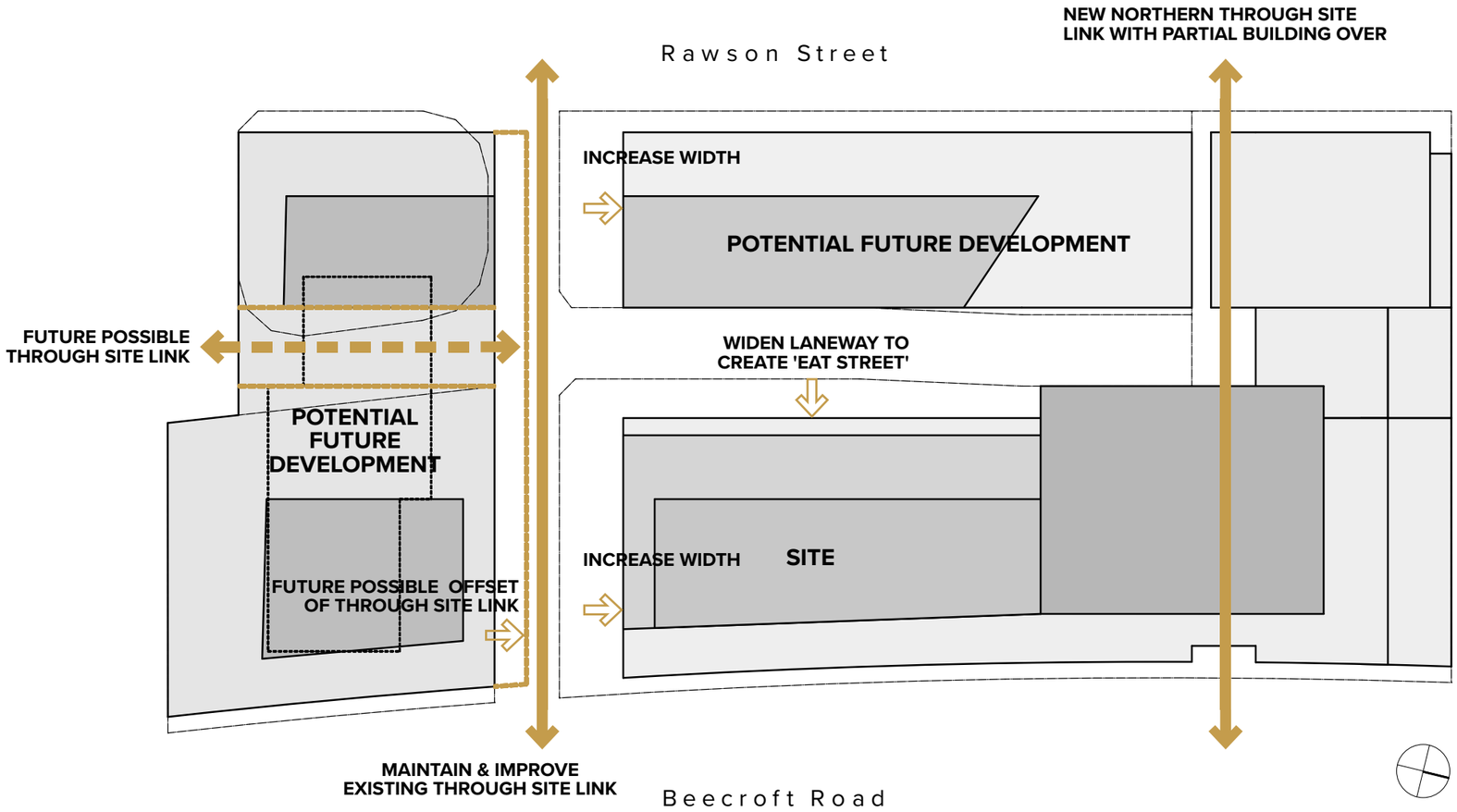
A Key Objective of the development is to understand & preserve the development potential of adjacent sites.



Overall FSR & GFA distribution summary
The massing outcome provides potential developments opportunity to meet the 6.1 FSR.

1.43 SITE ACTIVATION STRATEGY

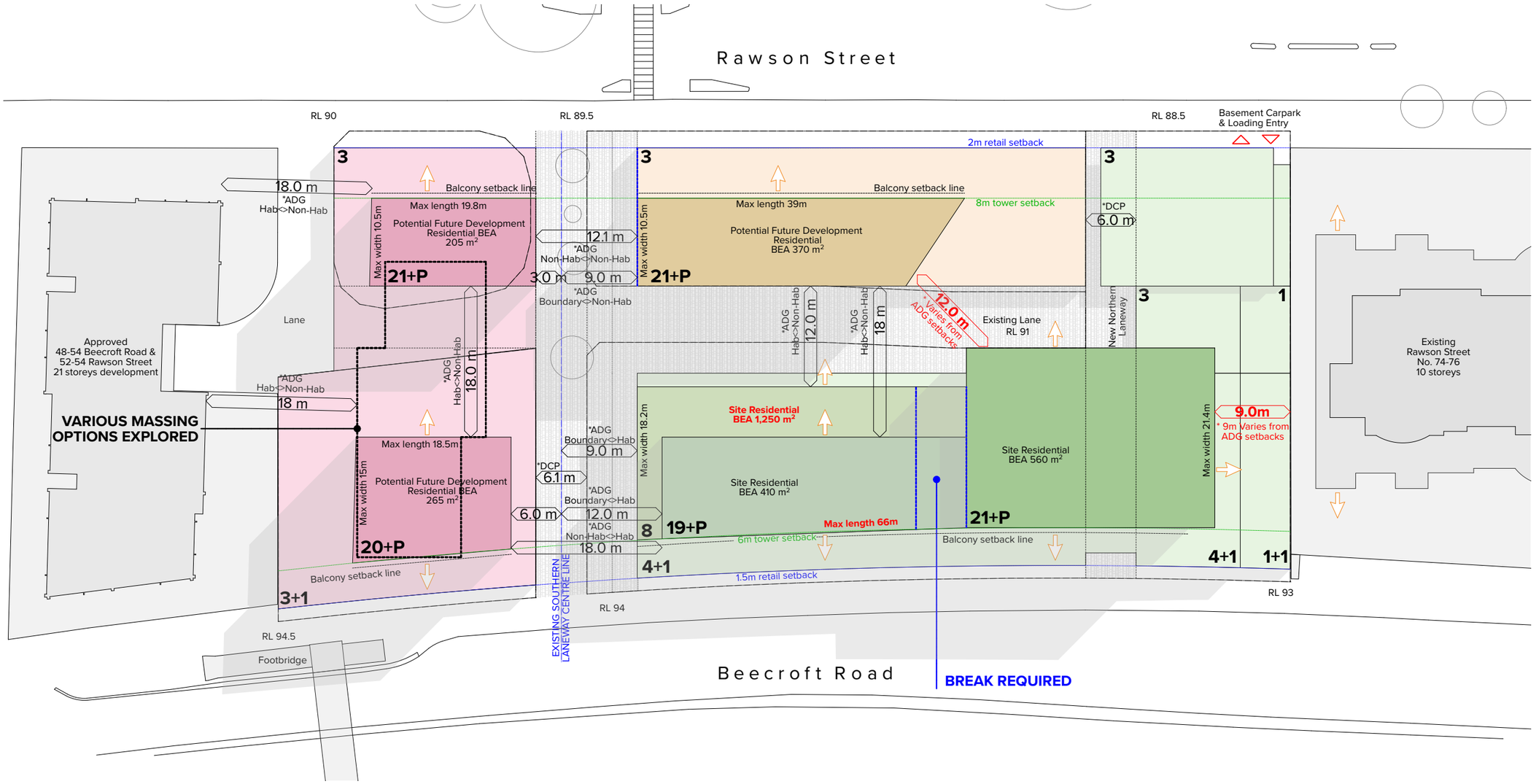
The site activation strategy ensures that proposed and potential developments improves the interface to adjoining laneways and pedestrian connections to maintain the vision of a permeable ground plane with pedestrian priority



Site Activation Strategy
The potential future developments have the potential to continue the activation of laneways and through site links.

1.44 SITE MASSING STRATEGY

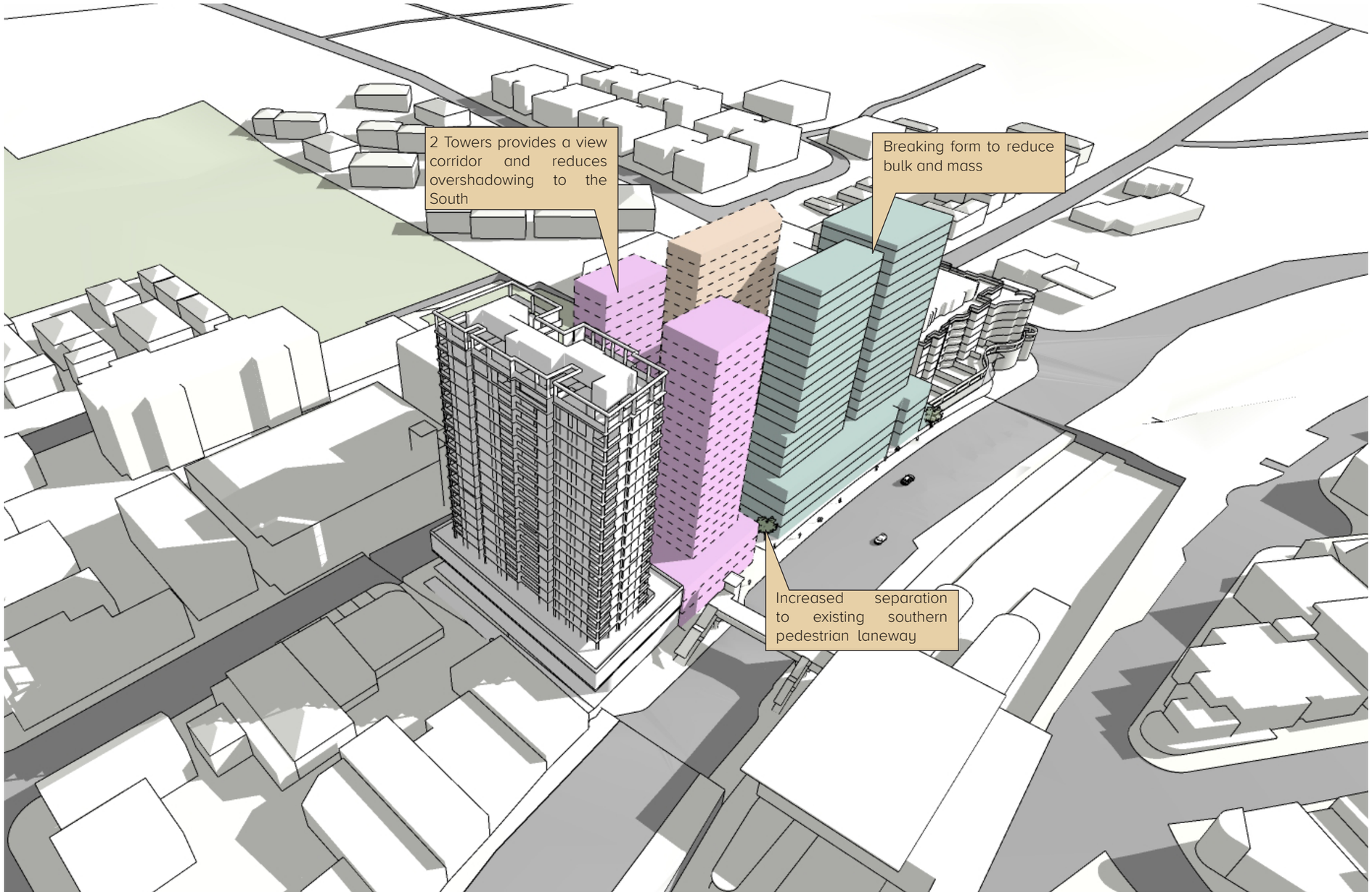
The massing to potential future developments considers the existing and future context to maximise amenity

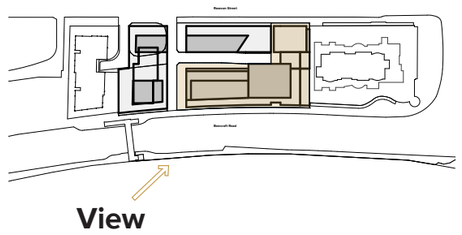


Site Massing Strategy
The future potential developments have considered separation and amenity to provide a feasible urban outcome.

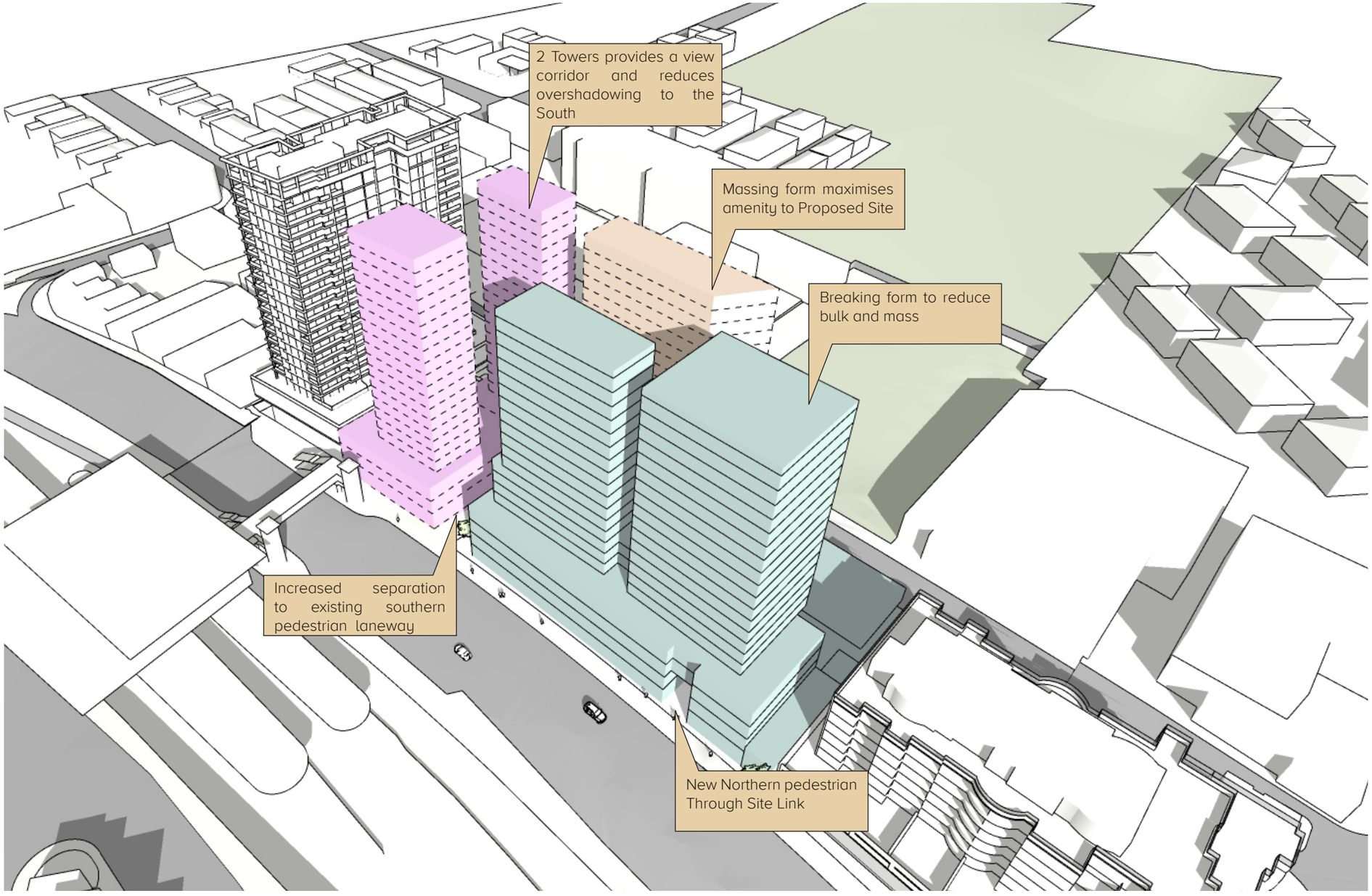
Legend
- Site (Subject DA)
- Potential Future Development
- Potential Future Development
- Primary Views

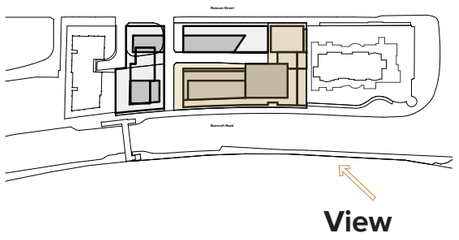
1.45 VIEW LOOKING NORTH WEST



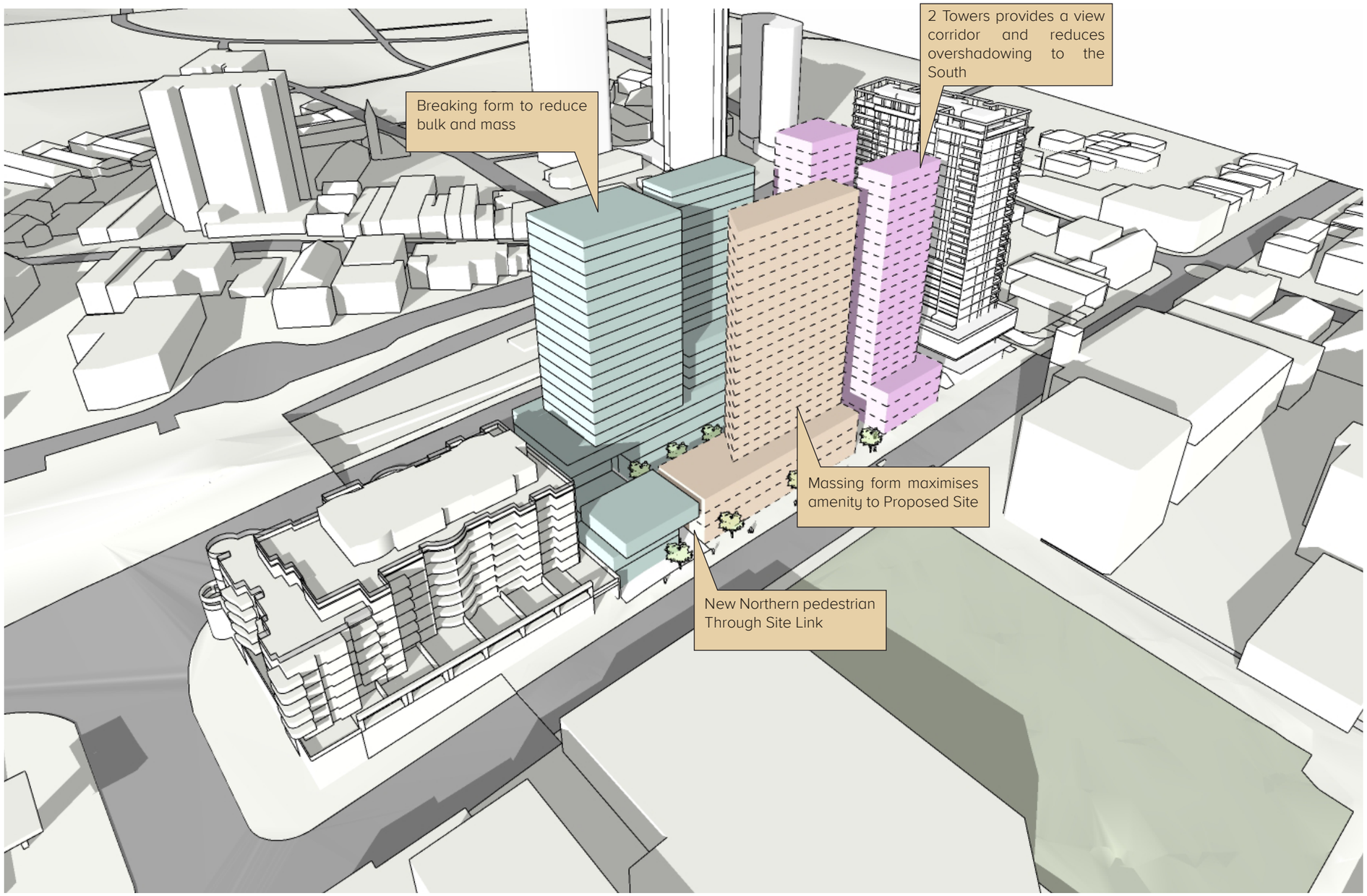


1.46 VIEW LOOKING SOUTH WEST

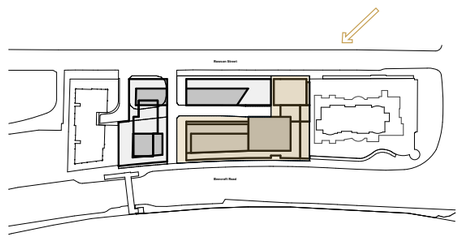




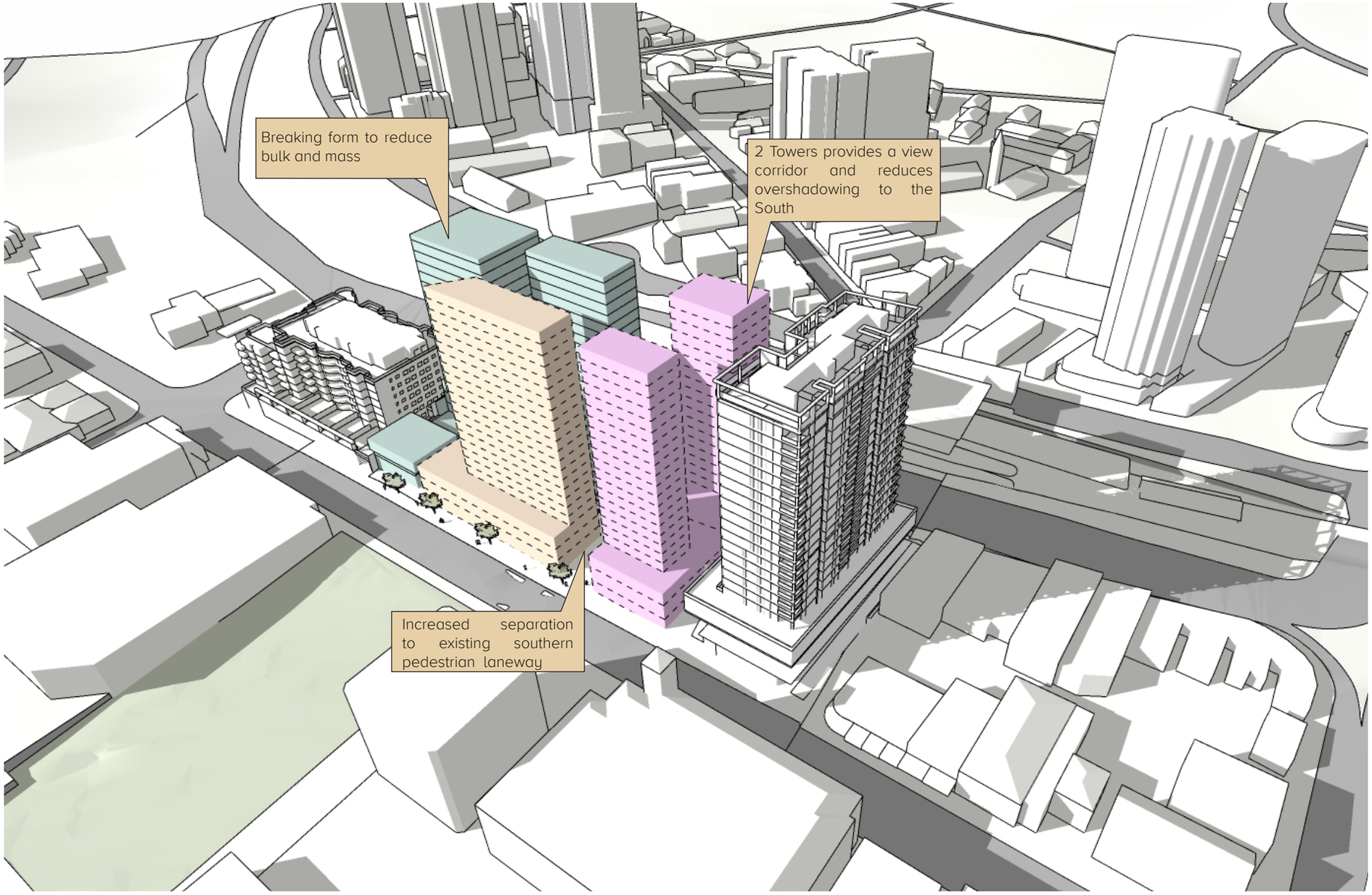
1.47 VIEW LOOKING SOUTH EAST



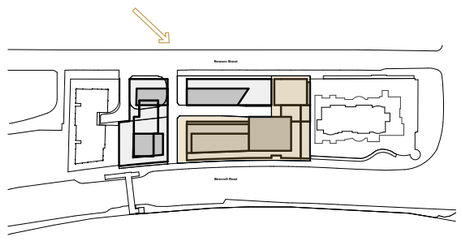
View



1.48 VIEW LOOKING NORTH EAST

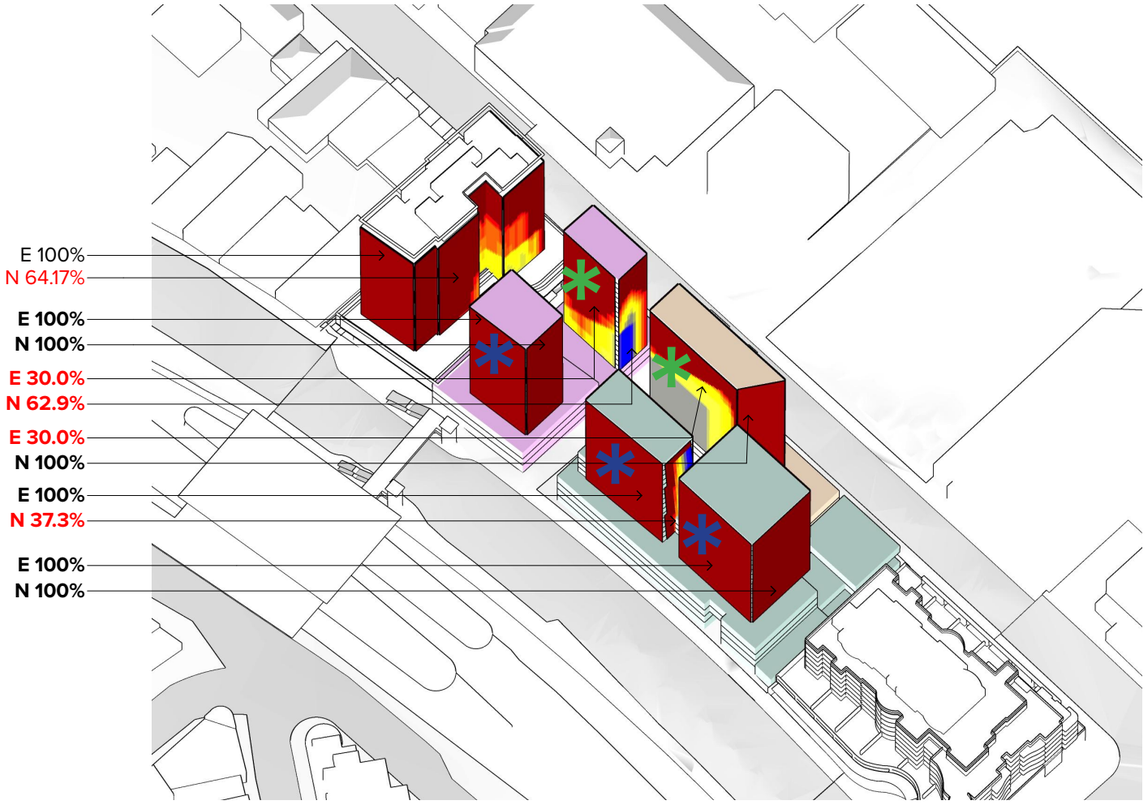


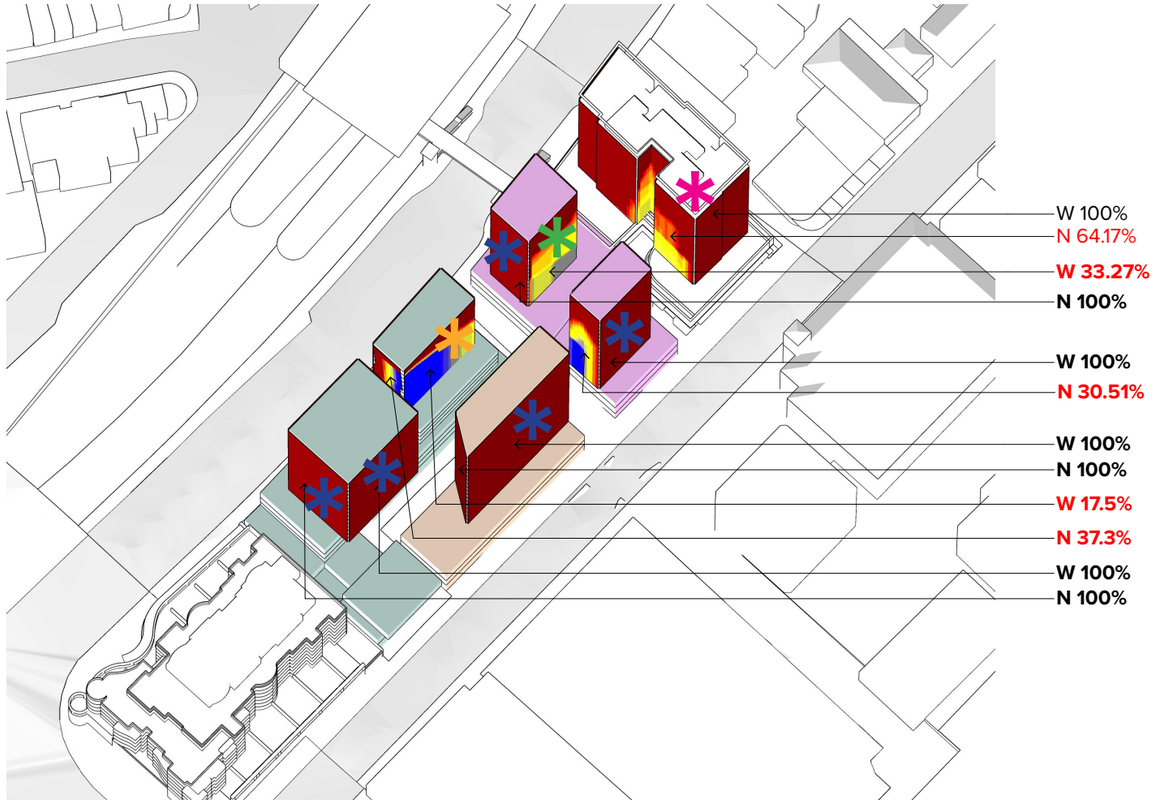
View



1.49 SOLAR ANALYSIS

The massing has been designed so that 75-80% of primary envelope facade receives a minimum 2 hours solar access between 9am - 3pm mid winter. We believe this provides the potential to meet the minimum 70% sunlight to living and private open spaces





6h
2h
0h

Building envelope receives 2 hours of sunlight or more between 9AM to 3PM during winter solstice

Building envelope receives no sunlight between 9AM to 3PM during winter solstice

N 88% — Min 80% of facade receives 2 hours of sunlight between 9AM to 3PM during winter solstice

W 29% — Less then 80% of facade receives 2 hours of sunlight between 9AM to 3PM during winter solstice

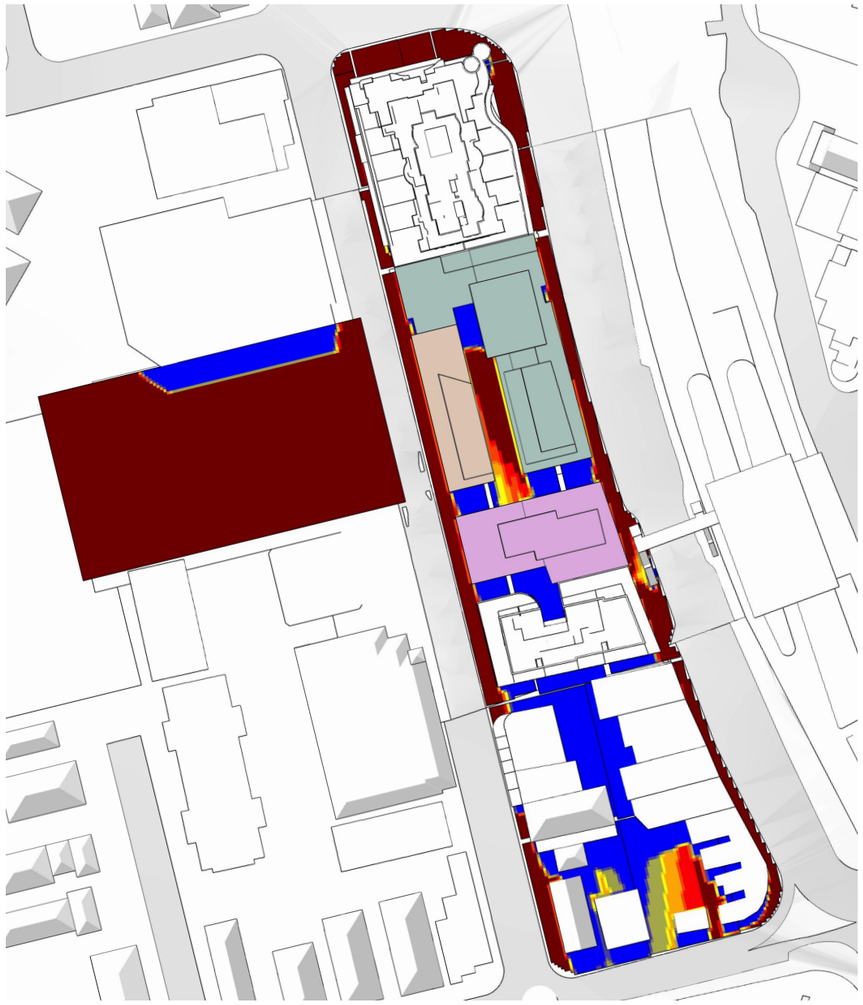
Core Location/ Secondary Facade

Primary Facade

The proposed development is reduced by 0% by the potential future site to the West

Approved Development 44-54 Beecroft Road solar access is reduced by 6% by the potential future site to the North (will require a more detailed assessment)

Solar access to public open space and Future square achieve a minimum of 45 minutes solar access between 12pm and 2pm

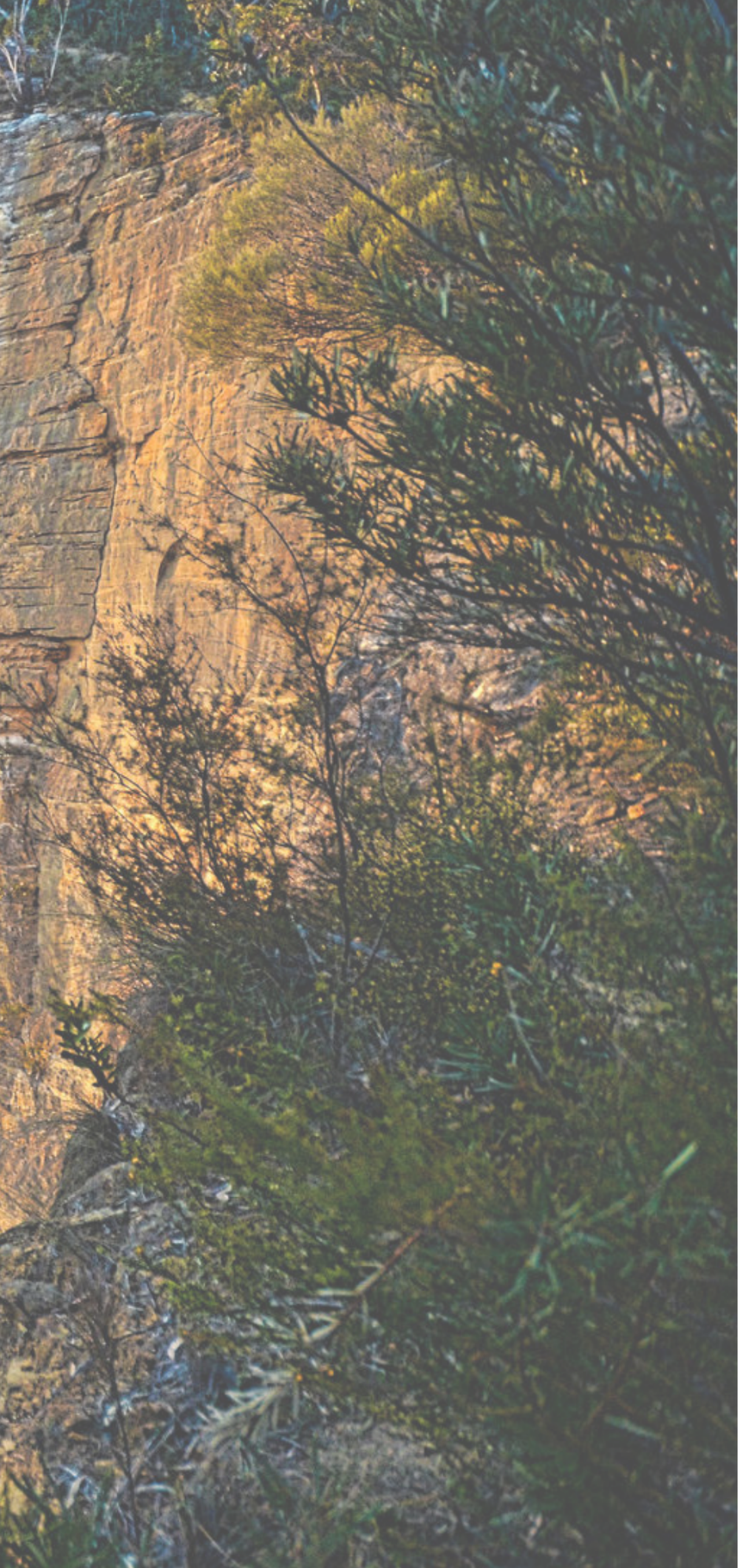


120 mins

45 mins Open space receives at least 45 mins between 12 and 2PM

0 min

Hanging Rock
Source: alltrails.com



1.5 KEY DESIGN INSIGHTS

1.51 KEY DESIGN INSIGHTS

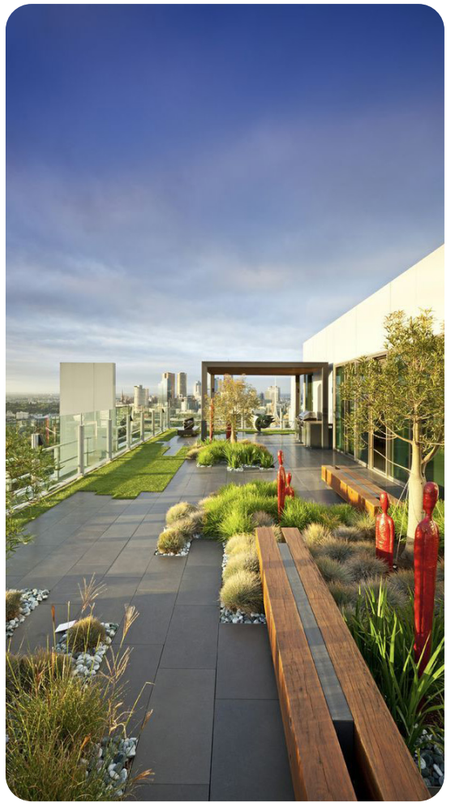
Insights drawn from the context analysis inform the design to create a considered urban design outcome and place

How do we plant more trees in the centre of Epping?

Exposure to nature and a precinct focused on wellness, promotes the growth of healthy, resilient and connected communities.

How do we manage the Beecroft Road interface?

Addressing the increasing traffic noise on Beecroft Road and its affect on the amenity of the future residents is critical.



How do we maximise amenity for residents and visitors?

Offering programming and lifestyle experience options beyond hardscaping of outdoor amenities offer outdoor lifestyles and greater connectivity to the community.

How does the site take advantage of the pedestrian connections & the open space network?

The design of streets, spaces and buildings can be a major factor in supporting and responding to people's patterns of living, promoting enjoyment, safety and prosperity.

How do we balance local retail and servicing needs with increase in housing?

Having a considered, tailored response to the program of a place allows for efficiency and usability with the potential to adapt to change over time. Spaces which have the ability to adapt will remain valuable and well-utilised, maintaining their value over time.

How do we recreate the fine grain 'high street' character and feel?

Taking reference from the existing urban fabric and composition of the street scape.

The pedestrian street level experience will contribute to a vibrant and active precinct.

How do we encourage people to stay longer?

Attractive places encourage visitors, residents and business activity, bringing investment and fostering a sense of local pride and identity.

A local anchor with a clear identity within the local neighbourhood.

How do we balance land use intensification with energy use?

A combination of passive design strategies and integration of efficient and clean energy technologies.

Design for a hotter Epping. Epping will be up to 7% hotter. Reducing the heat island affect will help keep streets and buildings cooler.

Blue Mountains
Source: National Parks and Wildlife Service

2.0 VISION

To create a Landmark development that is a unique response to the various site interfaces

2.01 OBJECTIVES & PRINCIPLES

OBJECTIVES

CONNECTED
A safe, attractive and accessible place encourages active and healthy living, where residents and community feel proud to belong to.

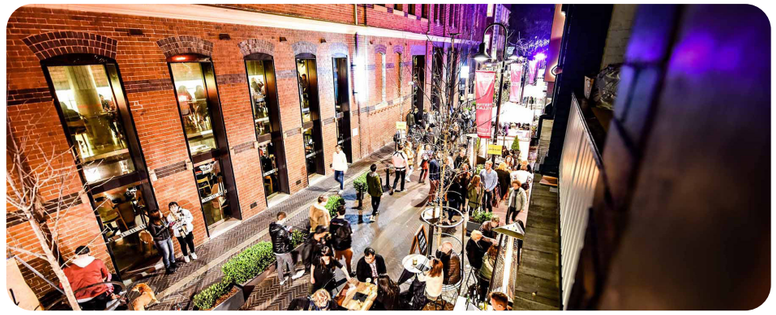
DIVERSE
An active and hybrid destination within the existing urban fabric.

FLEXIBLE
Convenient, dynamic and flexible retail offering designed to connect people.

PRINCIPLES

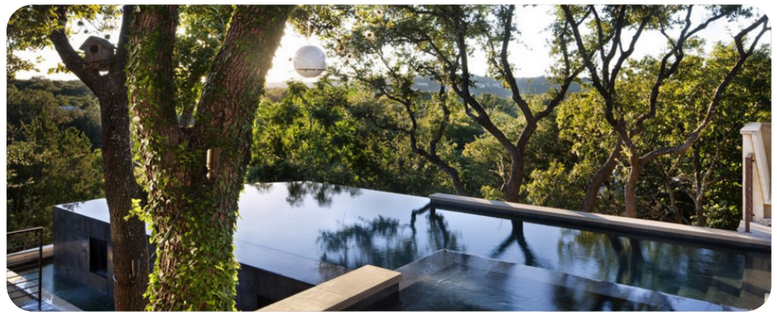
PEDESTRIANS FIRST
Pedestrian first streets and links that are attractive, safe and enjoyable to move through

FINE GRAIN
A street level experience supported by retail and active hubs will play an important role in creating the character and identity for the development within the local urban framework.



VIBRANT THROUGH SITE LINK
Connected streets and laneways that are activated and welcoming , and allow equitable access and create a sense of safety.

RANGE OF HOUSING
Diverse range of housing types to suit different family structures, age groups and individuals.



VARIETY OF COMMUNAL SPACES
Providing a variety of common spaces for recreation and greening to support community congregation.

RESPOND TO LOCAL CULTURE
Create a sense of identity to the public spaces to provide a vibrant and collaboratively planned spaces that draw on the existing urban framework and qualities of Epping urban fabric.

A HYBRID PRECINCT
A precinct that offers a range of spaces to suit different purposes.

DAY NIGHT ACTIVITY
An attractive place which encourages visitors, residents and retail uses to create a thriving hybrid ecosystem to suit different purposes - live/ work/ play at all times of day/night/ weekday/ weekend.

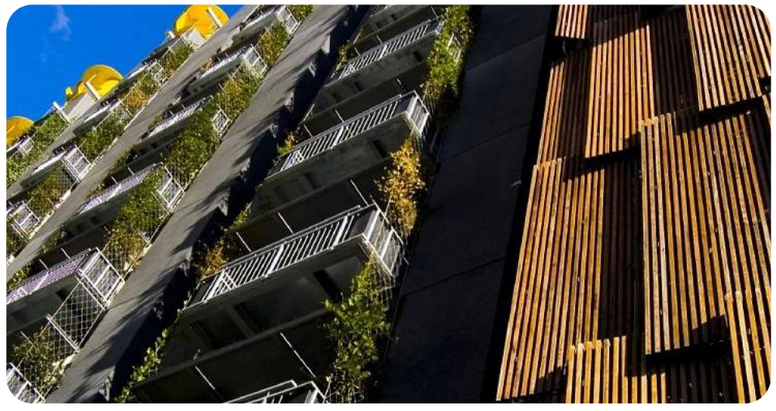
FLEXIBLE & ADAPTABLE USES
Create spaces that can respond and adapt to the needs of the community.

2.02 OBJECTIVES & PRINCIPLES

OBJECTIVES

LIVABLE
Create an authentic place within the local neighbourhood.

SUSTAINABLE
Create a sustainable urban environment.



GREEN
Create a tangible connection to nature.

PRINCIPLES

WELLNESS
A precinct that focuses on wellness for residents and visitors through encouraging walking and cycling, connection to nature and a range of outdoor communal spaces to facilitate different activities.

SUPPORT COMMUNITY NEEDS
A precinct that supports the changing needs of the community over time.

CREATING A UNIQUE PLACE
Considering the environment beyond the immediate site to understand the unique qualities of the place including its environmental, social, cultural and economic attributes.

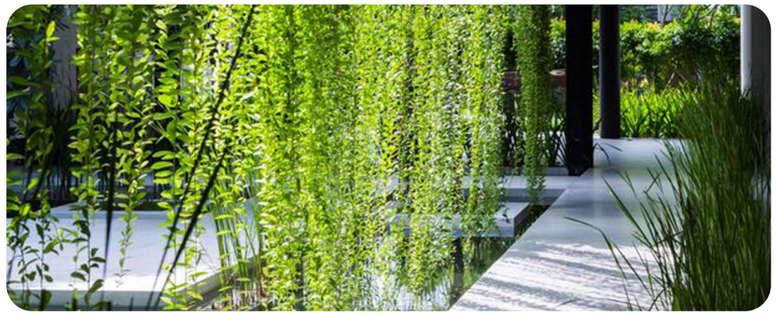
ECOLOGICAL SUSTAINABLE
Incorporate the principles of Ecologically Sustainable Developments which contributes positively to the environmental, economic and social outcome.

ENVIRONMENTAL RESILIENCE
Considering the whole-of-life costs of the development to support environmental resilience through sustainable material selection and building systems that improve performance.

INCREASED AMENITY
Ensuring adequate access to fresh air and sunlight through good orientation, size and placement of windows.

GREEN STRATEGY
Contribution to the local area and surrounding neighbourhood by creating a resilient built environment, through implementing a 'green' strategy that embeds landscaping within the development.

IMPROVED ENVIRONMENT
Increasing green cover will improve amenity, comfort, health, reduce stormwater run-off, improved air and water quality and energy and resource energy.



INCREASED URBAN GREEN COVER
Promoting increased urban green cover to assist in urban heat mitigation and increased Urban amenity and biodiversity.

Proposed Development View From Rawson Street
Source: TURNER

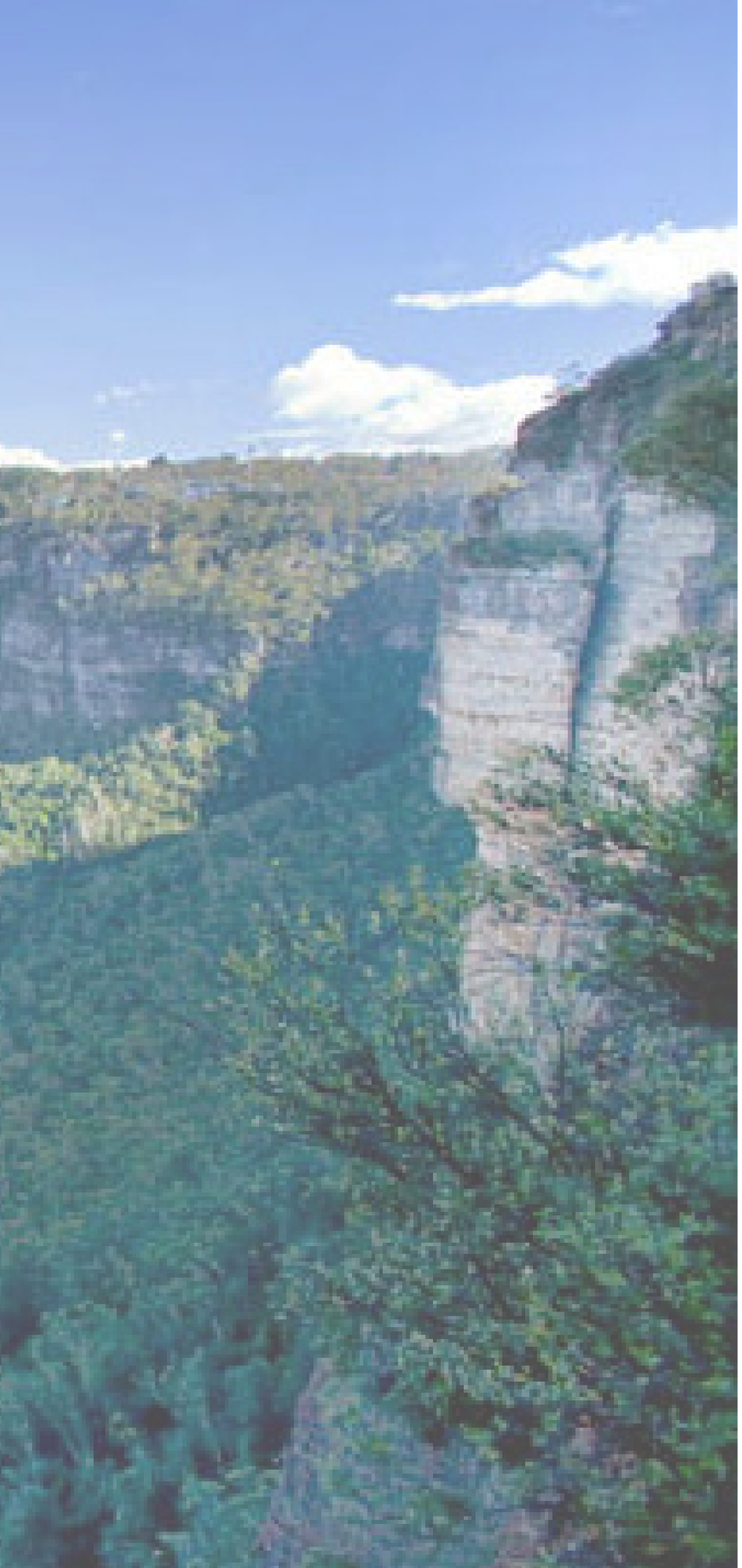
2.03 PLACE MEASURES

In addition to the requirement of the ADG, a set of Place Performance Measures are proposed to provide measurable targets that are site specific and a response to our analysis and exploration of opportunities

MEASURE	METRIC	ACHIEVED
Vertical Village	Ratio of private communal open space per resident 5m²/resident	✔
Varied mix of apartment typologies	45% 1 Beds 45% 2 Beds 10% 3 Beds	✔
Activated Frontage	80% Activated Frontage	✔
Adaptable Ground Floors	1. 150 m of active ground floor 2. 3.3m Floor-to-ceiling height 3. 2m Depth & 3.5m height of pedestrian shelter @ ground plane	✔
Double Height Building Entries	Minimum 6m High Building Entries	✔

MEASURE	METRIC	ACHIEVED
Activated Frontage	90% Activated Frontage	✔
Green View Index	50% of canopy cover visible in public realm at eye level	✔
Landscape Replacement Area Control	100% of site for communal landscape or Vertical Planting (above 1st floor)	✔
Solar Access	Minimum 75% of apartments receive 2 hours solar access between 9am & 3pm (5% above ADG minimum requirements	✔
No Direct Solar	A maximum of 10% of apartments receive no direct sunlight between 9am and 3pm at mid winter (5% below ADG maximum requirement)	✔

Dardanelles Pass loop walking track
Source: NSW National Parks and Wildlife Service

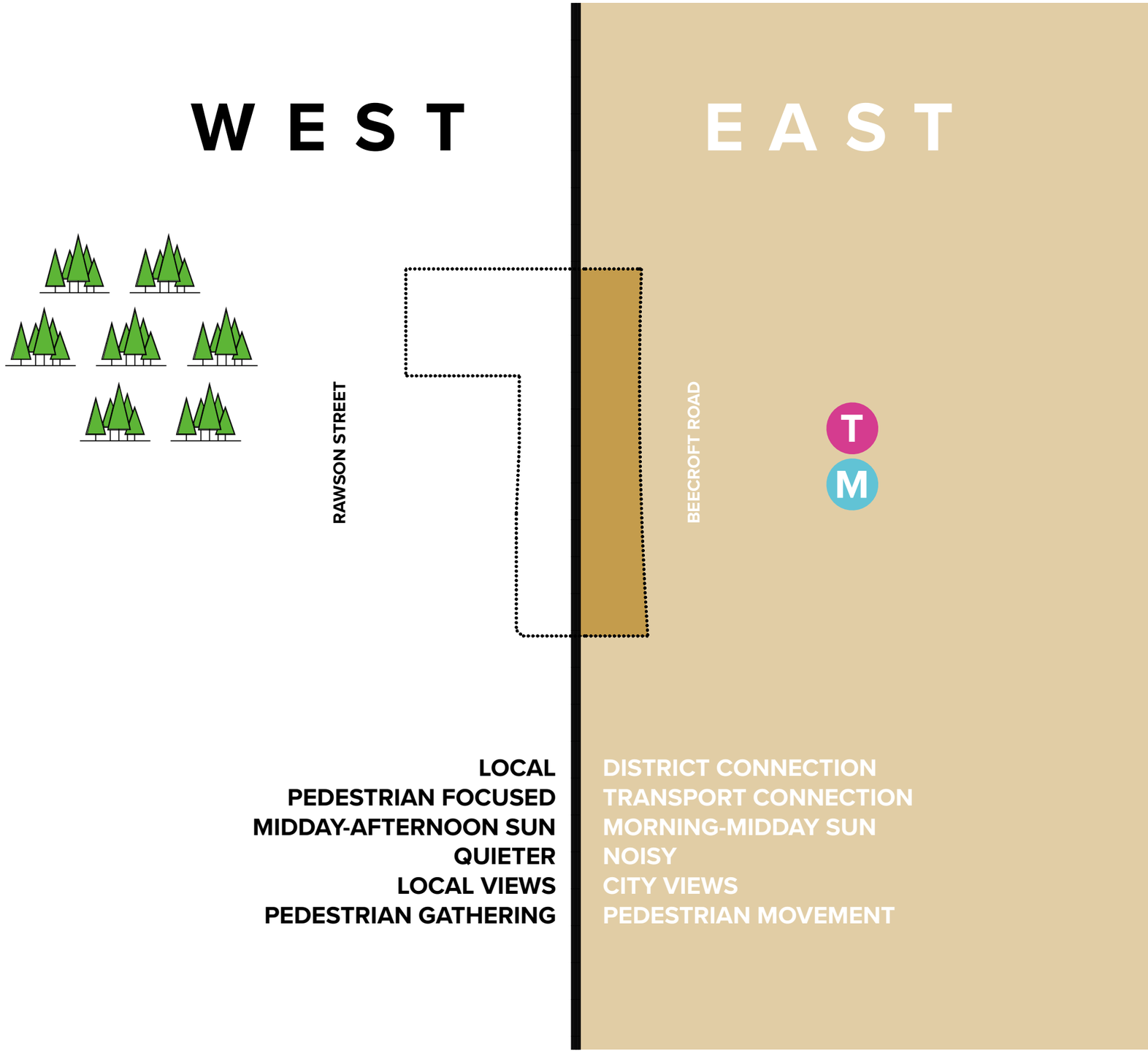


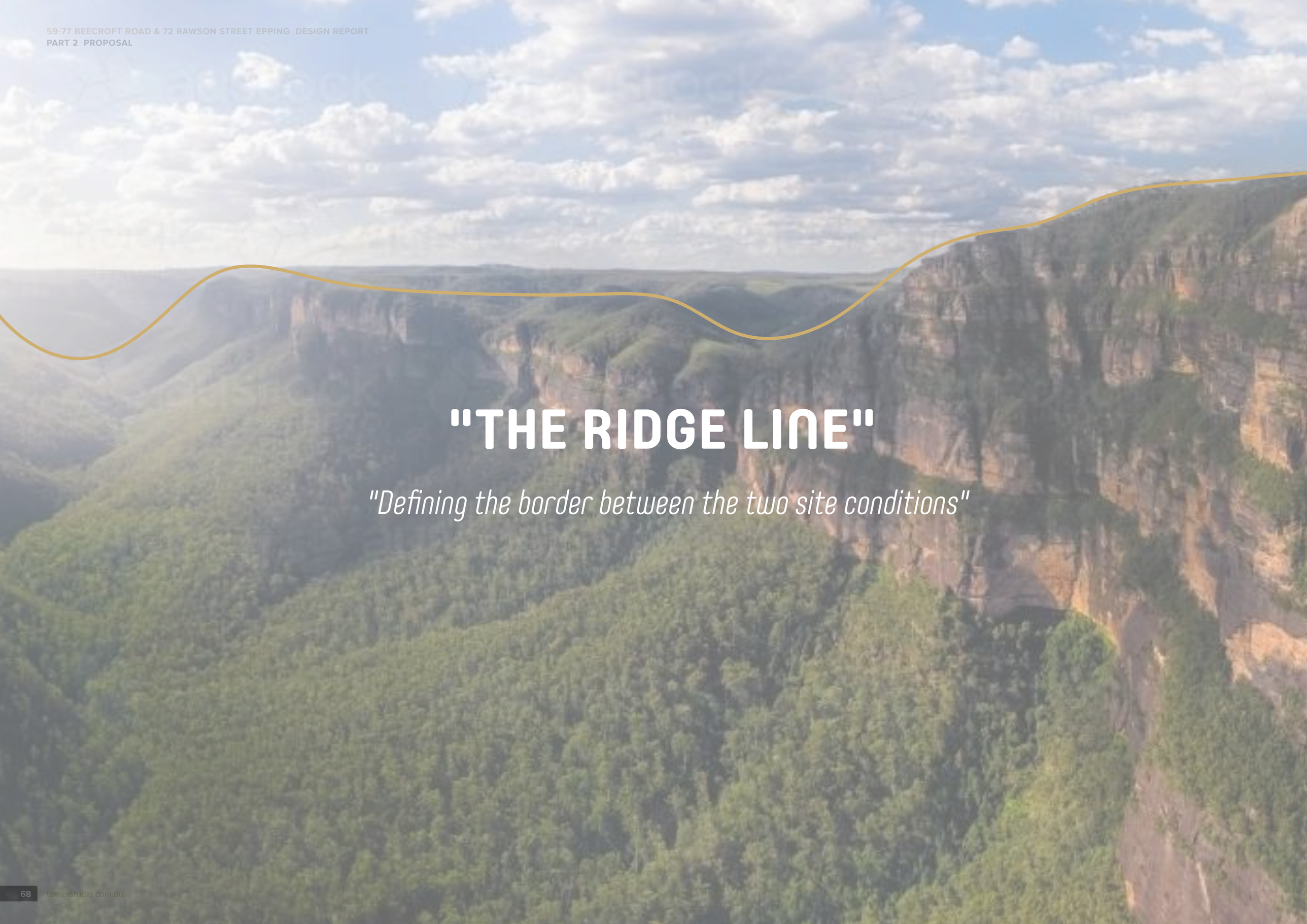
2.1 DESIGN NARRATIVE

"WEST AND EAST"

"Epping is a place of dualities."

The sites environment creates a division between the East and West





"THE RIDGE LINE"

"Defining the border between the two site conditions"

The site is divided into a Local and Urban context, each side has unique qualities that contribute to the arrangement of places and spaces

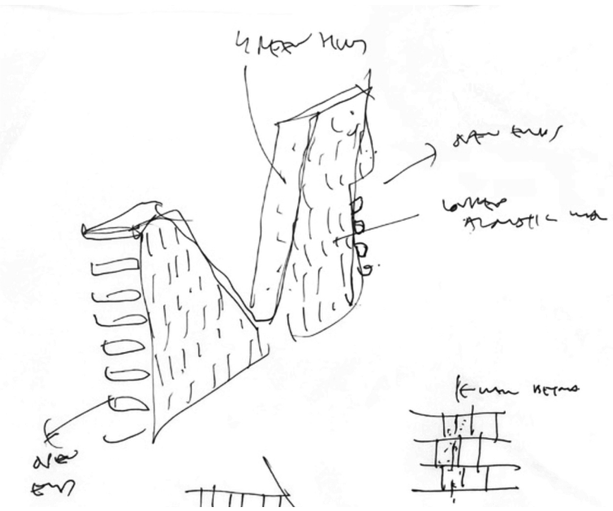
	LOCAL	URBAN
GROUND PLANE	LOCAL/COMMUNITY DOOR	MAIN ADDRESS/FRONT DOOR
STREET LEVEL USES	GATHERINGS	MOVEMENT
PODIUM	OPEN	PROTECTIVE (NOISE/TRAFFIC)
TOWER FORM	'CONTEXT' MAXIMISE AFTERNOON WINTER SUN PROTECT FROM WESTERN SUN	TAKE ADVANTAGE OF MORNING SUN MITIGATE NOISE
APARTMENTS	MAXIMISE APARTMENT AMENITY	MAXIMISE CITY VIEWS

Proposed Development View from Beecroft Road Pedestrian Through Site Link
Source: TURNER

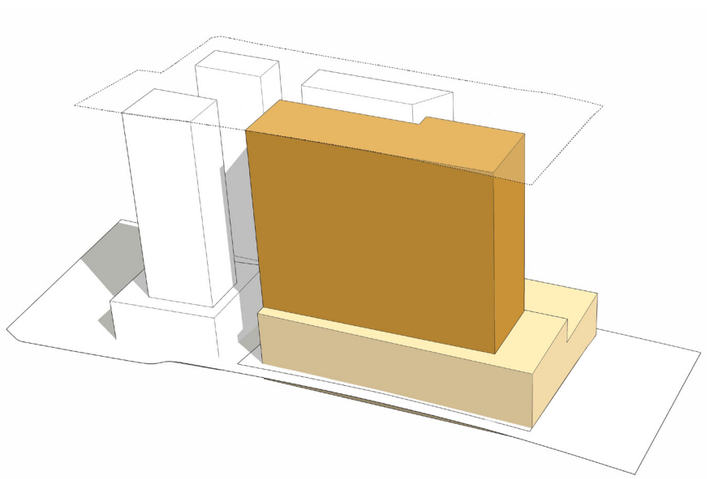
2.2 PLACE MAKING & DESIGN

2.21 KEY MOVES - PLACE SPECIFIC RESPONSE

Identifying the design process that has been influenced by the sites urban and local environment

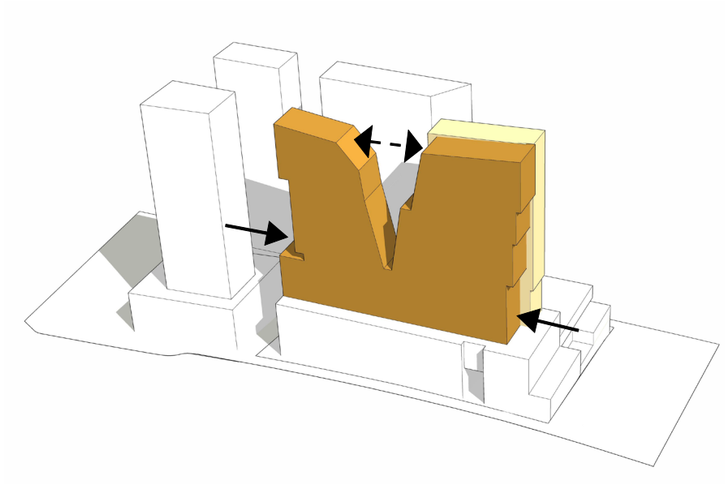


MAXIMUM BUILDING ENVELOPE



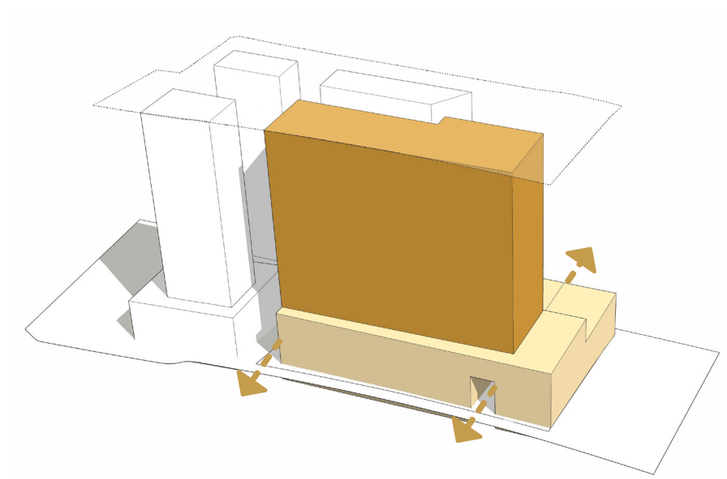
Establishing the Building Envelope based on DCP and LEP controls

BUILDING ARTICULATION



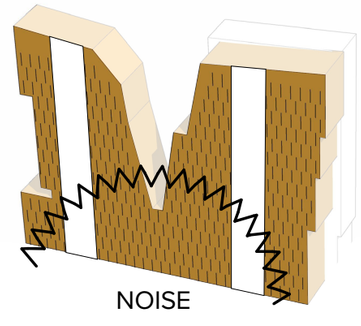
Increasing the gap between the buildings to create a defined break in the skyline. Refinement to building edges to respond to neighbouring context .

THROUGH SITE LINKS



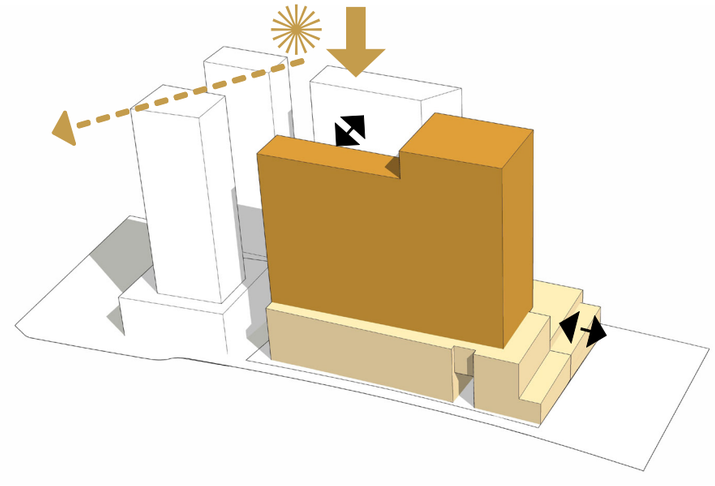
Introducing a pedestrian through site link to create a more permeable ground plane.

ADDRESSING NOISE



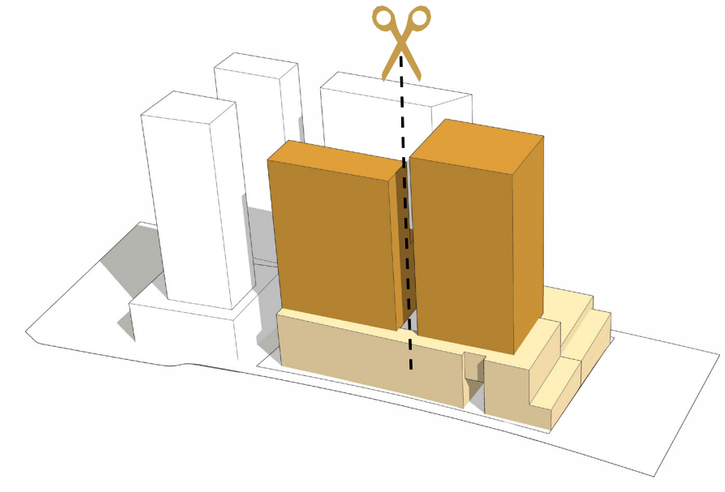
The building cores have been positioned to the East to reduce the amount of apartments exposed to Beecroft Road. Winter gardens/ loggias have been provided to assist in mitigating noise from traffic.

RESPONSE TO SITE CONTEXT



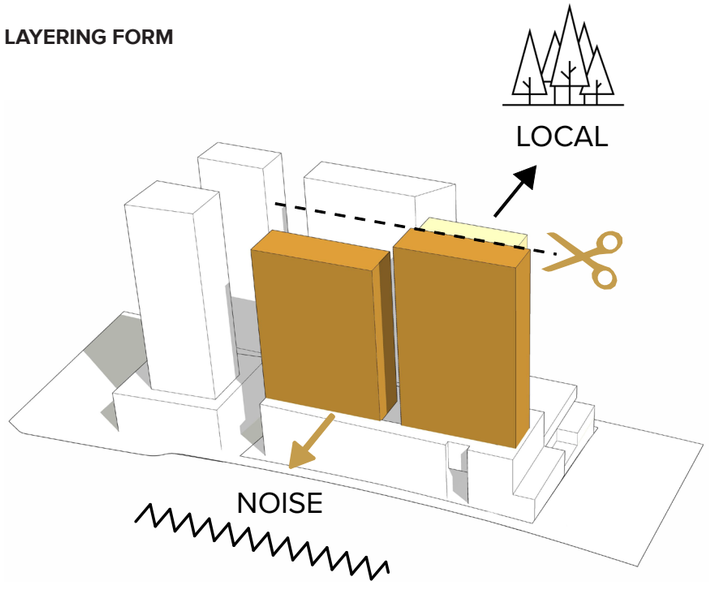
Refinement of form to address building separation and overshadowing to neighbouring sites.

BREAKING FORM



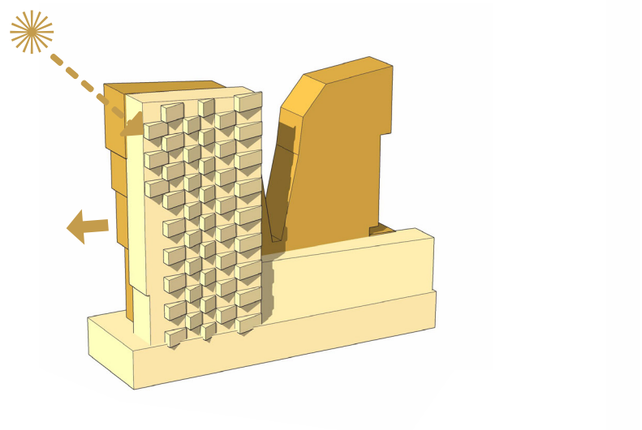
Breaking down massing into 2 distinctive volumes to reduce scale and floor plate area.

LAYERING FORM



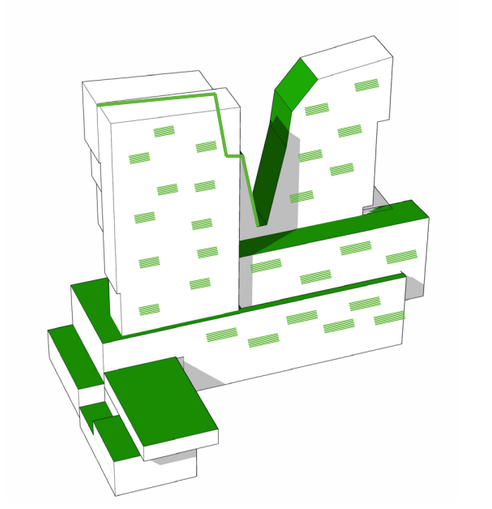
Further breakdown of form to respond to site conditions

SOLAR AMENITY



Bay windows are integrated into the West facade to capture afternoon sun into living rooms.

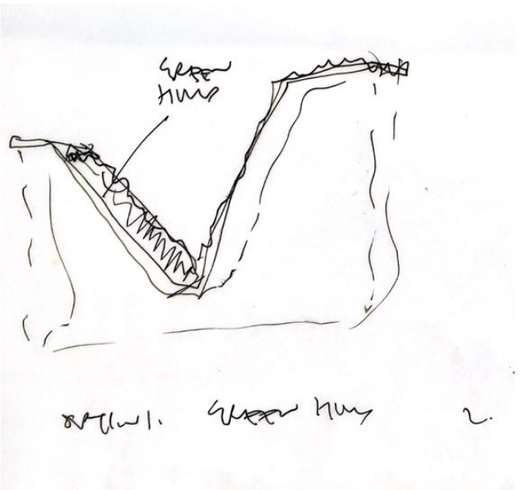
LANDSCAPING

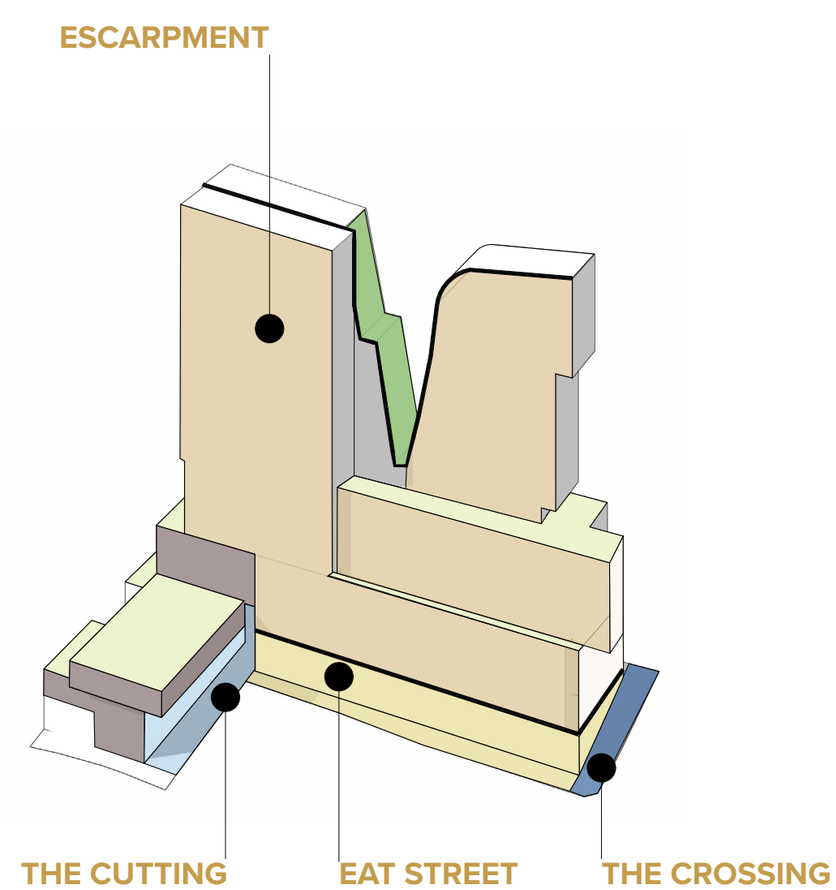


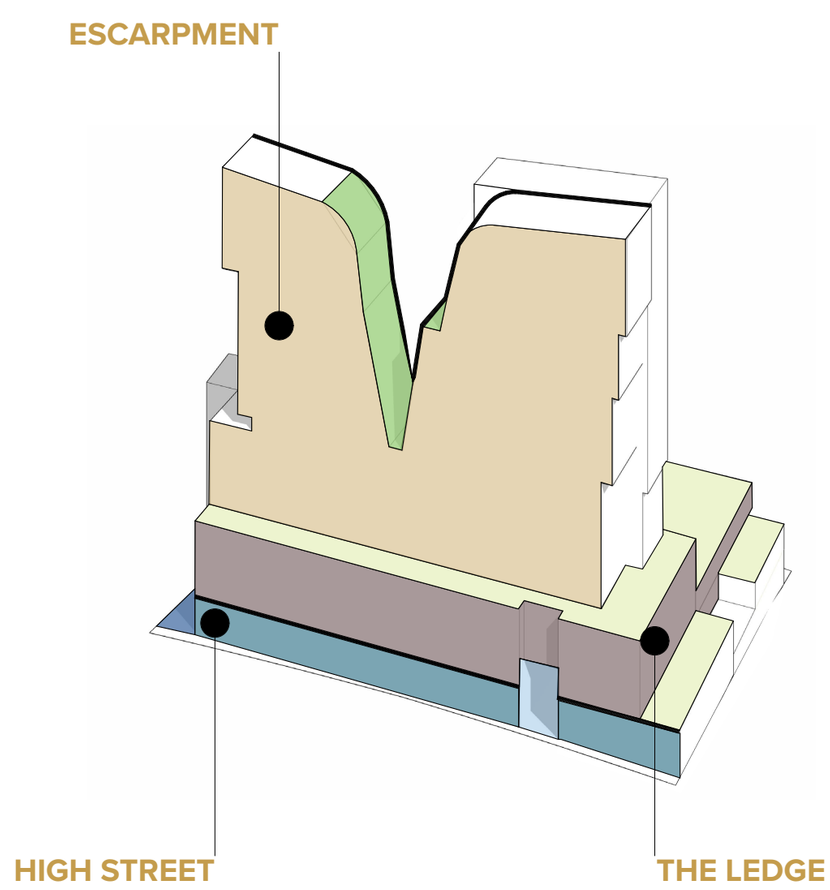
Integration of landscaping as part of the building to increase urban green cover, amenity and outlook.

2.22 KEY PLACES AND SPACES

The elements of the ridge line juxtapose key places and spaces within the development. Creating identity to the street level experience and tower composition to respond to its context.



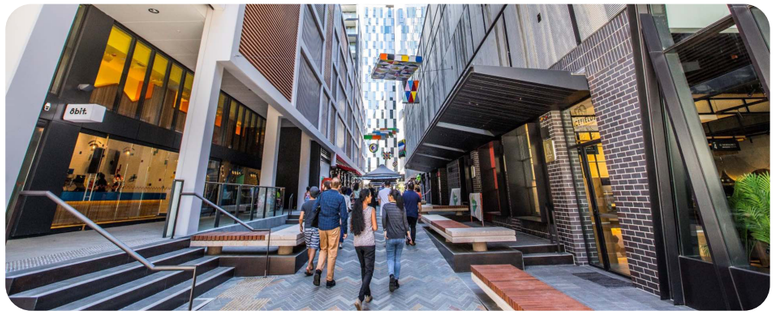




LOCAL CHARACTER
Re-enforcing the local urban characteristics of Epping

HIGH STREET
Taking key elements of the Traditional High Street of Epping and providing a connection to the past

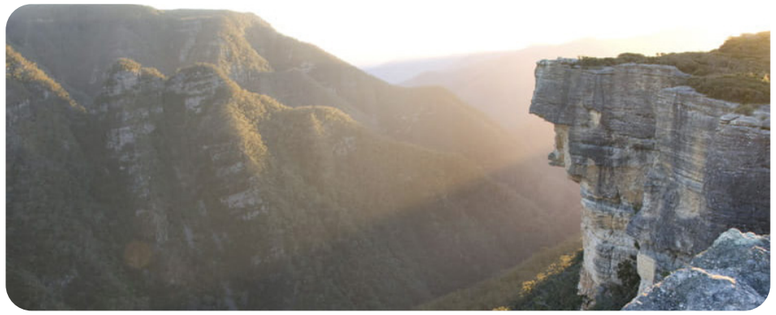
EAT STREET
A highly active urban heart that permeates through the site and enhances the user experience.



THE CROSSING
Enhancing the existing Through Site Link connecting the Transport hub and the Local Epping Centre.

NATURAL LANDSCAPE
Highlighting natural qualities in the Landscape to establish key elements within the development

THE CUTTING
Creating an active ground plane and improving permeability of the site. The Cutting derived from passing through narrow land formations provides the opportunity to connect the sites address on Rawson Street and Beecroft Road.

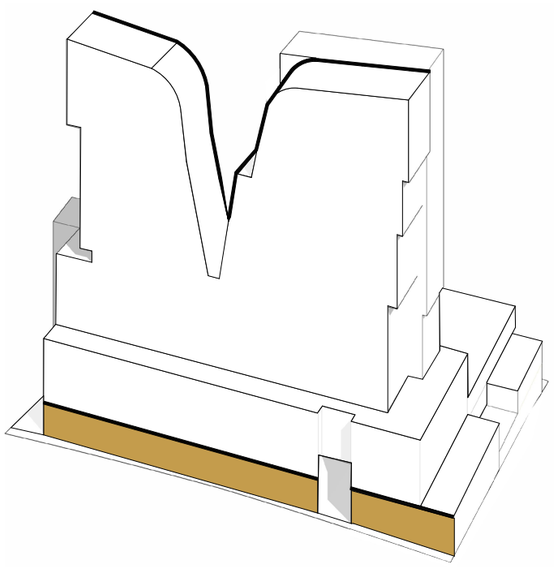


THE LEDGE
A horizontally expressed facade that varies to create a layered and eroded identity.

ESCARPMENT
The Tower form responds to the site conditions. On Beecroft Road it establishes the interface to the Urban side of the site shielding the West from the noise. The East facade creates a rhythm of bay windows used to capture the sun and direct views.

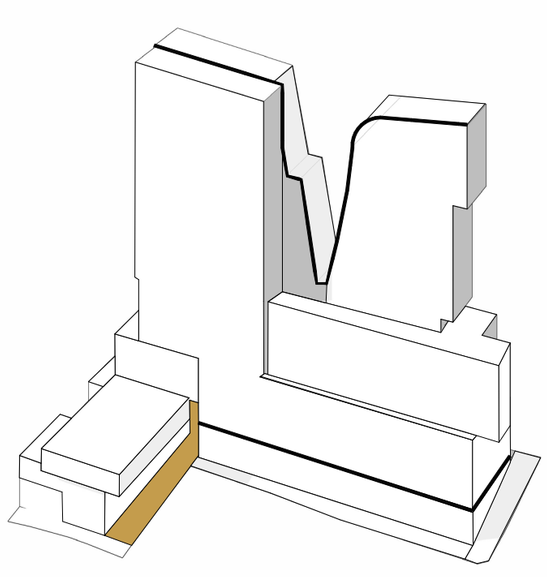
2.23 HIGH STREET

Taking key elements of the traditional 'High Street' of Epping to provide a connection to the past.



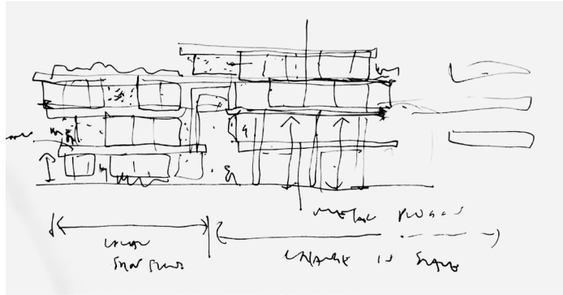
2.24 THE CUTTING

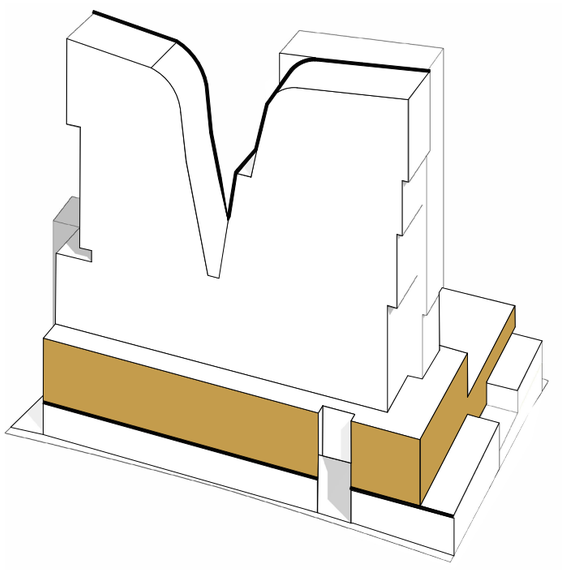
Creating a active ground plane and improving permeability of the site. The Cutting derived from passing through narrow land formations provides the opportunity to connect the sites address on Rawson Street and Beecroft Road



2.25 THE LEDGE

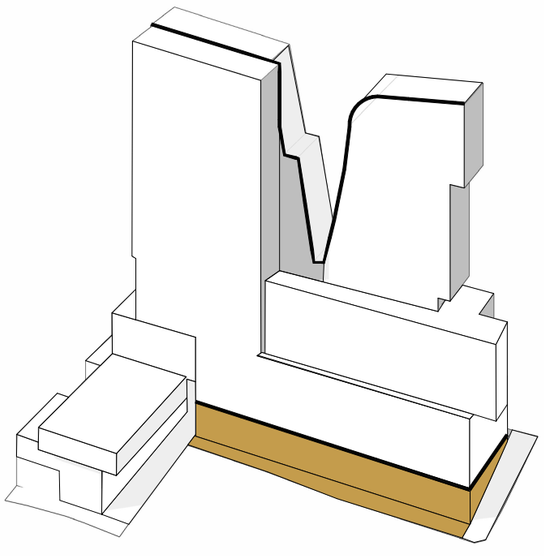
A horizontally expressed facade that varies to create a layered and eroded identity





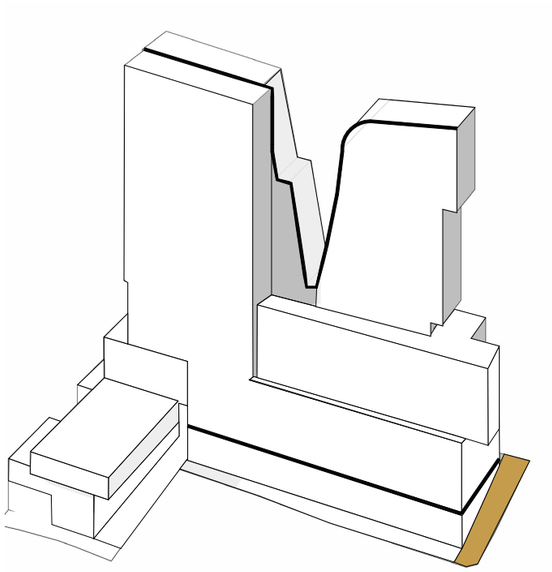
2.26 EAT STREET

A highly active urban heart that permeates through the site and enhances the user experience



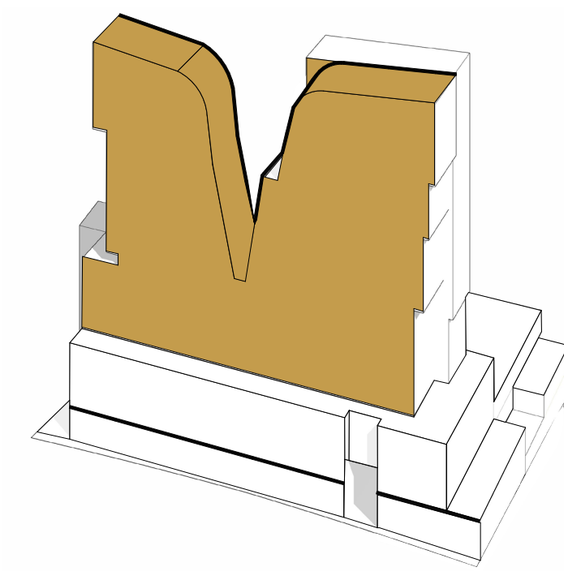
2.27 THE CROSSING

Enhancing the existing Through Site Link connecting the Transport hub and the Local Epping Centre



2.28 ESCARPMENT

The Tower form responds to the site conditions. On Beecroft Road it establishes the interface to the urban side of the site shielding the West from the noise. The West facade creates a rhythm of bay windows used to capture the sun and district views



2.29 GROUND PLANE

STREET SCAPE & ACTIVE FRONTAGE

A fine grained and active street level experience

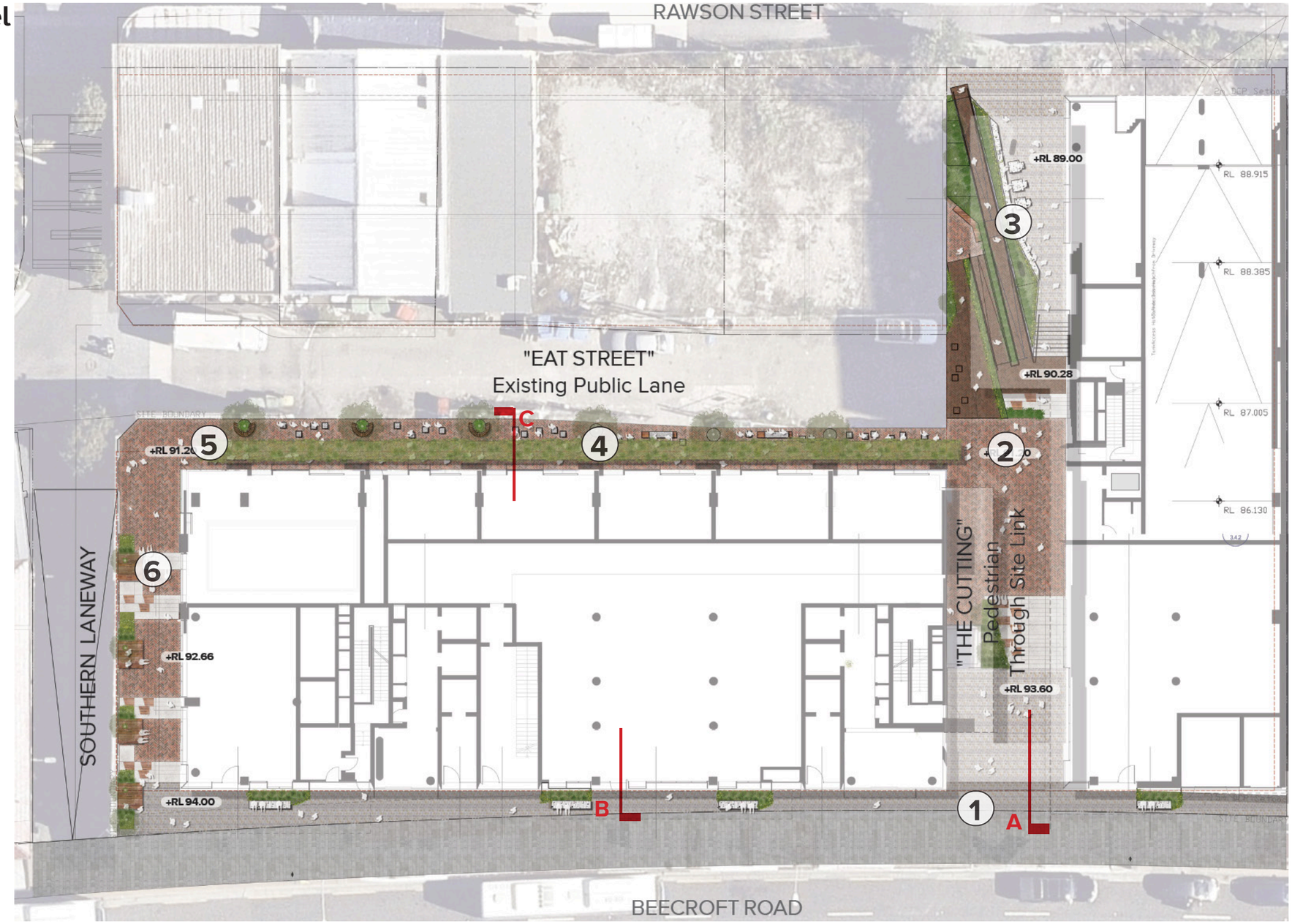
A fine grained response at street level provides a human scale experience for pedestrians through the fine grain detailing and greening that contribute positively to the street. Street level entries and interactive shop fronts provide an active edge to the east, west and south of the development.

The proposal includes a careful consideration with the integration of landscape and urban design principles. As an urban site the landscape strategy at ground level has involved consideration of the interfaces to the public domain, particularly the interface with the existing public lane "Eat Street".

The proposed Eat street enhances the vision of the Epping Town Centre precinct by continuing the concept of a vibrant mix of retail and commercial through to the internal streets, improving permeability across the site. This outcome encourages a pedestrian friendly and vibrant public space, with indoor and outdoor dining that provides a strong identity to the development. It is envisioned that the future development to the West will continue this approach with Food & Beverage offerings provided at street level to create a food precinct.

Service access points are located away from active frontages and residential entries to maximise dedication to public domain. All essential services and access are integrated within the overall façade treatment to improve the streetscape and safety to both residents and visitors. Services are separated from active frontage with loading and waste located within the basement and separate from the residential uses for the site.

Further information on the landscape concept design is outlined in the Landscape Architecture report by Arcadia,



Ground Level Landscaping and Street Level Interface
Source: Landscape design drawings by Arcadia

1 **Beecroft Road**
Pedestrian Through Site Link & Retail

2 **Existing Public Lane**
Pedestrian Through Site Link

3 **Rawson Street**
Pedestrian Through Site Link

4 **Existing Public Lane**
Eat Street

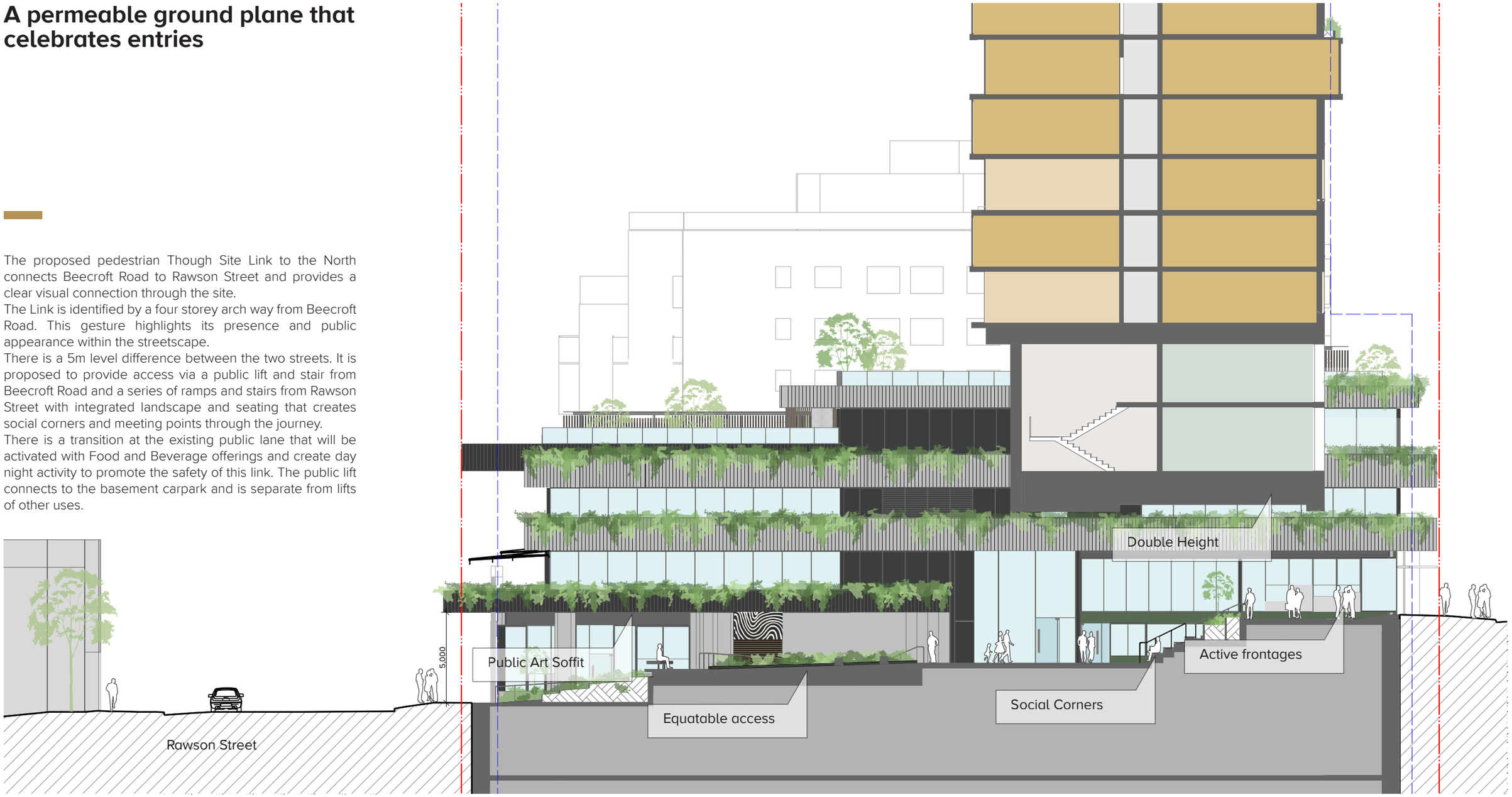
5 **Existing Public Lane**
Eat Street

6 **Existing Laneway**
Outdoor Terrace interface

2.30 PUBLIC DOMAIN

A permeable ground plane that celebrates entries

The proposed pedestrian Though Site Link to the North connects Beecroft Road to Rawson Street and provides a clear visual connection through the site.
The Link is identified by a four storey arch way from Beecroft Road. This gesture highlights its presence and public appearance within the streetscape.
There is a 5m level difference between the two streets. It is proposed to provide access via a public lift and stair from Beecroft Road and a series of ramps and stairs from Rawson Street with integrated landscape and seating that creates social corners and meeting points through the journey.
There is a transition at the existing public lane that will be activated with Food and Beverage offerings and create day night activity to promote the safety of this link. The public lift connects to the basement carpark and is separate from lifts of other uses.



Section A Pedestrian Through Site Link

Section A Beecroft Road Street Level Interface

Section E "Eat Street" Public Lane Street Level Interface

2.31 LANDSCAPE

A landscape led approach providing 156% landscape replacement area for greater amenity and connection to green.

The proposal has a comprehensive landscape concept and design, integrated with the architectural programme. It includes landscaped zones, public, communal and private open spaces.
Within the communal areas, extensive planting and large trees can be accommodated creating functional and visually interesting areas.
The above design principles have guided the landscape design to facilitate a safe and accessible public realm with good amenity.
The strategy informing the landscape design has been developed and refined through a collaborative process and offers a considered design solution that embeds landscaping within the development.
The maintenance strategy for the greening is considered through maintenance systems integrated into the building. Platforms are proposed on the roof level, to allow access to each side of the buildings. A maintenance deck is provided in the centre of the buildings for the central green ribbon which will allow transport of green waste via building A lifts through to the loading dock for collection.

The development proposal is supported by the landscape design developed by Arcadia Landscape Architects.

Deep Planted awnings for Weather protection
Deep awnings have been planted to provide weather protection and soften the street scape along Beecroft Road.

Planted projections to podium
The greening of the podium along Beecroft road promotes a connection to nature at human scale and enhance outlook to commercial tenancies.

Communal Open Space Level 8
The communal open space on level 8 provides a passive space for residents.

Balcony Greening
Balconies to the North and South are provided with integrated planters to provide a green outlook to residents.

Green Walls
A series of planters are proposed for the lower portions of the towers to soften the building edges.

Internal green ribbon
The internal greening is a series of planters that cascade through the internal break in the building. This gesture not only benefits residents outlook but also the

Communal Open Space Level 2
Level 2 provides residents with a lap pool that cantilever over the podium to provide a connection to the street edge.

2.32 COMMUNAL SPACES

A variety of offerings to promote a outdoor lifestyle and greater connectivity to the community.

Communal Spaces
A range of communal spaces have been provided for residents to cater for different programmes and gatherings.

The Pool Retreat on Level 2 offers a resort type facility with a lap pool that is open to the west providing views to Baronia park in the distance. A water lounge provides residents with a area to cool off and socialise. A Sun deck is provided for those who would like to read a book and get a sun tan. Dining cabana's are located to the North of the space with screening and buffer landscaping, to provide privacy to the neighbouring building. A relaxation lawn in the centre provides opportunity for picnics with integrated umbrellas and seating nooks. There are change room facilities located within the building through a green breezeway corridor. Sculptural stairs link the Pool Retreat to the level 3 Common Terrace.

The Common Terrace on level 3 provides a area for congregation of families and friends with BBQ facilities and outdoor dining spaces. Lounge areas are situated around the terrace with greening surrounding the space.

Level 8 provides a passive space for residents to unwind and relax. A series of intimate outdoor rooms which are framed by planters, to provide its users with a sense of privacy whilst maintaining a connection to other spaces. A synthetic meadow provides a place for exercise and passive recreational use.

The development proposal is supported by the landscape design developed by Arcadia Landscape Architects.

Communal Open Space
Source: Landscape design drawings by Arcadia

1. Lap pool with pool lounge
2. Lounge deck
3. Outdoor Green
4. Cabana dining

Communal Pool Level 2
Source: Landscape design drawings by Arcadia

1. BBQ area
2. Lounge seating
3. Privacy screening and weather protection
4. Dining

Communal Area Level 3
Source: Landscape design drawings by Arcadia

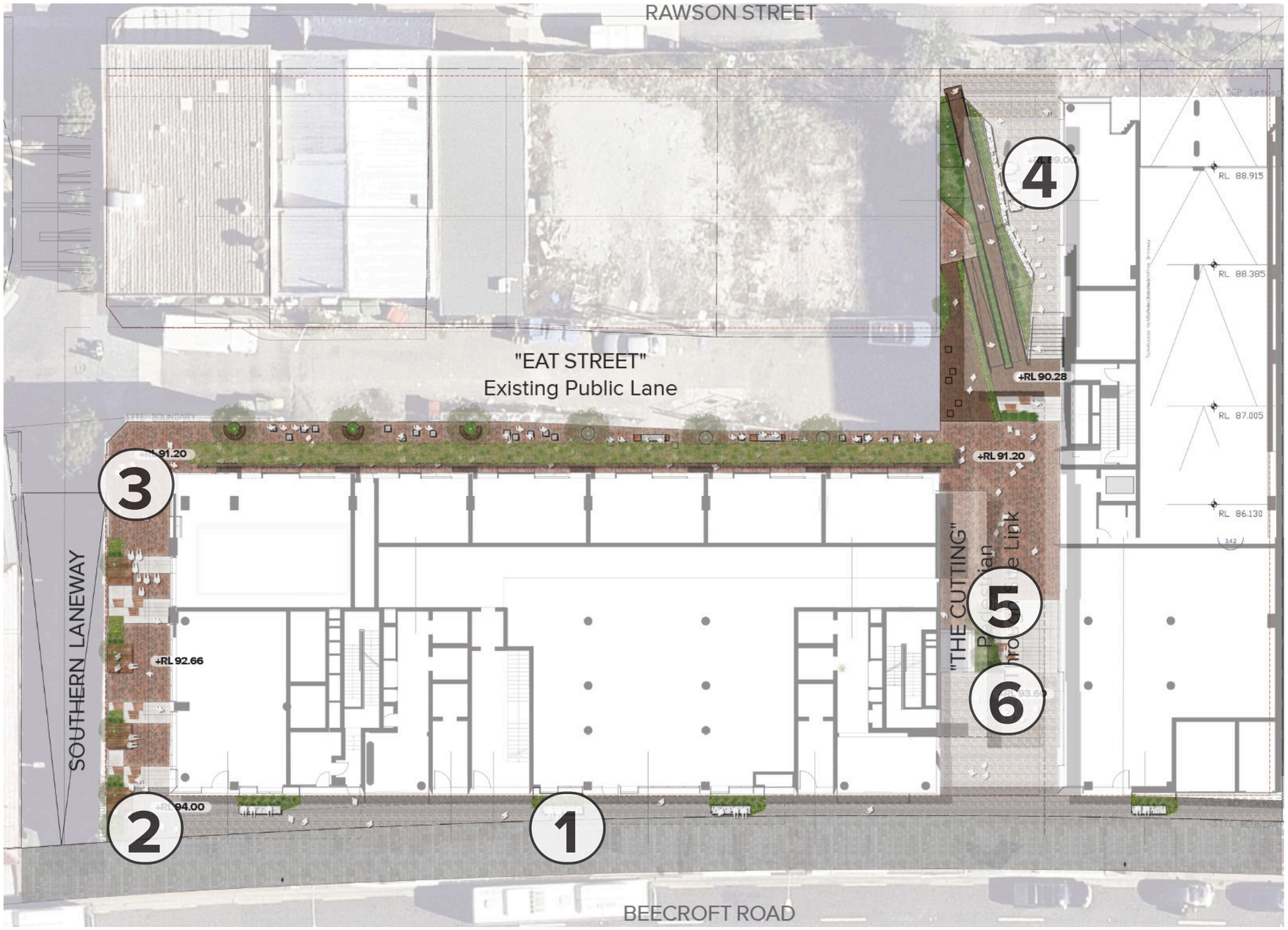
2.33 PUBLIC ART STRATEGY

A public art strategy that responds to the original landscape and cultural heritage of the site to acknowledge the connection to country and culture of the area.

The Public Art Strategy developed for the site provides the framework for implementation of public art in a meaningful and culturally sensitive manner for the site to respond to its' location.

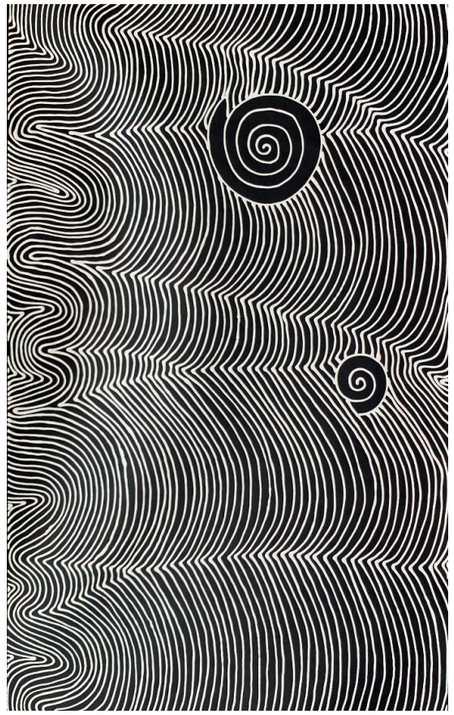
Six locations have been identified as opportunities for integration of public art, that provide a visual connection that can be experienced by the residents and the visitors:

1. Soffit of the double height awning along Beecroft Road The prominent awning has a direct relationship to the street.
2. Soffit of the retail awning to the South. This has a direct relationship to the existing pedestrian through site link.
3. Soffit of the level 3 over existing public lane. This has a direct relationship to the existing pedestrian through site link.
4. Soffit of the retail along Rawson street pedestrian through site link.
5. Stairs of pedestrian through site link
6. Integrated art installation to Double height space.

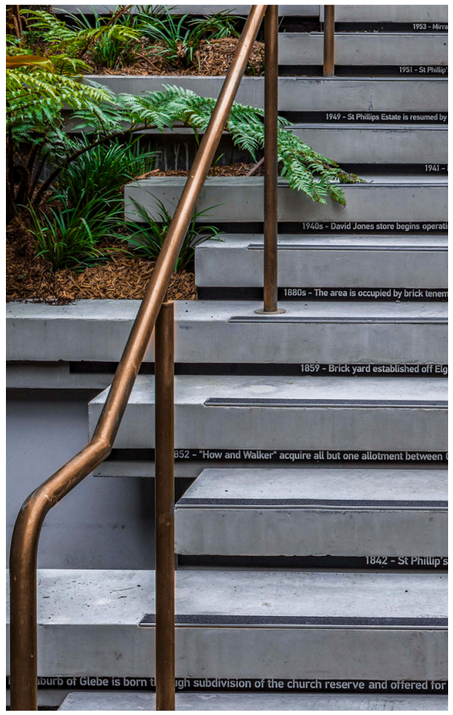


Ground Level
Opportunities for Public Art

Soffit Art Precedent
'Banksia Marginata' by Gail Kellet



Soffit Art Precedent
'Gnamma Holes' by Yondee Shane Hansen



5 **Historical significance stairway Precedents**
'Blackwattle Apartments' by Turner

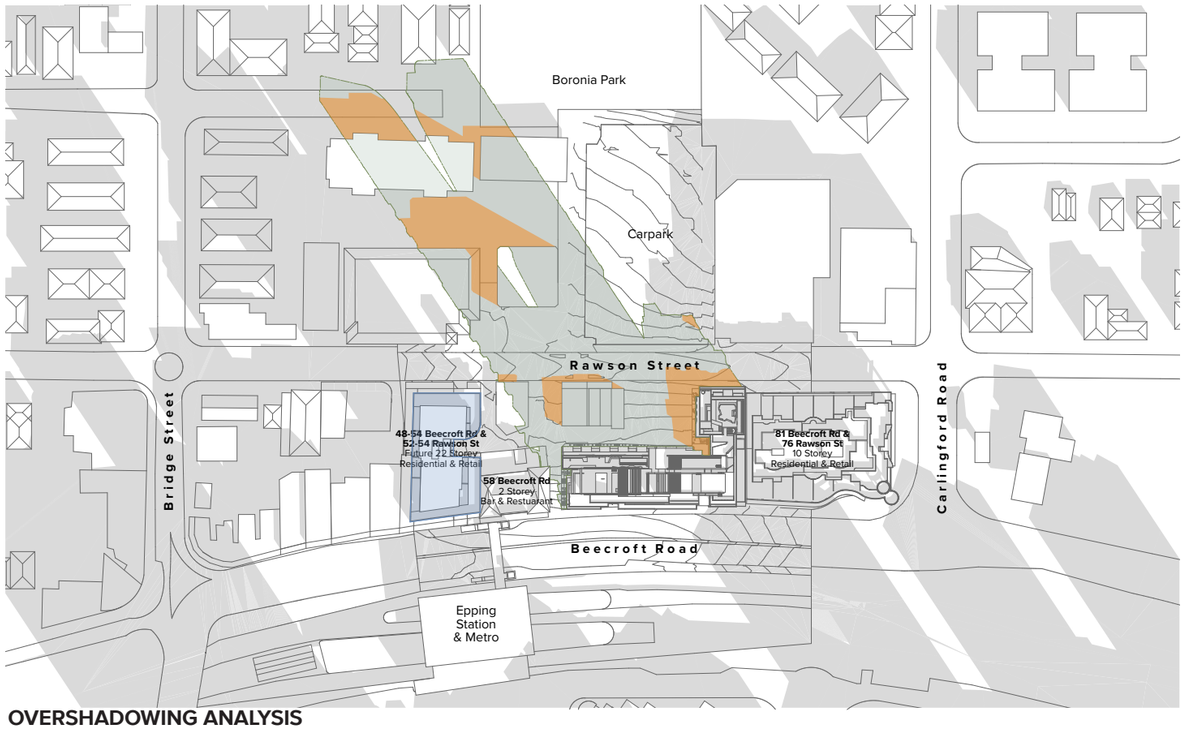
6 **Art Installation Precedents**
'Dragon Sculpture' by Turner

1 **Beecroft Road Soffit**
Indicative Artwork 'Banksia Marginata' by Gail Kellet

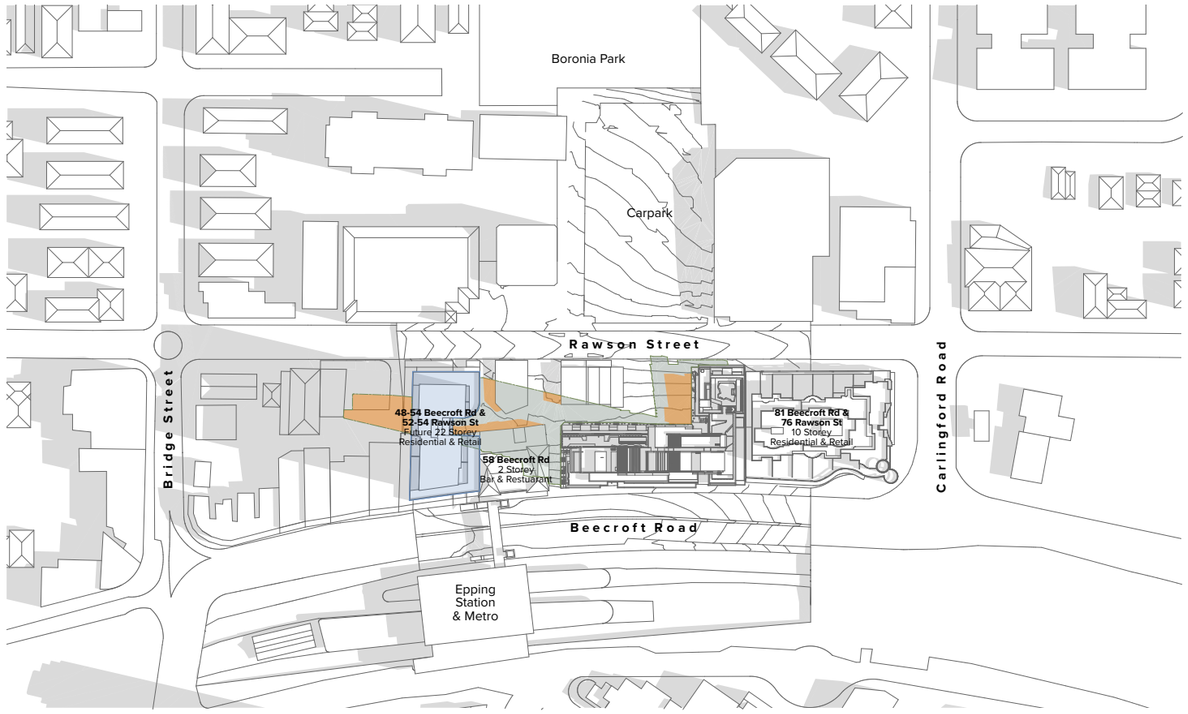
3 **Existing pedestrian Laneway**
Indicative Artwork 'Gnamma Holes' by Yondee Shane Hansen

2.34 OVERSHADOWING

Improving amenity to the surrounding open space, future public domain and developments.



OVERSHADOWING ANALYSIS
June 21 _ 9am



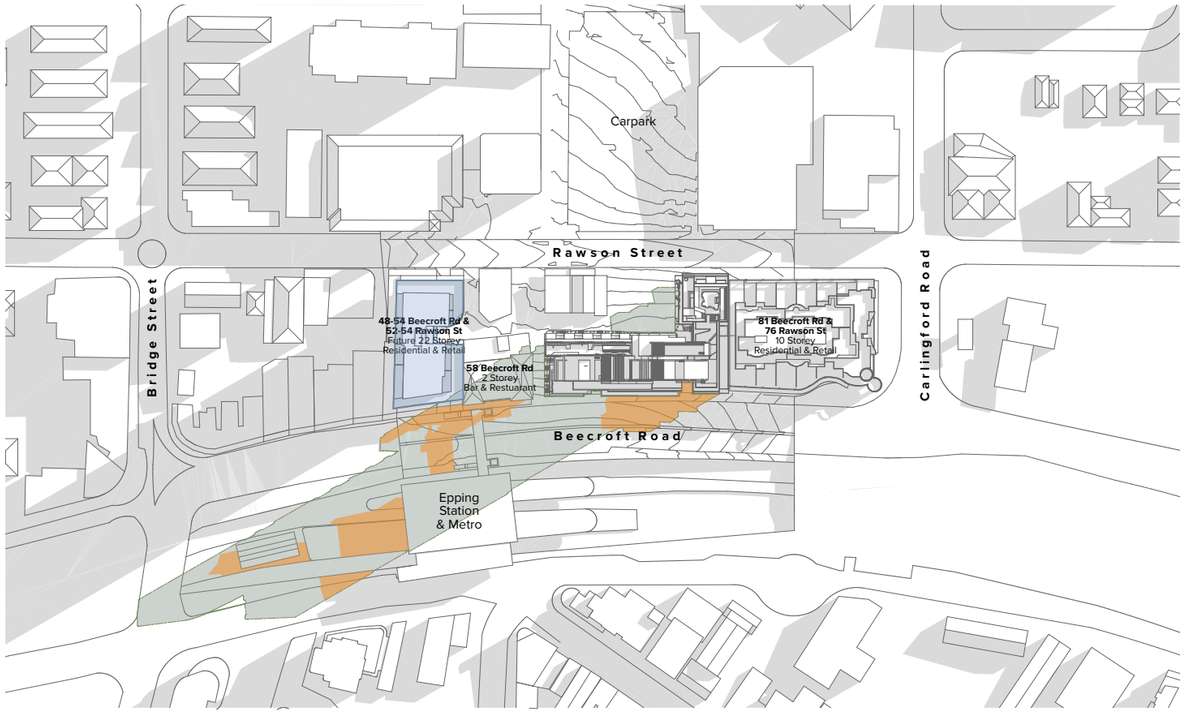
June 21 _ 12pm

The impact of the shadow cast by the proposed development on to the surrounding developments, public open spaces and communal podium at mid-winter is minimal and generally consistent with the vision for Epping Town Centre. The shadow from the towers is slender and moves quickly across the Future Public Square and there is no overshadowing by the proposed buildings after 11am.

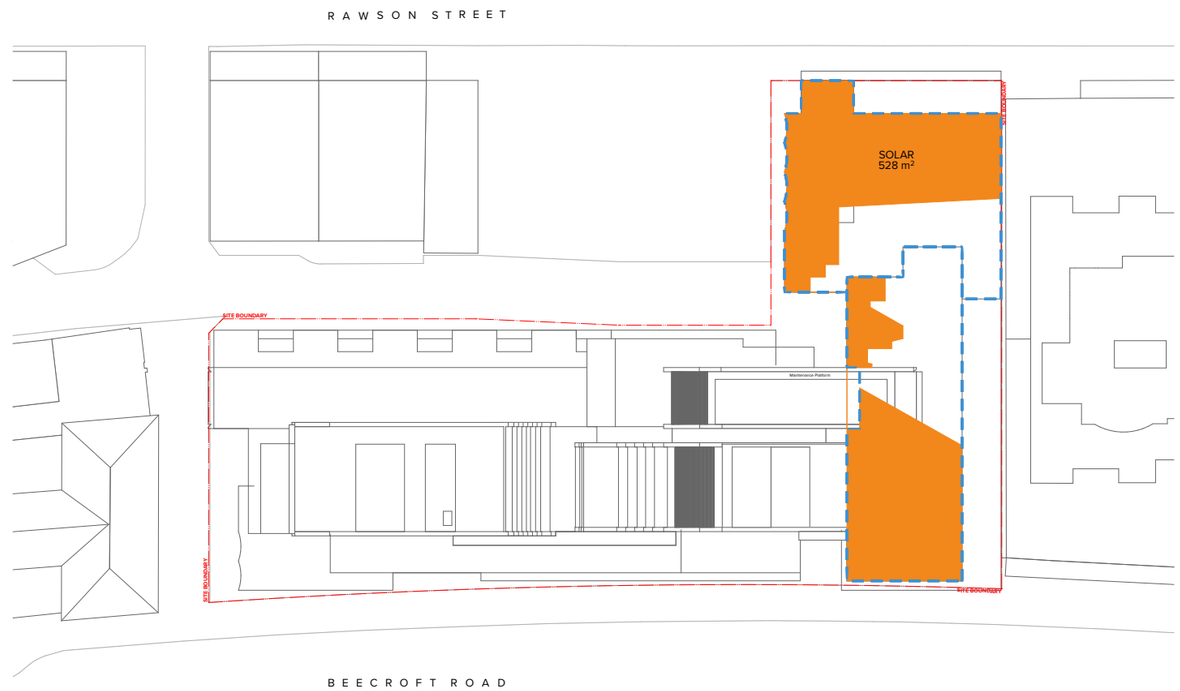
Shadow Cast by Proposed Development

Shadow Cast by Existing Buildings

Future Approved Development



June 21 _ 3pm



COMMUNAL OPEN SPACE
Sunlight Access at June 21 between 9am to 3pm

The proposed development will provide a high level of amenity with:

- The minimum requirement of 25% site area under the ADG is all provided as principal usable area within the Level 2 & 3 podium levels.
- 70% of the principal usable area of the communal open space (Level 2 & 3 podiums) receiving a minimum 2 hours direct sunlight between 9am to 3pm at mid-winter.

Principle Usual Communal Open Space - 750m²

Principal Usable Space receiving minimum 2hr solar

2.35 MATERIALS

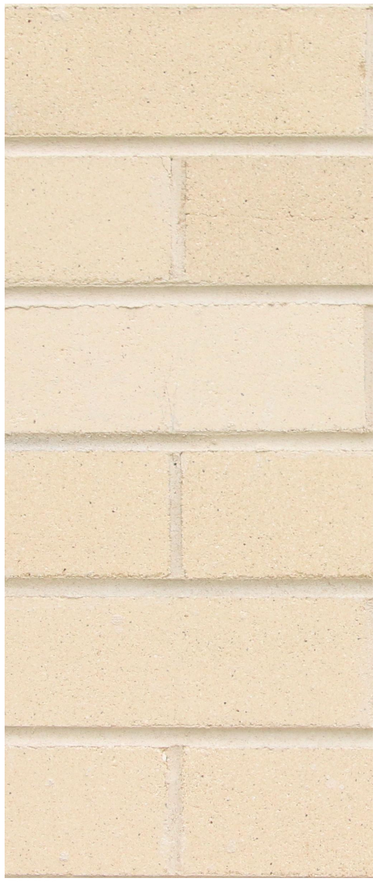
High quality and tactile materials

The materials palette for the proposed development is based on the following ideas:

Finishes and materials that function as part of the building itself
At TURNER we want the materials of the building to carry the expressive role of the architecture. We avoid materials that are fixed onto the structure and enclosure of the building as decoration. This strategy is the most cost effective and creates a more substantial architecture. Relatively simple materials such as brick and concrete have incredible expressive qualities with simple and inexpensive modifications such as corbelling, concrete form- liners, concrete aggregate selection, and mortar colour.

Materials that have integral finishes
We prefer finishes that are already finished rather than needing a finish applied to them. Pre-finished materials develop a patina that improves the appearance of the building when exposed to weather. Pre-finished materials are more durable and require less maintenance.

Materials and finishes inspired by the colours, textures, and materials of the context
TURNER carefully study the context of the site and local area for inspiration for materials and finishes. This includes natural features, geology, local fauna, and flora as inspirations for materials on the project. Local colours and textures create a unique building appropriate for its location and not a generic building which could be placed anywhere.


BWK1

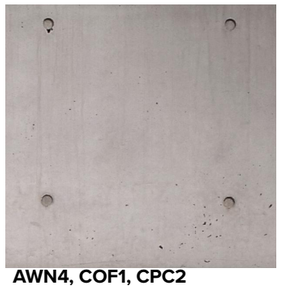
PCF1, CLD1, CLD2, PF1

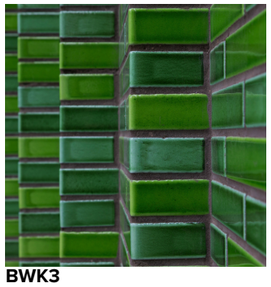
PCF2, CLD3, PF2

PCF3, CLD4, PF3

COF2, AWN1

COF3, AWN2


AWN4, COF1, CPC2


BWK3

SCN1

GC7

CPC1

LA1

ART #(1,2,3 etc) (indicative)
Source 'Banksia Marginata' by Gail Kellet

2.36 ACCESS & SERVICING

Efficient access and servicing strategy to reduce inactive façades to the street.

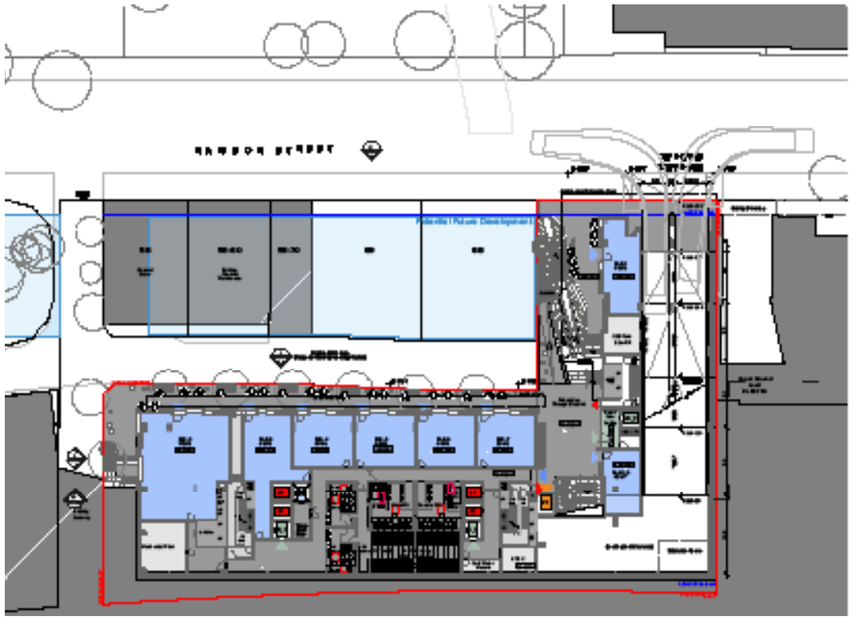
The site accommodates 193 car parking spaces in 5 basement levels. Secured bicycle racks for 140 spaces are available for residents and visitors within the basement. An additional 64 secured bicycle racks located in the end of trip facilities on Ground floor.

Dedicated waste and loading bays are provided within basement 1 which accommodates waste collection as well as moving trucks and deliveries for non-residential uses, to ensure servicing of the development is internally within the development. A temporary Residential store is provided to assist with residents moving into the building.

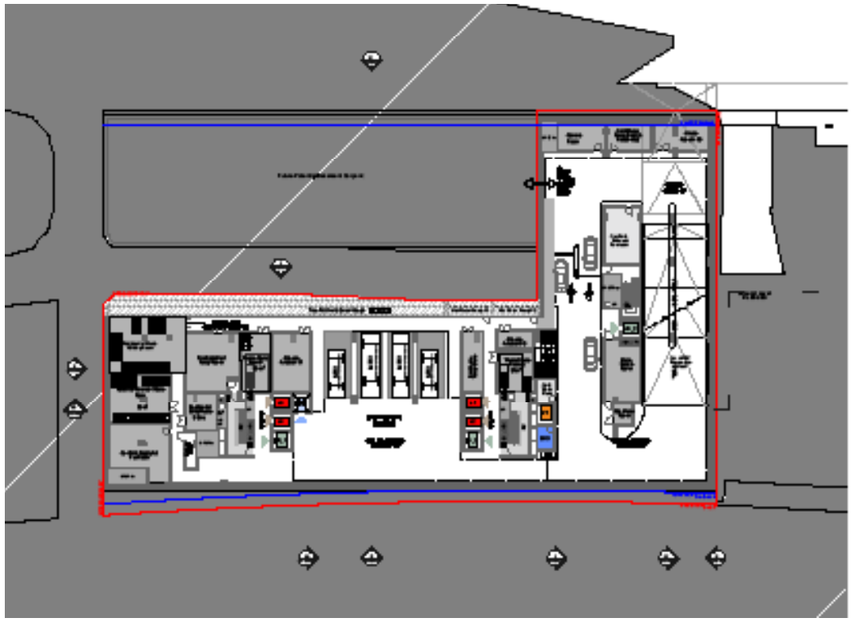
Waste rooms are separate for Residential and Non-residential uses and a bulky waste store is provided for residents.
Drawing DA-780-001 in the DA submission provides further information on the transpiration of waste for different uses.

The Carpark entry and loading facilities has the potential to service the future development on the West adjacent to Rawson Street. This will mitigate the need for additional carpark entries and loading areas to maximise street activation on Rawson Street.

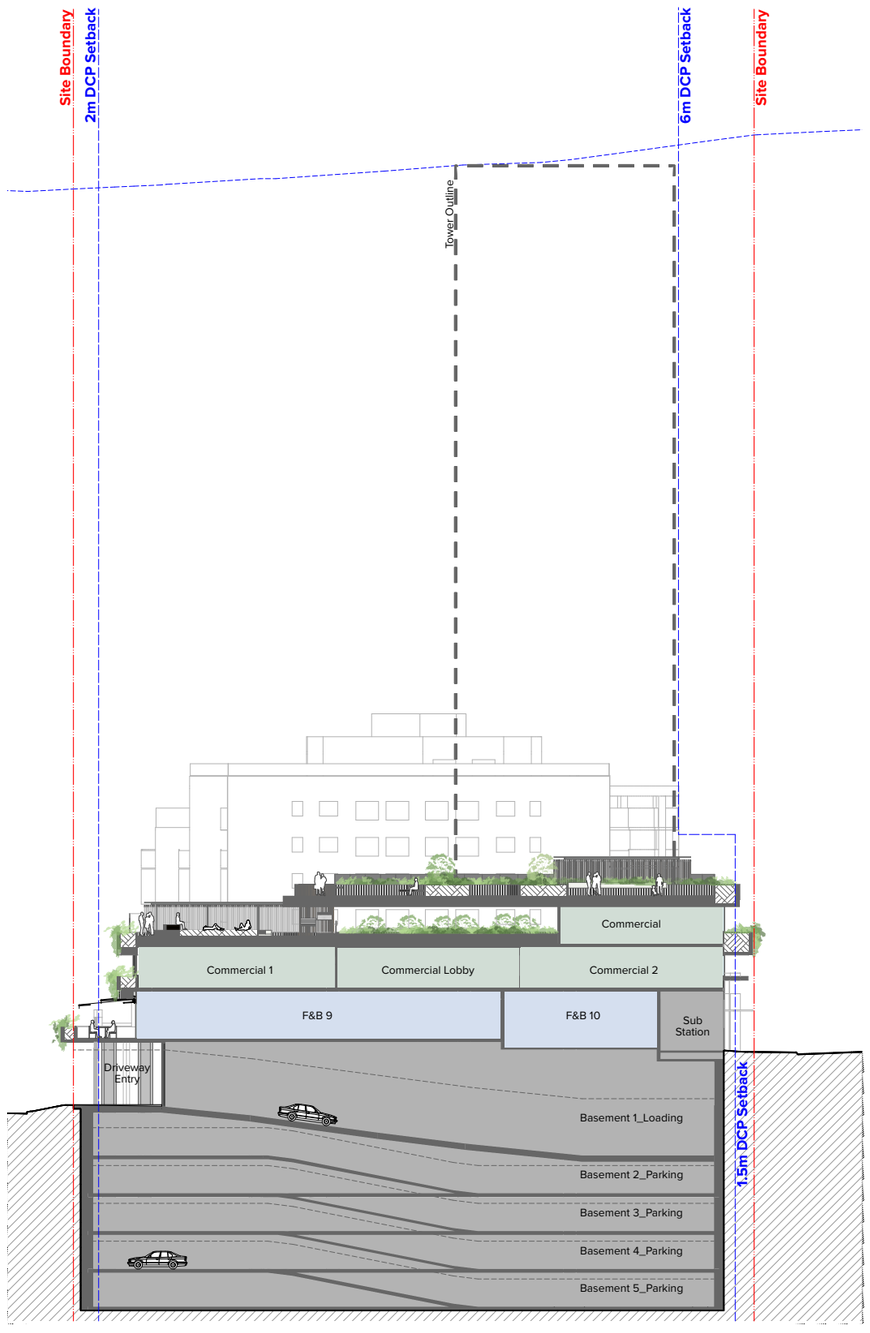
This application is supported by the accompanying Traffic Report prepared by TTPP which provides detailed description of the overall access network and how the proposal meets the objectives of the DCP. Provisions for parking, for the users of the site including retail/commercial, resident, visitors and bicycles are in accordance with the applicable DCP.



Floor Plan Ground Floor Rawson Street



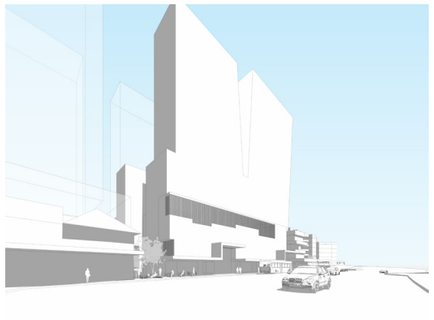
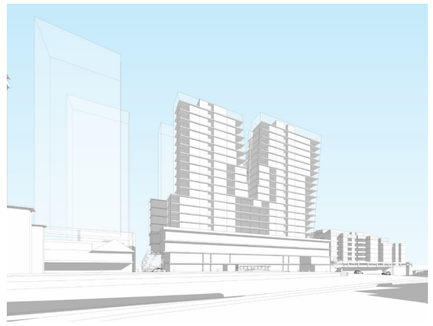
Floor Plan Basement 1

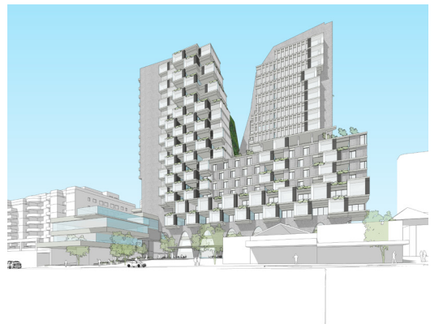


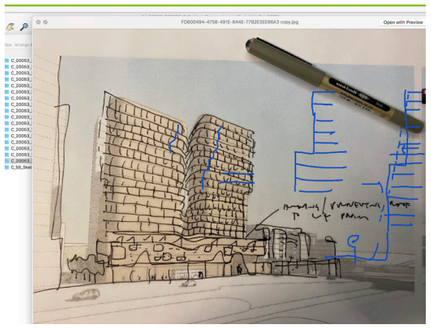
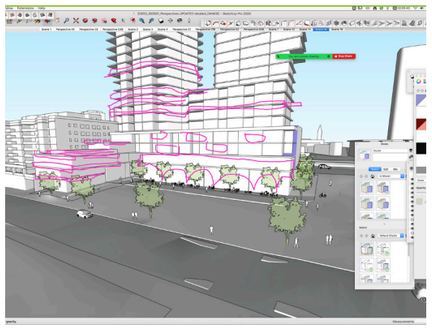
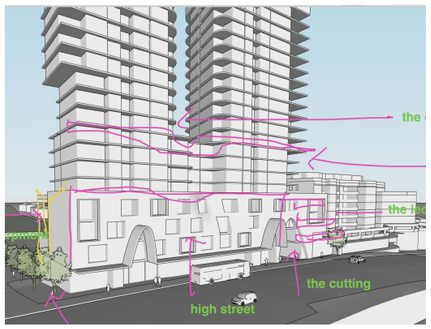
Section through Carpark entry and Basements

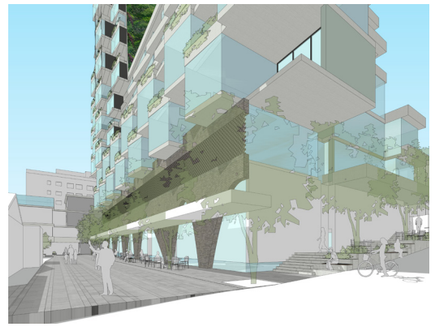
2.37 DESIGN PROCESS

The proposed development went through many iterations of options that informed the final design

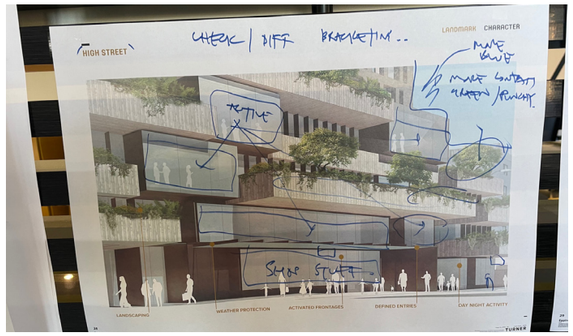


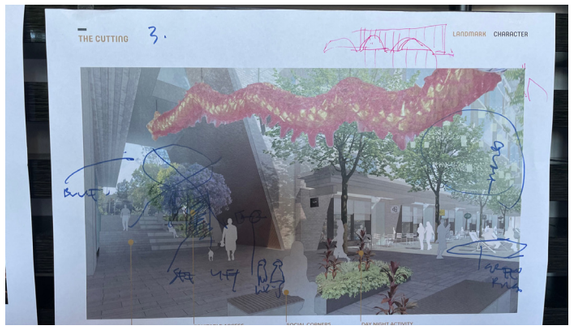




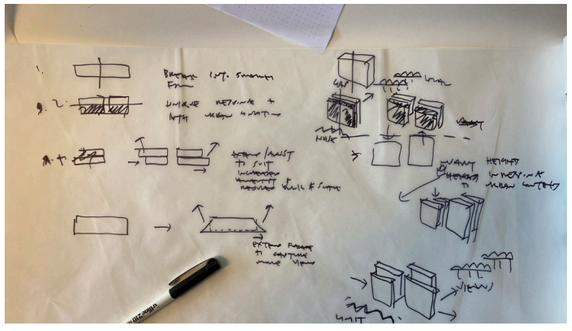


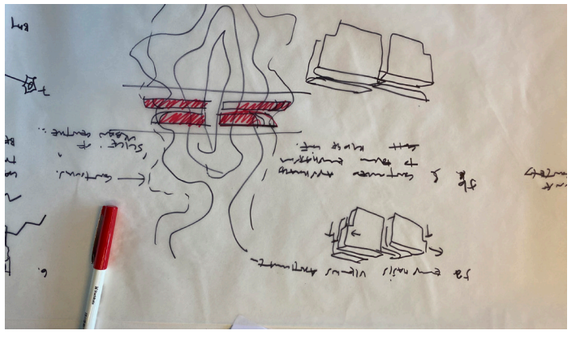
2.38 DESIGN REVIEW

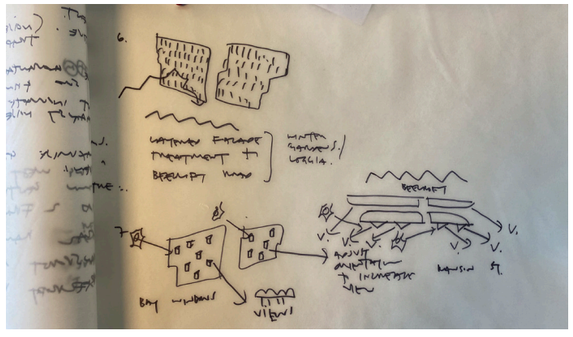
At Turner we strive to make living better. The design process went through design reviews with the wider office to allow the development to have the best outcome.

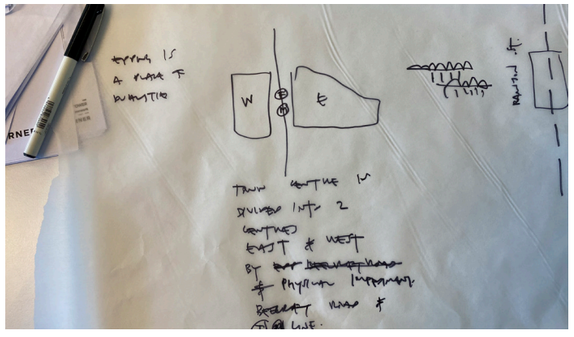




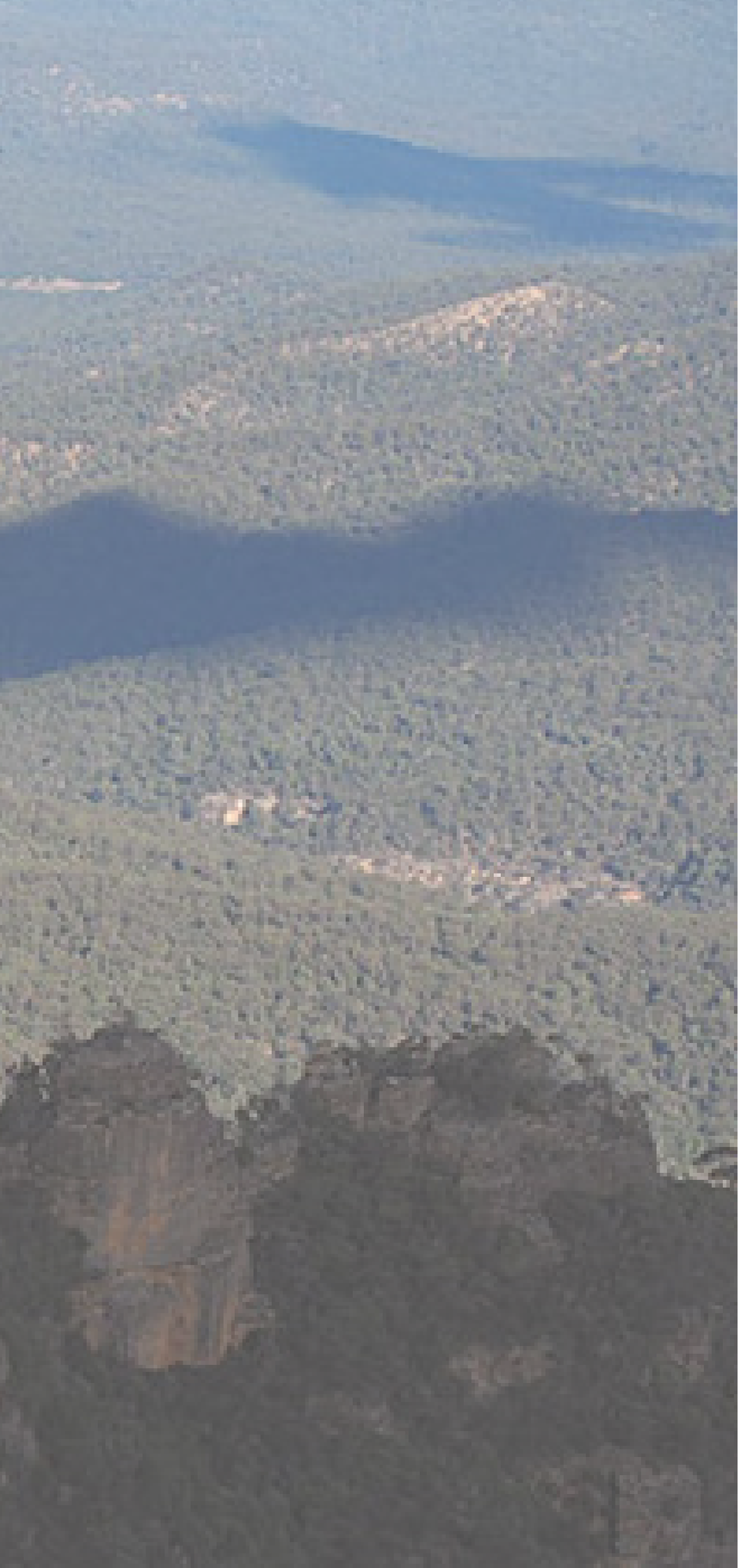








Three Sisters
Source: National Seniors Travel



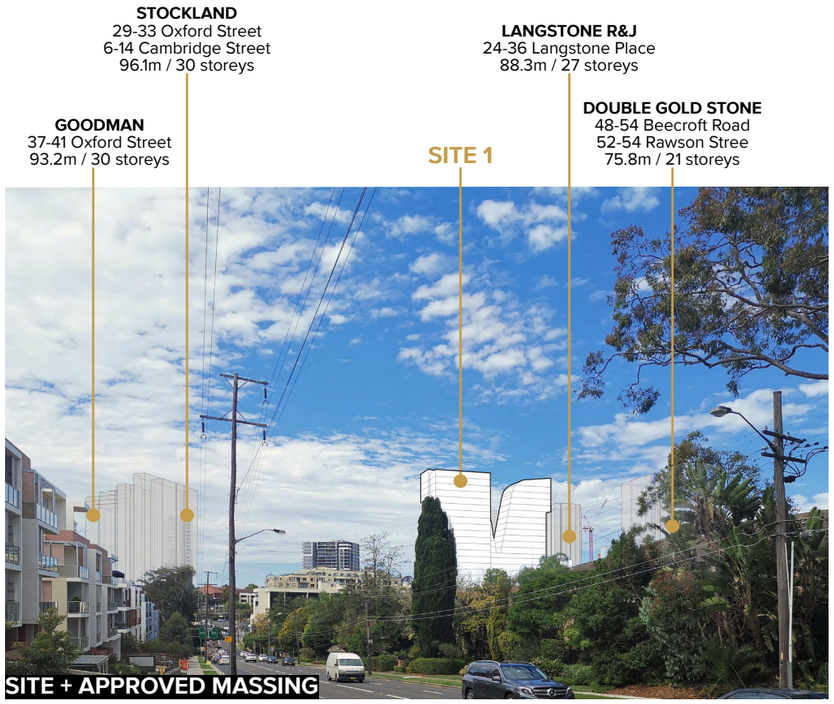
2.4 VIEW ANALYSIS

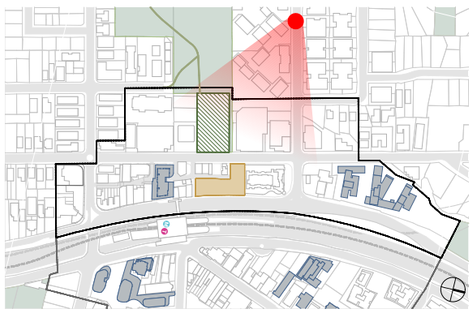
View analysis illustrating the proposed development massing in existing and future context

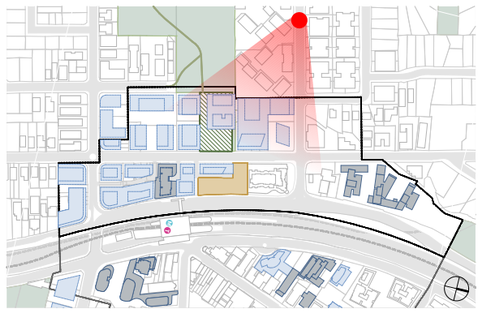
2.41 VIEW ANALYSIS

VIEW 1 FROM CARLINGFORD ROAD, WEST

The proposed development will be prominent from Epping West, in the interim. Two slender towers with varied heights articulate the skyline.



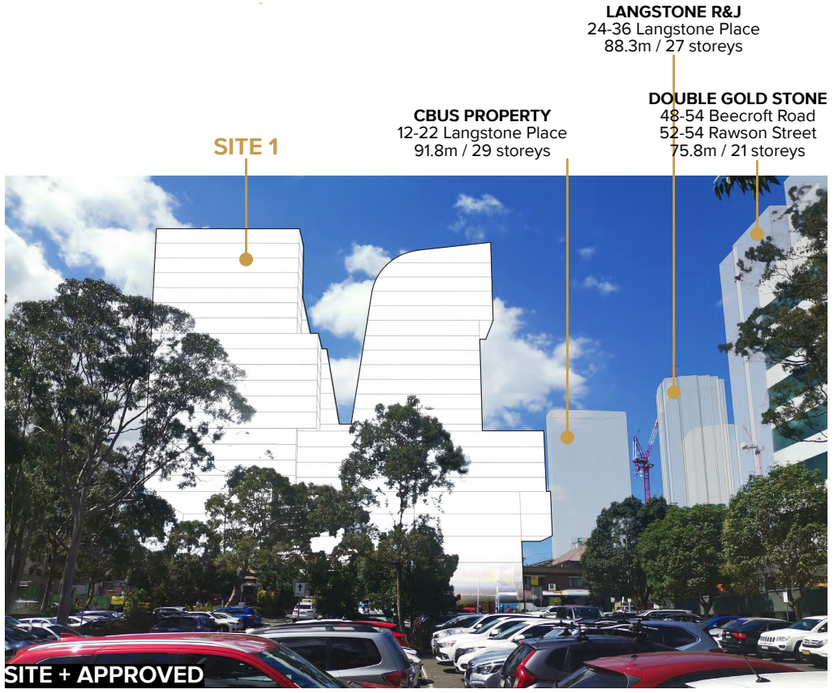


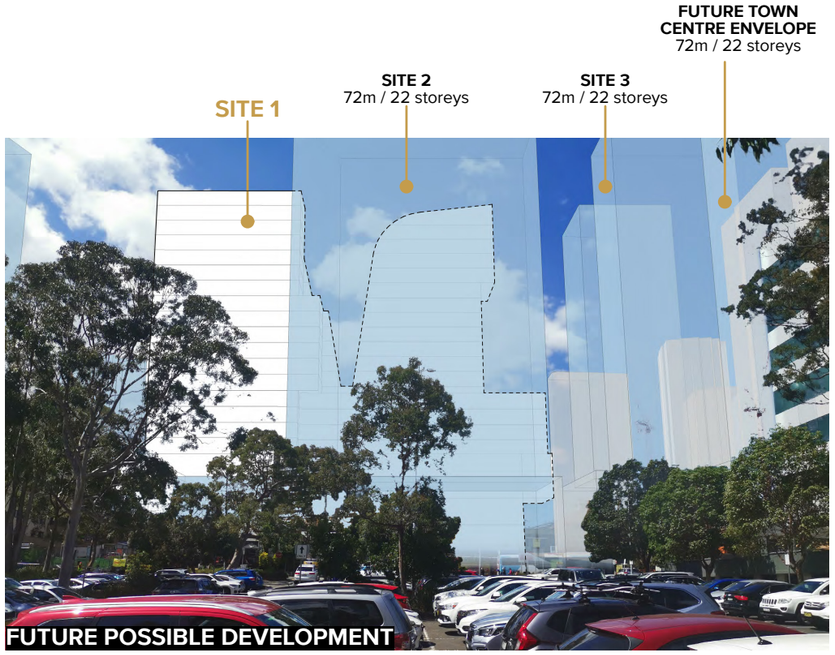


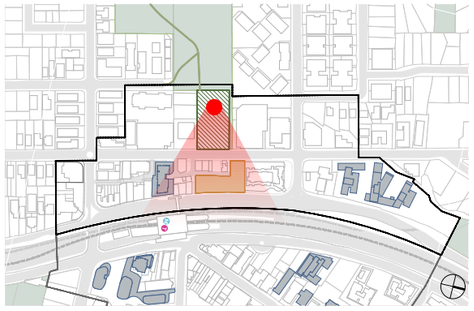
2.42 VIEW ANALYSIS

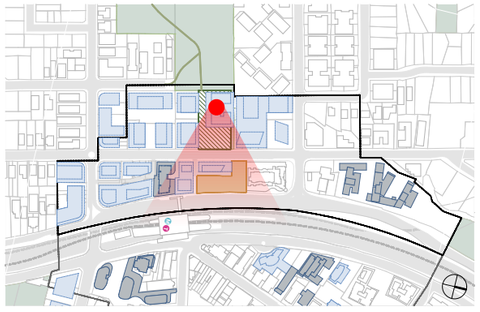
VIEW 2 FROM PUBLIC CARPARK, WEST

Proposed massing will be prominent from the carpark & future square. Massing has been split into two forms, to create a visual break & reveal the sky in between.





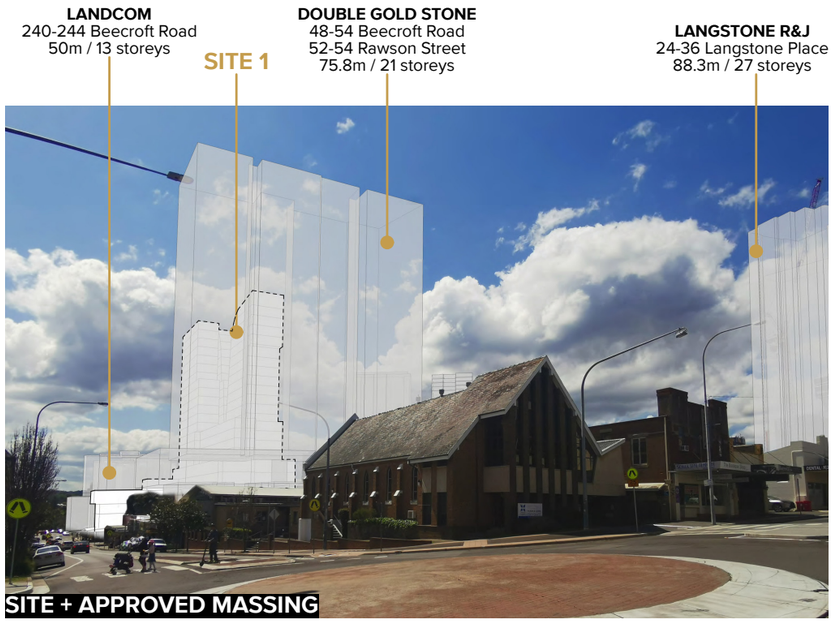


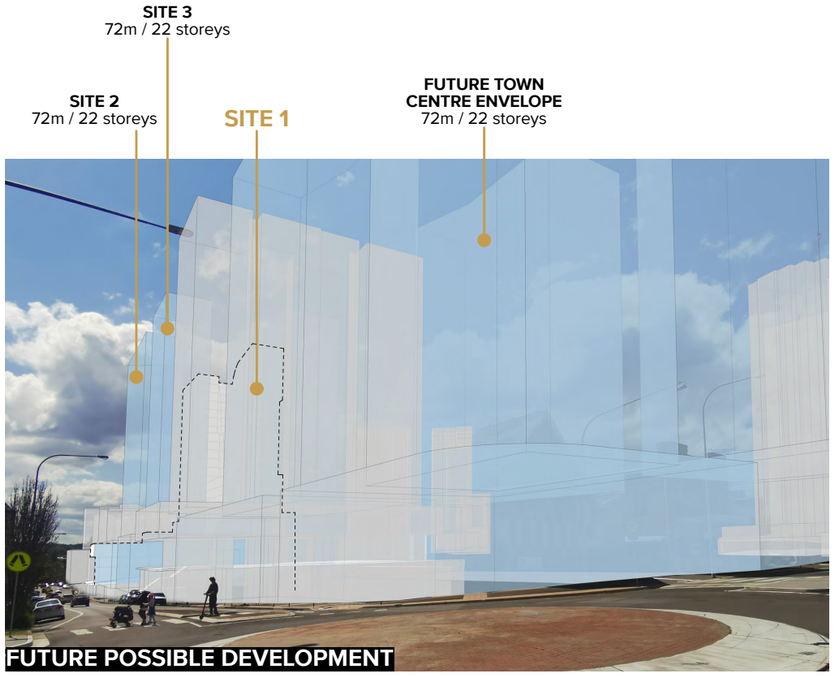


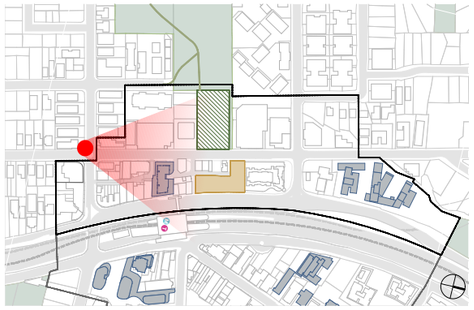
2.43 VIEW ANALYSIS

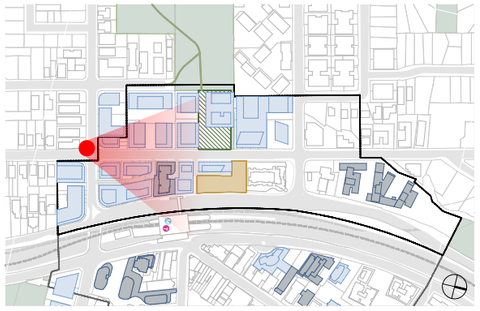
VIEW 3 FROM RAWSON STREET, SOUTH

Approved development south of the site, will conceal views of the proposed massing.





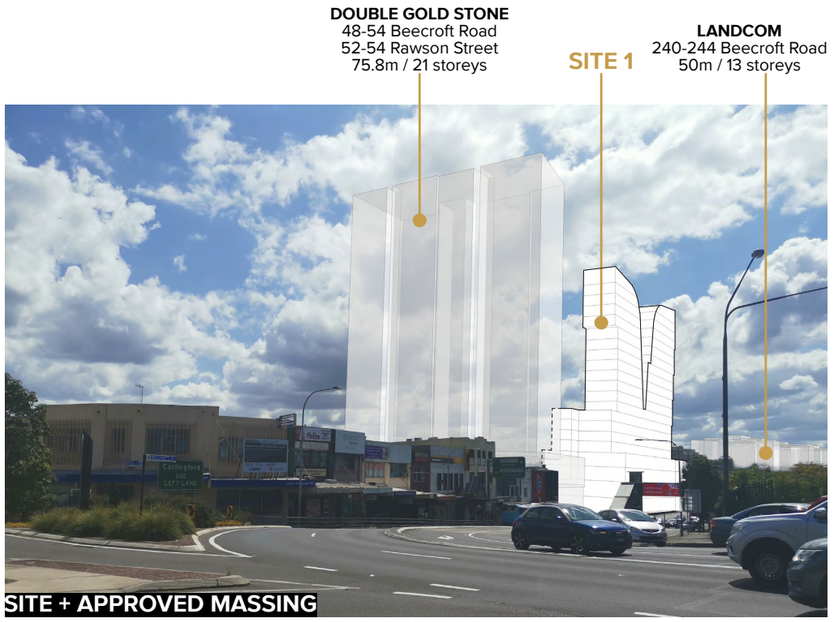




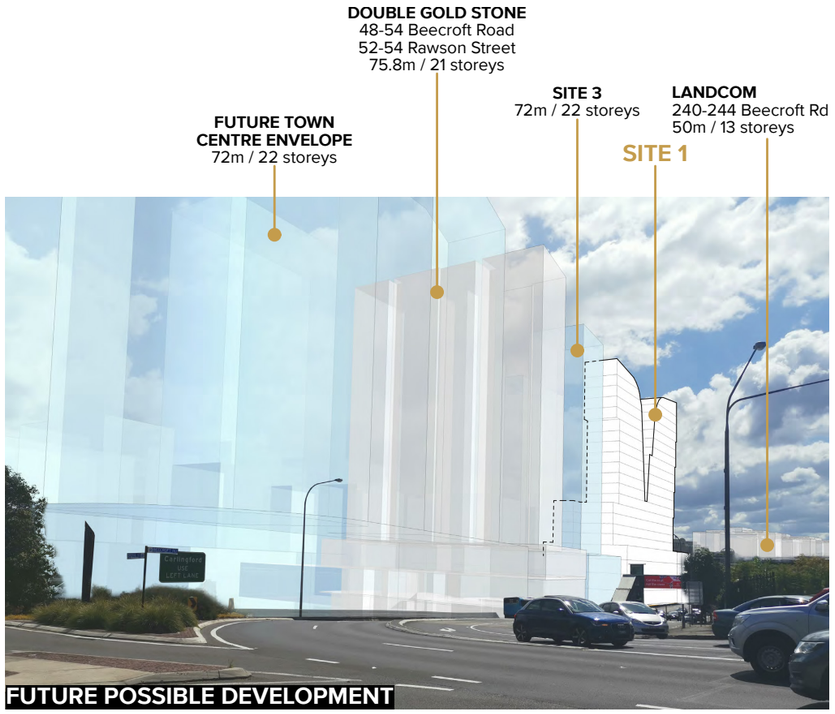
2.44 VIEW ANALYSIS

VIEW 4 FROM BEECROFT ROAD, SOUTH

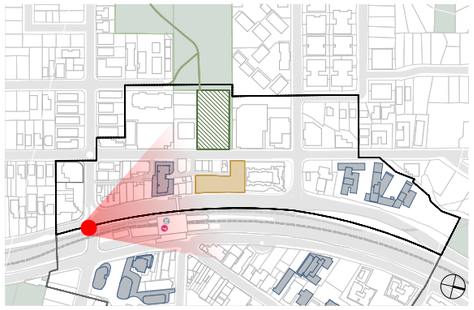
The proposed massing will be visible in the long term. Two slender forms will be designed to respond to road & rail noise on the eastern facade.

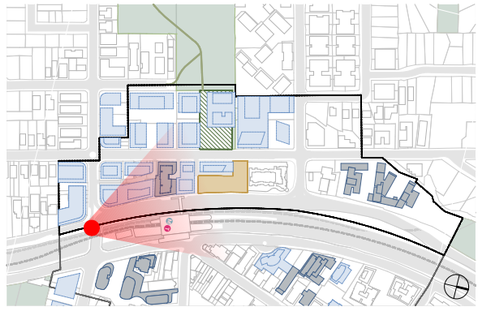


SITE + APPROVED MASSING



FUTURE POSSIBLE DEVELOPMENT



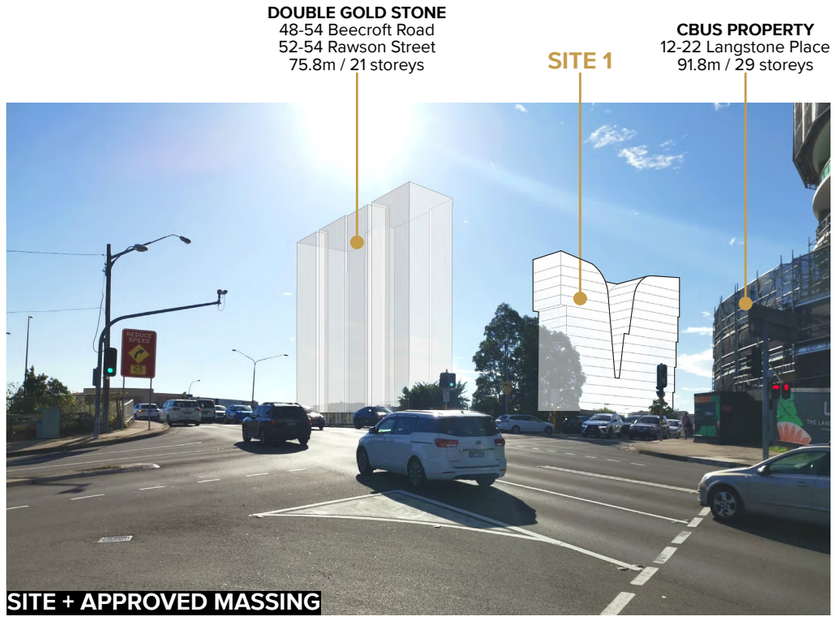


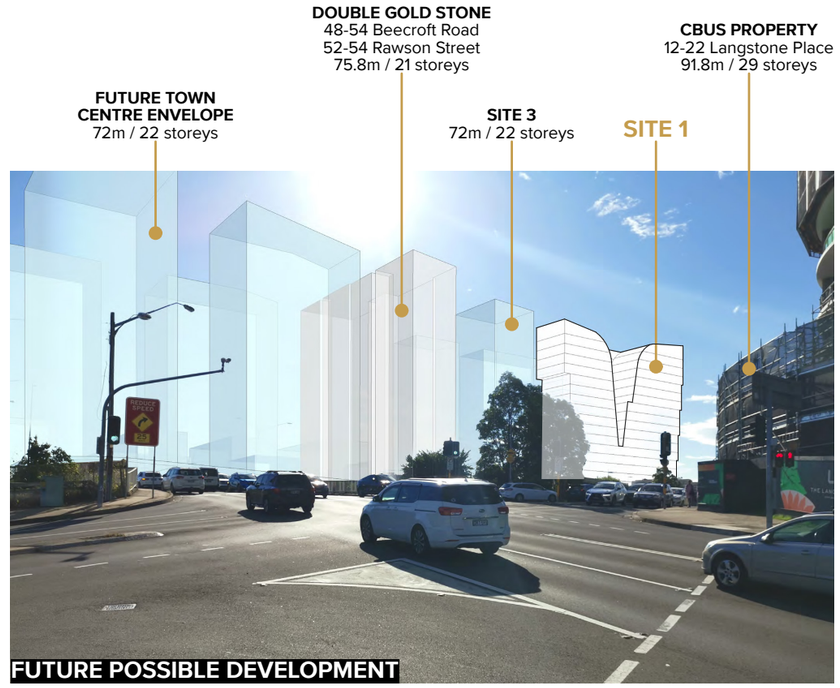
2.45 VIEW ANALYSIS

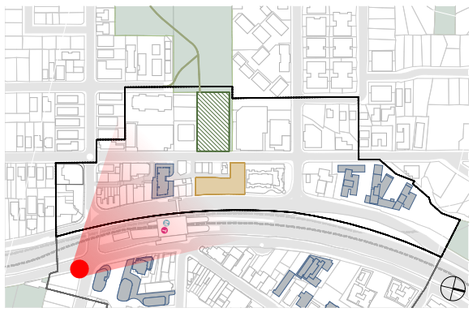
VIEW 5 FROM EPPING ROAD AND BLAXLAND ROAD, SOUTHEAST

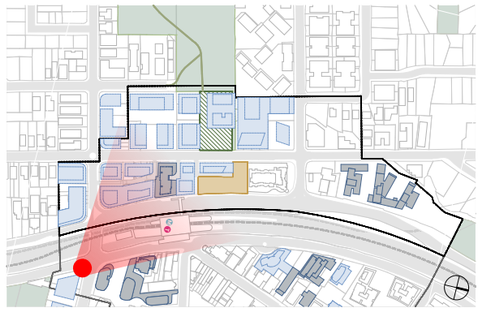
maximised.

Proposed massing provides variance in building heights to create a diverse skyline. Solar access to southern developments will be maximised.





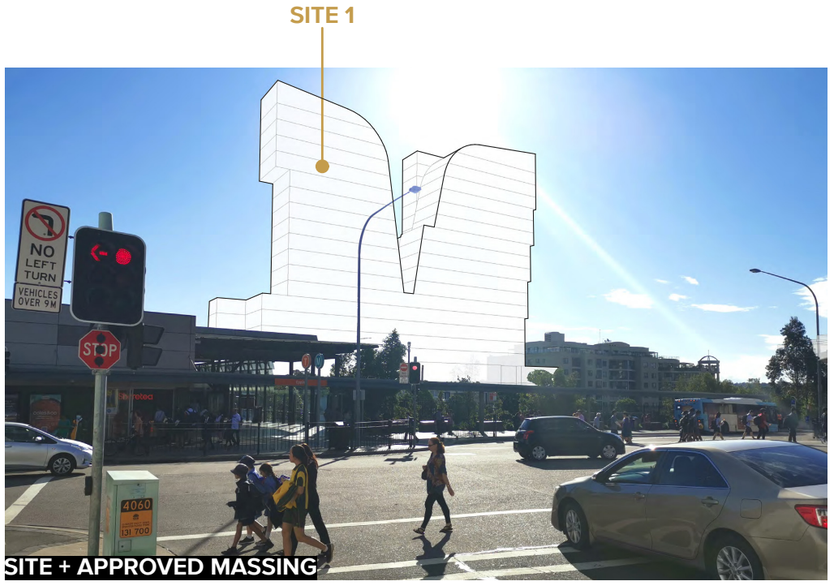


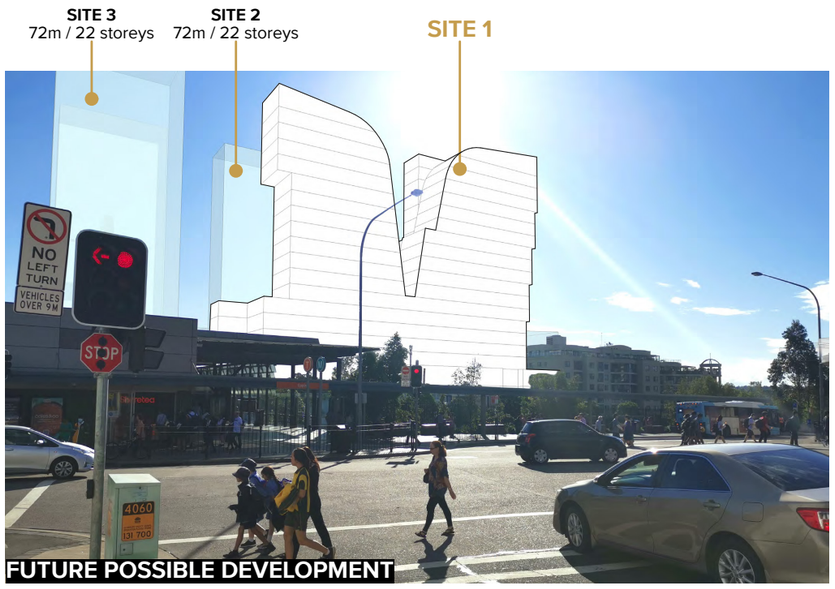


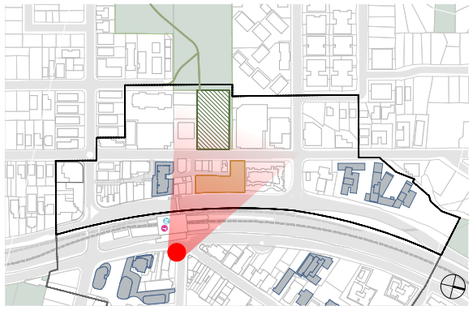
2.46 VIEW ANALYSIS

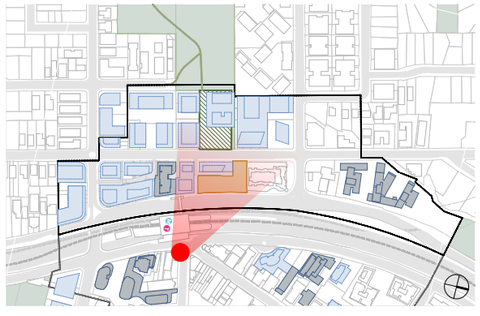
VIEW 6 FROM TRAIN STATION, EAST

The proposed development will be prominent from the eastern town centre. Views of the sky are maintained by the split building form and southern laneway setback.





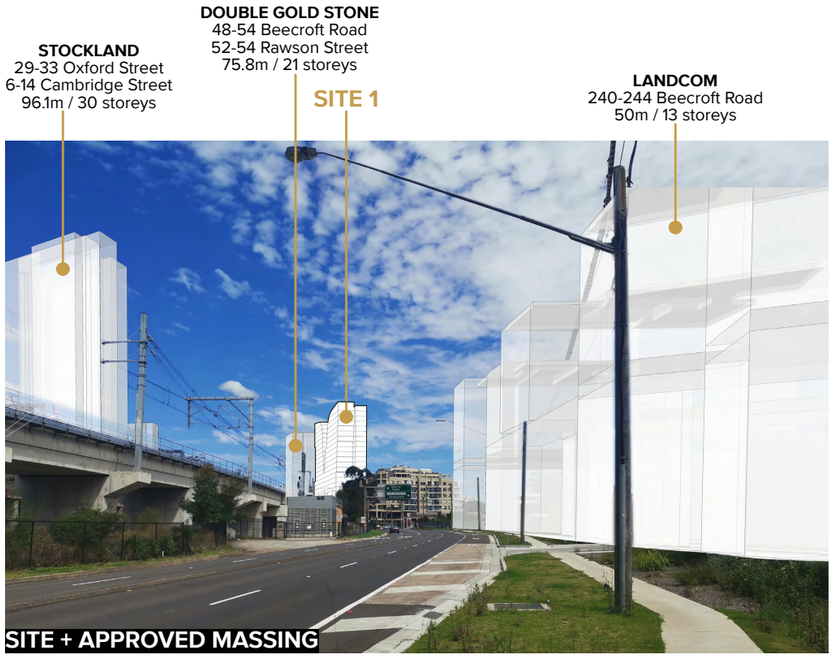


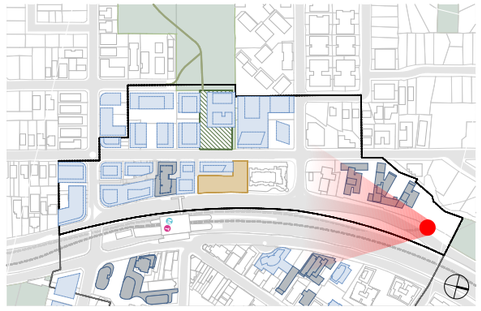


2.47 VIEW ANALYSIS

VIEW 7 FROM BEECROFT ROAD, FAR NORTH

Northeast corner will be visible long term.
Slender building forms articulate the massing.

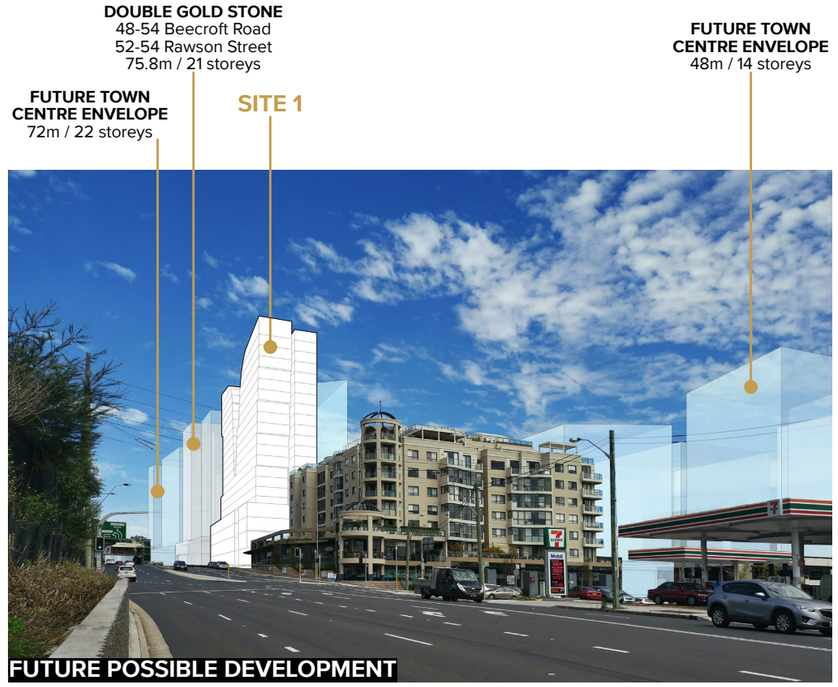


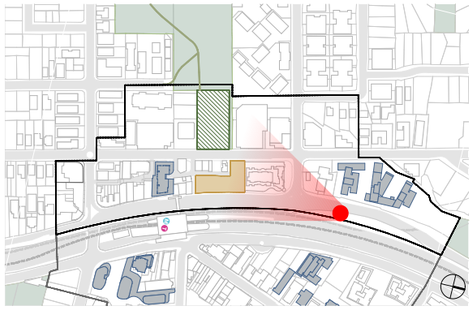


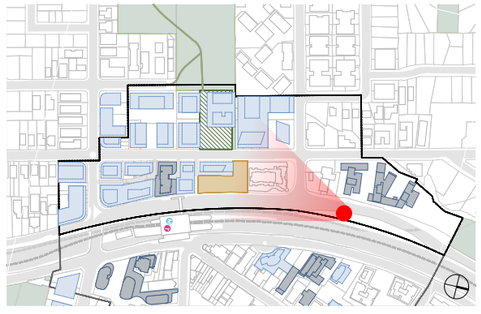
2.48 VIEW ANALYSIS

VIEW 8 FROM BEECROFT ROAD, NORTH

Retail and commercial lower levels enhance the commercial nature of Epping. Tower forms have been setback, helping to mitigate wind.



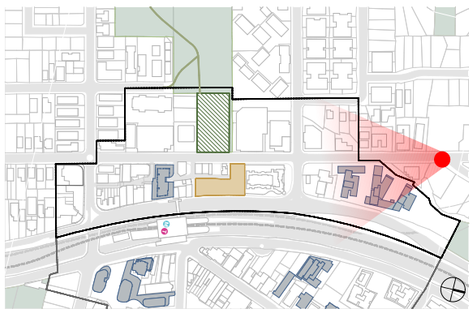


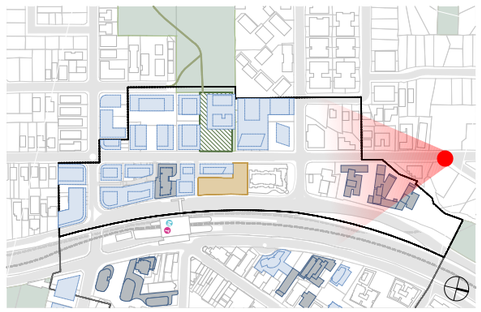


2.49 VIEW ANALYSIS

VIEW 9 FROM RAWSON STREET. FAR NORTH

The site is located between 2 approved town centre developments.
Slender forms minimise visual impact to the north.



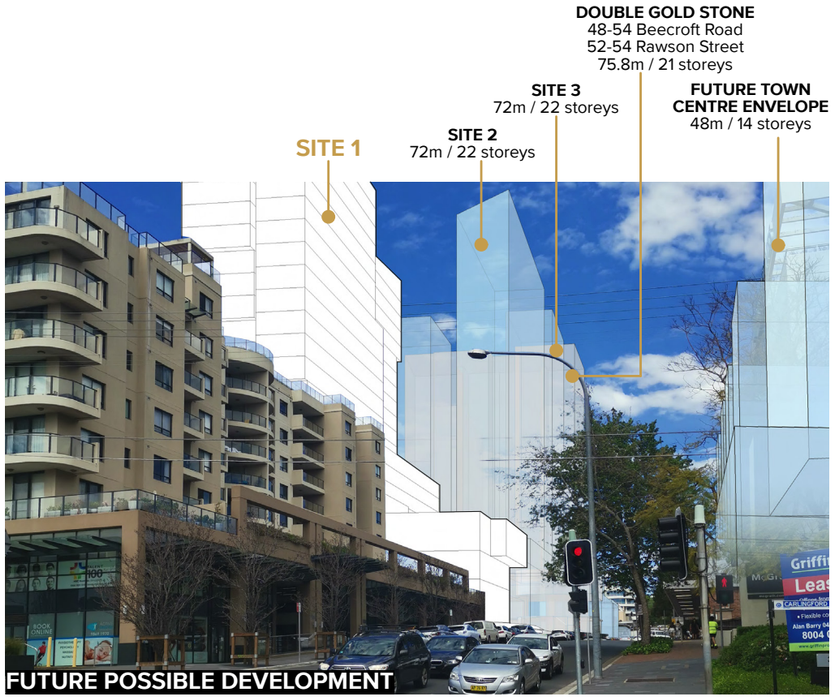


2.50 VIEW ANALYSIS

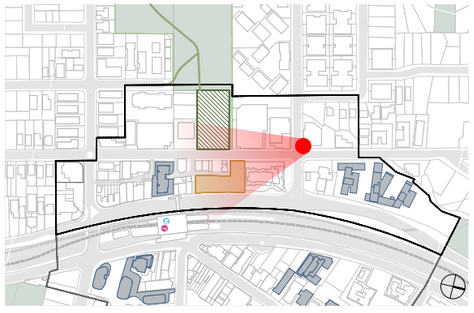
VIEW 10 FROM RAWSON STREET, NORTH

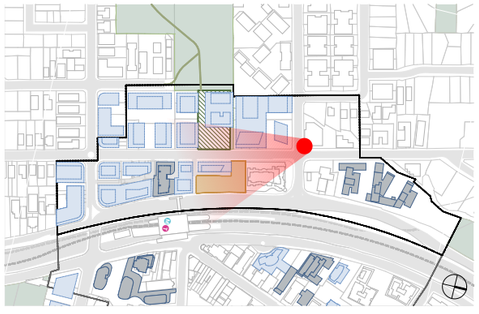
Tower forms are setback from Rawson Street.
Streetscape & pedestrian scale will be maintained by retail frontage.

SITE + APPROVED MASSING



FUTURE POSSIBLE DEVELOPMENT





SOPRA

3.0 SEPP 65

SEPP65 DESIGN VERIFICATION STATEMENT

We confirm that Dan Szwaj has directed the design of the proposed mixed use development on 59-77 Beecroft Road & 72 Rawson Street Epping.

The design has been prepared in accordance with the design quality principles and requirements set out in Part 2 of the State Environmental Planning Policy No 65 - Design Quality of Residential Flat Development.

Dan Szwaj is registered as an architect in accordance with the NSW Architects Act 2003.

Signed

Dan Szwaj
Director
Registered Architect 6529

3.01 CONTEXT & NEIGHBOURHOOD CHARACTER

DESIGN QUALITY PRINCIPLE 1

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

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

PROPOSAL

The site of the proposed mixed use development is located at 59-77 Beecroft Road & 72 Rawson Street, Epping and is apart of the Epping Town Centre Urban Activation Precinct. The site fronts two prime frontages, Beecroft Road and Rawson Street. A existing pedestrian lane is located on the South, connecting Rawson Street to Beecroft Road and a existing Public Lane is located to the West of the site. The development is within an area of contrast in the current context of smaller scale commercial and retail buildings of the Epping Town centre.
The proposal seeks to embrace the principles objectives of the Parramatta DCP and Epping Town Centre Activation Precinct Structure Plan through providing a mixed-use development that will align with the future vision of the precinct by creating a active and vibrant community through:

- Providing different uses to create a development that will benefit the residents and the community:
  - Providing 126 homes with high amenity
  - 1,710 sqm (GLFA) of Commercial floor space and 2,691sqm of Retail offerings.
- Active and pedestrian focused Public domain.
  - Proposing an active and permeable ground plane that extends into the Existing Public Lane.
  - East West Through site link connecting Beecroft Road and Rawson Street
  - Terraced extension to the Existing pedestrian link to the South.
  - Increasing public domain amenity with 911 sqm or 30% of the site made publicly accessible
  - Additional Street tree canopy and landscaping
  - Fine grain street level experience
- ESD principles embedded into the design to ensure the development is designed with sustainable features.
- Promote public transport use, cycling and walking with bicycle facilities located on ground floor and within basement.
- Appropriate massing and scale for the future precinct.
- The proposal responds to the existing and future context through site testing of adjoining properties and the impact on amenity.
- Movement and Traffic
  - Vehicle movement is limited with circulation and parking located on Rawson Street.
  - The development is in close proximity to Epping Transport hub.

The building programme, apartment amenity, materials and finishes for the development are of a high standard and significant to the local areas. The development is intended to contribute to the revitalisation of the town centre promoting the benefits of living in an area well serviced by transport, services and recreational facilities.

3.02 BUILT FORM & SCALE

DESIGN QUALITY PRINCIPLE 2

Good design also achieves an appropriate built form for a site and the building's purpose in terms of building alignments, proportions, building type, articulation and the manipulation of building elements.

Appropriate built form defines the public domain, contributes to the character of streetscapes and parks, including their views and vistas, and provides internal amenity and outlook.

PROPOSAL

The proposal provides an improved urban outcome to the site that responds to its context and is aligned with the Epping Town Centre Activation Precincts vision. The development outcome is generally consistent with the height controls and setbacks for the precinct.

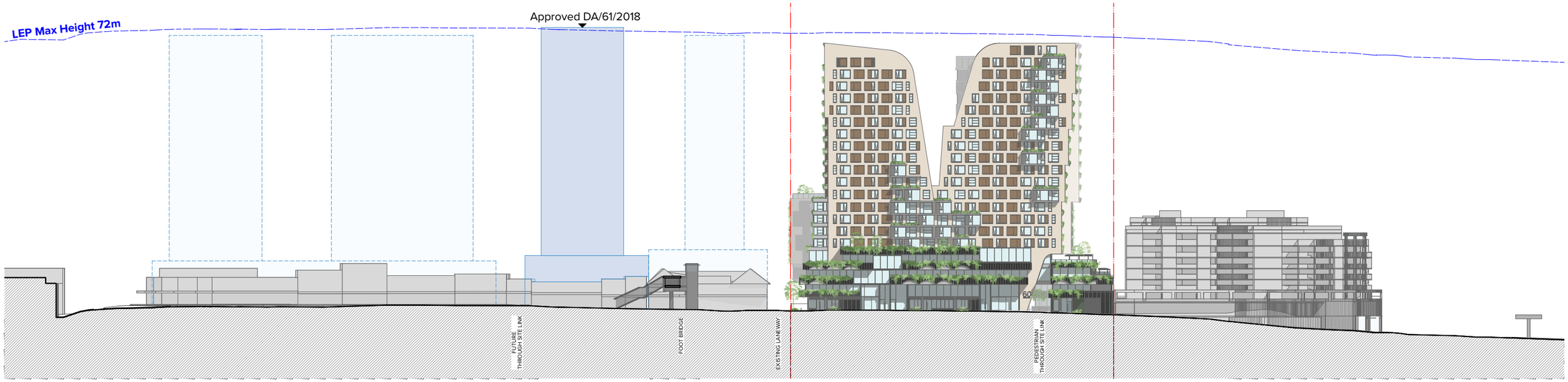
A process of massing refinement has been employed to provide greater building articulation, thereby increasing amenity to both the proposed development and future neighbouring sites while maintaining Council's DCP controls.

The podiums staggered floor plates define the commercial component of the building and articulates the building at street level.

The distinct landmark form creates a difference to the skyline and responds to the environment. Beecroft Road provides a punctured facade that responds to the busy road and rail interface. The stepped west facade responds to maximising amenity by capturing sunlight to living areas and balconies. The North and South elevations are open with balconies and large windows to maximise district views within apartments. The central break in the tower form further articulates the skyline and provides a green view corridor in the sky.

Landscape is an important element that has been introduced to define edges and highlight open spaces throughout the building.
Minor points of encroachment into setbacks are made on the North in order to improve the architectural outcome and visual interest of the facade, aligned and consistent with the DCP controls.

Given the proximity to infrastructure, services and recreational areas for future residents in the immediate and local context, the proposed residential development is well suited to the site. The retail uses are also appropriate for the locality and are designed to work with the wider community context.



East Streetscape Elevation

3.03 DENSITY

DESIGN QUALITY PRINCIPLE 3

Good design achieves a high level of amenity for residents and each apartment, resulting in a density appropriate to the site and its context.

Appropriate densities are consistent with the area's existing or projected population. Appropriate densities can be sustained by existing or proposed infrastructure, public transport, access to jobs, community facilities and the environment.

PROPOSAL

The proposed density and use of the site is a direct response to the desired future character of the area and proximity to the existing public transport network. The vision for the Town Centre is focused on increasing the extent of publicly accessible open space, permeability of the streetscape and integration of landscaping.

The proposed density is in the context of the Epping Town Centre Precinct. The proposal is compliant with the heights and FSR. The proposed GFA of 17,940 sqm is distributed into different uses to provide a true mix used precinct that will create a authentic destination within the local neighbourhood.

Whilst the development is consistent with the future desired density of the precinct the proposed building form provide an appropriate balance between building footprint and landscaped area. The building forms has been articulated in response to the east and west environments to improve solar amenity, access to daylight, mitigate noise and ventilation, views and consolidated public and communal open spaces.

The number of apartments and associated car parking provided is consistent with the envisaged density for the precinct. However, the mix of the apartment types provides further diversification and consistency for the area with the future desired density of the precinct to follow.

The proposal provides extensive communal facilities including, shared podiums with a, pool and BBQ/Dining areas that maximises district views as well as extensive podium landscaping. Collectively these elements provide best practice amenity and design outcomes appropriate for the proposed density.

The connection to nature for residents is maximised through a range of features that includes landscaped planters at various levels of the podium & tower, planters outside lobby corridors to provide outlook to green for all residents and to soften the building form for adjacent developments.

3.04 SUSTAINABILITY

DESIGN QUALITY PRINCIPLE 4

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

PROPOSAL

The built form and landscape elements have been designed to embrace ESD principles, both passive and active. The orientation, massing and articulation of the building forms ensures that apartment design achieves adequate ventilation and daylight access into primary living areas. Apartment layouts have been designed so that solar access is maximised. In addition, overhangs and performance glazing further enhance the passive design features of the development.

The development provides apartments with 'extra amenity'. This includes amenity initiatives such as extensive glazing, increased floor to ceiling heights and natural ventilation.

Integrated into the design of buildings are roof terraces and landscape design elements that assist in mitigating and managing storm-water runoff. The extensive landscaping extends to the street edges, podiums and rooftops and offers generous tree canopy coverage and assists in mitigating Urban Heat Island effects.

Within the site itself, electrical car recharge stations are integrated, and car share services have been added within the basement. Bicycle storage and End of Trip facilities are provided for residents, retail and visitors to the site prompting the use of alternate transport modes rather than private vehicle use.

Solar panels are proposed on the roof top of building A to assist in generating electricity. The development is also intended to facilitate grey water reuse.
Quality low-maintenance materials with natural finishes have been selected for this development, which will provide a rich legacy for this project. The choice of materials and colours further mitigates Urban Heat Island effects.

The BASIX assessment and certificate confirms the developments resource, energy and water efficiency credentials.

3.05 LANDSCAPE

DESIGN QUALITY PRINCIPLE 5

Good design recognises that together landscape and buildings operate as an integrated and sustainable system, resulting in attractive developments with good amenity. A positive image and contextual fit of well-designed developments is achieved by contributing to the landscape character of the streetscape and neighbourhood.

Good landscape design enhances the development's environmental performance by retaining positive natural features which contribute to the local context, co-coordinating water and soil management, solar access, micro-climate, tree canopy, habitat values, and preserving green networks. Good landscape design optimises usability, privacy and opportunities for social interaction, equitable access, respect for neighbours amenity, provides for practical establishment and long term management.

PROPOSAL

The proposal has a comprehensive landscape concept and design, integrated with the architectural programme. It includes public, communal and private open spaces. The landscape led approach seeks to provide 156% (of the site area) as landscape replacement area to ensure residents all have access to a green and high amenity residential development.

The proposed activation of the existing Public lane enhances the vision of the Epping Town Centre Precinct by continuing the concept of a vibrant mix of retail and commercial through to the internal streets, improving permeability across the site. This outcome encourages a pedestrian friendly and vibrant public space, with indoor and outdoor dining that provides a strong identity to the development.

Within the communal open space areas (totalling 36% of the site area), extensive planting can be accommodated. These areas have been designed to maximize privacy, rainwater retention and filtration. Outdoor spaces are both functional and visually interesting, including when viewed from above. In the communal spaces, a range of activities are provided, from BBQ areas, open lawns, yoga and meditation meadows, secluded reading and breakout areas, terraces, a communal pool and deck

The landscape concept is comprehensive and holistic, extending from the ground plane to the rooftops. External planter boxes are featured up the full length of the building façades, and are positioned at circulation corridor windows and outside lift lobbies so that residents always experience a close connection to greenery at all levels of the buildings. Continual outlook to green landscaped spaces has been at the core of this design, with apartments overlooking the greened roofs, podium communal open space, and tower skygarden.

Further information on the landscape concept is outlined in the Landscape Architecture report, included as part of this DA proposal.

Level 2 Pool

Level 3 Communal

Level 8 Communal

3.06 AMENITY

DESIGN QUALITY PRINCIPLE 6

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

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

PROPOSAL

Extensive communal open space allows residents to enjoy a variety of activities and pastimes. Open lawns, secluded breakout spaces and meditative areas support active and passive lifestyles. A communal pool area and deck gives residents an opportunity to cool off in summer, with adjacent BBQ areas and benches for family gatherings. Services areas and back-of-house zones are designed to operate independently from the residents and car parking zones.

Apartments include a mix of unit typologies, providing a high level of daylight access and natural ventilation. Apartment layouts have been developed to maximize the number of units receiving sunlight, street and district views. Accessible apartments are provided to meet the DCP requirement and Livable apartments to meet the ADG requirement.

Generally, the ADG building separation distances are achieved. Visual and acoustic privacy is also considered with winter gardens, landscaping and semi-opaque glass utilised to achieve the privacy recommendations of the ADG. The proposed apartments are designed to have excellent levels of amenity. All apartments meet the minimum apartment size recommendations of the ADG and are designed with regular shapes for ease of furnishing, and flexibility of use. Solar access and cross-ventilation recommendations are met or exceeded.

Cross - ventilation
- 61% apartments cross ventilated up to 9 storeys
- 80% apartments cross ventilated across the whole development

Solar Access
- 78% living rooms with 2 hours sunlight
- 79% balconies achieve 2 hours sunlight

3.07 SAFETY

DESIGN QUALITY PRINCIPLE 7

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

A positive relationship between public and private spaces is achieved through clearly defined secure access points and well-lit and visible areas that are easily maintained and appropriate to the location and purpose.

PROPOSAL

Well designed and maintained urban environments are essential for improved safety in the community. Public safety for pedestrians, cyclists and motorists is important for the mixed use development to be a welcoming and safe place for people to live and visit.

The proposal optimises safety and security by carefully integrating the residential components so that they optimise the activation of the public domain and produce a safe and secure environment for all users.

Around the development, the public domain has been designed to activate each frontage of the building, with retail tenancies and Entry Lobbies activating Beecroft Road, Rawson Street and the existing Pedestrian through site link and Public Lane. This is supplemented by lighting, visual, signage and way-finding strategies delineating residential, Commercial and retail entries, and consideration of retail close-down lines.

The upper residential levels are separated from the ground floor via secured lobbies and lifts There are clear pedestrian routes to enable safe access to and from the site with lobbies and building entries being designed with clear legibility and are easily identified from the public domain. All foyers include clear lines of site to the street and will be fully glazed.

Active and passive surveillance to the public domain is achieved by the placement of residential apartments overlooking the ground plane and publicly accessible walkways. Appropriate lighting to public and private areas will facilitate a secure environment without adverse impact of light spill for surrounding residents and neighbouring properties. Security access and management procedures apply to the car parking areas.

The proposed development will provide a high quality environment, minimising the opportunity for crime and promoting an accessible and liveable place that encourages a feeling of safety and community participation. This is achieved through:

A physically well-connected neighbourhood
Safe movement, good connections and access are provided through public places that provide well defined routes and clear sight-lines (day and night) so residents and visitors can see and be seen.

Well defined public and private spaces
Buildings define the public domain reinforcing sight-lines and strengthening views to and from key spaces, streets and laneways, for good passive surveillance.

Improved surveillance of public spaces.
Increased visibility and active edges at ground level, through a mix of uses, with Retail/ Commercial uses at Ground level and Residential uses on upper levels addressing the streets to maximise passive surveillance and create a safe environment to live and visit. Visibility and surveillance of the public environment is maximised by providing public places that are overlooked from adjoining buildings, for 'eyes on the street' or 'natural surveillance' from passers-by to make people feel safer and potential offenders feel exposed.

Activity

Limiting blank façades and providing active edges will promote pedestrian activity and active use of the public domain. The permeable ground plane and pedestrian focused streets encourages active modes of transport such as walking and cycling, maximises activity, social interaction and surveillance in public places and reduces the risk of crime.

Creating a sense of ownership
Clearly defined private and public space for improved public safety and to encourage residents to take responsibility and pride in places they use and inhabit.

Management and maintenance
Attractive public places will encourage use of the spaces, a sense of ownership and improve people's perception of how safe a place is and supports their desire to occupy and use those places for community well-being in safety.

CRIME PREVENTION THROUGH DESIGN

RESPONSE TO CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN' (CPTED), NSW POLICE SERVICE

The design of buildings and associated public and communal spaces have been considered by observing the principles outlined in the to deter opportunities for criminal behaviour and to make a safer place for the community.

OBJECTIVE / PRINCIPLE	DESIGN RESPONSE
5.1 Surveillance Placing people, activities and physical features in ways that maximises the ability to see what is happening in an area discourages anti-social behaviour, as perpetrators do not want to be seen.	
Clear sightlines between public and private places.	The private spaces of the proposed development, particularly the apartments, have clear sightlines with the street, public domain areas and communal open space. Balconies face the street and communal open space as do windows to habitable rooms. This will promote casual surveillance and minimise crime risk.
Effective lighting of public places.	The proposal will include appropriate lighting at street level and in all public areas of the two buildings as well as the public areas at street and roof level to mitigate crime and provide maximum safety.
Landscaping that makes places attractive, but does not provide offenders with a place to hide or entrap victims.	The proposal includes publicly accessible and communal landscape areas. The design of the towers and the landscaped spaces has been focused to create attractive areas with high amenity, and to ensure that casual surveillance provides a safe environment through clear sightlines, clear and legible entries, with landscaping. No related hiding places will result.
5.2 Access control The use of fences, security devices and locks to restrict access, increases the effort required to commit an offence and therefore reduces the potential for it to happen.	
Clear sightlines between public and private places.	The public domain areas that surround the site at ground level are designed to guide pedestrians around the site, the buildings and into gathering places. The proposal does not contain any 'stray' paths.
Public spaces which attract, rather than discourage people from gathering	The public spaces on ground level designed to be attractive to the local community with retail tenancies that are complementary to the interests and needs of the locality.
Restricted access to internal areas or high-risk areas (Like carparks or other rarely visited areas). This is often achieved through the use of physical barriers.	Appropriate physical barriers will be put in place to all entrances of the buildings. The carpark and loading area will be provided with panel lift doors for security. Separation of uses in the carpark are provided with separate lifts to access different uses. Lobbies will be accessible only to residents through the use of a secured access system like swipe cards.

OBJECTIVE / PRINCIPLE	DESIGN RESPONSE
5.3 Ownership Areas that are well protected and look as if they are owned and cared for, gives an impression that it is harder to conduct anti- social behaviour. Cared for areas also reduce the level of fear within the community.	
Design that encourages people to gather in public space and to feel some responsibility for its use and condition	The public spaces will be a vibrant place with well finished materials, landscaping that will enhance the sense of space and a variety of spaces. The environment will instil civic pride in residents and visitors. This will promote a sense of ownership.
Design with clear transitions and boundaries between public and private space	All areas at ground level will have clear delineation between public and private spaces through the use of secure access.
Clear design cues on who is to use space and what it is to be used for. Care is needed to ensure that territorial reinforcement is not achieved by making public spaces private spaces, through gates and enclosures.	The public domain areas that surround the site at ground level are designed to guide pedestrians around the site and into gathering places. The proposal does not contain any 'stray' paths; Public spaces are designed to be open, finished with high quality materials and well connected through a series of pedestrian and cycle paths; No concealed areas are proposed that would enable hiding. Management of the building will further ensure the security of all spaces; Private and communal spaces will be clearly separated through secure lines to ensure that each use is clearly communicated.
5.4 Maintenance Spaces that are well maintained and where any evidence of anti-social behaviour is promptly removed reduces levels of satisfaction for those performing anti-social activities and reduces fear in the community.	
Space management strategies include: • Activity coordination; • Site cleanliness; • Rapid repair of vandalism and graffiti; • The replacement of burned out pedestrian and car • Park lighting; and • The removal or refurbishment of decayed physical elements.	The communal and public areas of the site provide for various types of activities with good casual surveillance; The site will be maintained by various contractors who will form part of the building management regime set up by the owner's association.

SOCIAL AMENITIES - SAFETY AND SECURITY

RESPONSE TO PARRAMATTA DEVELOPMENT CONTROL PLAN 2011, Design Controls for Residential Flat Buildings and Mixed use developments Part 3.4

OBJECTIVES	DESIGN RESPONSE
Natural Surveillance	
• To encourage natural surveillance from and to surrounding land uses • To encourage natural surveillance by encouraging legitimate land use • To provide clear sightlines for pedestrian movement	Suitable visibility is provided to high risk areas, such as entries and stairs. Double height lobbies to the buildings are clearly located along Beecroft Road providing for a consistent identification of entries. Proposed paths around the buildings are designed to provide for clear sightlines. Natural surveillance is maximised through the use of permeable building materials where required, without compromising privacy to private spaces. Windows and balconies are oriented towards public spaces to promote passive surveillance to pedestrian areas, building entries and the communal open space between buildings; Mailboxes are located within entry lobbies for increased security and to reduce the risk of vandalism and theft. A network of pedestrian, cycle and vehicular links connect public open space through the site to maximise surveillance.
Lighting	
• To provide appropriate lighting for activities after dark • To encourage the use of appropriate light fixtures • To encourage the appropriate location of lighting	All lighting will be designed to meet relevant Australian Standards, including AS1158, AS1680 and AS2890; Lighting design will take into consideration the location and the use of individual spaces to allow for good visibility and to minimise shadows. A variety of lighting sources will be provided to provide varied lighting to work with the building and landscape design whilst providing appropriate lighting levels. Lighting of communal and public areas will be powered by renewable solar energy to reduce maintenance costs to residents and to promote site wide sustainable practices. Selection of lighting fixtures will take into account the life cycle and efficiency of light fittings.

OBJECTIVES	DESIGN RESPONSE
Signage	
• To provide clear and readily available signage • To provide signage in appropriate locations	Clear and accessible signage will be provided throughout the development to assist in way-finding. The future design of signage will take into account: • Providing sufficient information for residents and visitors for way-finding and to identify available services and amenities across the site as well as building entries; • Sufficient illumination is provided; • High visibility locations; • Safe routes are identified; • Legibility; • Sufficient lighting is provided; • Signs are not obstructed by landscaping or built structures; • Incorporation of Braille where appropriate
Landscaping	
• Create aesthetically pleasing but safe environments • Create easy to maintain and vandal resistant areas • Reinforce natural surveillance and sightlines	The design of the landscaped areas: • Provide graded planting for increased visibility through open spaces; • Use plant selection and locate planting to deter short cuts to restricted areas; • Level differences, balustrades and fencing and planting are used where appropriate to separate publicly accessible and communal / private space; The design of landscaped areas has considered the following issues: • Deter Anti social behaviour, e.g., graffiti; • Promoting natural surveillance; • Selection of plants for increased survival and growth rates.
Land Use	

OBJECTIVES	DESIGN RESPONSE
• To promote natural surveillance and minimize illegitimate activities • To create a mix of activities which will result in greater level of natural surveillance around the clock	A range of amenity uses is proposed, through the provision of a variety of spaces, to support day-night activities to encourage longer passive surveillance hours. These include: • Retail offerings on ground floor to promoted day & night activity • Through Site links publicly accessible 24/7 • Publicly accessible pedestrian paths The proposed scale and range of uses is appropriate for the future character of the precinct.

Building Design

• To integrate public buildings with public space • To use buildings to support natural surveillance • To reduce vandalism and graffiti • To reduce safety problems	The design of the proposed development: • Ensure that all entrances and exits are clearly visible from the street and secured; • Minimise design features that create entrapment spaces; • Locate facilities in areas between buildings to promote natural surveillance by balconies and windows of surrounding apartments • Minimise blank external walls; • Ensure that landscaping has been designed for intended uses and planting does not allow for anti-social behaviour, e.g., by providing hiding spaces; • Ensure that building envelopes allow for building forms that address all street frontages; • All public and communal spaces are overlooked by apartments to promote natural surveillance.

Entrapment

OBJECTIVES	DESIGN RESPONSE
• To reduce the risk of attack by hidden persons • To eliminate the possibility of entrapment • To ensure the suitable location of facilities	The design of the proposed development: • Provide clear sightlines in public and communal spaces and through the proposed vehicular, pedestrian links; • Communal, private spaces, carparks and loading areas will be secured through fences and gates suitable for their use; • Public and communal spaces are designed to have multiple access points to promote permeability through the site. Pedestrian paths linking individual spaces will promote natural surveillance; • High risk facilities (eg, communal amenities) are located at high level with natural surveillance provided by the surrounding apartments.

Maintenance

• To ensure regular maintenance and repairs are undertaken • To discourage graffiti and vandalism • To install features that are vandal resistant	A maintenance program for all public and communal spaces will be developed to ensure that all spaces will be well maintained. This is consistent with the Safer By Design principles to keep spaces well maintained and to provide a “cared for” environment. Maintained spaces reduce fear in the community and reduces the level of satisfaction for those deliberately preforming anti-social activities.

3.08 HOUSING DIVERSITY & SOCIAL INTERACTION

DESIGN QUALITY PRINCIPLE 8

Good design achieves a mix of apartment sizes, providing housing choice for different demographics, living needs and household budgets.

Well-designed apartment developments respond to social context by providing housing and facilities to suit the existing and future social mix. Good design involves practical and flexible features, including different types of communal spaces for a broad range of people, providing opportunities for social interaction amongst residents.

PROPOSAL

The development will provide a mix of 1 bed, 2 bed and 3 bed apartments. Within this mix is a range of different typologies and sizes adding to a range of choice and affordability.

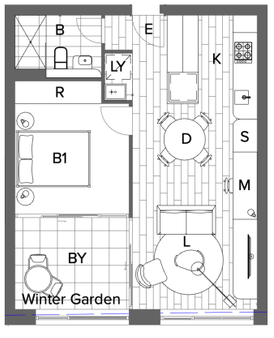
The design of apartments considered the requirements of existing and future end users to understand the amenities and requirements of different household types. Simple and open apartment planning allows for flexible layout configurations to suit varied lifestyles and age groups. Apartment layouts are clean and orthogonal allowing added potential for future living adaptations. studies and flexi-spaces are provided in a number of apartment typologies, well suited for changing work styles and work-life balance.

10% of apartments have been provided to meet the objectives for adaptable housing. 20% of apartments have been provided to meet the objectives for Livable Housing Guideline's silver level universal design features.

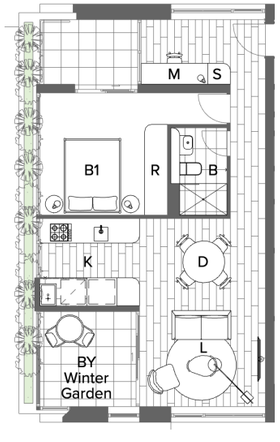
Communal spaces are designed to engender community spirit for residents within the development by offering both public and private areas for congregation and activities with common areas being designed for equitable access.

First Home Owner **Investor** **Aspirational Couple** **Young Family** **Growing Family** **Downsizer** **Intergenerational Family** **Entertainer**

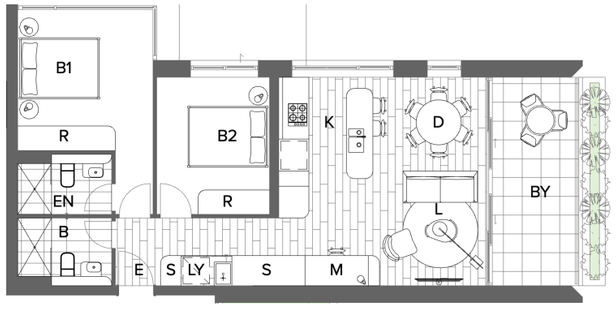
Designing for changing needs



Typical 1 bedroom apartment



Typical 1 bedroom plus study apartment



Typical 2 bedroom apartment

Typical 3 bedroom apartment

3.09 AESTHETICS

DESIGN QUALITY PRINCIPLE 9

Good design achieves a built form that has good proportions and a balanced composition of elements, reflecting the internal layout and structure. Good design uses a variety of materials, colours and textures.

The visual appearance of well-designed apartment development responds to the existing or future local context, particularly desirable elements and repetitions of the streetscape.

PROPOSAL

The proposed development is a response to the sites environment and context within Epping Town Centre. It embraces the design story of the ridge line to create an identity that enhances the street level and skyline experience.

The fine grain approach to the ground plane provides flexible shopfronts that interact with the street edge. Double height spaces celebrate entries along Beecroft Road. An double height arch way highlights the proposed pedestrian through site link. The language of Arches continue to the ground level of the West facade defining shop front in reference to the traditional high street of Epping.

Staggered floor plates form awnings for shading and allow for planting to soften the street edge with public art on soffits to add visual interest and sense of place. Glazing is setback to define the horizontal form.

The tower language for the East and West are articulated to respond to its site conditions. The East facade is about pattern and rhythm with a solid character that uses depth in the facade to articulate the elements. Bay windows are introduced to improve amenity and assist with wind mitigation.
The west facade is rough and articulated with the introduction of bay windows to capture sunlight to the western units. The dualities of the building become evident from the north and south where there is a clear separation that creates slender building elements.

The separation between the buildings widens to the top to emphasise the green ribbon that runs up both sides of the centre.
Landscaping is a key theme that is embedded into the design, it adds to amenity and provides a quality outlook for residents and public.

The materials comprise of high quality and low maintenance natural finishes. Colours are chosen from a palette of softer natural tones that are derived from the surrounding context.

Collectively the building elements within the hybrid development create a dynamic streetscape that is highly articulated, and gives a coherent design outcome.

Lumia, Orchards
Source: Turner

3.1 ADG OBJECTIVES

PART 3 SITING THE DEVELOPMENT

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
3A 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	**SATISFIES OBJECTIVE** • Detailed site analysis has been undertaken and is included as part of this application to demonstrate how the design has considered site amenity.
3B Orientation **Objective 3B -1** • Building types and layouts respond to the streetscape and site while optimising solar access within the development	**SATISFIES OBJECTIVE** • The development is consistent with the LEP and DCP for the Epping Town Centre Activation Precinct. • Buildings define the street pattern and new through site connections and reinforce a high- density urban neighbourhood. • The proposed buildings have been designed to maximise views and access to daylight whilst minimising wind and noise impacts. • A variety of communal and public open spaces at street and podium level receive solar access in mid-winter at different times of the day between 9am and 3pm
Objective 3B-2 Overshadowing of neighbouring properties is minimised during mid-winter: • Living areas, private open space and communal open space should receive solar access in accordance with sections 3D and 4A • Where an adjoining property does not currently receive the required hours of solar access, the proposed building ensures solar access to neighbouring properties is not reduced by more than 20% • If the proposal will significantly reduce the solar access of neighbours, building separation should be increased beyond minimums contained in section 3F Visual privacy • Overshadowing should be minimised to the south or down hill by increased upper level setbacks • It is optimal to orientate buildings at 90 degrees to the boundary with neighbouring properties to minimise overshadowing and privacy impacts, particularly where minimum setbacks are used and where buildings are higher than the adjoining development • A minimum of 4 hours of solar access should be retained to solar collectors on neighbouring buildings	**SATISFIES OBJECTIVE** • The proposal has been developed with consideration to the amenity of the surrounding context. • The proposed forms reflect a considered approach, responding to orientation and context, to minimise overshadowing of public recreation and residential zones; • The solar access of surrounding apartment buildings and dwellings has been studied at the Winter Solstice and satisfy the objectives of the ADG.

OBJECTIVE	DESIGN RESPONSE
3C Public Domain Interface **Objective 3C-1** Transition between private and public domain is achieved without compromising safety and security • Maximum 1m level change between private terraces, front gardens and dwelling entries above the street level • The height of solid fences or walls should be limited to 1m	**SATISFIES OBJECTIVE** • Residential access points have been carefully and appropriately located for legibility for residents and visitors; • Residential lobbies are designed to be secure, to control access and to appropriately separate circulation routes; • Apartment windows and balconies are located to provide for passive surveillance over the public domain; • The proposed design has minimised any opportunities for people to be concealed.
Objective 3C-2 Amenity of the public domain is retained and enhanced	**SATISFIES OBJECTIVE** • The interface between the private and public domain is carefully considered • The landscape for the public domain is designed to integrate with the architectural elements and to soften building edges to form a transition from soft to hard elements; • The landscape for the public domain is designed to integrate with the architectural elements, soften building edges and a transition to the private domain. • The design minimises the prominence of service areas and locates inactive façades away from the primary street network. • Refer to the landscape concept prepared by Arcadia for further information.
3D Communal and Public Open Space **Objective 3D-1** An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping	**SATISFIES OBJECTIVE** • The proposal exceeds the minimum requirement for communal open space by providing areas in excess of the minimum target. • 36% of the site area is classified as communal open space, meeting and exceeding the ADG requirement. • A mix of open space typologies that include communal open space, landscaped areas at various levels and planting to corridors for increased amenity provides 156% landscape replacement area. • The proposal exceeds the minimum of 50% direct sunlight to the principal usable part of the communal open space with 70% receiving sunlight for a minimum of 2 hours between 9am and 11am on 21 June (mid-winter) in accordance with the ADG requirement.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
Objective 3D-2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting **Design Criteria** 1. Communal open space has a minimum area equal to 25% of the site (see figure 3D.3) 2. Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid-winter)	**SATISFIES OBJECTIVE** • The communal spaces have sufficient space to allow for a wide range of activities that includes seating for individuals or groups, barbecue areas, play areas, and swimming pool. • The design of the communal open space responds to micro-climate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts. • Communal open space provided through out the development is accessible by all residents, and forms a central meeting spaces for passive and active programs. • Large landscaped planters allow for the planting of larger trees. • A dedicated pool, deck adds an extra level of amenity. • Communal space provides views and outlook towards the future town square and park to the West. The visual impacts of services is minimised, e.g... for ventilation duct outlets from basement car parks, electrical substations, etc.
Objective 3D-3 Communal open space is designed to maximise safety	**SATISFIES OBJECTIVE** • The communal spaces are visible from habitable rooms and private open space areas for a balanced provision of passive surveillance and visual privacy to adjacent apartments. • The communal spaces will be well lit. • Communal open space/facilities are provided for children and young people that are safe and contained.
Objective 3D-4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood	**SATISFIES OBJECTIVE** • Public open spaces is provided consistent with the vision of Epping Town Centre Activation Precinct and responds positively to the future adjacent context and allows for connection and movement through the site. • The street interface is accessible and open, providing clear sight-lines and connections between future neighbouring developments, parks and open spaces.

OBJECTIVE	DESIGN RESPONSE
3E Deep Soil Zones **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 **Design Criteria** Deep soil zones are to meet the following minimum requirements: Site Area / Min. Dimension / Deep Soil Zone (% Site Area) < 650m² / - / 7% 650-1,500 m² / 3m > 1,500m² / 6m > 1,500m² with significant existing tree cover / 6m **Design Guidance** On some sites it may be possible to provide larger deep soil zones, depending on the site area and context: • 10% of the site as deep soil on sites with an area of 650 - 1,500m² • 15% of the site as deep soil on sites greater than 1,500m²	**SATISFIES OBJECTIVE** • The numeric values of the Design Criteria are not applicable to Mixed Use developments in dense urban areas. However, the proposal complies with the intent of the objective: • Within the site along the existing Public Lane deep soil zones for planting of large street trees has been incorporated. • Refer to the Landscape Concept package for further information.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
3F Visual Privacy Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy • Apartment buildings should have an increased separation distance of 3m (in addition to the requirements set out in design criteria 1) when adjacent to a different zone that permits lower density residential development to provide for a transition in scale and increased landscaping • Direct lines of sight should be avoided for windows and balconies across corners • No separation is required between blank walls	**SATISFIES OBJECTIVE** • The proposal generally complies with the appropriate building separation distances to facilitate visual privacy between apartments. • Generally, the ADG habitable-habitable distances are achieved or exceeded between buildings. In a small number of locations, the habitable to non-habitable distance is utilised. Location where building separation is varied to the requirements are: • Building A north varies the separation to 81 Beecroft Road for level 1 to level 6. Privacy glazing, screening and buffer landscaping are provided to address privacy.

Design Criteria
Deep soil zones are to meet the following minimum requirements:

Building Height	Habitable Rooms + 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

Note:
- Separation distances between buildings on the same site should combine required building separations depending on the type of room (see figure 3F.2)
- Gallery access circulation should be treated as habitable space when measuring privacy separation distances between neighbouring properties

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	**SATISFIES OBJECTIVE** • Privacy is maintained between private and communal spaces by way of privacy glazing and landscaping. Care has been taken to ensure that the private spaces and windows between apartments are set such that there are no direct sight lines or the use of obscured glass or glass blocks are used to ensure no overlooking. • Building forms are articulated and stepped to improve views from habitable areas and balconies whilst limiting overlooking between balconies. • Landscape planters and terraces are provided to podium and tower to further improve privacy. • Balconies are half solid or use tinted glass to conceal

OBJECTIVE	DESIGN RESPONSE
3G Pedestrian Access and Entries **Objective 3G-1** Building entries and pedestrian access connects to and addresses the public domain	**SATISFIES OBJECTIVE** • Separate residential lobbies for each core have been provided at street level. • Each residential core connects to Ground Floor, activating the public domain and increasing surveillance and movement through the site. • Residential lobbies will be signposted and have a distinct architectural typology for legibility and amenity. • Outlook from open space is improved by locating it on the level 2, 3 and 8 for improved solar access, amenity and privacy.
Objective 3G-2 Access, entries and pathways are accessible and easy to identify	**SATISFIES OBJECTIVE** • Where required, ramps and stairs are integrated with the overall landscape and building design concept for accessible and legible entries. • Residential lobbies and commercial building entries are provided with a distinct architectural character and articulated awning structure/or are setback behind the building line over for increased legibility;
Objective 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations	**SATISFIES OBJECTIVE** • A proposed Though Site Link is provided to the north of the site providing a accessible path of travel with a visual connection between Beecroft road and Rawson Street. • A network of streets and through site link connections provide a highly permeable ground plane that facilitates pedestrian and cycle movement.
3H 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 streets-capes	**SATISFIES OBJECTIVE** • The entry/exit point for carpark is located off Rawson Street to the north of the site to allow movement of traffic and avoid conflicts with pedestrian routes. • Servicing and loading is combined with entry to the carpark • Clear sight lines are provided at the carpark entry/exit points and vehicle crossings. • Pedestrian and vehicle access points to and from the buildings are kept separate. • Further information about the vehicle entry, exit and traffic management can be found in the traffic report by TTPP submitted with this proposal.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
3J 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 • Where a car share scheme operates locally, provide car share parking spaces within the development. Car share spaces, when provided, should be on site **Design Criteria** 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	**SATISFIES OBJECTIVE** • The proposed basement car parking meets the required rates for the developments under the current Parramatta DCP. Vehicular access to and circulation through the site has been minimised to reduce any potential conflict with the pedestrians.
Objective 3J-2 Parking and facilities are provided for other modes of transport	**SATISFIES OBJECTIVE** • The public domain design encourages bicycle movement throughout the site, with generous circulation widths and significant parking provision. • Overall 204 bicycle spaces are provided. • Bicycle parking is provided at a rate of 1 space per apartment and 10% visitor bicycle space requirement. • A secure end of trip facility is located on the Rawson Ground floor which accommodates 64 Bicycle spaces. • 15 Motorcycle parking spaces are provided and satisfies minimum requirements. • Further information about the vehicle entry, exit and traffic management can be found in the traffic report by TTPP submitted with this proposal.
Objective 3J-3 Car park design and access is safe and secure	**SATISFIES OBJECTIVE** • Car park access will be secured at appropriate locations for safety and secure access to Retail/ Commercial and residential areas. • Visitor parking is provided in a designated and easily accessible area of the carpark, separated from residential parking, for increased legibility and safety.

OBJECTIVE	DESIGN RESPONSE
Objective 3J-4 • Visual and environmental impacts of underground car parking are minimized • Protrusion of car parks should not exceed 1m above ground level.	**SATISFIES OBJECTIVE** • Entry to basement is minimised in width and appearance where possible while complying with the development standards. • Services have been consolidated to reduce inactive façades • Non residential and residential car parking share a common entry point. • Carparking is adequately ventilated through mechanical design.
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 Screening, landscaping and other design elements including public art should be used to integrate the above ground car parking with the facade. Design solutions may include: • Car parking that is concealed behind the facade, with windows integrated into the overall facade design (approach should be limited to developments where a larger floor plate podium is suitable at lower levels) • Car parking that is 'wrapped' with other uses, such as retail, commercial or two storey Small Office/Home Office (SOHO) units along the street frontage	**SATISFIES OBJECTIVE** • Car parking areas are not visible from the public domain;

PART 4 DESIGNING THE BUILDING

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
4A Solar and Daylight Access **Objective 4A-1** To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space **Design Criteria** For development in the following locations: 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 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 3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter	**SATISFIES OBJECTIVE** • The envelopes have been designed to maximise views and access to daylight while minimising wind and noise impacts. Apartment amenity is consistent with the objectives of the ADG. • The proposed development will provide a high level of amenity with: 78% of apartments receive 2 hours sunlight mid winter to living areas, 79% to private open space and only 6% of apartments receive limited sunlight mid winter. • The apartment layouts and orientation take advantage of northerly and easterly aspects to optimize direct sunlight to habitable rooms and balconies. • Refer to the Amenity Diagrams for further information.
Objective 4A-2 Daylight access is maximised where sunlight is limited • Courtyards, skylights and high level windows (with sills of 1,500mm or greater) are used only as a secondary light source in habitable rooms	**SATISFIES OBJECTIVE** • The residential towers have been designed to maximise views and access to daylight while minimising wind and noise impacts. Apartment amenity is consistent with the objectives of the Apartment Design Guide (ADG). • Building envelopes have been developed to minimise the quantity of apartments with no direct sunlight in midwinter.
Objective 4A-3 Design incorporates shading and glare control, particularly for warmer months	**SATISFIES OBJECTIVE** • Balconies on north, east, and west façades sit within the building envelope for shading in summer and weather protection; • Glazing is designed to meet BCA Section J energy ratings;
4B Natural Ventilation **Objective 4B-1** All habitable rooms are naturally ventilated • The area of unobstructed window openings should be equal to at least 5% of the floor area served • Light wells are not the primary air source for habitable rooms	**SATISFIES OBJECTIVE** • Windows and doors will be sized to satisfy the ADG objective for natural ventilation. • Proposed overall building depths facilitates natural ventilation to habitable rooms.

OBJECTIVE	DESIGN RESPONSE
Objective 4B-2 The layout and design of single aspect apartments maximises natural ventilation. Apartment depths are limited to maximise ventilation and airflow. Natural ventilation to single aspect apartments is achieved with the following design solutions: • Primary windows are augmented with plenums and light wells (generally not suitable for cross ventilation) • Stack effect ventilation / solar chimneys or similar to naturally ventilate internal building areas or rooms such as bathrooms and laundries • Courtyards or building indentations have a width to depth ratio of 2:1 or 3:1 to ensure effective air circulation and avoid trapped smells	**SATISFIES OBJECTIVE** • The apartment layouts include open plan kitchen, dining and living spaces, and are consistent with the ADG design guidance to maximise ventilation and airflow.
Objective 4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents. • The building should include dual aspect apartments, cross through apartments and corner apartments and limit apartment depths • In cross-through apartments external window and door opening sizes/areas on one side of an apartment (inlet side) are approximately equal to the external window and door opening sizes/areas on the other side of the apartment (outlet side) (see figure 4B.4) **Design Criteria** 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 2. Overall depth of a cross-over or cross-through apartment does not exceed 18m, measured glass line to glass line	**SATISFIES OBJECTIVE** • 61% of apartments achieve cross-ventilation. • Cross-through apartments do not exceed 18m glass line • to glass line; • Natural cross-ventilation is proposed by corner dual-aspect strategy to the living area and n-1 bedrooms. • The buildings have been designed to optimise natural cross ventilation while minimising wind and noise impacts through Winter gardens and a passive ventilator system to apartments facing Beecroft Road. • Apartment amenity is consistent with the objectives of the ADG • Refer to the diagrams for further information.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
4C Ceiling Heights **Objective 4C-1** Ceiling height achieves sufficient natural ventilation and daylight access	**SATISFIES OBJECTIVE** • All apartments achieve sufficient daylight access and natural ventilation. • A minimum floor-to-floor height of 3.1m is used to allow the ADG recommendation of 2.7m ceiling height to be achieved in living, dining and bedroom areas. • The ceiling strategy to meet the objectives has been a result from the following factors: 1. Structural depths for Set downs to Balconies 2. Air conditioning 3. Mechanically ducted fresh air intake 4. Ducted exhaust from kitchen rangehoods and bathrooms • Ceilings in kitchen areas are proposed at a minimum of 2.7m high although where required to allow the integration of hydraulic services for island benches and for the incorporation of air conditioning units in apartments some units may require 2.4m. The bulkhead permits the concealment of the air handling unit and services in a neat enclosure providing an appropriate proportion of spaces and a natural division between the living and dining areas from the kitchen area. • As the kitchen is typically located at the rear of the living areas, the reduced ceiling height above the kitchen has a minimal effect on the access of daylight from the facade and natural ventilation. • Floor to floor height has been maximised to the Ground floor Retail level and commercial levels to achieve minimum 3300 clear ceiling height or greater to the front of house areas and retail tenancies.
Objective 4C-2 Ceiling height increases the sense of space in apartments and provides for well-proportioned rooms	**NOTED**
Objective 4C-3 Ceiling heights contribute to the flexibility of building use over the life of the building	**NOTED**

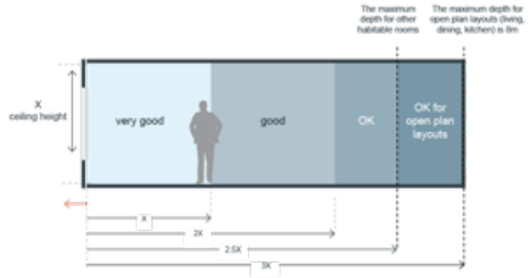
Design Criteria

1. Measured from finished floor level to finished ceiling level, minimum ceiling heights are

Habitable rooms	2.7m
Non-habitable	2.4m
For 2 storey apartments	2.7m for main living area 2.4m for second floor, where area does not exceed 50% of the apartment area
Attic spaces	1.8m at edge of room with a 30° minimum ceiling slope
If located in mixed use areas	3.3m for ground floor and first floor to promote future flexibility of use

2. These minimums do not preclude higher ceilings if desired

OBJECTIVE	DESIGN RESPONSE
4D Apartment Size and Layout **Objective 4D-1** The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity	**SATISFIES OBJECTIVE** • All apartment sizes satisfy or exceed the design criteria for internal areas within the ADG. • All habitable rooms include windows that satisfy the design criteria within the ADG • Window and door openings have been sized to allow the ADG and NCC minimum recommendations for daylight and natural ventilation to be achieved. • A range of apartment typologies are provided adding to the flexibility and affordability of the development; • All habitable rooms include windows located so that there is no point where a window is not visible from within a room. • The depth of the apartments are considered to ensure that all habitable rooms have 2.5x floor to ceiling depth ratio maximising solar access and improving quality of internal spaces.



Design Criteria

1. Apartments are required to have the following minimum internal areas:

Apartment Type	Minimum Internal Area
Studio	35m²
1 Bedroom	50m²
2 Bedroom	70m²
3 Bedroom	90m²

The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m² each

A fourth bedroom and further additional bedrooms increase the minimum internal area by 12m² each

2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms

The depth of a single aspect apartment relative to the ceiling height directly influences the quality of natural ventilation and daylight access. The maximum depth of open plan layouts that combine living, dining and kitchen spaces is 8 metres

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
Objective 4D-2 Environmental performance of the apartment is maximised **Design Criteria** 1. Master bedrooms have a minimum area of 10m² and other bedrooms 9m² (excluding wardrobe space) 2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space) 3. Living rooms or combined living/dining rooms have a minimum width of: - 3.6m for studio and 1 bedroom apartments - 4m for 2 and 3 bedroom apartments 4. The width of cross-over or cross-through apartments are at least 4m internally to avoid deep narrow apartment layouts	**SATISFIES OBJECTIVE** • Living areas and bedrooms are all located on the external face of the building. • Open plan layout depths are 8m or less from a window, measured from the nearest external glassline, whether this be the main facade line, or to the glazed side elevations of the indented balcony.
Objective 4D-3 Apartment layouts are designed to accommodate a variety of household activities and needs **Design Criteria** 1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height 2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m from a window Apartment layouts allow flexibility over time, design solutions may include: • All bedrooms allow a minimum length of 1.5m for robes • The main bedroom of an apartment or a studio apartment should be provided with a wardrobe of a minimum 1.8m long, 0.6m deep and 2.1m high • Dimensions that facilitate a range of activities and privacy levels • Room sizes and proportions or open plans (rectangular spaces (2:3) are more easily furnished than square spaces (1:1)) • Efficient planning of circulation to maximise the amount of usable floor space in rooms • Dual master apartments • Dual key apartments	**SATISFIES OBJECTIVE** • Apartment layouts achieve the minimum dimensions and areas established by the ADG. • All bedrooms allow a minimum length of 1.5m for robes, with main bedrooms allowing 1.8m for robes • Access to bedrooms, bathrooms and laundries is separated from living areas, minimising direct openings between living and service areas. • Apartment layouts allow flexibility over time. Design solutions include: dimensions that facilitate a variety of furniture arrangements; spaces for a range of activities and privacy levels between different spaces; room sizes and proportions and open plan; efficient planning of circulation stairs, corridors and through rooms to maximise the amount of usable floor space in rooms.

OBJECTIVE	DESIGN RESPONSE
4E Private Open Spaces and Balconies **Objective 4E-1** Apartments provide appropriately sized private open space and balconies to enhance residential amenity Note: Dual key apartments which are separate but on the same title are regarded as two sole occupancy units for the purposes of the BCA and for calculating the mix of apartments	**SATISFIES OBJECTIVE** • All private open spaces meet or exceed the minimum requirements of the ADG. • Balconies areas are free areas. Air conditioning is proposed through a water cooled VRV system with plant areas concealed on Roof.

Design Criteria

1. All apartments are required to have primary balconies as follows

Dwelling Type	Minimum Area	Minimum Depth
Studio	4m²	-
1 Bedroom	8m²	2m
2 Bedroom	10m²	2m
3+ Bedroom	12m²	4m

The minimum balcony depth to be counted as contributing to the balcony area is 1m

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 15m2 and a minimum depth of 3m

Objective 4E-2 Primary private open space and balconies are appropriately located to enhance liveability for residents	**SATISFIES OBJECTIVE** • Private open space is provided consistent with the objective. • Private open spaces and balconies predominantly face north, east or west. • Winter gardens are proposed to balconies on the East facing Beecroft road to maximise use of these spaces with minimal noise impact.
Objective 4E-3 Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building	**SATISFIES OBJECTIVE** • Private open space and balconies are designed to allow views and passive surveillance of the street whilst maintaining visual privacy and allowing for a range of uses on the balcony.
Objective 4E-4 Private open space and balcony design maximises safety	**SATISFIES OBJECTIVE** • The design and detailing of balconies avoids opportunities for climbing and falls. • Appropriate separation by way of levels or landscaping is provided between private and communal/public spaces.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
4F Common Circulation and Spaces **Objective 4F-1** Common circulation spaces achieve good amenity and properly service the number of apartments **Design Criteria** 1. The maximum number of apartments off a circulation core on a single level is eight 2. For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40 Longer corridors greater than 12m in length from the lift core should be articulated. Design solutions may include: • A series of foyer areas with windows and spaces for seating • Wider areas at apartment entry doors and varied ceiling heights Where design criteria 1 is not achieved, no more than 12 apartments should be provided off a circulation core on a single level	**SATISFIES OBJECTIVE** • Consistent with the ADG each circulation core services 8 or fewer apartments per level. • Each circulation core has access to natural light. • Each circulation core has access cross ventilation with 2 windows provided. • Additional amenity is provided to Building A with Landscape planters provided every second level to provide a green outlook.
Objective 4F-2 Common circulation spaces promote safety and provide for social interaction between residents	**SATISFIES OBJECTIVE** • Common circulation spaces are designed to provide safe, legible spaces that foster interaction and harmony between residents. • The lengths of circulation spaces are minimised as much as possible for clarity and ease of orientation.

OBJECTIVE	DESIGN RESPONSE
4G Storage **Objective 4G-1** Adequate, well designed storage is provided in each apartment • Storage is accessible from either circulation or living areas • Storage provided on balconies (in addition to the minimum balcony size) is integrated into the balcony design, weather proof and screened from view from the street • Left over space such as under stairs is used for storage **Design Criteria** 1. In addition to storage in kitchens, bathrooms and bedrooms, the following storage is provided: 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.	**SATISFIES OBJECTIVE** • All apartments accommodate a minimum of 50% of the required storage within the apartment / balcony space, with all apartments having storage in the car park making up the difference as a minimum. • Where possible, the minimum storage is provided within the apartment. • Storage for apartments meets or exceeds the minimum requirements of the ADG. Storage is maximised within each apartment.
Objective 4G-2 Additional storage is conveniently located, accessible and nominated for individual apartments	**SATISFIES OBJECTIVE** • Each apartment has a private, secure and accessible storage cage allocated within the carpark as part of the proposal.
4H Acoustic Privacy **Objective 4H-1** Noise transfer is minimised through the siting of buildings and building layout	**SATISFIES OBJECTIVE** • Adequate building separation is provided within the development and from neighbouring buildings/adjacent uses. • The development will achieve and exceed standards of acoustic privacy and ensure acoustic impacts on surrounding uses are mitigated. • Noisy areas within the proposed development including building entries and corridors are generally located above each other and habitable areas above each other. • Common areas are located above each other to consolidate higher activity areas and mitigate noise transfer to quieter areas. • Recessed balconies / winter gardens provide further sound reduction to the balcony and habitable rooms behind • Refer to the acoustic report for further details.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
Objective 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments	**SATISFIES OBJECTIVE** • Apartment layouts have been designed to group similar uses to ensure similar acoustic levels, bedrooms of adjacent apartments located next to each other, likewise with living areas. • Typically, bedrooms of adjacent apartments are located next to each other and likewise with living area. • Where achievable, storage, circulation areas and non-habitable rooms are located to buffer noise from external sources. • The party walls will be appropriately insulated in accordance with applicable requirements. • Winter gardens are proposed to the East facing Beecroft road. • A passive ventilator system will be implemented into apartments highlighted in the Acoustic report to ensure ventilation requirements are met while also mitigating noise from traffic. • Refer to the acoustic report for further details.
4J 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 Achieving the design criteria in this Apartment Design Guide may not be possible in some situations due to noise and pollution. Where developments are unable to achieve the design criteria, alternatives may be considered in the following areas: • Solar and daylight access • Private open space and balconies • Natural cross ventilation	**SATISFIES OBJECTIVE** • Cores have been located to the east of the development to minimise single aspect apartments facing Beecroft Road. • Winter Gardens are proposed to assist in usability of Private open spaces. • Loading and waste collection is provided internally to minimise noise. • Plant areas have been located away from apartments and will be treated with acoustic attenuators as recommended by the acoustic report. • Noisy areas at ground floor are recessed below awnings and/or separated by landscaped zones. • Refer to the Acoustic Report for further information.
Objective 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission	**SATISFIES OBJECTIVE** • The building will incorporate seals to prevent noise transfer through gaps, acoustic glazing, and other measures where necessary to attenuate noise impacts to apartments. • Dense materials are used in the façades, brick and concrete, providing good noise reduction; • Walls, glazing, and roofs are designed to meet the requirements of the acoustic report for sound mitigation;

OBJECTIVE	DESIGN RESPONSE
4K 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 Flexible apartment configurations are provided to support diverse household types and stages of life including single person households, families, multi-generational families and group households	**SATISFIES OBJECTIVE** • 126 apartments are provided. • A variety of apartment types will be provided, including 10% adaptable dwellings to meet the objectives of the DCP and 20% Livable dwellings to meet the objectives of the ADG. • A variety of apartment types are provided. This includes a range of 1-bed and 1 bed+study apartments from 50-60 sqm, 2-bed and 2 bed+study apartments from 75-87 sqm, and 3-bed and 3 bed+study apartments from 100 sqm. • A range of 2-storey and 3-bed maisonette apartments are located in the tower to cater to families. • Simple and open apartment planning allows for flexible layout configurations to suit varied lifestyles and age groups. • The proposed apartment mix and range caters to the current market demands and projected future demographic trends within the area.
Objective 4K-2 The apartment mix is distributed to suitable locations within the building	**SATISFIES OBJECTIVE** • Different apartment types have been located to achieve a successful facade composition and to optimise solar access. • The apartments of differing sizes are distributed throughout the development to cater to future market demands.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
4L Ground Floor Apartments **Objective 4L-1** Street frontage activity is maximised where ground floor apartments are located Direct street access should be provided to ground floor apartments Activity is achieved through front gardens, terraces and the facade of the building. Design solutions may include: • Both street, foyer and other common internal circulation • Entrances to ground floor apartments • Private open space is next to the street • Doors and windows face the street Retail or home office spaces should be located along street frontages Ground floor apartment layouts support small office home office (SOHO) use to provide future opportunities for conversion into commercial or retail areas. In these cases provide higher floor to ceiling heights and ground floor amenities for easy conversion	**NOT APPLICABLE**
Objective 4L-2 Design of ground floor apartments delivers amenity and safety for residents Privacy and safety should be provided without obstructing casual surveillance. Design solutions may include: • Elevation of private gardens and terraces above the street level by 1-1.5m • Landscaping and private courtyards • Window sill heights that minimise sight lines into apartments • Integrating balustrades, safety bars or screens with the exterior design	**NOT APPLICABLE**

OBJECTIVE	DESIGN RESPONSE
4M Façades **Objective 4M-1** Building façades provide visual interest along the street while respecting the character of the local area Building façades relate to key datum lines of adjacent buildings through upper level setbacks, parapets, cornices, awnings or colonnade heights	**SATISFIES OBJECTIVE** • There are a number of façade treatments, to distinguish different uses and respond to the environment. • Materials have been selected in response to the local context brick, steel and off form concrete are used within the development to relate to the existing character of the area • The building massing is stepped and articulated to enrich the facade frontages, break up the mass and bulk, and allow for a play of light and shadow • The façades are integrated with landscaping to provide a green and high amenity development.
Objective 4M-2 Building functions are expressed by the facade	**SATISFIES OBJECTIVE** • The building facade is informed by the particular programme and unit typology of the spaces within. • There is a clear base, middle and top. • Façades respond to the environment to maximise amenity. The stepped facade to the North West assist in capturing sunlight to living and balconies. The East includes winter-gardens with aneeta windows that shield noise. • Bay windows are introduced to provide rhythm to the towers.
4N Roof Design **Objective 4N-1** Roof treatments are integrated into the building design and positively respond to the street	**SATISFIES OBJECTIVE** • Roof treatments are integrated with the building design and materials to compliment the building form. • Service elements are integrated within the roof and facade design to provide a cohesive response to the street.
Objective 4N—2 Opportunities to use roof space for residential accommodation and open space are maximised	**SATISFIES OBJECTIVE** • Landscaped space is provided on roof tops of level 2, 3 and 8 to allow greater amenity to residents and outlook to green. • Habitable roof space is provided with good levels of amenity. • The Communal open spaces consider visual, wind and acoustic privacy, comfort levels, safety and security.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

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OBJECTIVE	DESIGN RESPONSE
Objective 4N—3 Roof design incorporates sustainability features	**SATISFIES OBJECTIVE** • Solar PV panel arrays are proposed for the roof of tower A. • Roof design maximises solar access to apartments during winter and provides shade during summer via overhangs that shade walls and windows from summer sun.
4O Landscape Design **Objective 4O—1** Landscape design is viable and sustainable	**SATISFIES OBJECTIVE** • Species will support local wildlife whilst providing canopies that will create shade minimising urban heat island effect and cooling the public domain during summer months. • Low growing, flood tolerant under-storey species have been selected to further define the public domain, provide habitat and assist with WSUD, avoiding obstruction of sight lines across the site and streets creating a safe and healthy environment. • Performance is enhanced by incorporating a diverse planting palette including appropriately planted shading trees and street trees to meet DCP requirements. • Refer to the landscape design package by Arcadia for further information.
Objective 4O—2 Landscape design contributes to the streetscape and amenity	**SATISFIES OBJECTIVE** • The proposal provides a public domain with activated frontages, opportunities for passive surveillance, generous setbacks, and street trees. • Refer to the landscape design package by Arcadia for further information.
4P Planting on Structures **Objective 4P—1** Appropriate soil profiles are provided	**SATISFIES OBJECTIVE** • The landscape concept allows for appropriate soil depths as per the ADG requirement. • The roof top and podium planters are designed to accommodate planting with 600mm to 1m depth of soil, sufficient for a small/medium size tree. • Refer to the landscape design package by Arcadia for further information.

Plant type	Soil Depth	Soil Area
Large Trees	1,200 mm	10 x 10m or equivalent
Medium Trees	1,000 mm	6 x 6m or equivalent
Small Trees	800 mm	3.5 x 3.5m or equivalent
Shrubs	500 - 600 mm	-
Ground Cover	300 - 450 mm	-
Turf	200 mm	-

OBJECTIVE	DESIGN RESPONSE
Objective 4P—2 Plant growth is optimised with appropriate selection and maintenance	**SATISFIES OBJECTIVE** • Diverse planting that are low in maintenance and suited to the site will be incorporated to enhance the performance of the landscaped areas • Refer to the landscape design package by Arcadia for further information.
Objective 4P—3 Planting on structures contributes to the quality and amenity of communal and public open spaces	**SATISFIES OBJECTIVE** Building design will incorporate opportunities for planting on structures including: • Green roofs, particularly where roofs are visible from the public domain and high level apartments to provide outlook to green from both the public and private domain. • Planter boxes • The landscape concept has been thoughtfully considered to benefit and enhance the quality of the communal open spaces, lobbies, ground level interfaces and apartments. • Building design incorporates opportunities for communal spaces and planting.
4Q Universal Design **Objective 4Q—1** Universal design features are included in apartment design to promote flexible housing for all community members Developments achieve a benchmark of 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features	**SATISFIES OBJECTIVE** • The development achieves 20% of the total apartments incorporating the Livable Housing Guideline's silver level universal design features.
Objective 4Q—2 A variety of apartments with adaptable designs are provided Adaptable housing should be provided in accordance with the relevant council policy	**SATISFIES OBJECTIVE** • Adaptable housing is provided in accordance with current Parramatta DCP (10% of apartments). • The proposal will provide the following: • Design solutions for adaptable apartments include: 1. convenient access to communal and public areas 2. high level of solar access 3. minimal structural change and residential amenity loss when adapted 4. larger car parking spaces for accessibility parking titled separately • Refer to Access Report for further information.

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OBJECTIVE	DESIGN RESPONSE
Objective 4Q—3 Apartment layouts are flexible and accommodate a range of lifestyle needs Apartment design incorporates flexible design solutions which may include: • Rooms with multiple functions • Dual master bedroom apartments with separate bathrooms • Larger apartments with various living space options • Open plan 'loft' style apartments with only a fixed kitchen, laundry and bathroom	**SATISFIES OBJECTIVE** Apartment design incorporates flexible design solutions which include: • Rooms with multiple functions. • Dual master bedroom apartments with separate bathrooms • Larger apartments with various living space options
4R Adaptive Re-Use **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**
4S Mixed Use **Objective 4S-1** Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement	**SATISFIES OBJECTIVE** • The development proposes a permeable and highly activated ground plane. • Ground Floor is dedicated to retail uses and communal uses for street activation; • 911m2 of public domain is provided with 88% of the ground plane activated • The existing pedestrian link to the south of the site is complimented with an outdoor terrace that becomes a extension of the laneway and provides a social gathering space for foot traffic. • A new Pedestrian through site link is proposed to the north of the site connecting Beecroft road to Rawson street. • The Existing Public lane to the West of the site is activated with Food and Beverage offings to create a "Eat Street" that can be further enhanced by future developments.
Objective 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents	**SATISFIES OBJECTIVE** • Safety and amenity is maximised for residents • Residents car parking and lift access is separated from retail parking and vertical transport, at basement level.

OBJECTIVE	DESIGN RESPONSE
4T Awnings and Signage **Objective 4T-1** Awnings are well located and complement and integrate with the building design	**SATISFIES OBJECTIVE** • Awnings and covered areas are provided around the perimeter of Ground Floor, provided protection to building entries and opportunities for retail outdoor uses.
Objective 4T—2 Signage responds to the context and desired streetscape character	**SATISFIES OBJECTIVE** • Signage will be limited to building identification, navigation and statutory signs. It will be designed to fit harmoniously in the architecture and to contribute positively to the area • Commercial/ Retail signage will be subject to future and separate Development Applications.
4U Energy Efficiency **Objective 4U—1** Development incorporates passive environmental design	**SATISFIES OBJECTIVE** • Natural light is provided to all habitable rooms. • Outdoor communal open space areas are designed to provide residents with a range of spaces offering flexibility and choice demonstrating a high level of passive environmental design. • The proposed development will incorporate the following measures: 1. Maximised operable windows 2. Sensors to control artificial lighting in common circulation spaces 3. VRV AC System 4. 4 star hydraulic fixtures 5. 3 star appliances 6. PV cells 7. Rainwater tank 8. Drought tolerant landscape design. 9. Car Share 10. EV charging 11. 204 bicycle spaces
Objective 4U—2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer	**SATISFIES OBJECTIVE** • The design includes passive solar design measures including overhangs, inset balconies, insulated walls, roofs and floors, and seals on window and external door openings.
Objective 4U—3 Adequate natural ventilation minimises the need for mechanical ventilation	**SATISFIES OBJECTIVE** • Natural ventilation is provided to all habitable rooms and typically, to all common areas and circulation spaces. • Where required for noise mitigation passive ventilators will be provided to ensure ventilation requirements are met.

RESPONSE TO THE APARTMENT DESIGN GUIDE OBJECTIVES

The following provides a design response to the relevant objectives of the Apartment Design Guide (ADG) and describes the measures by which the proposed development meets the relevant design criteria and design guidance.

OBJECTIVE	DESIGN RESPONSE
4V Water Management **Objective 4V—1** Potable water use is minimised	**SATISFIES OBJECTIVE** • The development will incorporate water efficient fittings, appliances and stormwater re-use.
Objective 4V—2 Urban stormwater is treated on site before being discharged to receiving waters	**SATISFIES OBJECTIVE** • WSUD principles are considered and incorporated.
Objective 4V—3 Flood management systems are integrated into site design	**NOT APPLICABLE** • Floodwater retention and detention tanks are not required for this development.
Objective 4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents	**SATISFIES OBJECTIVE** • Garbage collection will be from the internal loading area and is separated from residential areas. • Non-Residential and residential garbage rooms are separated. • A bulky-waste area for residents is included that is enclosed and directly accessible from the waste loading area. • Refer to waste management report and traffic report for more detail.
Objective 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling	**SATISFIES OBJECTIVE** • Communal waste chutes are provided for residents in convenient and accessible locations along the corridors related to each core. • Recycling bins are enclosed in separate cupboards on each level adjacent to the waste chutes. Building management will be responsible for the emptying and rotation of the recycling bins on each level. • Waste and recycling storage areas will be well ventilated and have durable and washable finishes • All dwellings are designed to have sufficient internal space for the holding of waste and recycling as required under DCP.
4X Building Maintenance **Objective 4X-1** Building design detail provides protection from weathering	**SATISFIES OBJECTIVE** • Building materials selected are high quality and robust to withstand the demands of the environment and to weather gracefully. • Painted and applied finishes are minimised.

WATSON

DRIVE THRU

3.2 DEVELOPMENT SUMMARY

3.21 DEVELOPMENT SUMMARY

Summary

Site Area	2,990	sq m		
Overall Building FSR	6.00	:1		
Number of Storeys	Lobby A = 22	Lobby B = 20		
Size range / 1 Bed Apartment	50	-	61	sq m
Size range / 2 Bed Apartment	52	-	95	sq m
Size range / 3 Bed Apartment	75	-	103	sq m
Percentage of 1 Bedroom Apartments	29%			
Percentage of 1 Bed Apartments + Study	16%		44%	
Percentage of 2 Bed Apartments	22%			
Percentage of 2 Bed Apartments + Study	24%		46%	
Percentage of 3 Bed Apartments	1%			
Percentage of 3 Bed Apartments + Study	9%		10%	
>2hrs solar mid winter sun	78.6%			
<15 Minutes mid winter sun	6.3%			
Cross Vent	60.9%			
Nett Internal Area for Residential	9,320	sq m		
NSA/GFA	73.4%			
Total Number of 1 Bedroom Apartments	36	units		
Total Number of 1 Bed Apartments + Study	20	units	56	
Total Number of 2 Bed Apartments	28	units		
Total Number of 2 Bed Apartments + Study	30	units	58	
Total Number of 3 Bed Apartments	1	units		
Total Number of 3 Bed Apartments + Study	11	units	12	
Total Number of Apartments	**126**	units		
Retail GFA	3,273			
Total Commercial GFA	1,855	sq m		
Communal GFA	108			
Residential GFA	12,704	sq m		
Total GFA	**17,940**	**sq m**		
Car Park				
Retail Parking	46			
Commercial Parking	48			
Residential Parking	78			
Residential Visitor Parking	18			
Car Share	2			
Carwash Bay	1			
Total	**193**	**car spaces**		
Bicycle parking	204			
Motorcycle Parking	15			

% LHDG Silver Level	23%
% Adaptable units	10%

Apartment Configuration and Amenity Analysis > Overall Summary

Apartment Yield

Apartment Type	No. of Apartments	% Mix		Net internal (m2)	Net External (m2)	Average Internal	Average External
1 Bedroom	36	28.6%		2,001	373	55.6	10.4
1 Bedroom +	20	15.9%	44%	1,190	241	59.5	12.0
2 Bedroom	28	22.2%		2,211	332	79.0	11.9
2 Bedroom +	30	23.8%	46%	2,616	392	87.2	13.1
3 Bedroom	1	0.8%		100	13	100.0	13.0
3 Bedroom +	11	8.7%	10%	1,202	155	109.3	14.1
First 9 storeys	64						
Total	126	100.0%	100.0%	**9,320**	**1,505**	**74.0**	**11.9**

Apartment Amenity (Reference to Apartment Design Guide)

Apartment Type	Natural Vent	Solar (LIV)	Solar (BY)	NDS 9am-3pm	Adaptable	Livable Housing (Silver)	Lift
1 Bedroom	9	24	21	0	10	13	36
1 Bedroom +	3	16	15	0	0	0	20
2 Bedroom	13	20	23	4	0	4	28
2 Bedroom +	14	26	28	4	2	6	30
3 Bedroom	0	1	1	0	0	1	1
3 Bedroom +	0	11	11	0	1	5	11
Total	39	98	99	8	13	29	126
	61%	78%	79%	6%	10%	23%	100%

Basement Storage Required 52 cages

NOTES Abbreviations

Solar (LIV):	Apartment achieves minimum ADG requirements for solar access to primary living space
Solar (BY):	Apartment achieves minimum ADG requirements for solar access to primary outdoor space
Cross Vent:	Apartment achieves minimum ADG requirements for cross ventilation
Lift:	Lift access provided to apartment
Adaptable:	Apartment has been designed to be adaptable
Livable Housing:	Apartment has been designed to the Livable Housing standards
NDS:	Apartment receives no direct sunlight in mid winter between 9am and 3pm

Parking Analysis > Requirements

Vehicle Parking Requirements

Residential Apartment Type	**Max DCP Parking Rate**	**DCP Requirement** No. of Apartments			**Proposed Supply**
1 Bedroom	0.4	36	14.4		
1 Bedroom +	0.4	20	8.0		
2 Bedroom	0.7	28	19.6		
2 Bedroom +	0.7	30	21.0		
3 Bedroom	1.2	1	1.2		
3 Bedroom +	1.2	11	13.2		
Subtotal		**126**	**78.0**		**78**
Residential Visitor	1 per 7dwellings		18.0		18
Commercial	1/50sqm GLFA	1710	34.2	53	48
Gym/ Medical	1/50sqm GLFA	958	19.2		
Food & Beverage	1/30sqm GLFA	1,321	44.0	57.8	46
Retail	1/30sqm GLFA	412	13.7		
Subtotal			**111.1**		
Car Share	1 space with 50 or < dwellings	126	1.0		2
Carwash Bay			1.0		1
TOTAL Parking			**208.1**		**193**

Ancillary Parking Requirements

	Rate	**% of**	**Subtotal**	**Proposed Supply**
Residential Adaptable	100%	13	13	13
Accessible Visitor	2.0%	18.0	0.4	1
Commercial Accessibile	2.0%	34	0.7	2
Retail Accessibile	2.0%	76.9	1.5	2
TOTAL Accessible/Adaptable Bays			**15.6**	**18.0**

Motorcycle Parking

	Rate	**% of**	**Subtotal**	
Commercial	1 space with 25 car spaces	48	2.4	3
Retail	N/A			10
Residential	N/A			2
TOTAL			**2.4**	**15.0**

Bicycle Parking

	Rate	**% of**		
Residential	100%	126	126.0	126
Visitor	10%	126	12.6	14
Retail/ Commercial	1 Per 200m2 GLFA	4401	23.5	64
TOTAL			**162.1**	**204.0**

59-77 BEECROFT ROAD & 72 RAWSON STREET, EPPING

DESIGN REPORT

TURNER LYON GROUP AUSTRALIA