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DRAFT GREEN TRAVEL PLAN

378-390 Pacific Highway - Crows Nest Futuro Capital



Designing for country

We would like to acknowledge the Cammeraygal people of the Eora Nation, the traditional custodians of this land and pay our respects to the Elders both past and present

Each and every project is an opportunity to engage and respond to Aboriginal cultural connections to Country. By respecting and celebrating the value and significance of both Aboriginal heritage and contemporary Aboriginal culture our built environment is enriched and anchored into its specific location, its stories and varied experiences.

Executive Summary

This is a Planning Proposal & Concept Urban Design Report, for consideration the potential urban envelope for plot 378-390 Pacific Highway in Crows Nest.

Included within is an outline summary of the objectives provided in both the St Leonards Crows Nest 2036 Plan (the SLCN Plan) and the North Sydney Council DCP for Commercial & Mixed Use Development. Further is the exploration for a recommended building envelope considerate of these guidelines and suggests opportunities towards achieving the optimal solution from an Urban standpoint.

Basic planning and area calculations are included although indicative at this stage and are subject to further Architectural development.

The overall configuration of the design is compliant with the 2036 Plan and results in a 24 storey building with a top RL of 175.4m

The built form is broken into a four storey podium housing a commercial offer of 2618m² GFA which equates to 2 : 1 FSR, four levels of amenities have been provided between the podium and the residential tower form which offers 86 apartments at 7200m² GFA for an FSR of 5.5 : 1 over 16 floors.

7200m² Residential GFA

2618m² Commercial GFA

87 Apartments

Overall FSR of 7.5 : 1



Contents

01 Existing Conditions

02 The Base

03 Northern Development Scenarios

04 The Tower



WILLOUGHBY LGA

LANE COVE LGA

Crows Nest/
St Leonards
Planning Area

NORTH SYDNEY COUNCIL

Crows Nest/
St Leonards
Planning Area

Wollestonecraft/
Waverton
Planning Area

Pacific Highway

Hume Street

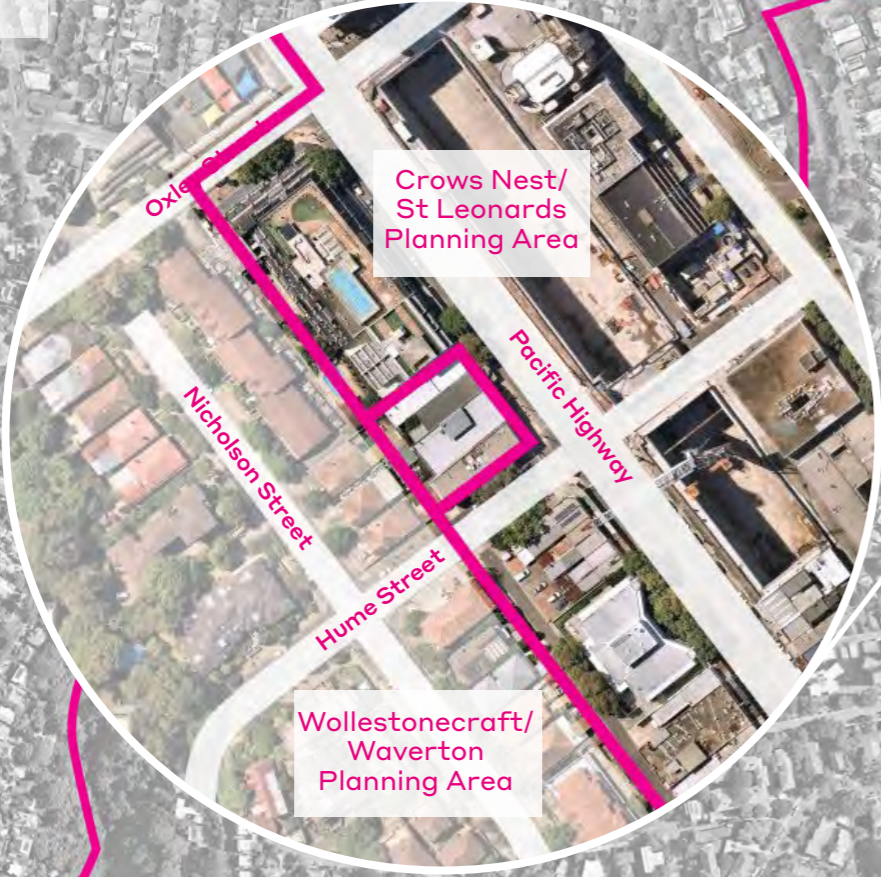
Pacific Highway

Oxley Street

Nicholson Street

Hume Street

Pacific Highway



Site History - Shaped By Transport



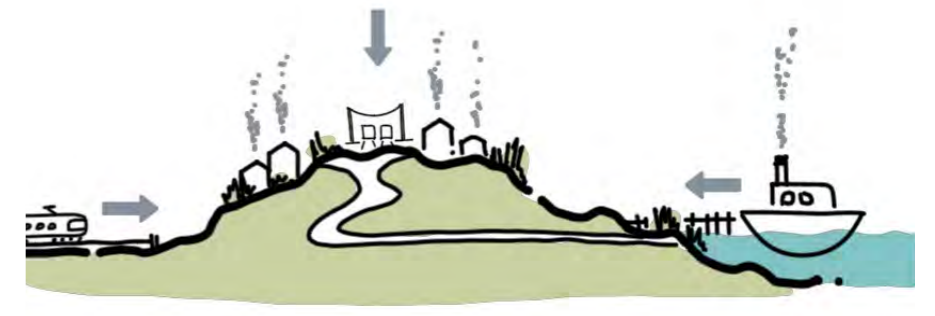
Nature & First Nation Peoples

- Sydney Harbour North Shore, rocky undulating shoreline rising to the north with trees, bush & moderately deep waters
- Trails navigating the rugged landscape along ridgelines that in later years become more significant thoroughfares
- Rock Shelters for fishing & cooking



Early European Settlements

- Crows Nest Cottage established atop the hills in early 1820's as part of the Wollstonecraft/Berry Estate



Expansion & Interconnectivity

- Crows Nest area is expanded with the north shore rail line in the 1890's
- Early 1900's connectivity around Crows Nest is increased by car, rail & trams
- Existing trails along ridgelines become highways for transport

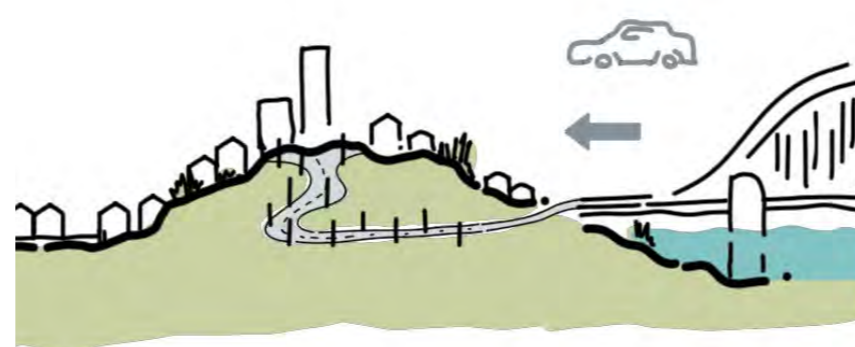


Site History - Shaped By Transport



Opening of Sydney Harbour Bridge

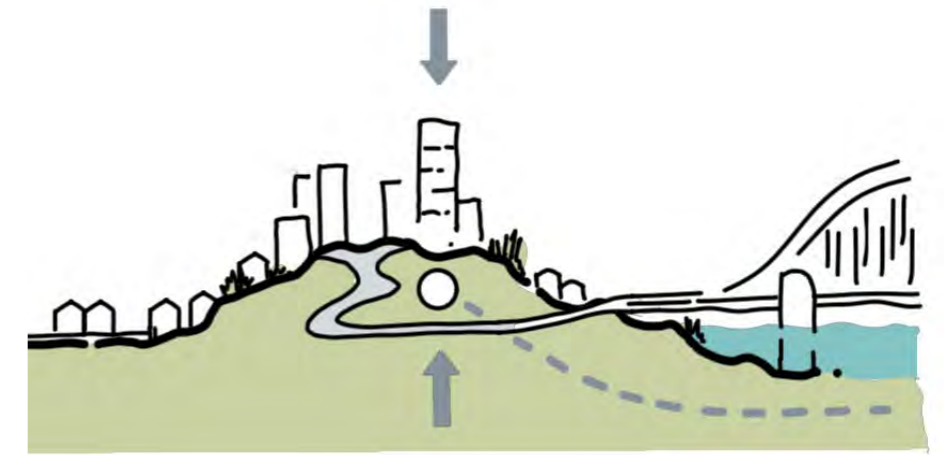
- Active settlement of Crows Nest began in 1932 with the opening of the Sydney Harbour Bridge.
- The idea for the bridge was spurred into reality following the construction of Sydney Central Station in 1906 and ambitions to further expand the rail network.



Warringah Freeway

- Introduction of the Warringah freeway in 1968 made the area more built around car-centric travel
- Highway lines follow the old ridge access trails

Present Day



Introduction of Metro & 2036 Plan

- Metro line to be built, reducing the reliance on the car
- A return to Pedestrian friendly living & urban spaces
- The 30 minute City



01



Existing Conditions

Planning Objectives Checklist

2036 DOP Development Plan

THE PLAN - EXPLANATORY VISION

Quotes from General Objectives	WB Comment
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Streetscape & Pedestrians

"New development offers opportunities for improvements to public places including plazas, activated laneways and safe, well designed well-designed pedestrian links."



Open Spaces

"High quality and variety of public open spaces is valued highly within the community. The Plan is supported by a Green Plan which identifies open space opportunities for implementation as part of this Plan and aspirational, long term projects for future investigation."



Mixed & Active

"New offices and apartments together in this cluster of mixed-use development will create a vibrant, high amenity atmosphere and ensure the area between the stations is activated during the day, in the evenings, and on weekends."



Activated Retail

Retail and leisure activities in the area are varied and reflect the area's diverse character. The Plan supports the retention and expansion of the boutique retail and hospitality character of the area.



The 30 Minute City

Planning should deliver a '30 minute city', where people can travel to work, school, services and recreation within 30 minutes from home.

North Sydney Council DCP

SECTION 2 - COMMERCIAL & MIXED USE DEVELOPMENT - 2.1.1 General Objectives

Extracted DCP General Objectives Index	
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O5 Are designed to contribute positively to their surroundings and particularly to diversity, vitality, social engagement and 'a sense of place'.

O6 Provide active street frontages both during the day and night.

O8 Provide an acceptable level of amenity to residents living within and adjoining centres.

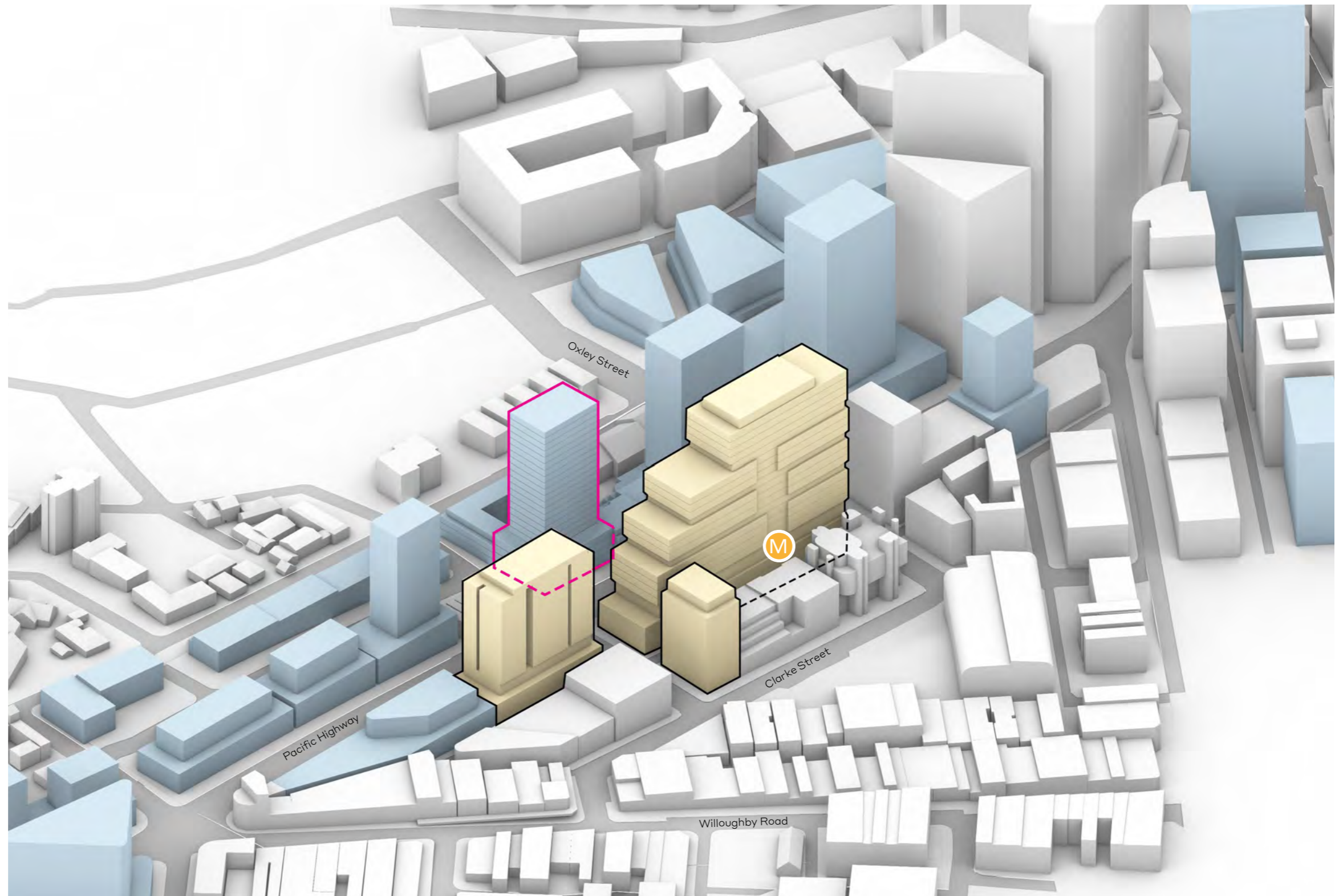
O9 Are designed to mitigate against the extreme impacts of the sun, wind and rain.

O10 Provide adequate natural light to buildings, public places and streets.

O16 Soften the highly urbanised landscape by introducing water and greenery.

O18 Contribute to attractive and well designed public open spaces to service increased population of the area.

Pacific Hwy 2036 Urban Plan



378-390 proposed massing



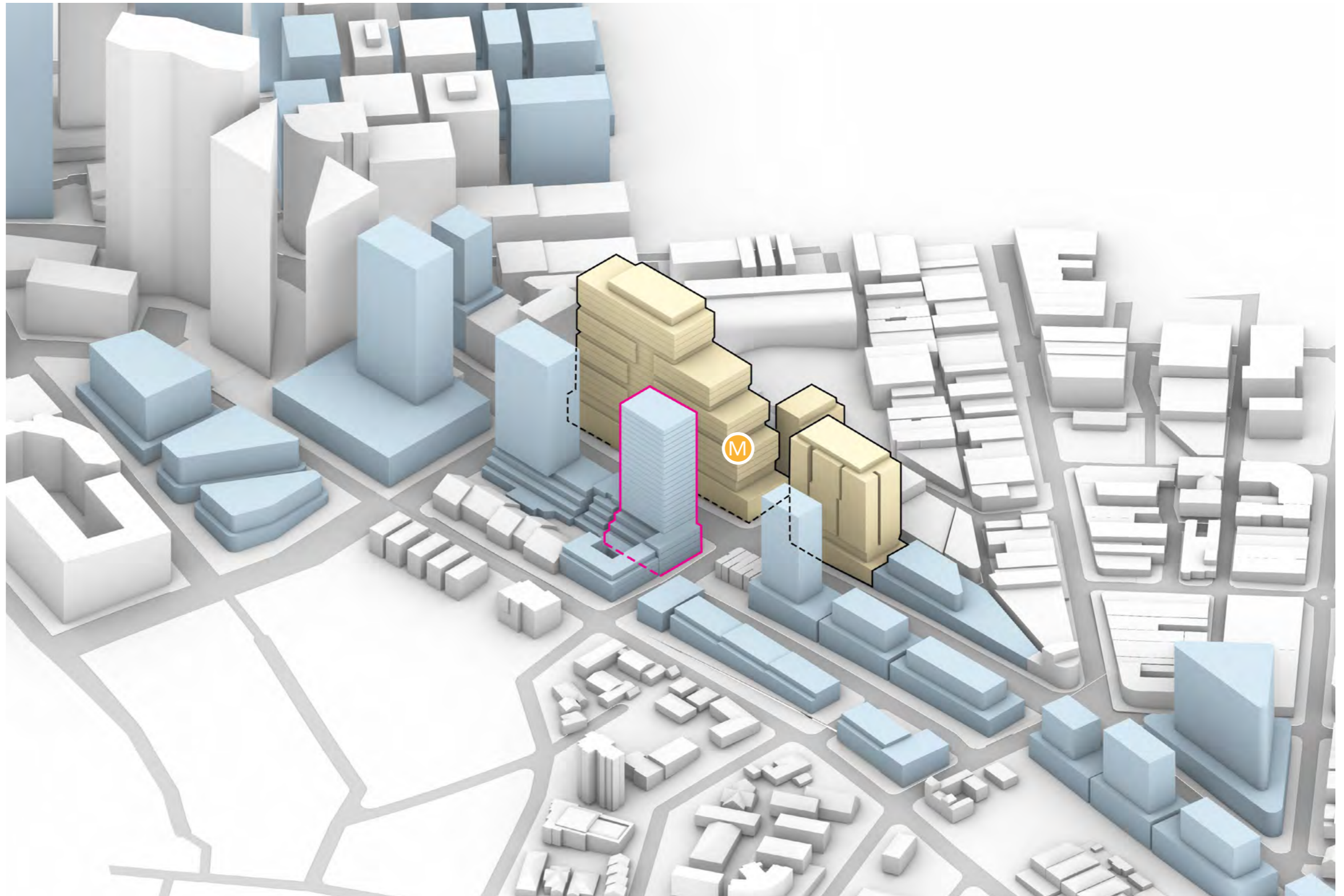
Metro and OSD under construction



Developments proposed in the 2036 Plan



Pacific Hwy 2036 Urban Plan



Urban Design Principles

01. Feet First

Making the environment inclusive and safe.

Prioritize the pedestrian and facilitate active transportation.

Today

- Car-dominant urban realm
- Unsafe environment for Bikes & Pedestrians
- Air & Noise Pollution



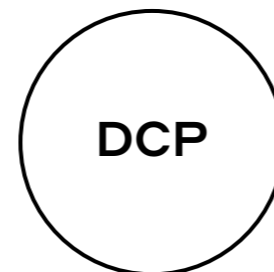
Catalysts



New Metro Link



The 2036 Plan

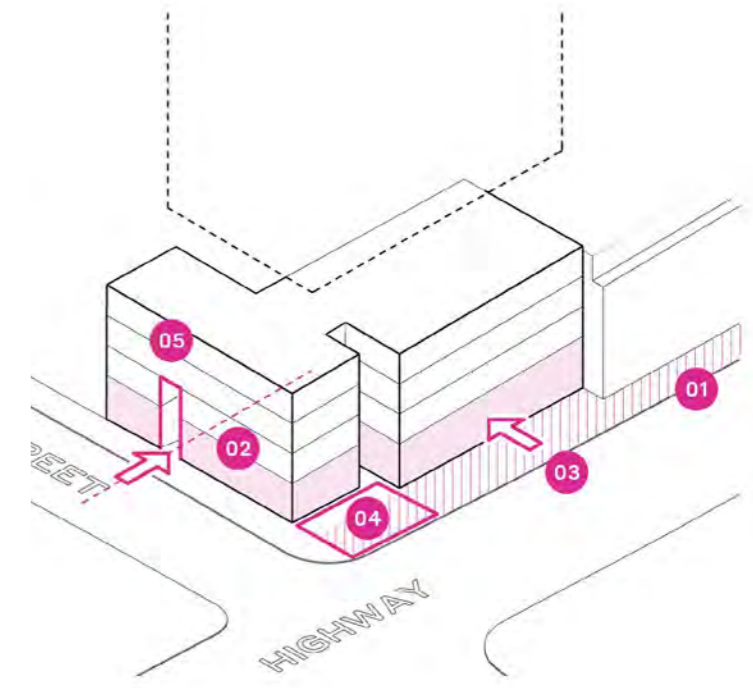


North Sydney Council DCP



Future

- 01. The pedestrian experience is brought to the fore.
- 02. Activated frontage to each street provide passive surveillance.
- 03. Level access to each façade to provide equity to each entrance.
- 04. Provide space for street activity
- Clear hierarchy of routes from Pacific Highway (commercial and major F&B), Hume Street (residential and fine grain retail) and laneway (providing quieter entrance off Pacific Highway)



02. Sense Of Place

The first four floors of the street make the place.

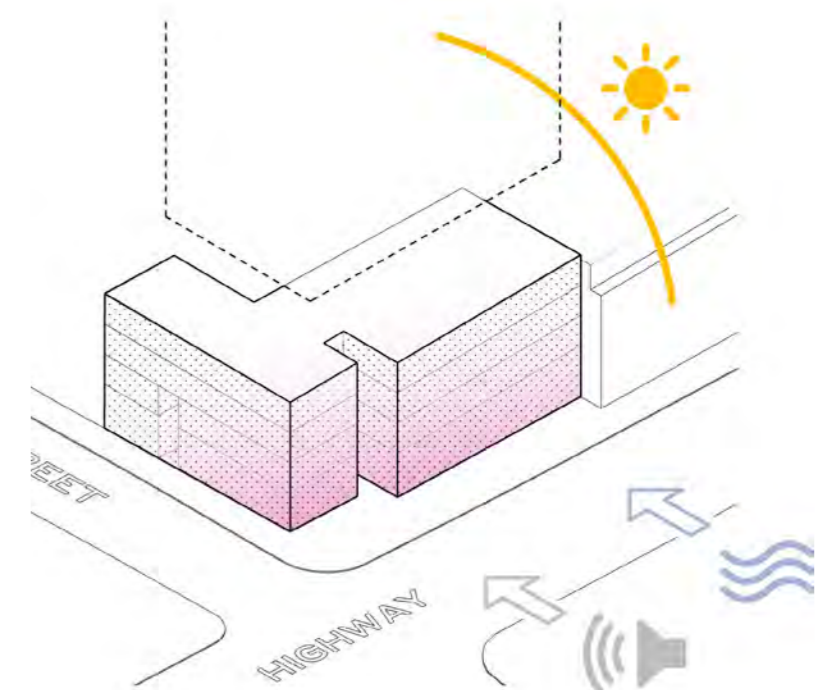
Today

- Current buildings are generic and could be anywhere in the world.
- No relationship to street, scale or orientation.



Future

- Undertake deep study of the site to understand evolution pre-European to today.
- Anchor in place with local materials traditional to context that improve with age.
- Envelope, arrangement and massing informed by environmental performance to reduce energy use from the outset- a site specific response.
- Develop an architecture of visual solidity to anchor the building to the site.



Urban Design Principles

03. Nature Abundant

Loosen the reins under which we hold nature.

Celebrate ecology and our place within.

Today

- Exposed & shallow sidewalks with an over-reliance on hardscaping.
- A shortage of street trees, needed for providing wind buffering & shade in summer.



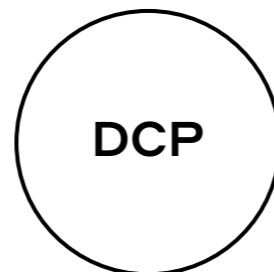
Catalysts



New Metro Link



The 2036 Plan

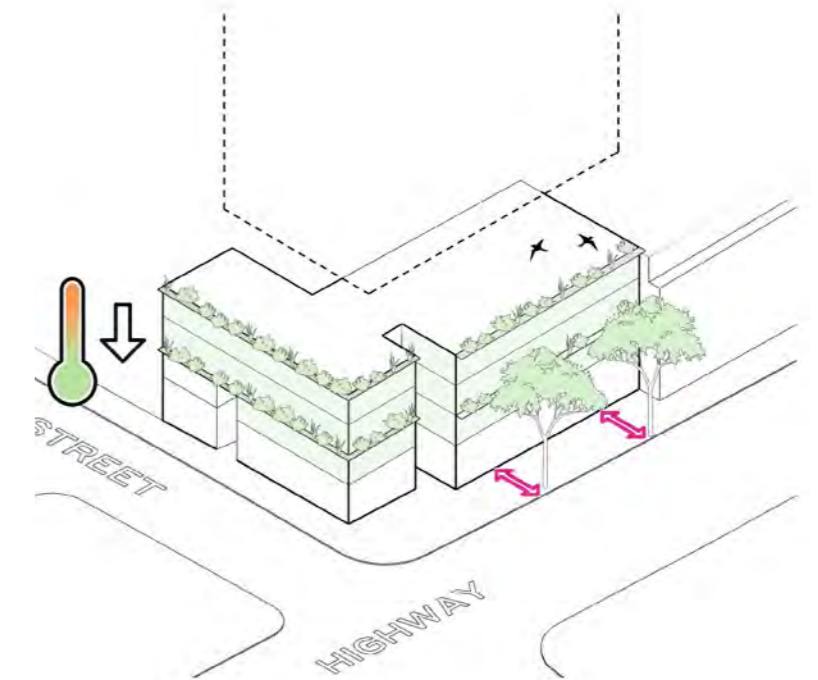


North Sydney Council DCP



Future

- Building set back to allow street trees to thrive.
- Future vehicle electrification brings to life reincarnation of Pacific Highway as a tree lined urban boulevard.
- Maximise opportunities within building for extensive climate appropriate planting within soil, for climate resilience and a habitat for birds and insects.
- Benefits for local environmental quality, well-being and ecology.



04. Enabling the 18 Hour City

Creating the stage, buildings and urban realm to allow all uses to thrive.

A range of spaces and building forms to allow every a variety of uses.

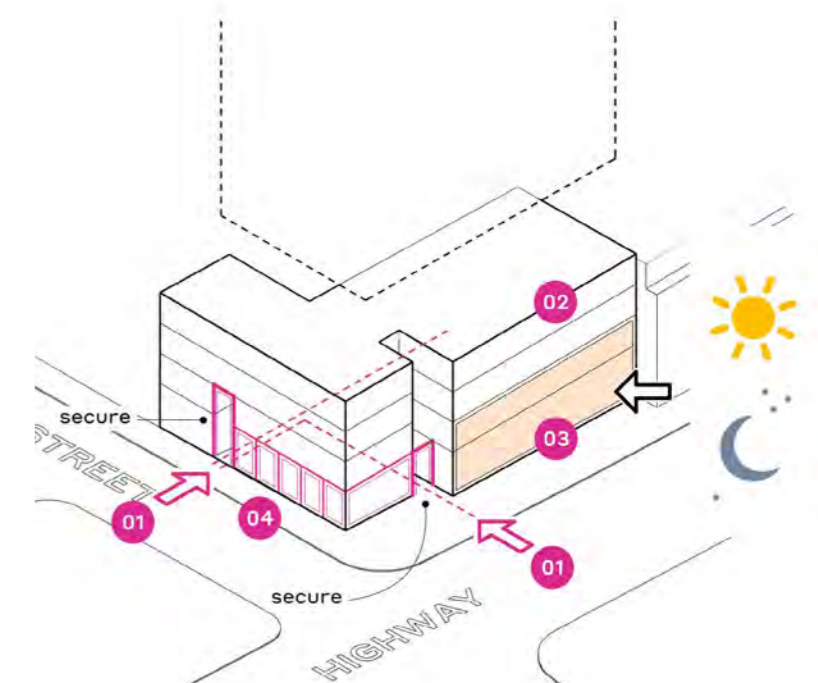
Today

- An over-abundance of closed frontages with limited accessibility, such as gyms, showrooms and vehicular entrances.
- Mostly daytime active, recessed entrances create anti-social spaces at night.



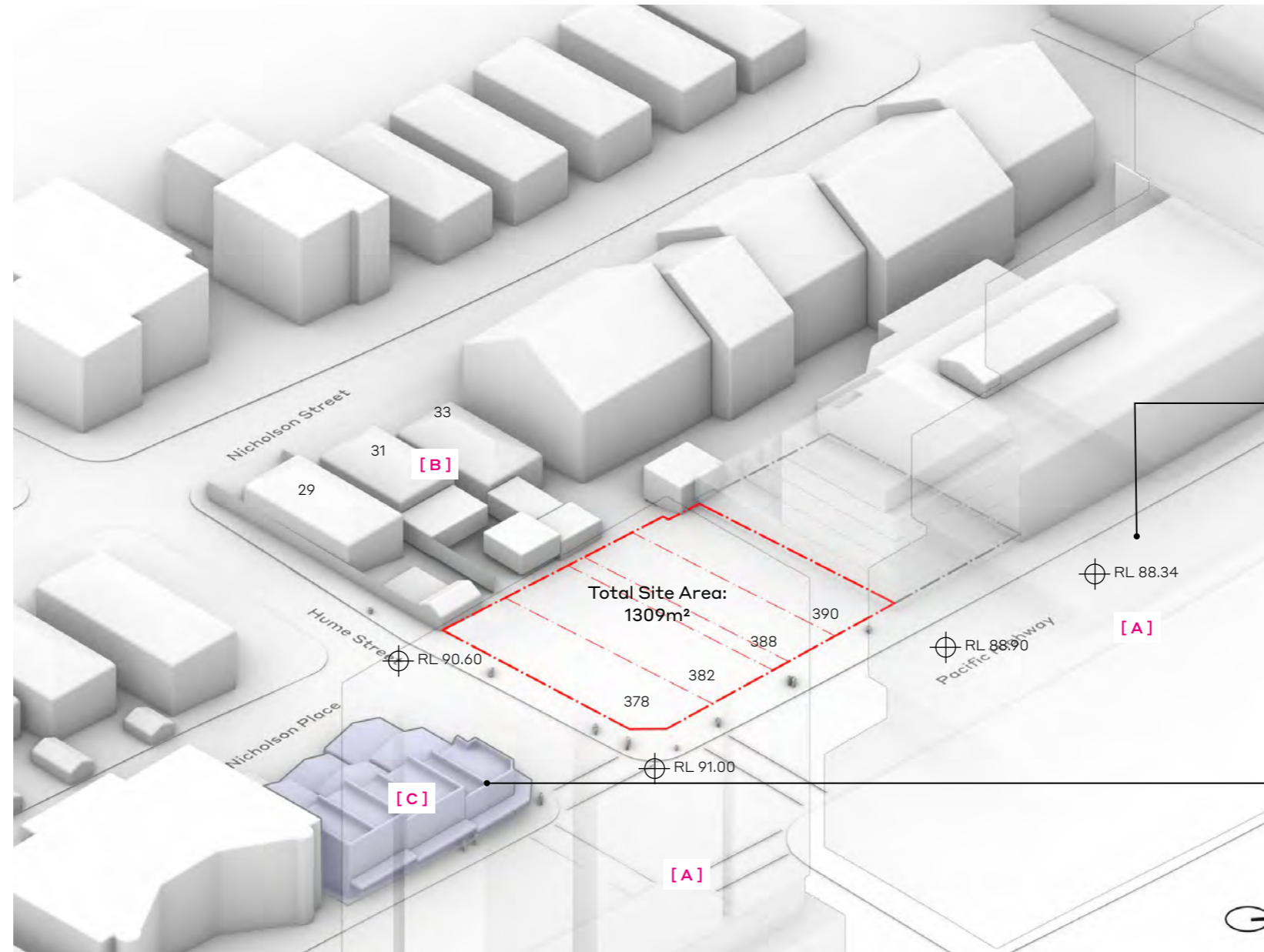
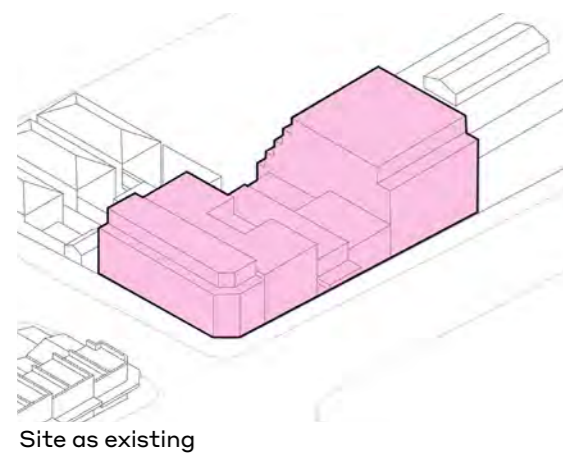
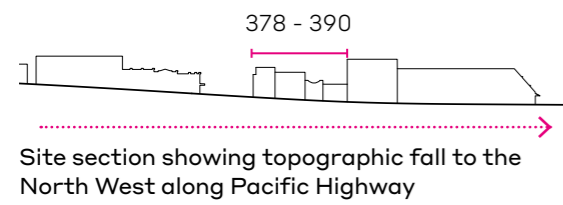
Future

- 01. Residential & commercial entrances that are open during the day and secure in the evenings, access and egress with no disturbance to neighbours hile providing space for greeting and waiting for transport pickup.
- 02. Daytime active office spaces, with natural light & mixed mode ventilation.
- 03. Discreetly entered F&B offerings that activate the street during the day and in the evening.
- 04. Fine grain retail to activate secondary street frontages.
- Evolution to a streetscape of mixed uses.

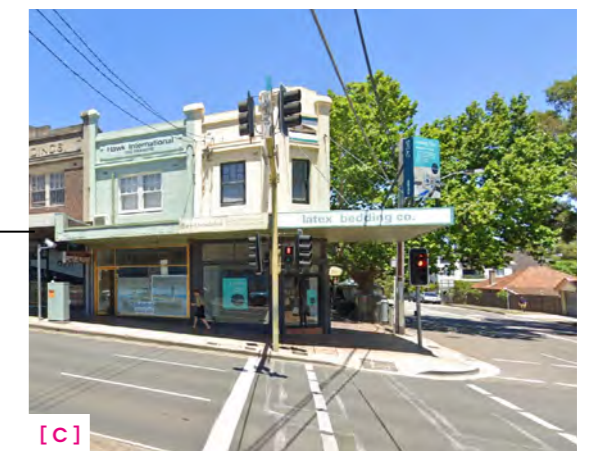


Site

- 378 - 390 Pacific Highway
- Lot numbers: 577047, 4320 sec 32, 573543, 663560, 177051
- Consolidated Site Area: 1309m²



- A** Neighbouring over station development
- B** Possible future residential development
- C** Heritage listed Higgins Building



Regulatory Document

As Stated

WB Comment

2036 DOP Development Plan

North Sydney Council DCP

Existing Conditions on Pacific Highway



3 Storey commercial building with ground floor retail and garage access on Hume Street
 ✗ No passive surveillance offered during night time hours



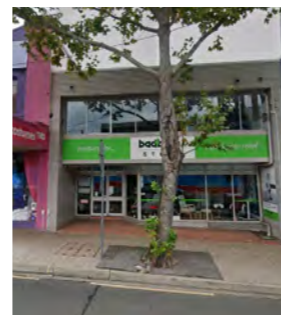
3 Storey commercial building housing fitness centre
 ✗ Basement garage accessed directly off Pacific Highway
 ✗ No at grade entrance - not accessible



2 Storey commercial with ground floor retail
 ✗ Disconnected awning



2 Storey commercial with ground floor retail setback from site boundary
 ✗ Street planting creates unsafe narrow footpath



Ground floor retail housing 24/7 gym, with 4 storeys of residential above
 ✗ Access to basement garage directly off Pacific Highway
 ✗ Garbage directly stored on street



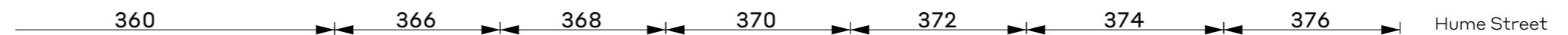
Ground floor retail with 3 storeys of residential above
 ✗ Inset residential lobby faces directly onto Pacific Highway
 ✗ Full length awning eliminates street planting opportunities



Heritage Item - Higgins Building

366-376 Pacific Highway

- Group of six shopfronts dating to 1923
- Two storey brick and rendered masonry commercial building with shoptop offices and residences above
- Inter War Free Classical style with Victorian attributes
- Ground floor significantly altered, however upper levels retain heritage integrity
- Small scale street development is largely representative of what was the emerging commercial nature of Crows Nest at the time



3 storey commercial building with ground floor retail with generous Pacific Highway planting.

- ✗ Architectural style insensitive to neighbouring heritage buildings

2 storey commercial building with double frontage ground floor retail

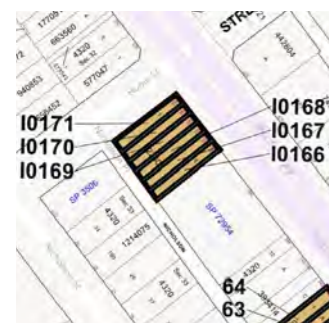
- Ground floor facade poorly preserved, finished in unoriginal tiles
- Second storey white painted brick facade

2 storey commercial building, two ground floor retailers

- Second storey exposed brick facade with well preserved parapet and pediment

2 storey commercial building, two ground floor retailers

- Entrance to retail on chamfered corner
- Awning, with pressed metal underside, wraps around onto Hume Street



- Listed as General Heritage Items in the 2013 North Sydney Council DCP

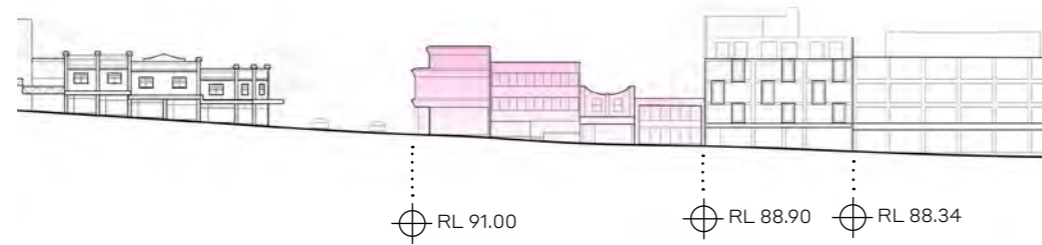
- Item numbers 10166, 10167, 10168, 10169, 10170, 10172

General Heritage Item

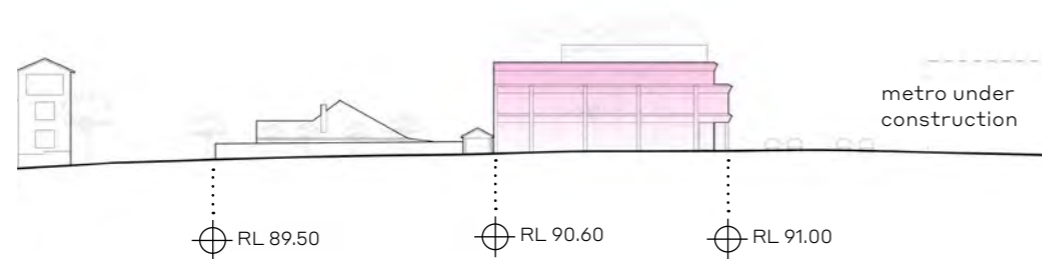


Existing Site

Street Elevations

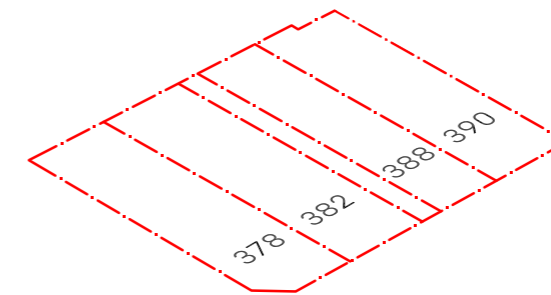


Pacific Highway - Existing



Hume Street - Existing

378-390 Pacific Highway



378

3 Storey commercial building with ground floor retail and garage access on Hume Street
 - Site Area: 337m²

390

2 Storey commercial with ground floor retail setback from site boundary
 - Site Area: 308m²

382

3 Storey commercial building housing fitness centre
 - Site Area: 413m²

388

2 Storey commercial with ground floor retail
 - Site Area: 345m²

02

The Base of 378-390 Pacific Highway is a commercial area of 2618m² GFA at an FSR of 2 : 1. It will offer a mix of large and fine grain sized retail premises.

As a key corner site, The Base form opens up to the intersection, contributing additional public space to cater for the expected future activation at the intersection by the upcoming metro development.

The West boundary of the podium has been designed to be compliant with the DCP, with a stepped form that matches the existing condition of the current neighbouring properties along Pacific Highway including the directly adjacent property to the North, the details of which will be explored in more detail as part of this section.

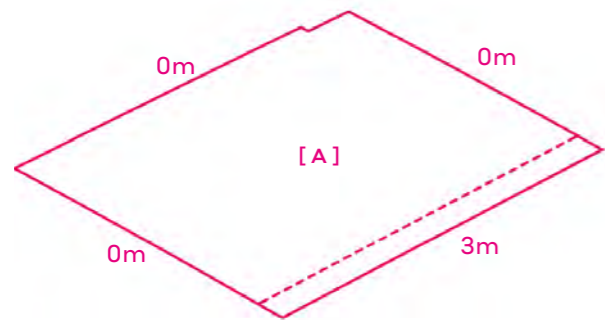
This design will also suggest a significant green microclimate with deep soil planting for taller trees to avoid becoming a heat island and to provide privacy and protection between the street and the tower.



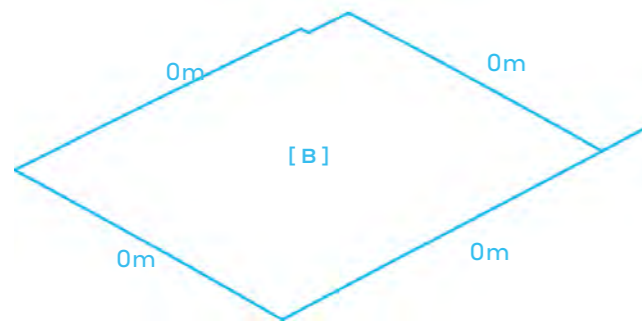
The Base

Engaging The Street

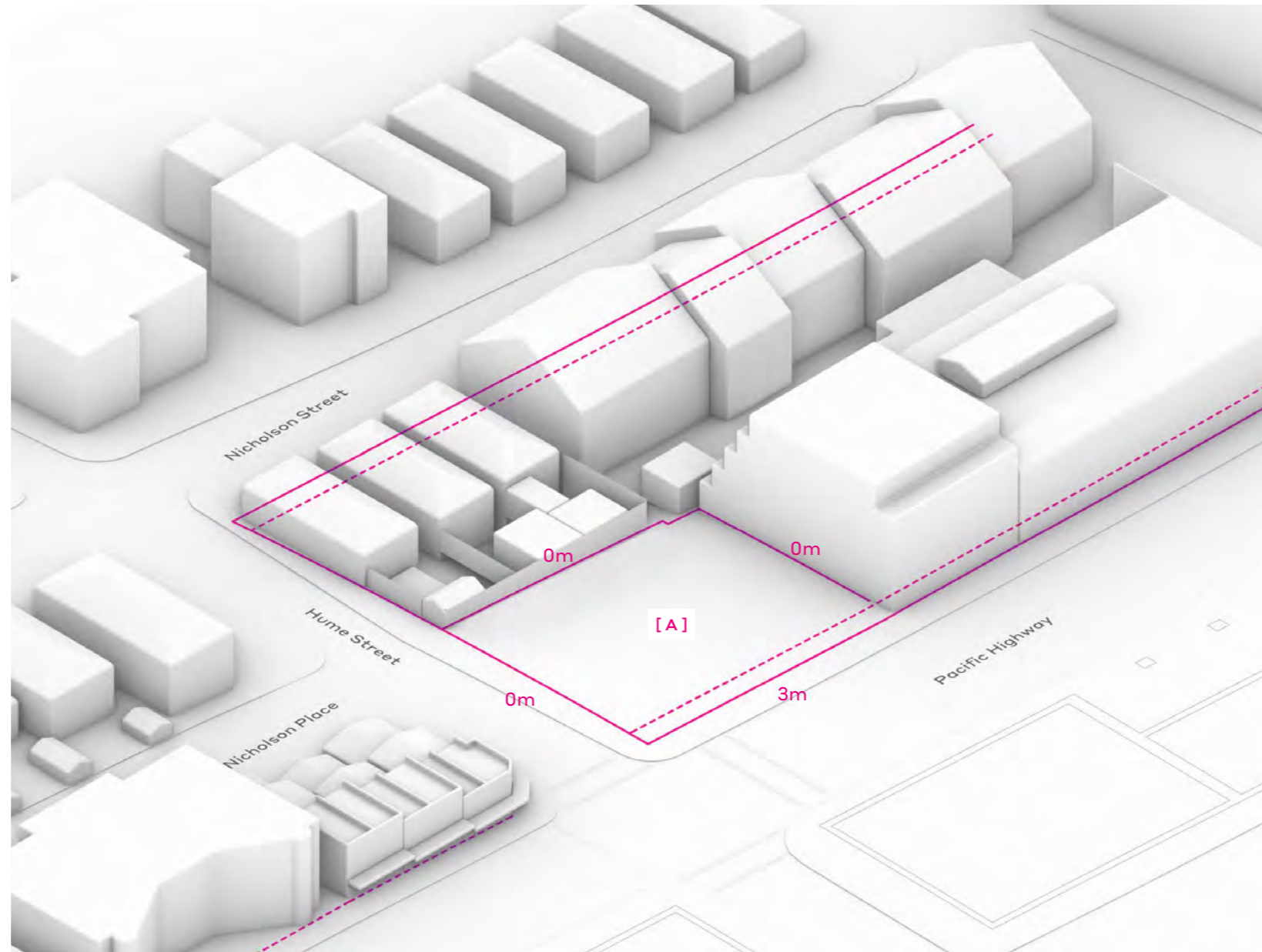
Setbacks



Plot setbacks as per 2036 Plan



Plot setbacks as per DCP.



- A Setbacks as per 2036 plan - Indicated as 3m along Pacific Highway up until Hume Street.
- B Setbacks as per DCP regulations.

Setbacks

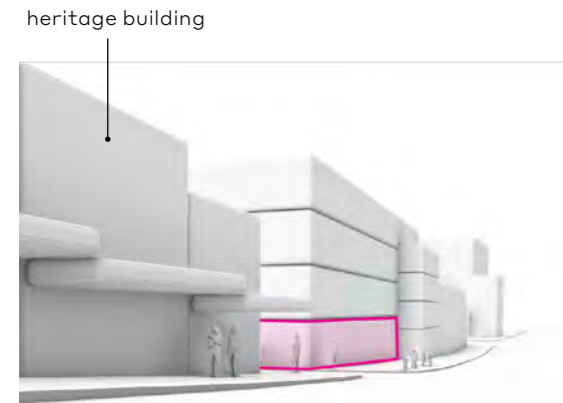
- 3m reverse setback
- 1m reverse setback
- 0m setback
- 3m setback
- 5m setback



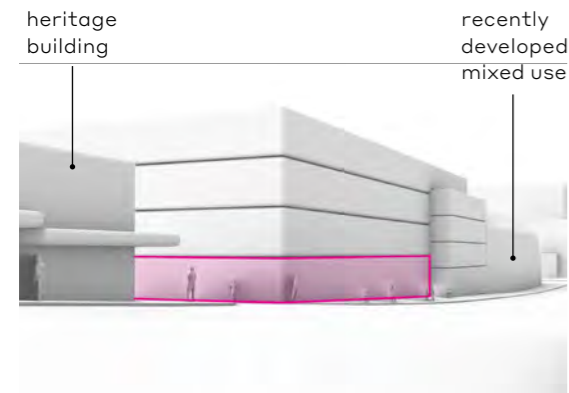
Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	- p70 Setbacks Map, setbacks indicated broadly as 3m along Pacific Highway.	- Apparent discrepancy between 2036 plan (indicated as 3m) and DCP (as 0m)
North Sydney Council DCP	- Part C 3.1.3 Figure C-3.2 Building Setbacks Map, 0m setbacks shown.	

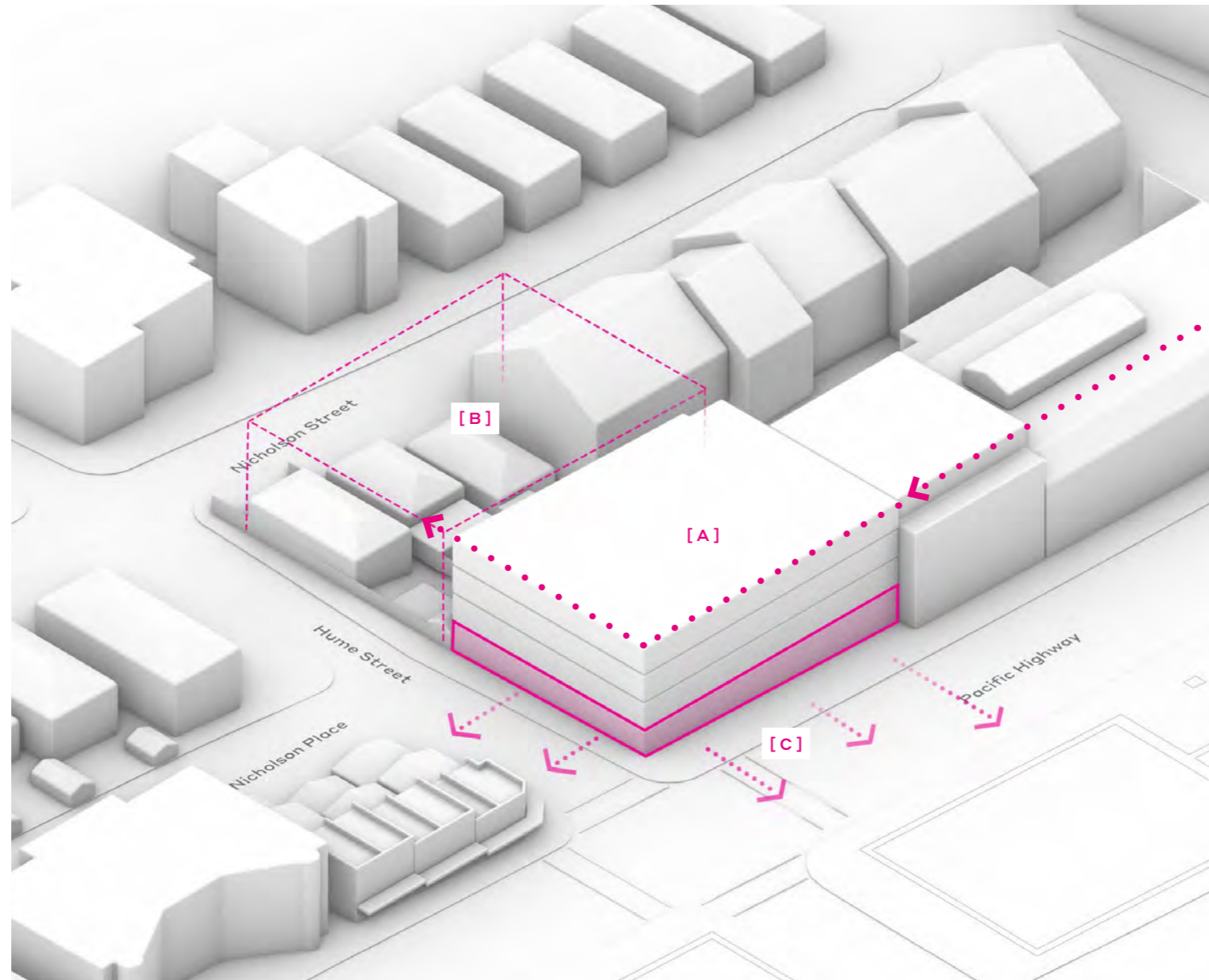
Podium



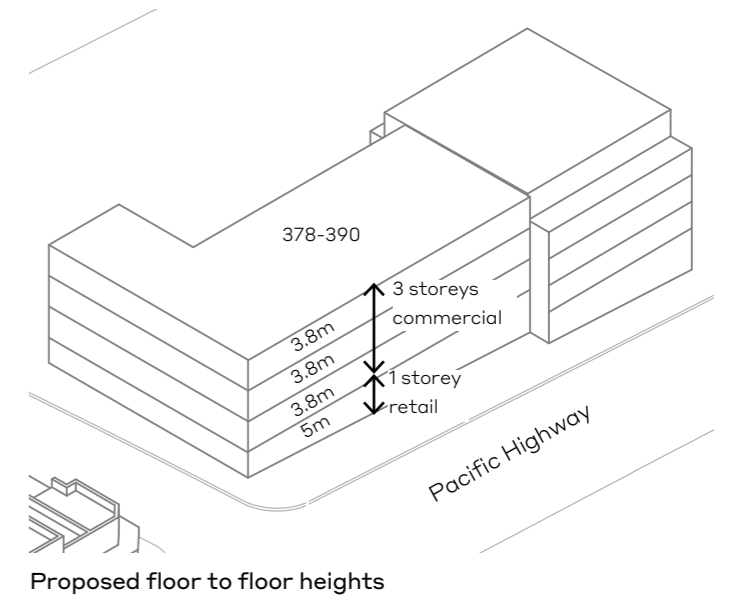
View North West along Pacific Highway



View North West along Pacific Highway



- A Podium built to 4 storey height
- B Possible future residential development
- C Street activation



Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	- p69 Street wall height is nominated to be 4 storeys.	
North Sydney Council DCP	- Part C 3.1.3 P8 Podiums are to be provided in accordance with the building podiums map *Podiums map indicates 4 storey podium. - Part C 3.1.3 P9 Despite P8, corner sites are to maintain a consistent podium height to all street frontages to achieve consistent built form.	

DCP Height Plane

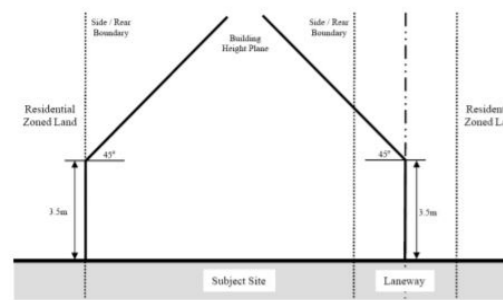
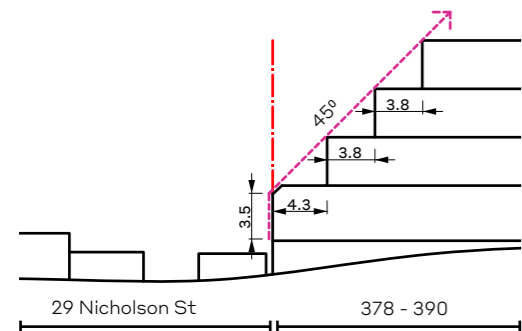
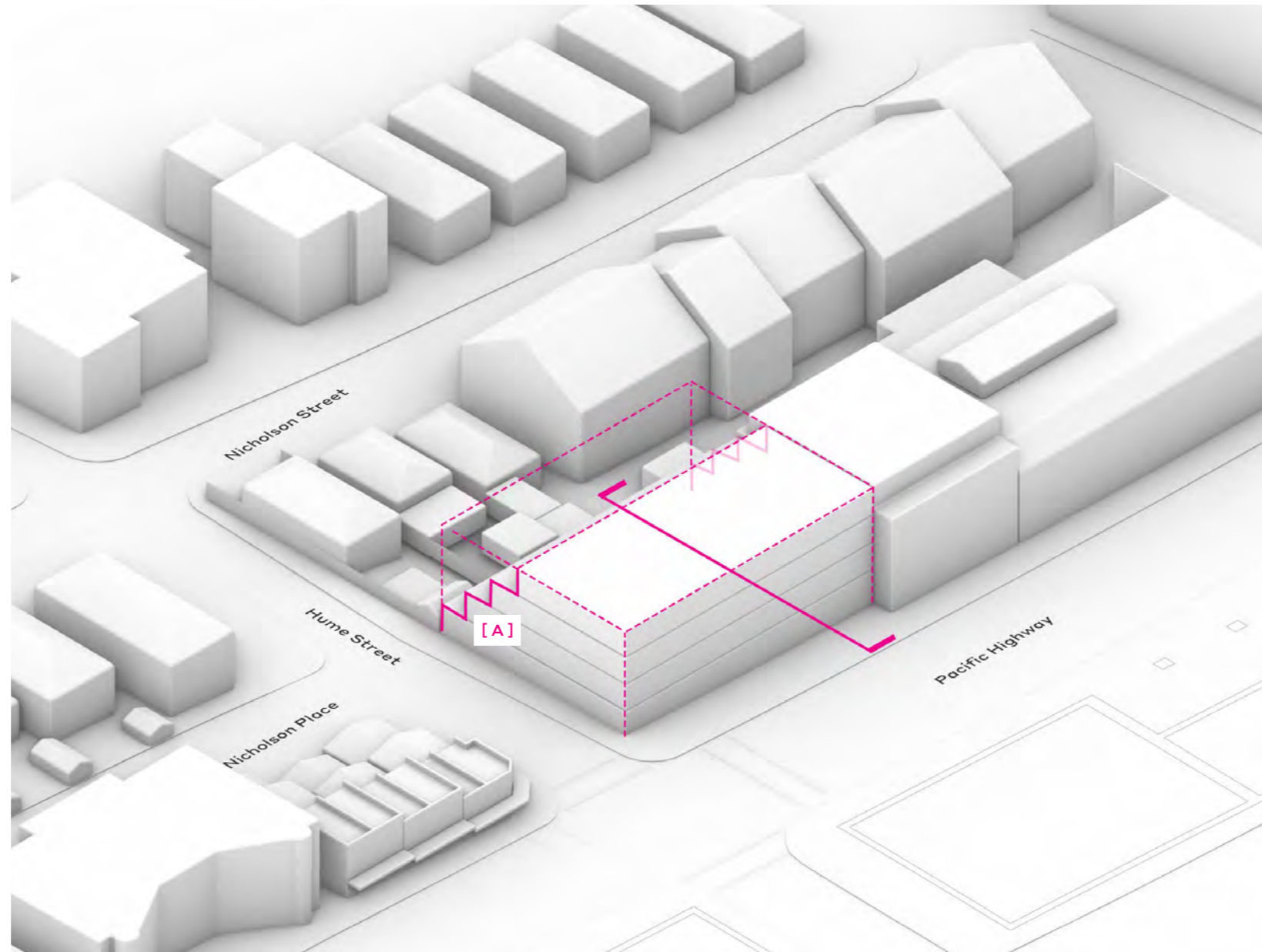


Figure B-2.2 from North Sydney DCP 2013



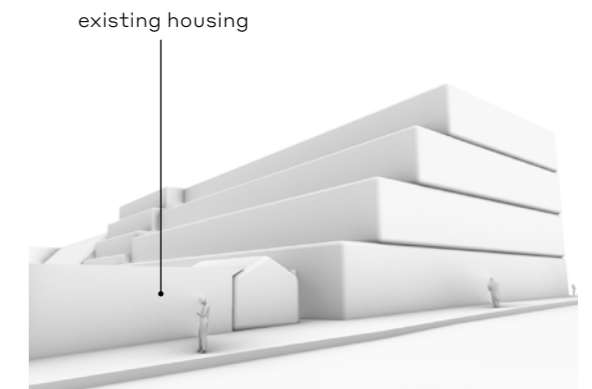
Section showing the 45° height plane, starting at 3.5m above ground level



A Stepping created by 45° height plane



View South West along Hume Street



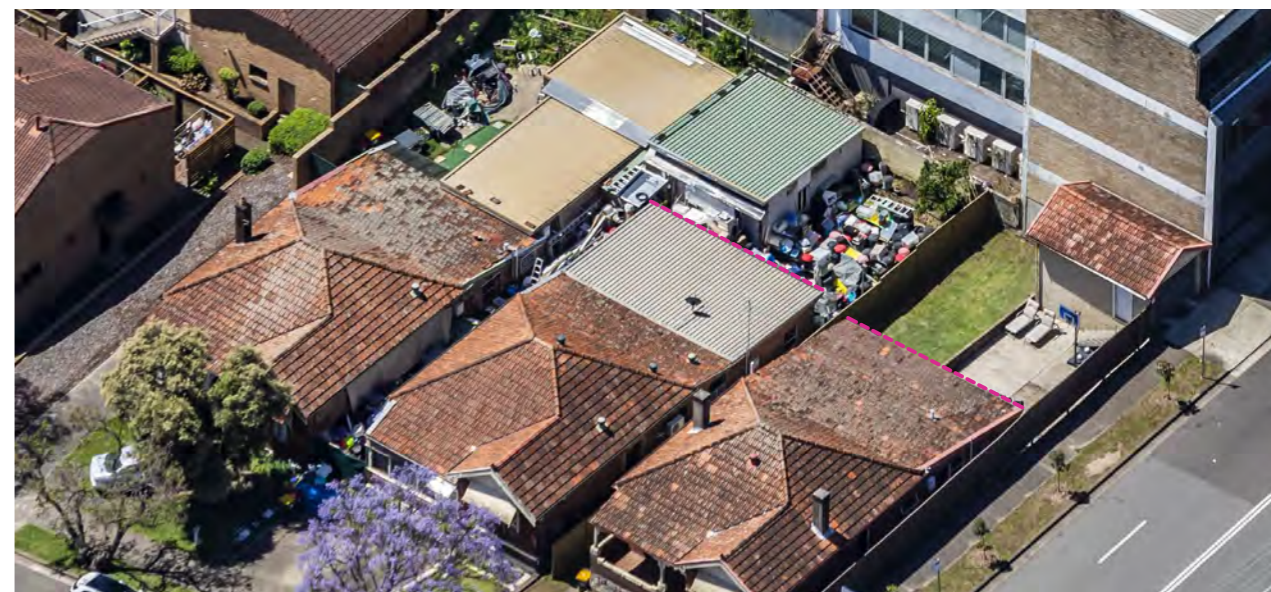
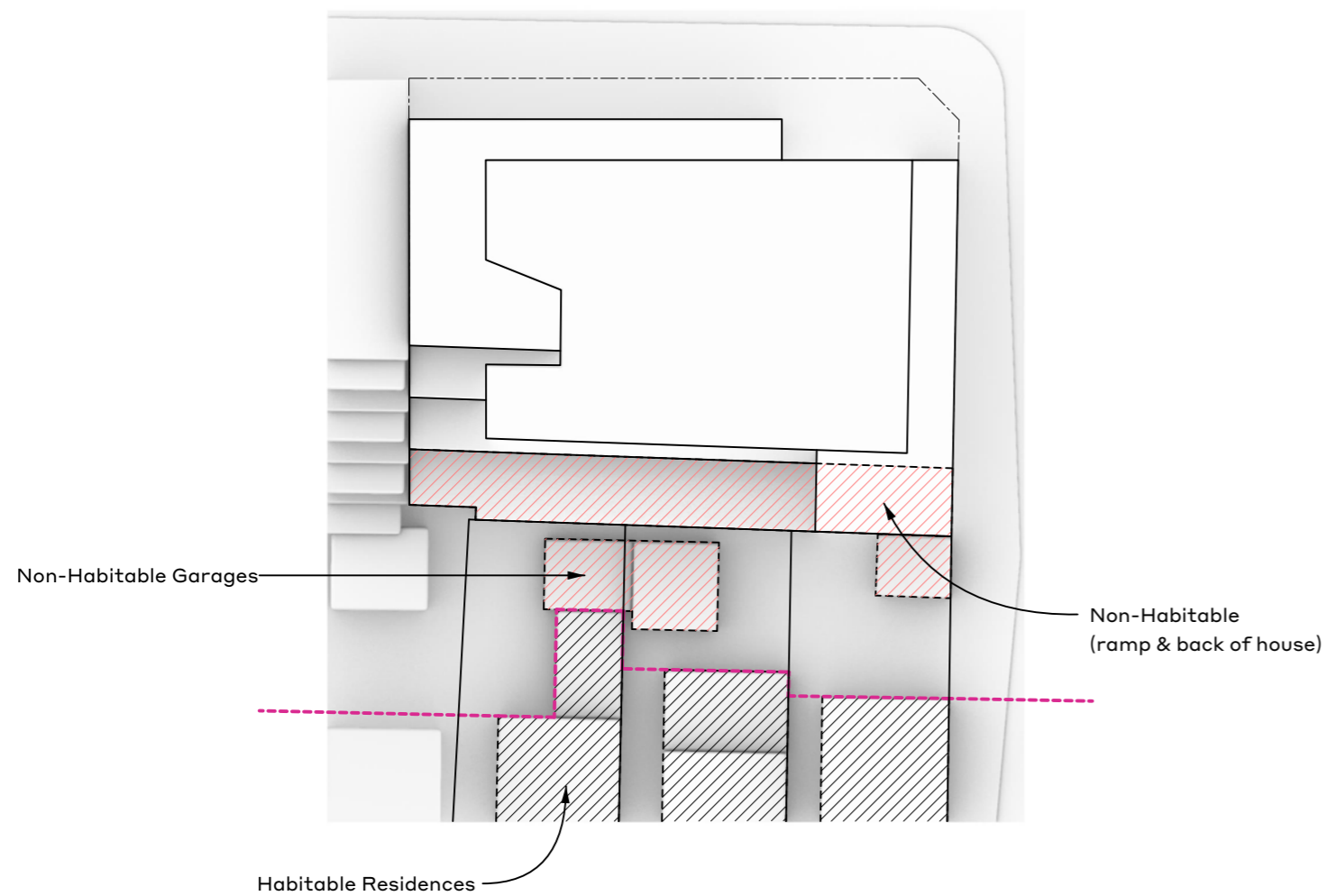
View North East along Hume Street

Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	- p66 Building height is nominated as 24 Storeys.	
North Sydney Council DCP	- Part B Section 2.4.3 P7 (a) at 3.5m above ground level (existing) and projected at an angle of 45 degrees internally to the site from all boundaries that directly adjoin land zoned R2 Low Density Residential, R3 Medium Density Residential, R4 High Density Residential.	

Habitable Spaces Analysis

Key Plan - Habitable/Non-Habitable



Habitable Spaces Analysis

Key Plan - Setback Applications

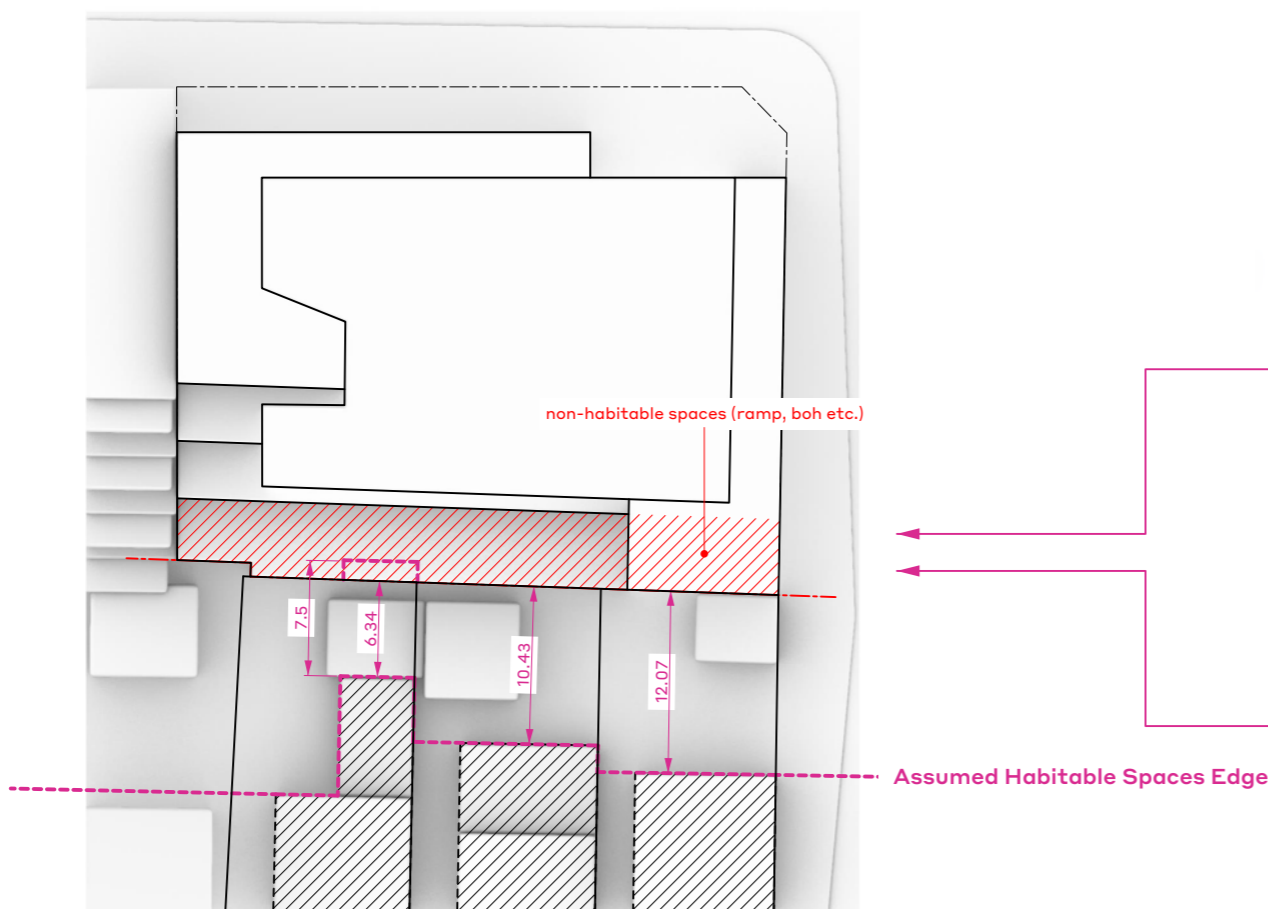


Figure 2F.3 Building separation supports residential amenity and helps to provide suitable communal open space areas

Table 1 Minimum building separation increases proportionally to the building height

Building height	Separation distance
9 storeys and above	12-24m
Up to 8 storeys	9-18m
Up to 4 storeys	6-12m

How to measure building separation

Gallery access circulation areas should be treated as habitable space, with separation measured from the exterior edge of the circulation space.

When measuring the building separation between commercial and residential uses, consider office windows and balconies as habitable space and service and plant areas as non-habitable.

Where applying separation to buildings on adjoining sites, apply half the minimum separation distance measured to the boundary. This distributes the building separation equally between sites (consider relationship with section 3F Visual privacy).

Considerations in setting building separation controls

Design and test building separation controls in plan and section

Test building separation controls for sunlight and daylight access to buildings and open spaces

Minimum separation distances for buildings are:

Up to four storeys (approximately 12m):

- 12m between habitable rooms/balconies
- 9m between habitable and non-habitable rooms **+4.5m**
- 6m between non-habitable rooms

Five to eight storeys (approximately 25m):

- 18m between habitable rooms/balconies
- 12m between habitable and non-habitable rooms
- 9m between non-habitable rooms

Nine storeys and above (over 25m):

- 24m between habitable rooms/balconies
- 18m between habitable and non-habitable rooms
- 12m between non-habitable rooms

Building separation may need to be increased to achieve adequate sunlight access and enough open space on the site, for example on slopes

increase building separation proportionally to the building height to achieve amenity and privacy for building occupants and a desirable urban form

At the boundary between a change in zone from apartment buildings to a lower density area, increase the building setback from the boundary by 3m **+3m**

No building separation is necessary where building types incorporate blank party walls. Typically this occurs along a main street or at podium levels within centres

Required setbacks may be greater than required building separations to achieve better amenity outcomes

SouthWest Boundary - ADG Separation Distances

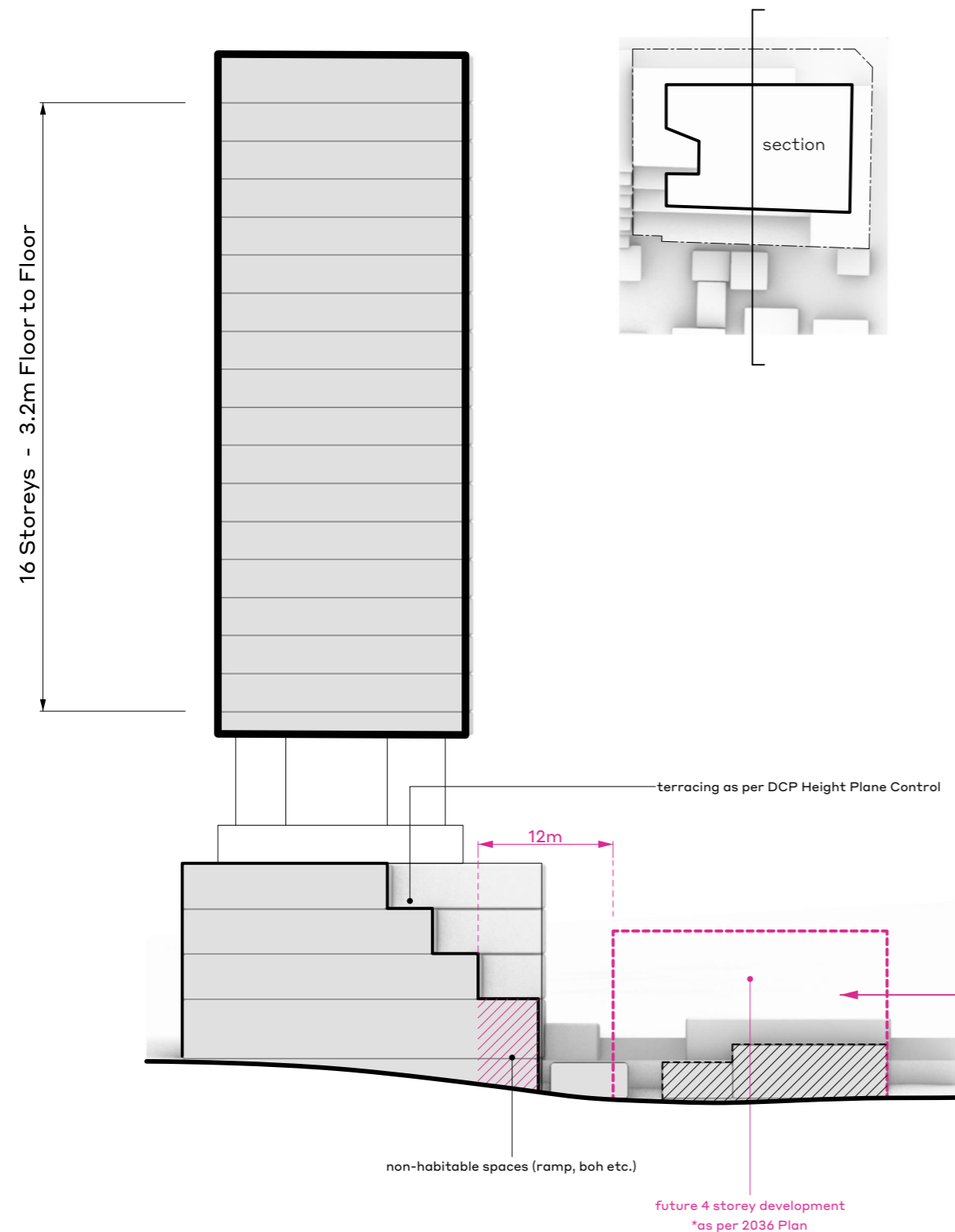


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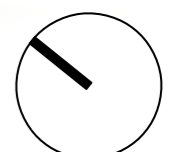
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Increase building separation proportionally to the building height to achieve amenity and privacy for building occupants and a desirable urban form

At the boundary between a change in zone from apartment buildings to a lower density area, increase the building setback from the boundary by 3m

No building separation is necessary where building types incorporate blank party walls. Typically this occurs along a main street or at podium levels within centres

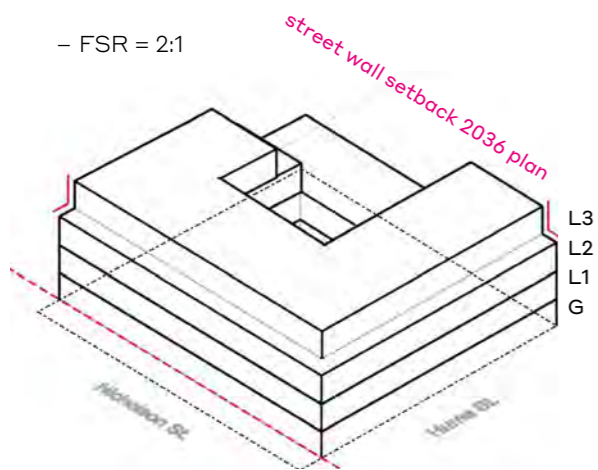
Required setbacks may be greater than required building separations to achieve better amenity outcomes



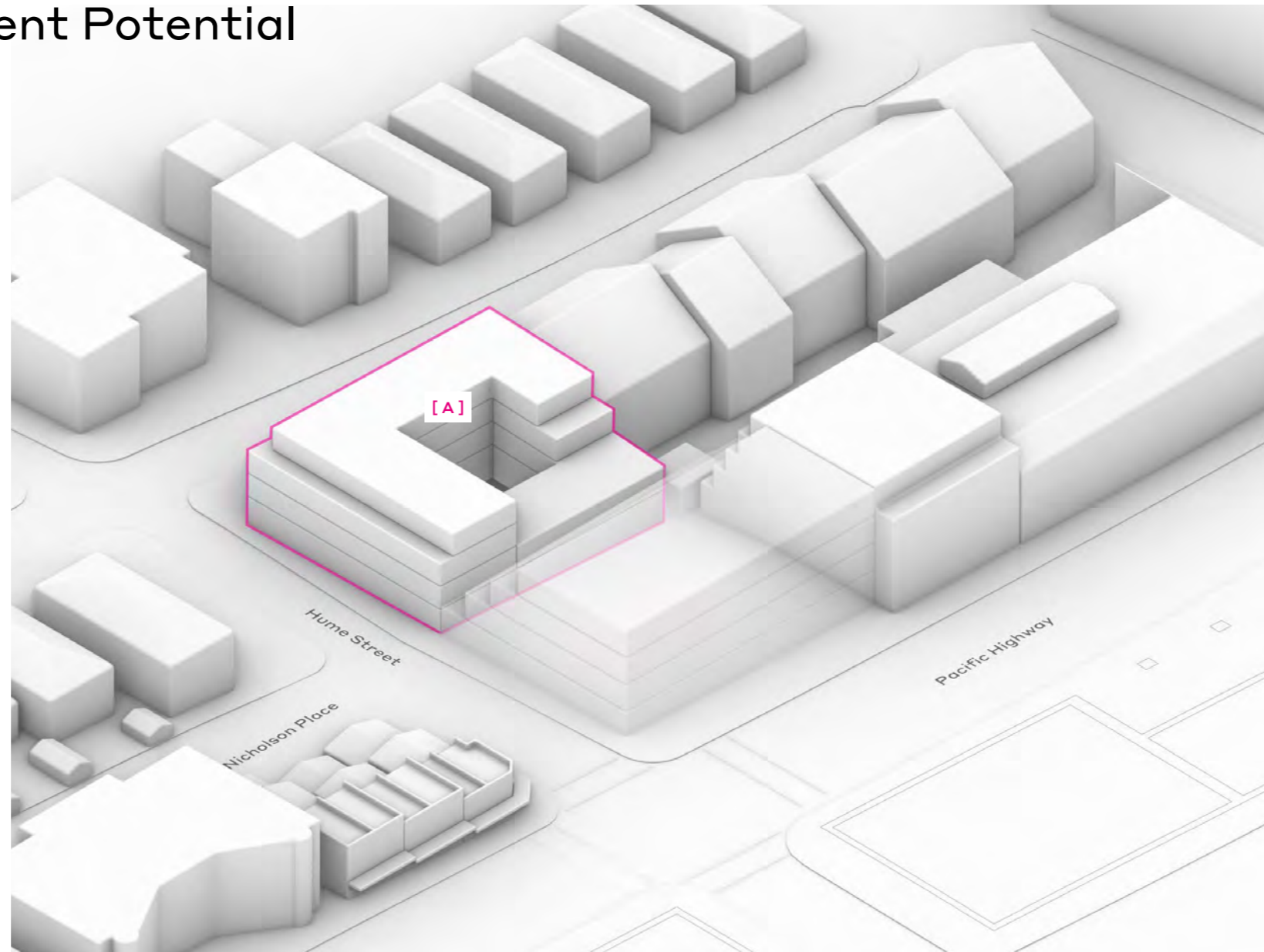
Adjacent Development Potential

Area Analysis

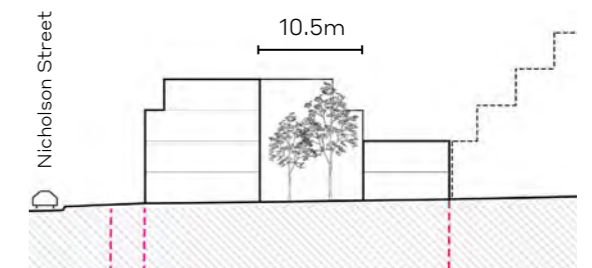
- 2036 Plan Required FSR = 2:1 over 4 levels.
- Site Area = 1257m²
- G / L1 / L2 / L3 Total BUA = 3352m²
- GFA = 75% x BUA = 2514m²
- GFA (2514m²) / Site Area (1257m²)
- FSR = 2:1



3m setback applied as per 2036 plan for Nicholson Street



A Assumed L-shaped apartment block with central court for maximum number of units and solar exposure.

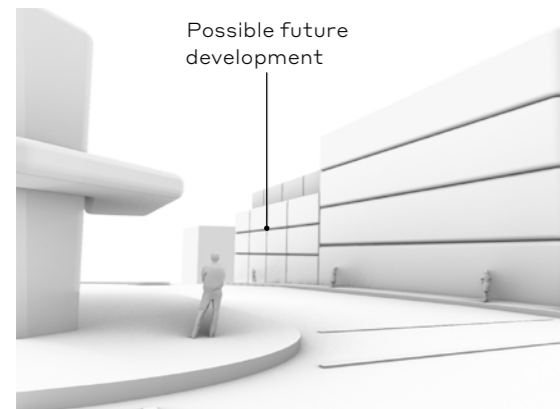


Section through potential apartment block

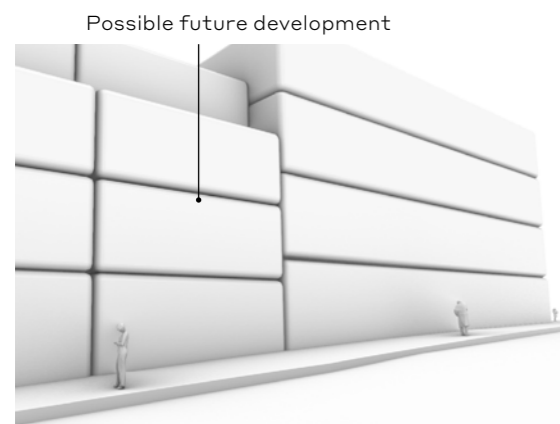
Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	- p70 Setbacks along Nicholson St. are nominated to be 3m.	- 29-33 Nicholson Street currently zoned as R3 Medium Residential, not permitting residential flat buildings. Any future planning proposal would require the site to be rezoned as R4 High Density Residential.
North Sydney Council DCP		

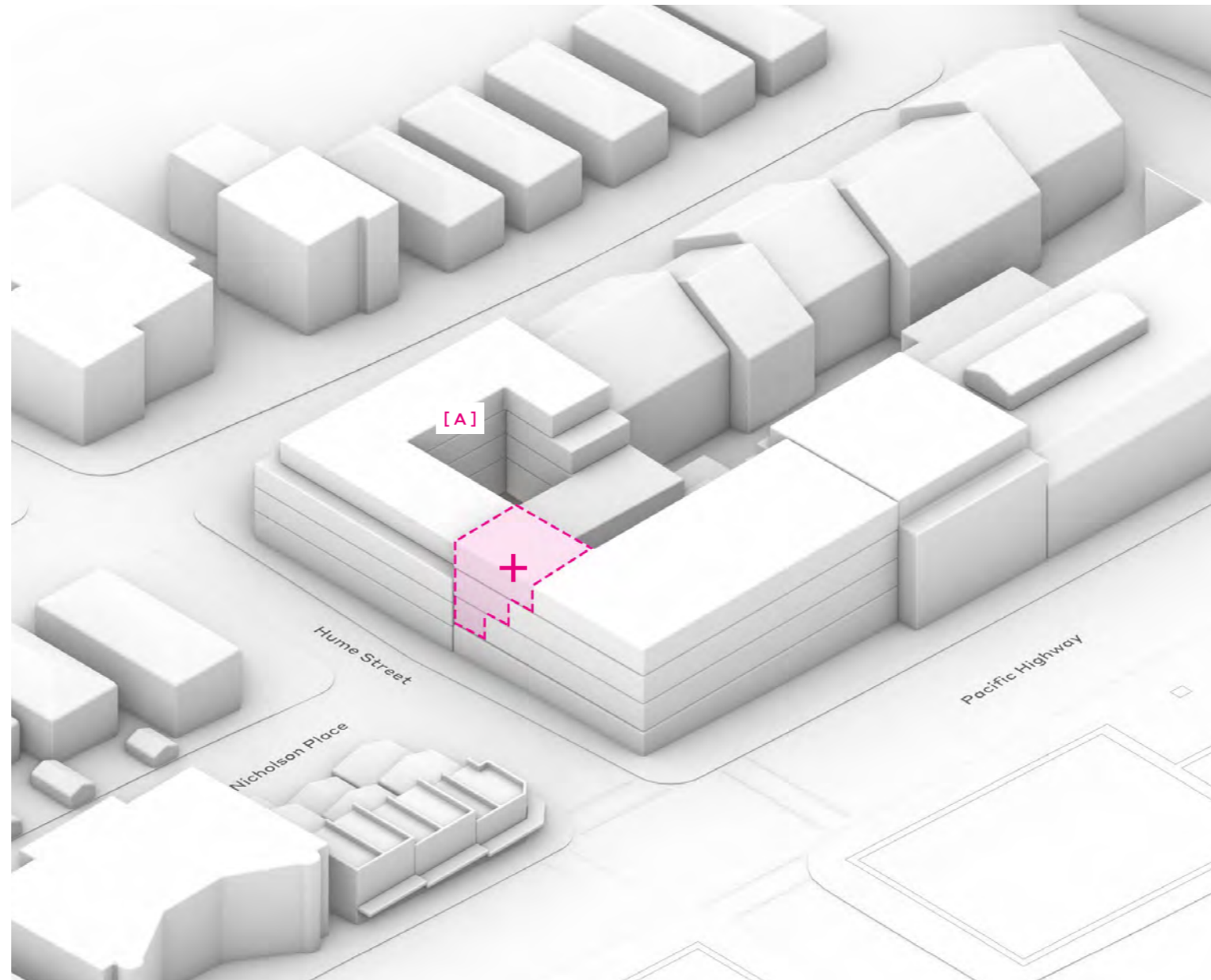
Streetscape



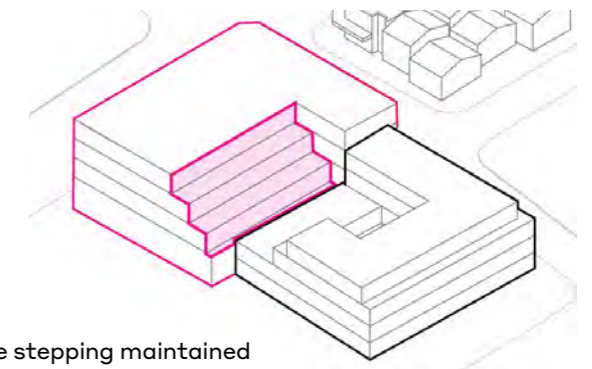
View North West along Pacific Highway



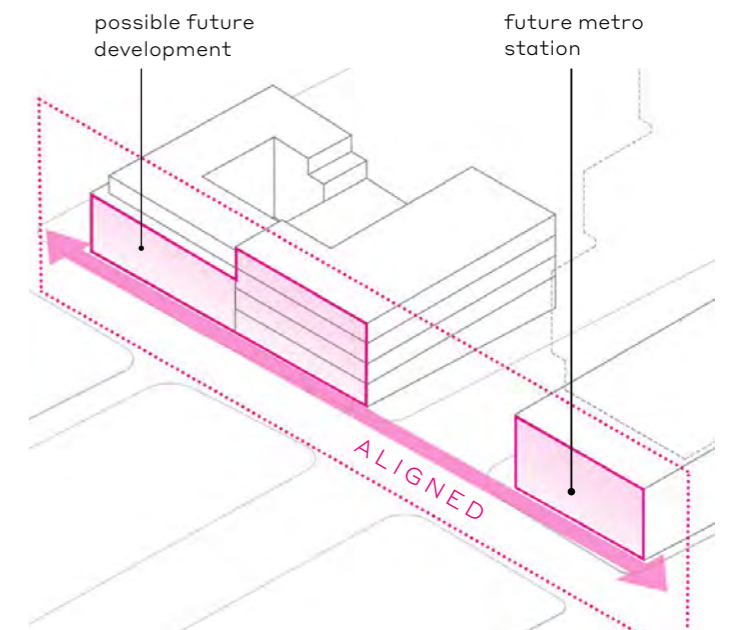
View North East along Hume Street



A Assumed L-shaped apartment block with central court for maximum number of units and solar exposure.



45 degree stepping maintained



Consistent alignment along Hume Street

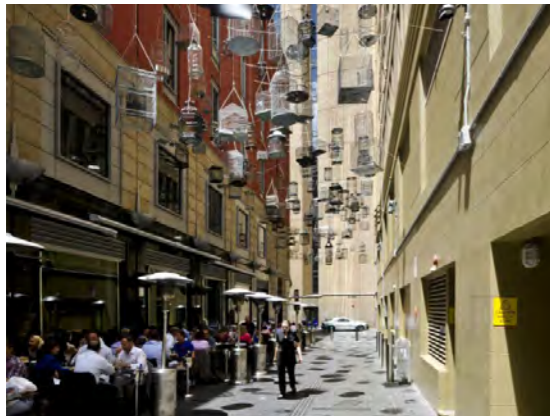
Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	<ul style="list-style-type: none"> - p70 Setbacks along Pacific Highway are nominated to be 3m. - Part C 3.1.3 P7 Zero setback to all street frontages, with the exception of the setbacks on the Building Setbacks Map (refer to Figure C-3.2) *Figure C-3.2 indicates zero setbacks. 	<ul style="list-style-type: none"> - Preferable alignment with existing street frontage and heritage buildings
North Sydney Council DCP		
2018 Heritage Report	<ul style="list-style-type: none"> - Awning height and façade articulation of the Pacific Highway station building could respond to that of the heritage-listed shops on the opposite side of the road. - New development should be sympathetic to adjacent heritage items in terms of setbacks, height, form, materials and articulation 	

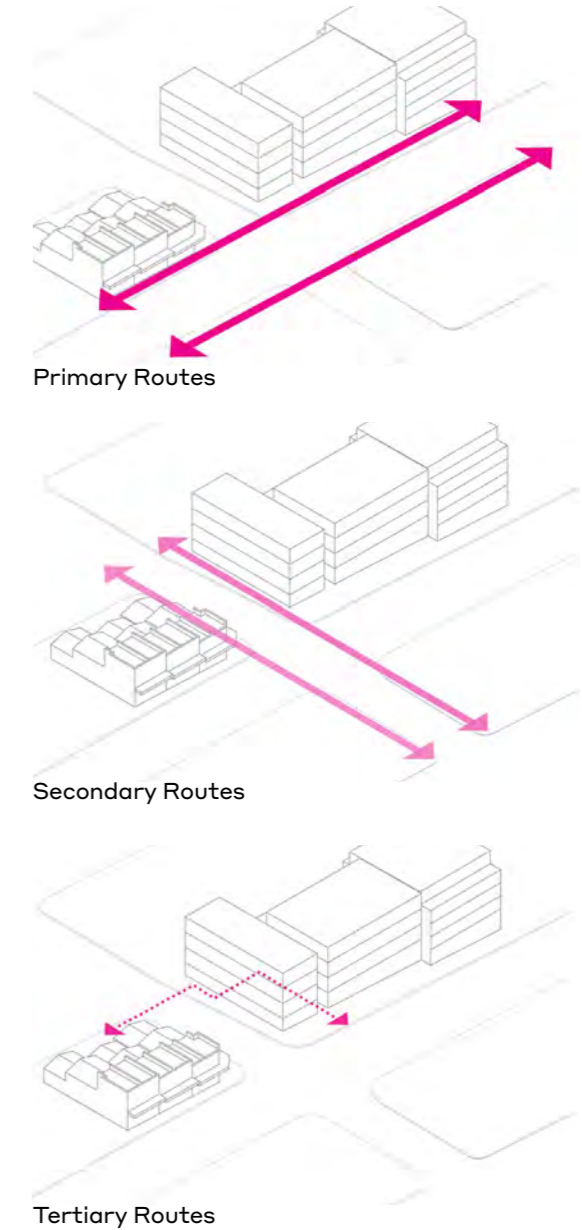
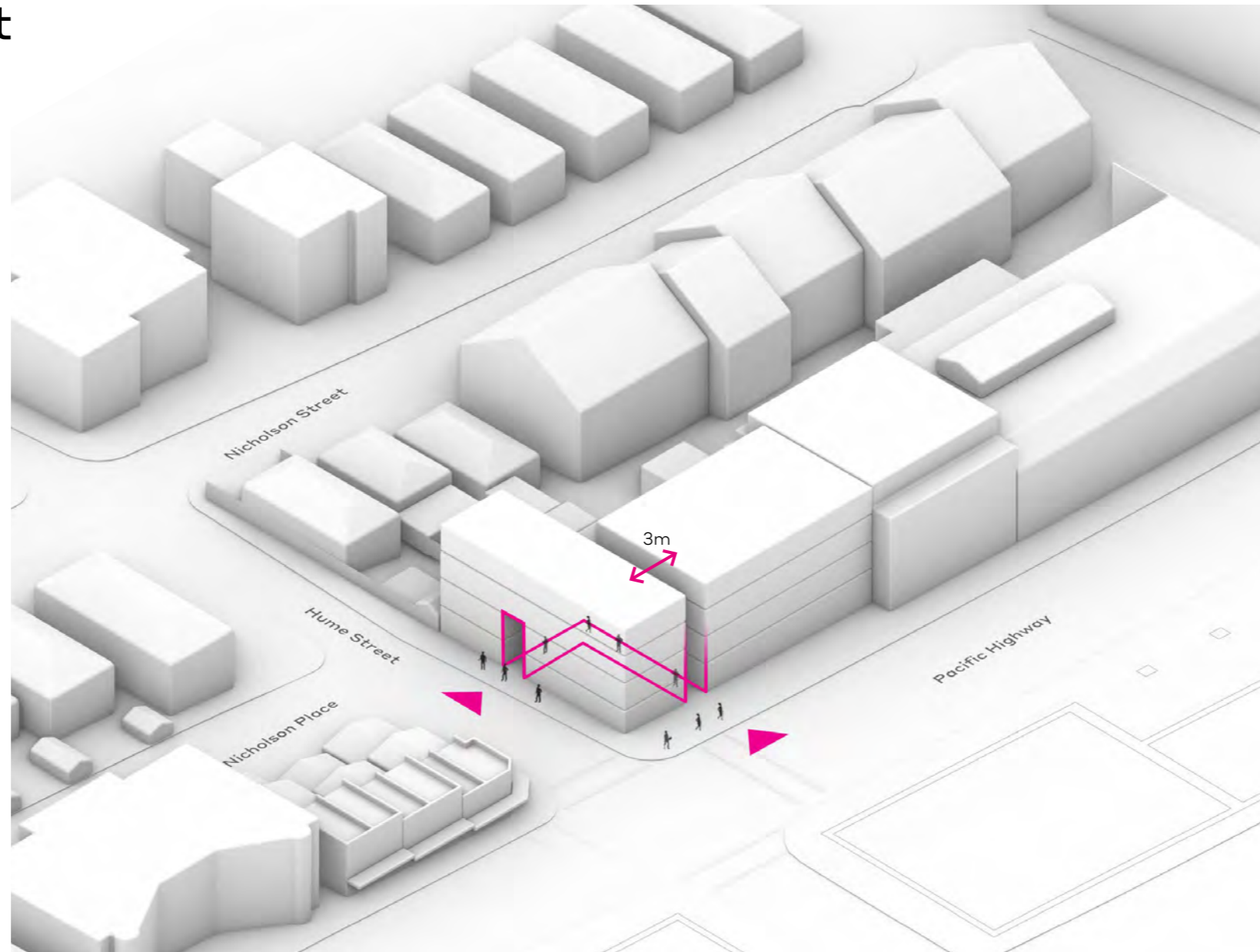
Laneway Placement



Kimber Lane



Angel Place



Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan		
North Sydney Council DCP	<ul style="list-style-type: none"> - Part B 2.4.4 Objective-2 To ensure that laneways are integrated into pedestrian network. - Part C 3.1.3 P6 Developments on land greater than 1,000m² should consider the incorporation of internal courtyards adjacent to laneways and through site links to broaden the range and form of open space in the locality. 	

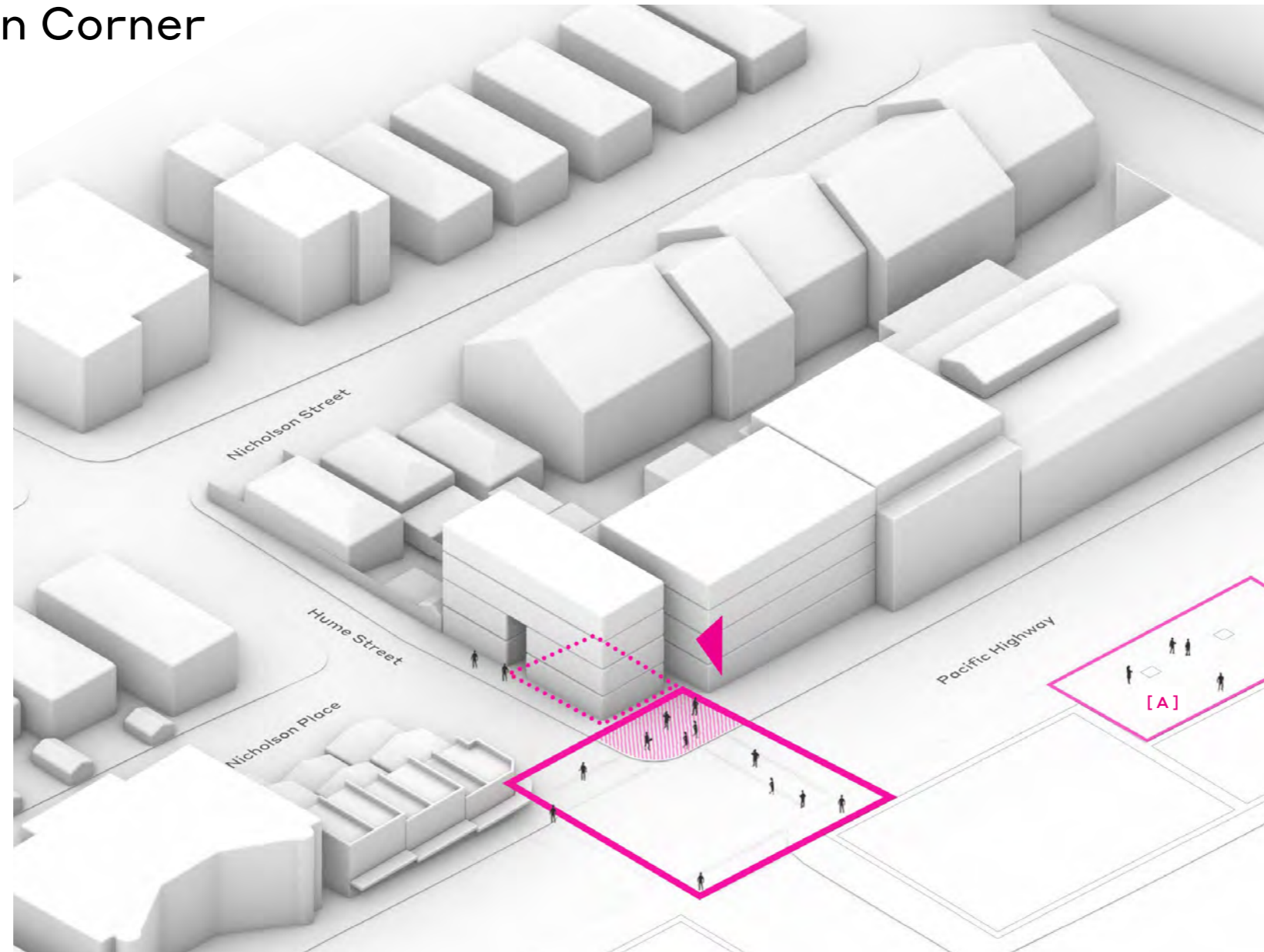
Utilising Intersection Corner



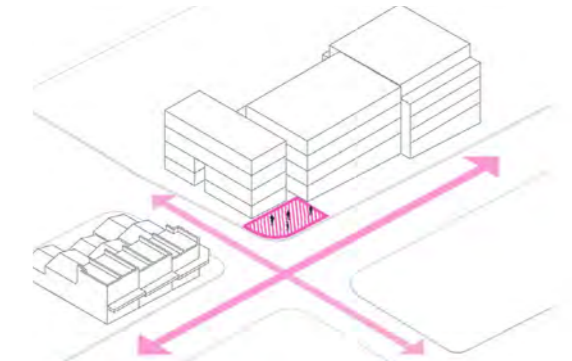
OJ Williams building, Crows Nest



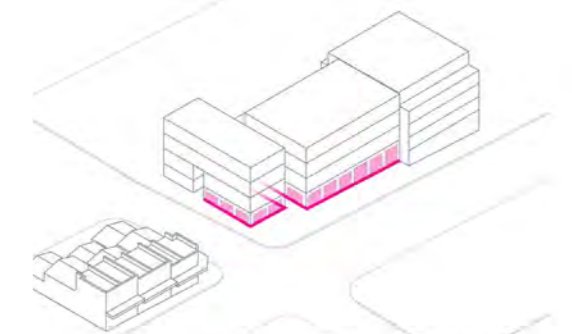
Crows Nest Hotel



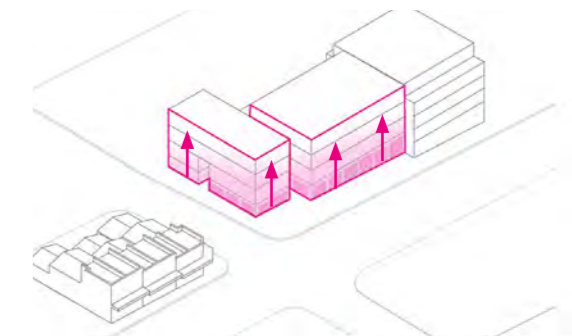
A Metro station entrance



Safe space created on busy intersection



Ground level activated



Activity promoted in upper levels during both day and night time hours

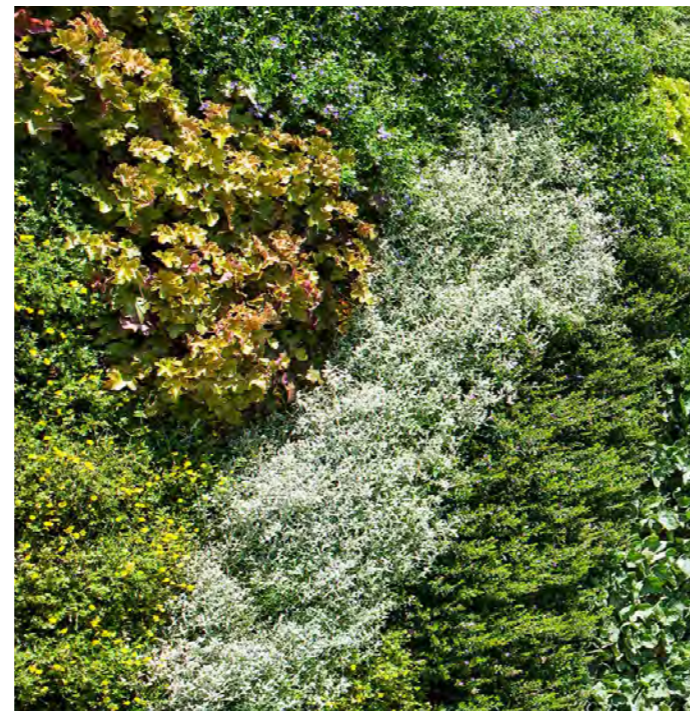
Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan		
North Sydney Council DCP		
2018 Heritage Report	<ul style="list-style-type: none"> - Awning height and façade articulation of the Pacific Highway station building could respond to that of the heritage-listed shops on the opposite side of the road. - New development should be sympathetic to adjacent heritage items in terms of setbacks, height, form, materials and articulation. 	

Microclimate



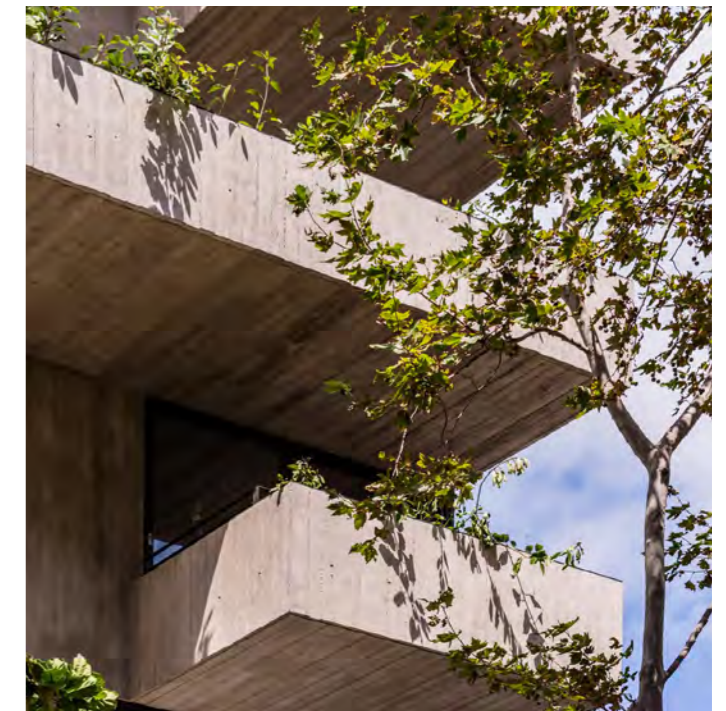
Willoughby Road



Green Walls



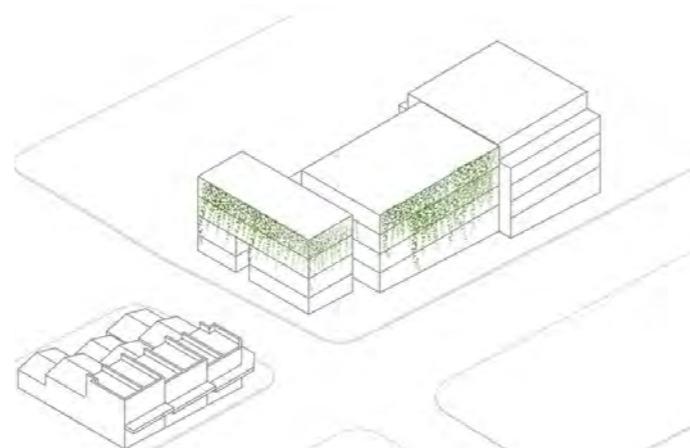
The Ivy



Short Lane



Street Trees



Vertical Gardens



Ridge Planting

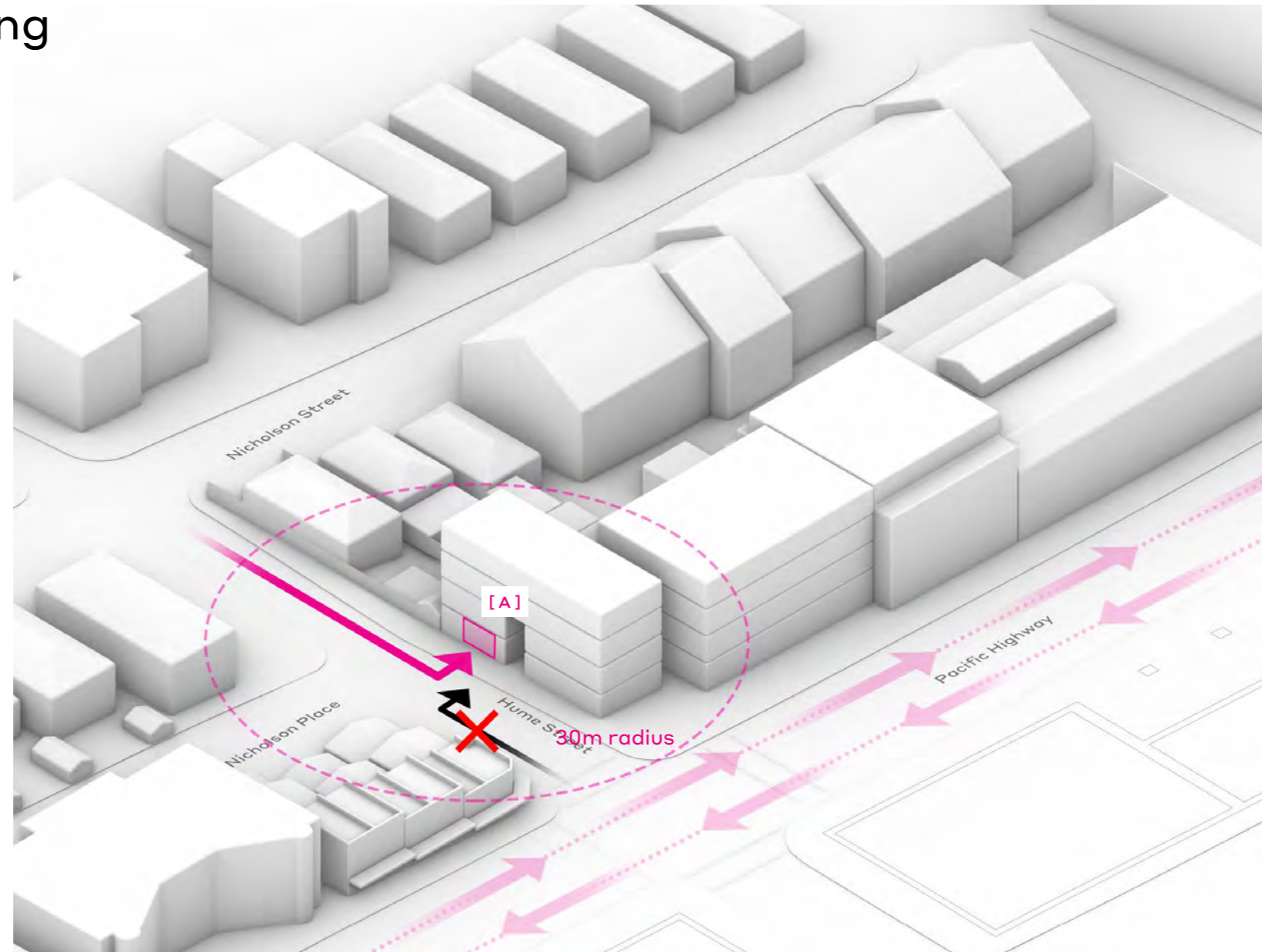


Rooftop Terrace

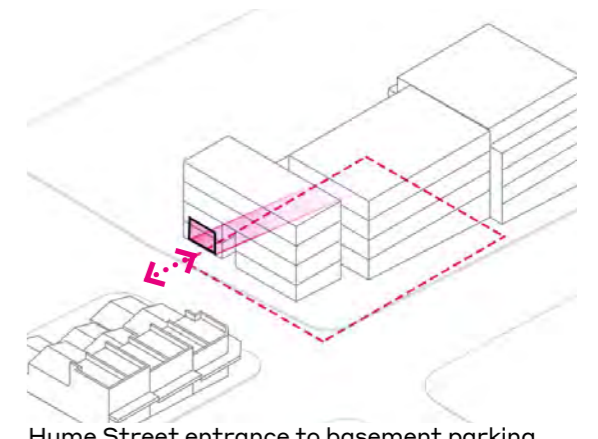
Servicing and Parking



Existing garage entrance - proposed location unchanged



A Parking entrance



Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan		
North Sydney Council DCP		

Planning Objectives Response



Streetscape and Pedestrians

Our scheme intends to introduce new laneways and public spaces to meet the need for new pedestrian links.

Open Spaces

Roof amenities levels and terracing are applied in our scheme to satisfy regulatory requirements but also to create opportunities for shared outdoor green spaces.

Mixed and Active

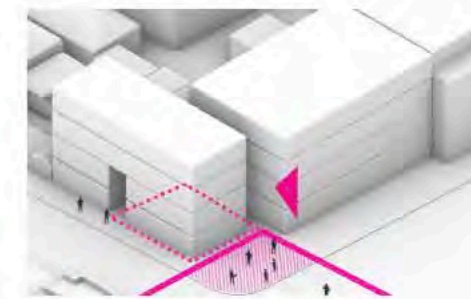
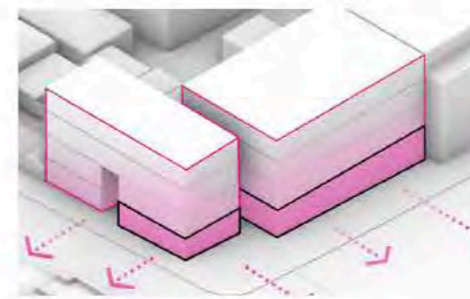
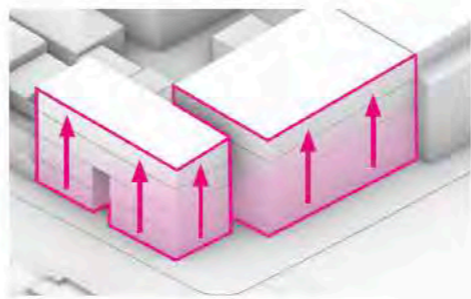
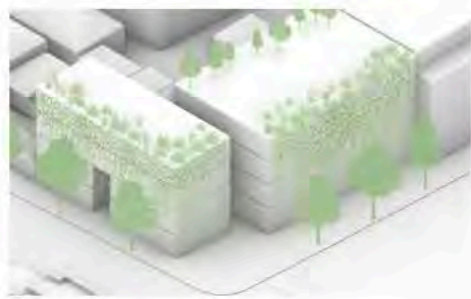
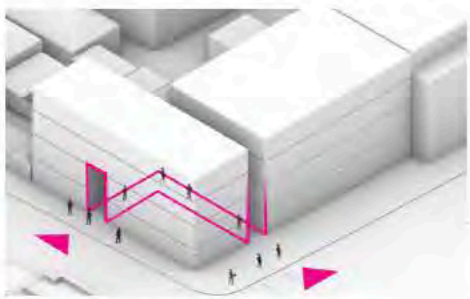
A mix of F&B, Retail, Commercial and Residential. will provide street activation spanning a wide variety of daily & nightly hours.

Activated Retail

Mixing street frontages with retail and F&B integrated into the finer grain laneways will contribute to the local character.

30 Minute City

Providing new residences opposite the station development our scheme will strengthen Pacific Hwy/Hume street as a transport oriented development, providing residents easy commutes to the city.



Planning Objectives Response



Safe Public Spaces

- Creation of safe public space on the busy Pacific Highway corner, allowing for the heaving traffic expected with the Metro development
- Activated through site links to provide retail opportunities



Mixed and Active Uses

- Podium provides opportunities for varied F+B functions, retailers and commercial space
- Range of uses ensures activation throughout all times of the day, creating lively, safe spaces



Vegetation and Street Trees

- Allowance of space for deep soil planting on the street
- Amenities level to be utilised as a shared green space



Protective Canopy

- Awnings protect the ground plane from environmental factors include winds and rain, increasing amenity on the street
- Entrances to both residential and F+B functions protected



03

With consideration for the envisioned future of Crows Nest & St Leonards in the 2036 Plan; this section aims to determine the most likely development scenario along Pacific Highway between Hume Street to Oxley Street and how our proposal could interface with them.

The preferred tower location for our site is guided by keeping setback distances with neighbouring boundaries, be considerate of the ADG Guides to achieve 360 degrees of possible tower articulation as well as being a strong urban focal point marking the intersection of both Pacific Highway and Hume Street adjacent to the new Metro OSD.

North Sydney Council has expressed concern that a future row of towers along Pacific Highway with close separation distances would be an unfavourable outcome.

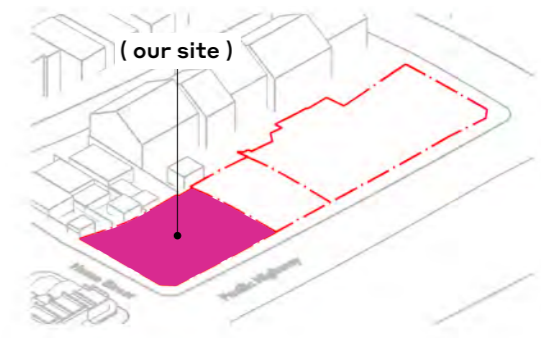
This study illustrates that the most likely result will be a single tower with generous separation distance to our own at Oxley Street & Pacific Hwy as either a development of 402-420 alone or 398 + 402-420 amalgamated (as they are currently separately owned) to a maximum of 7.5 : 1 FSR as allowed by the 2036 Plan.

The following studies of this chapter will explore possible scenarios in further detail.

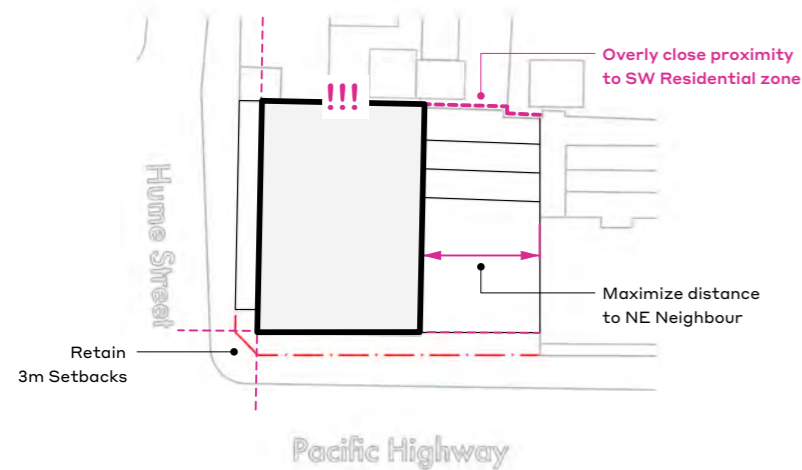
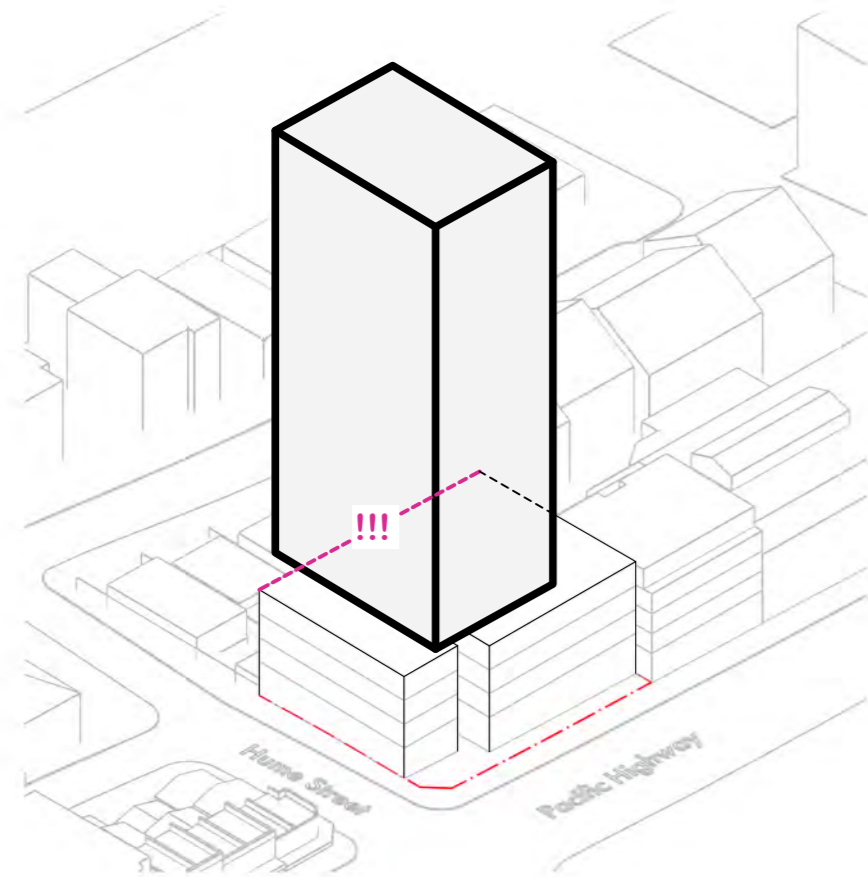


Northern Development Scenarios

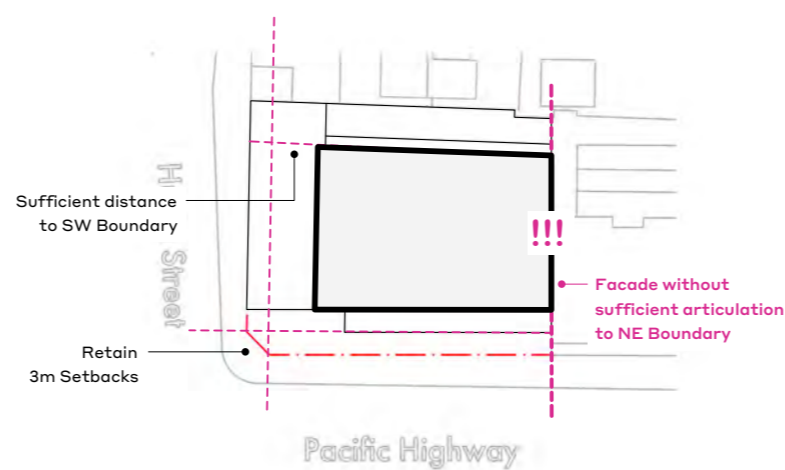
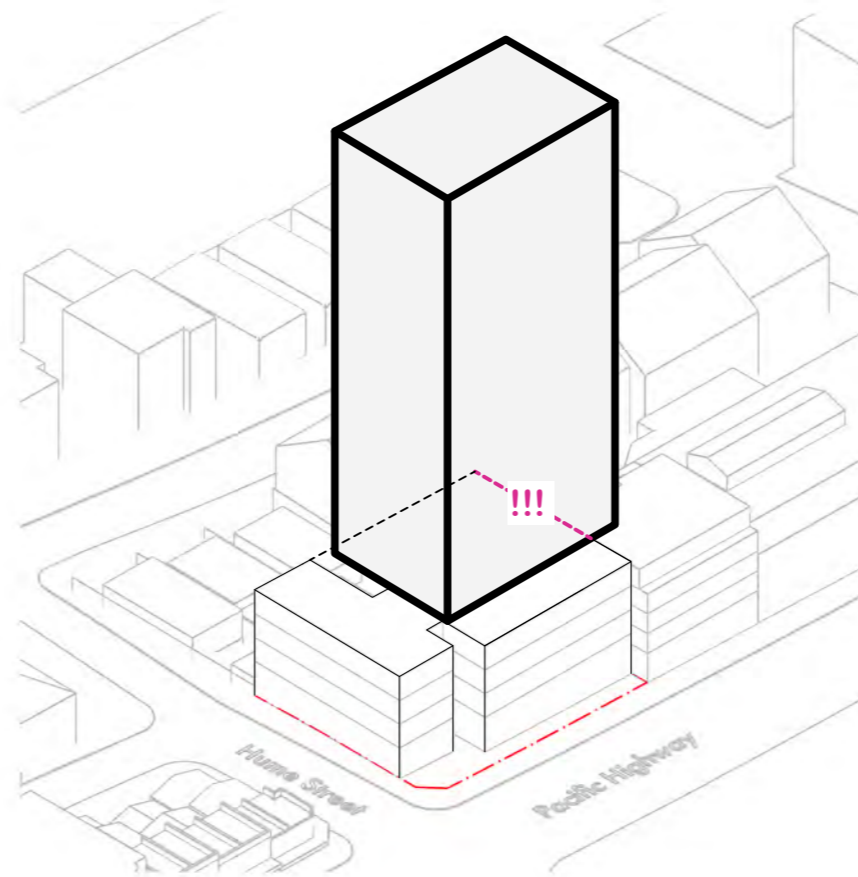
Tower Placement



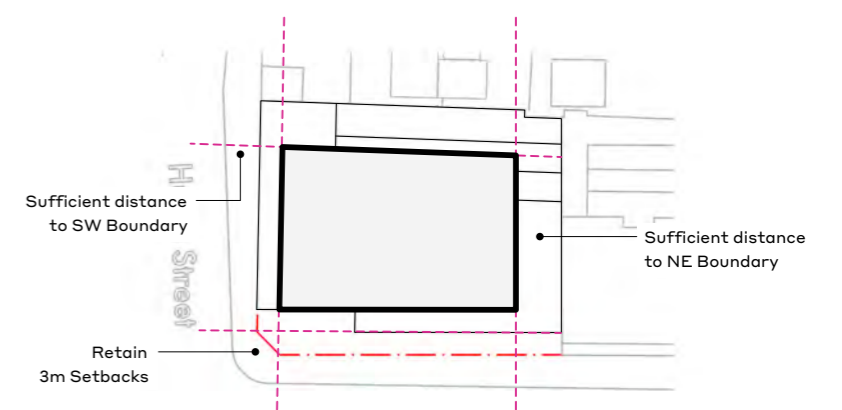
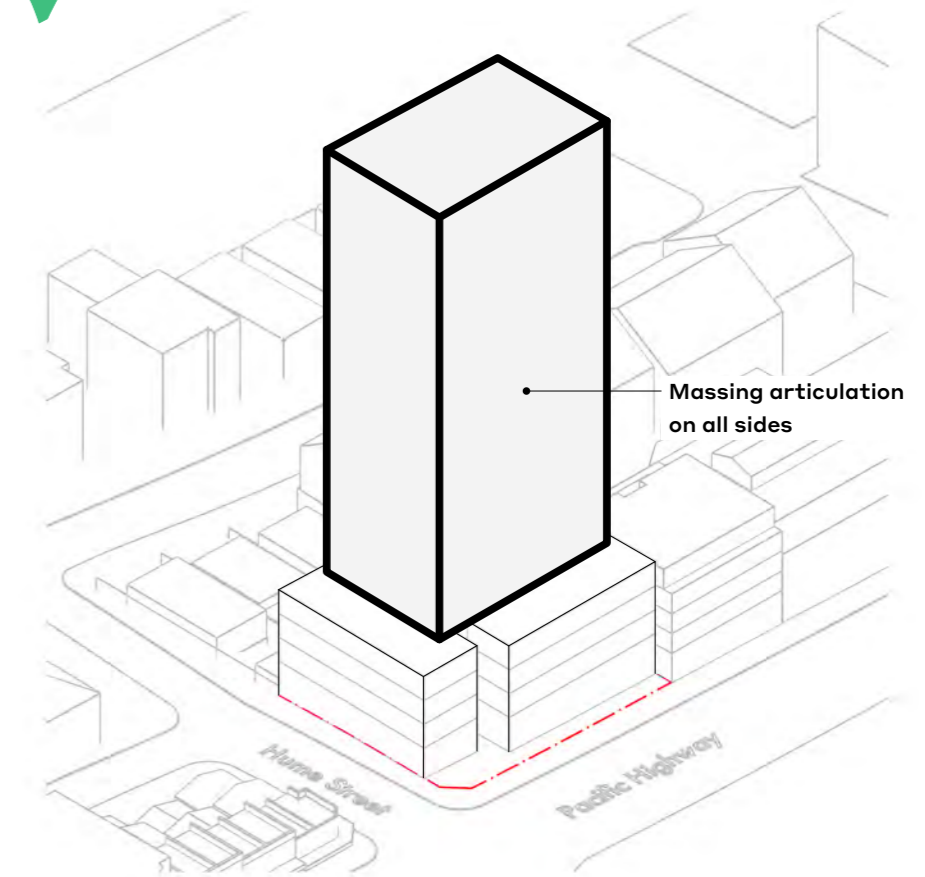
Hume Street Alignment



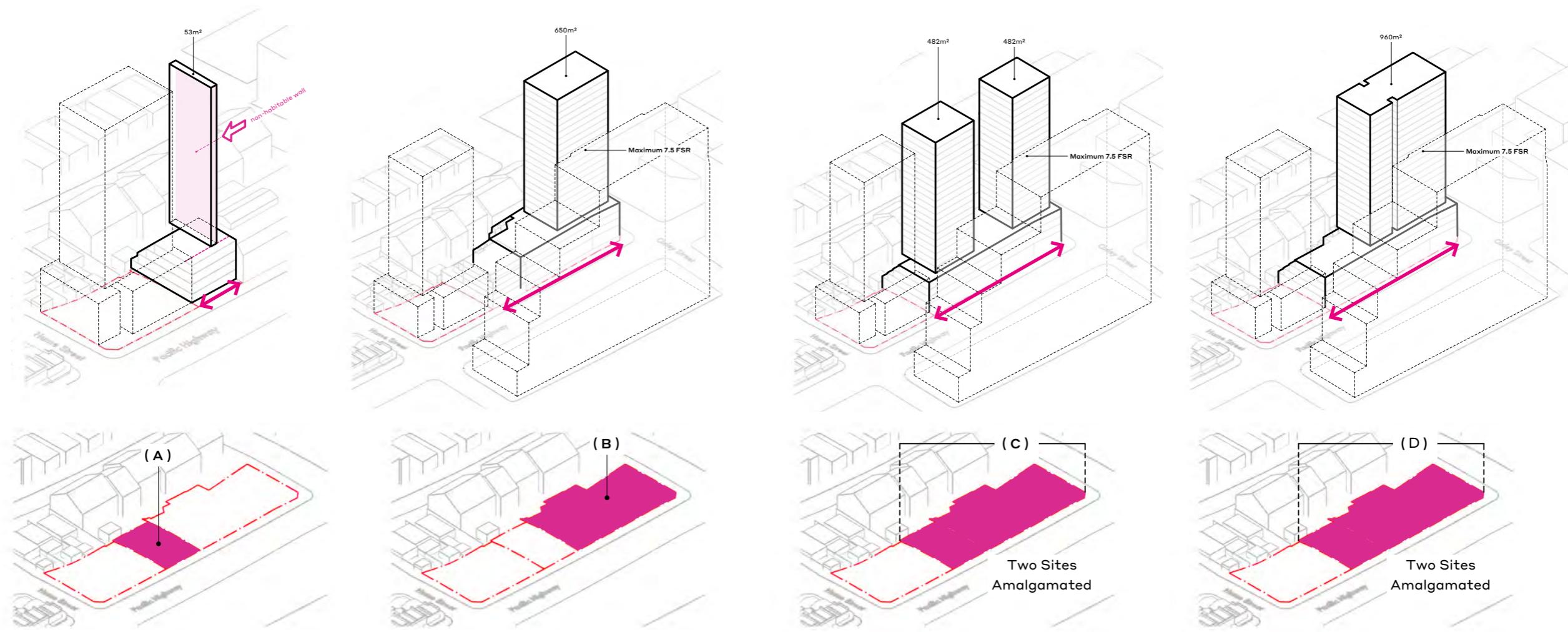
NE Boundary Alignment



Intersection Alignment



Northern Development - Scenarios



A

398 Pacific Highway

B

402-420 Pacific Highway

C

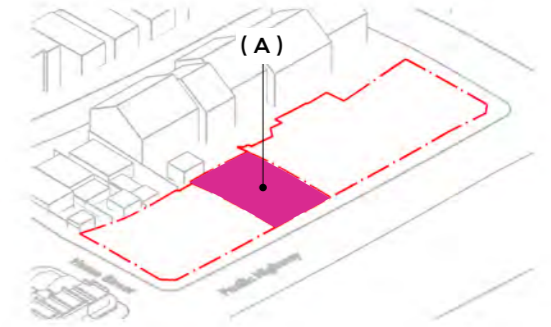
398 + 402-420 Pacific Highway

D

398 + 402-420 Pacific Highway

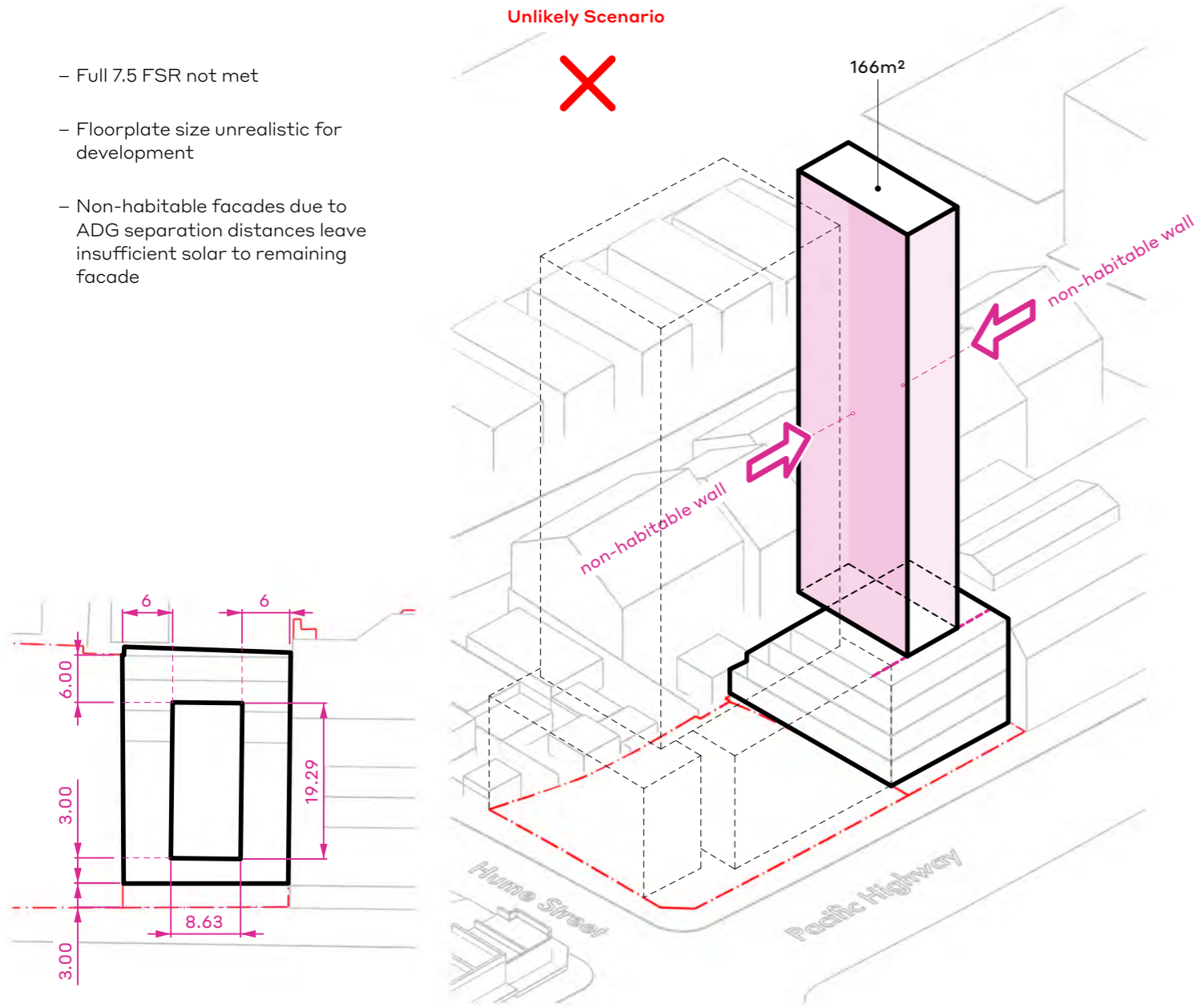
Neighbouring Developments Analysis

Scenario A - Development of 398 Pacific Hwy



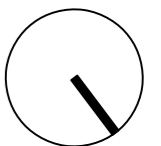
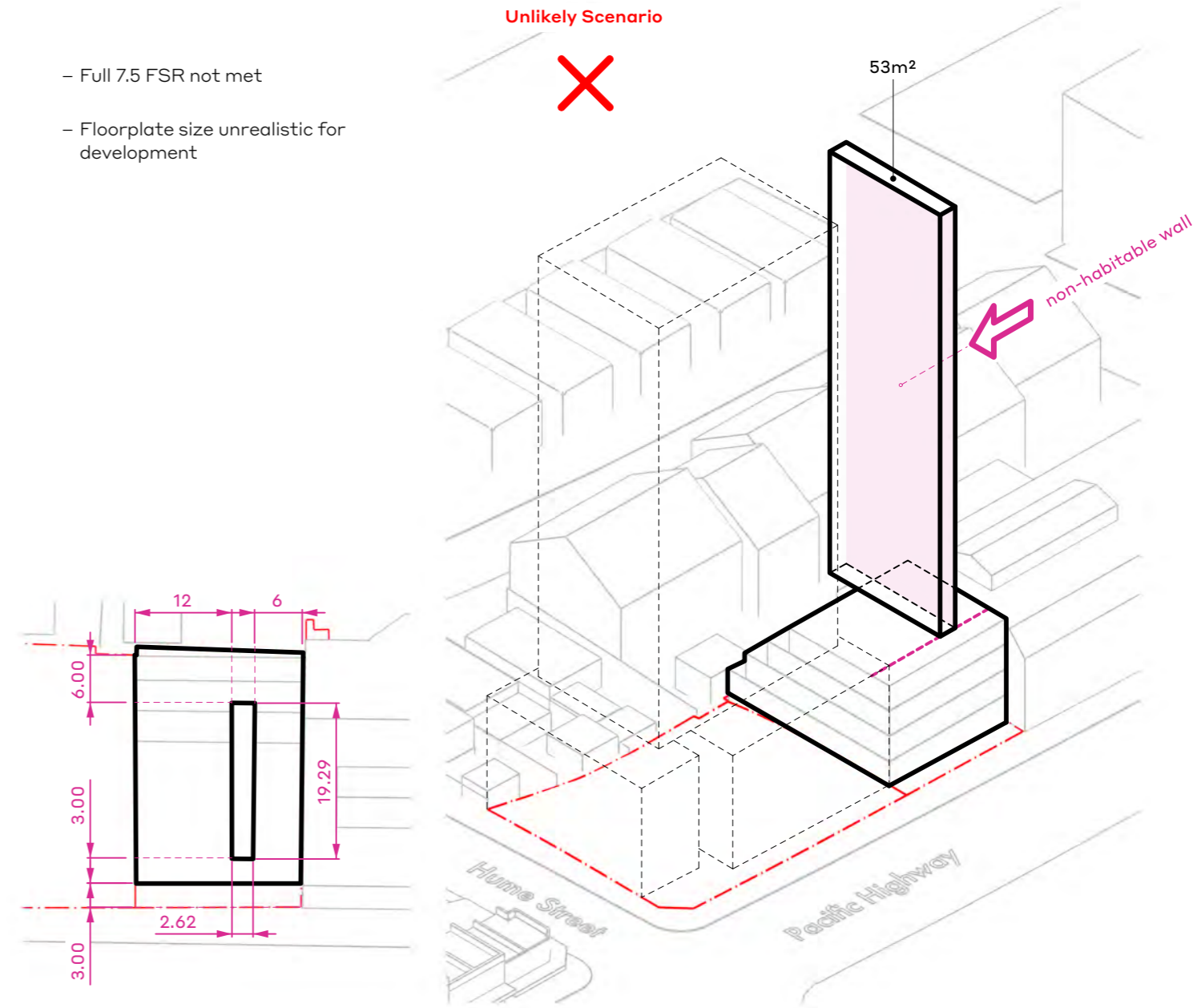
- Full 7.5 FSR not met
- Floorplate size unrealistic for development
- Non-habitable facades due to ADG separation distances leave insufficient solar to remaining facade

Unlikely Scenario



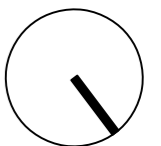
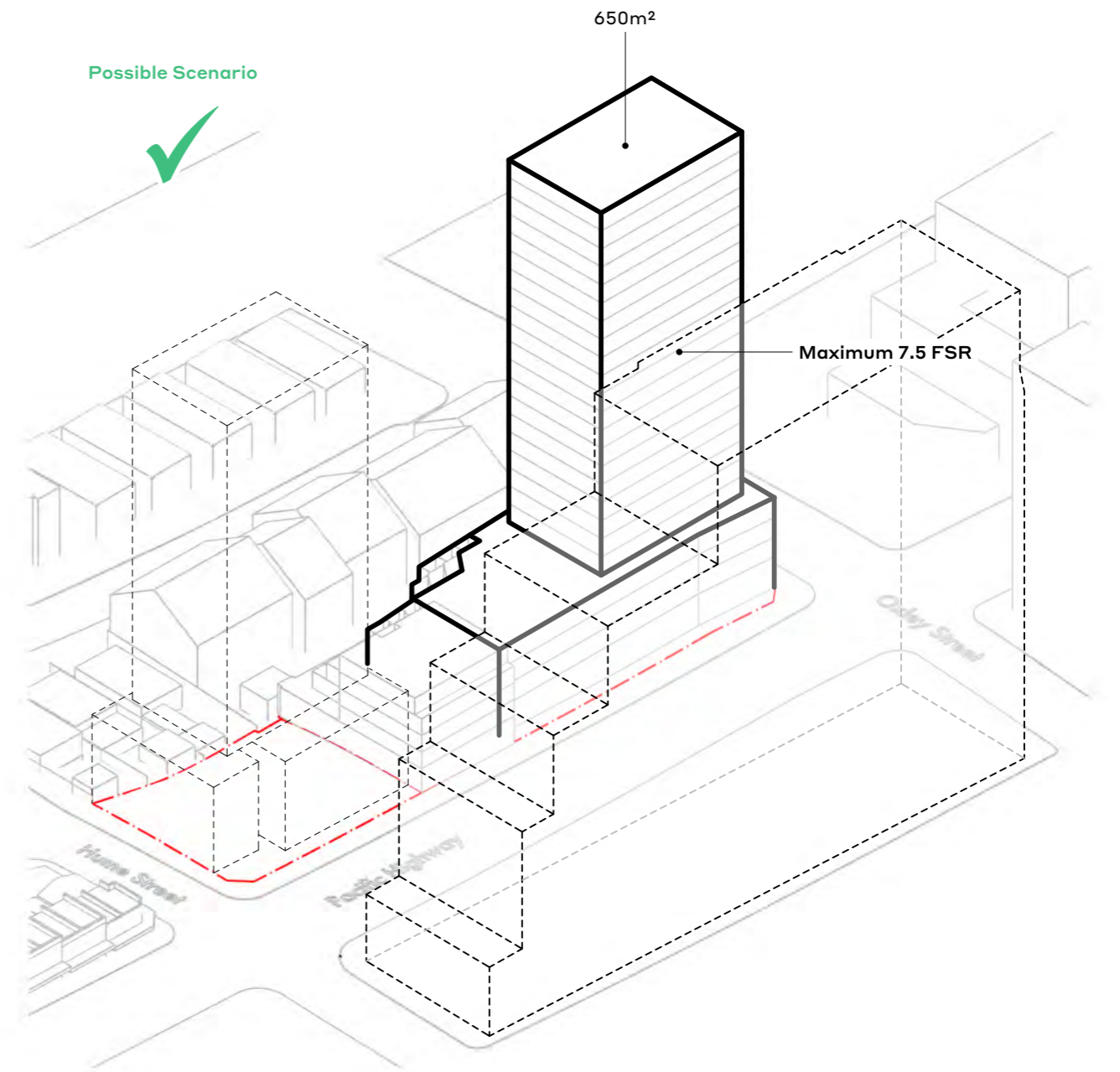
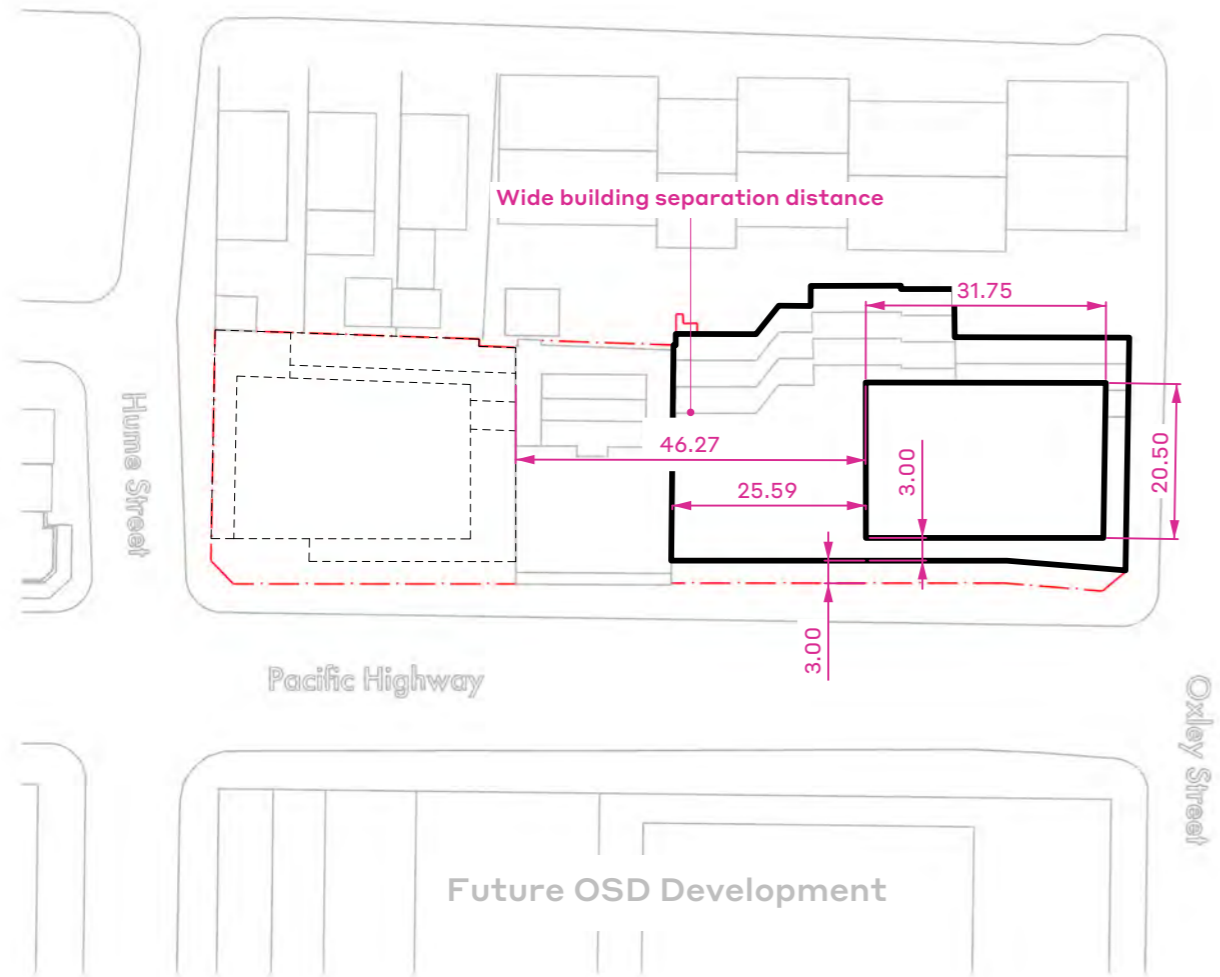
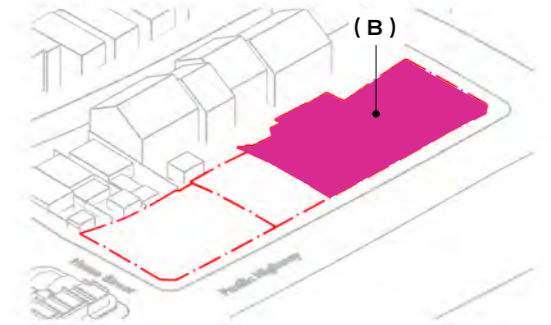
- Full 7.5 FSR not met
- Floorplate size unrealistic for development

Unlikely Scenario



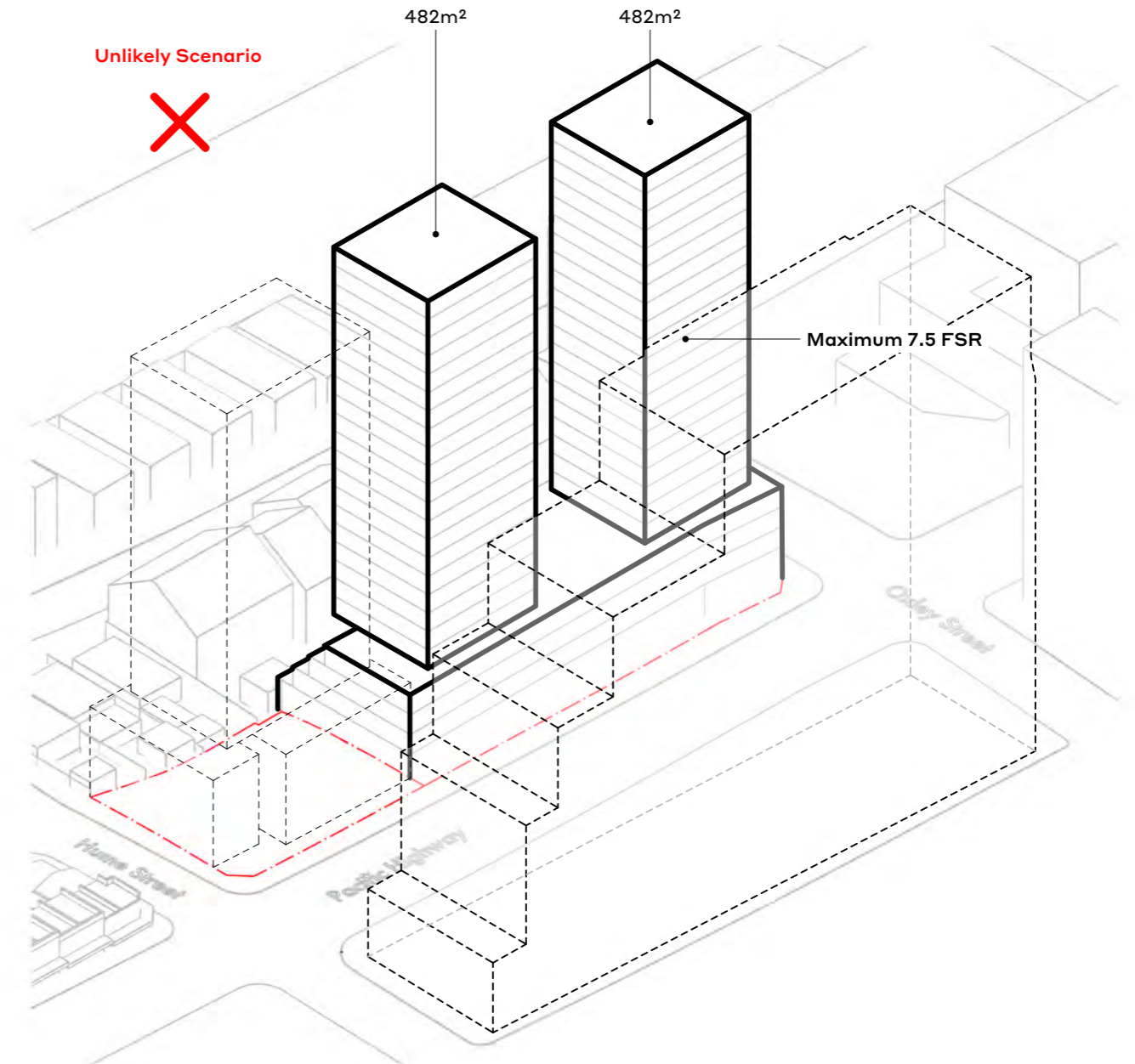
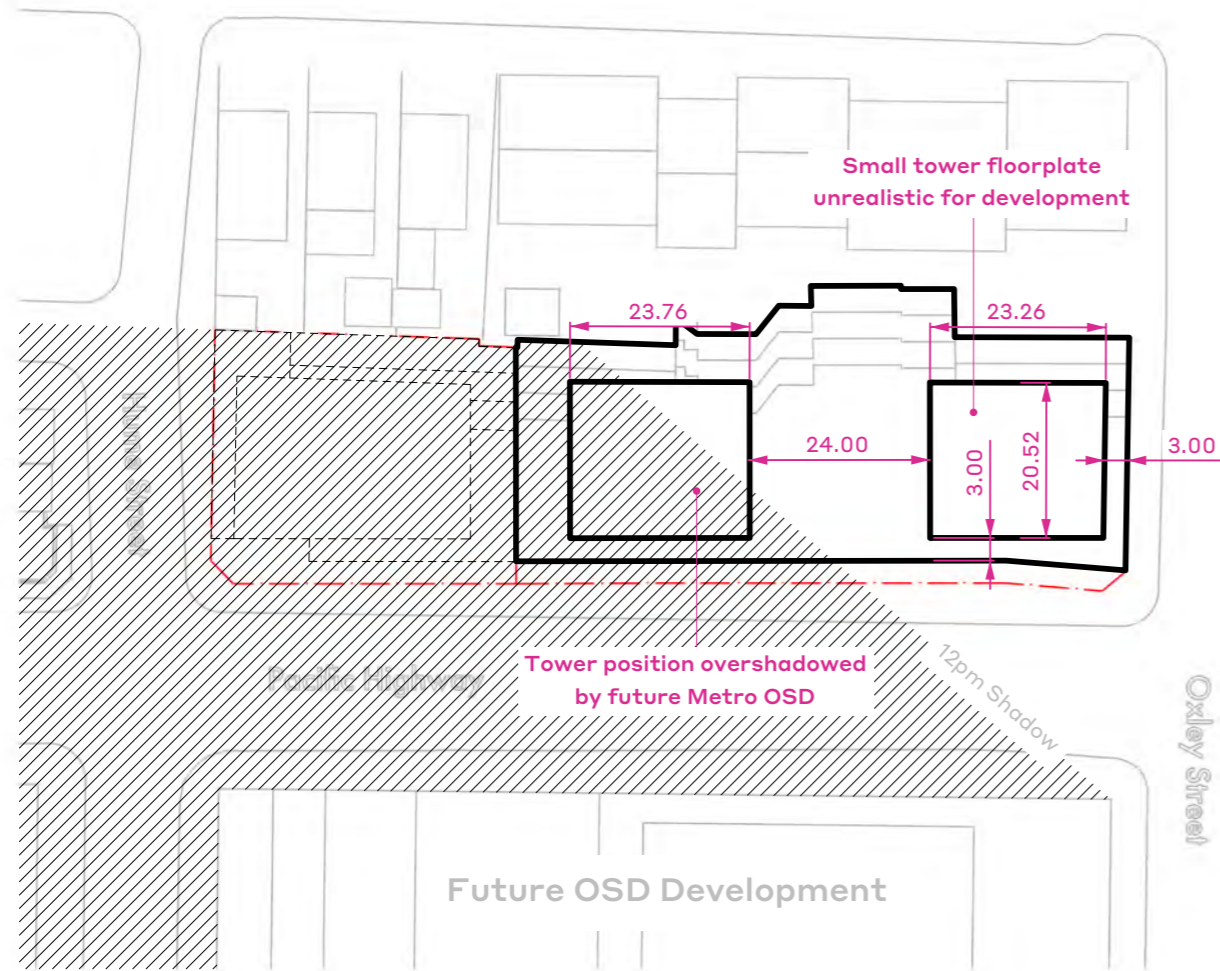
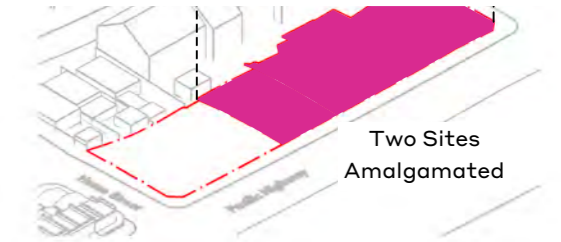
Neighbouring Developments Analysis

Scenario B - Development of 402-420 Pacific Hwy



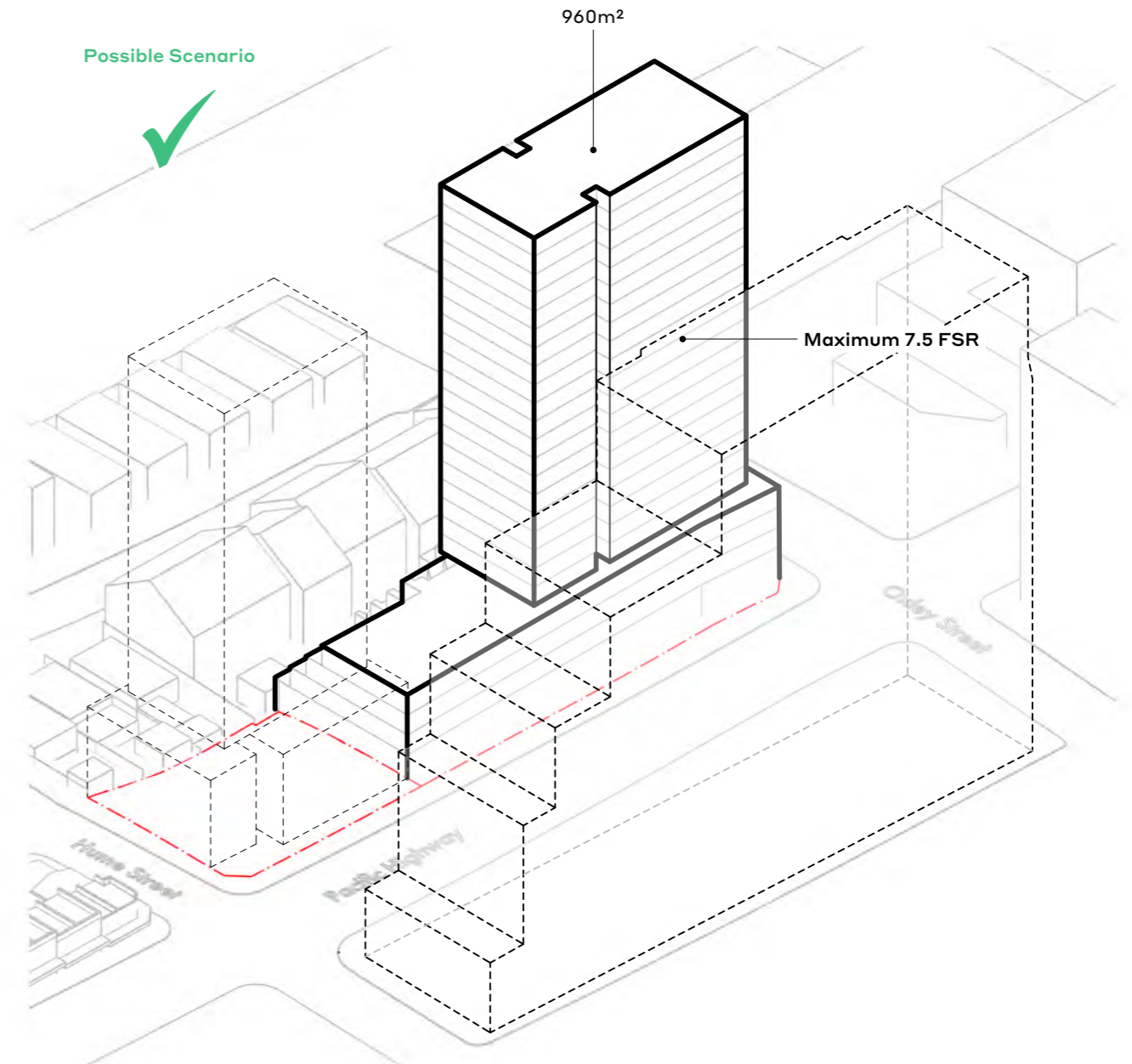
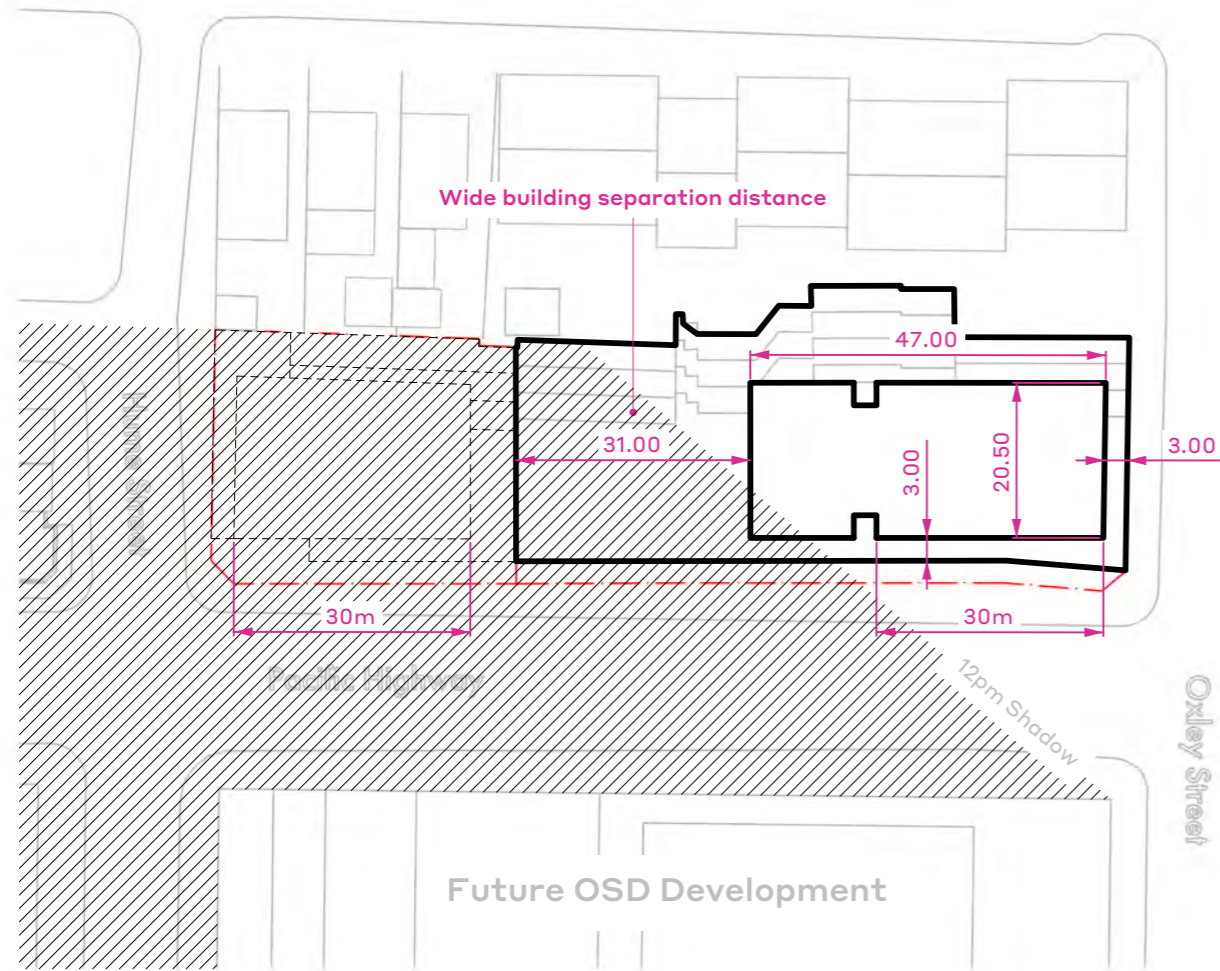
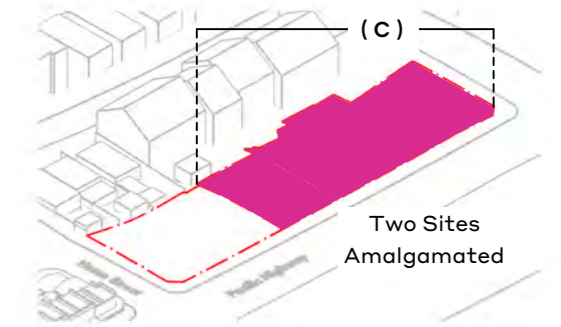
Neighbouring Developments Analysis

Scenario C - Development of 398 + 402-420 Pacific Hwy



Neighbouring Developments Analysis

Scenario C - Development of 398 + 402-420 Pacific Hwy



04

The Tower design of 378-390 Pacific Highway is a residential area of 7200m² GFA at an FSR of approximately 5.5 : 1. It yields a total of 87 apartments.

The Tower for 378-390 Pacific Highway has been through two iterations prior to the proposed envelope presented in this report. Following is a summary of the adjustments made to date and a further exploration of the concluding building envelope.

Also explored in this section is the tower interaction with the podium whereby we are proposing generous space at amenities level.

Housed there will be the wellness centre, changing rooms, structure, reticulation of tower building services and mechanical spaces for Pool facilities.

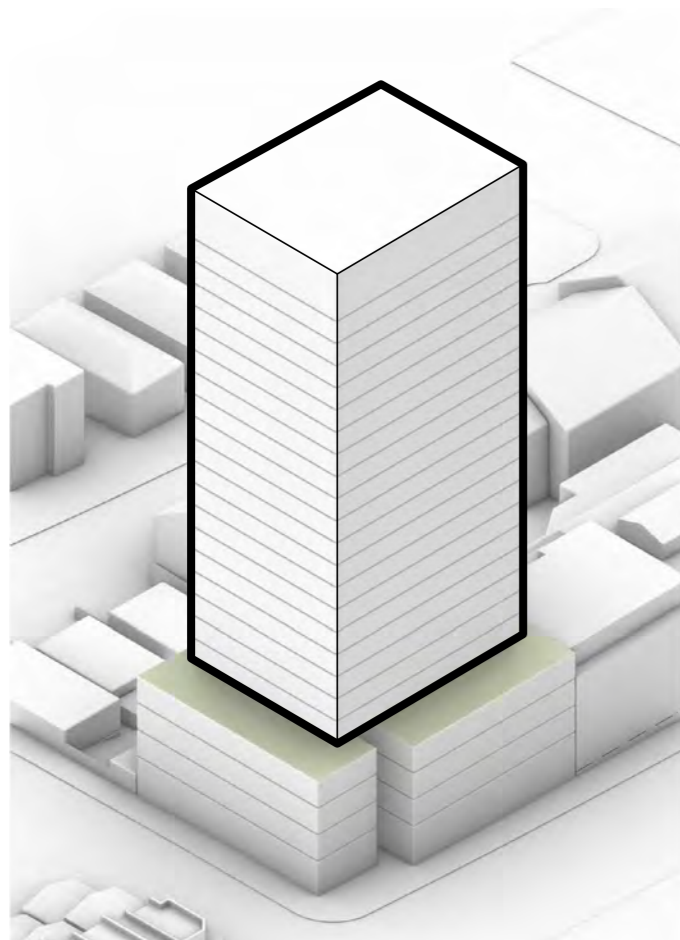
For the terraces and street, this manoeuvre will increase solar amenity for terrace areas, open views from the street to the sky and allow for deep soil planting of trees to act as a buffer for visual, acoustic and wind protection.



The Tower

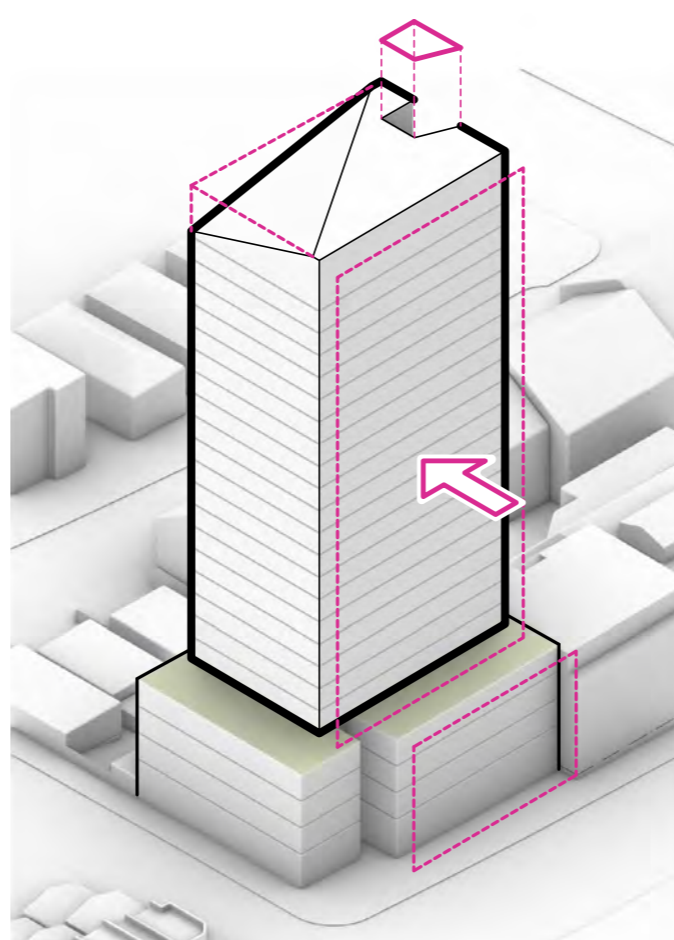
Design Evolution...

10th May Pre-Application Massing



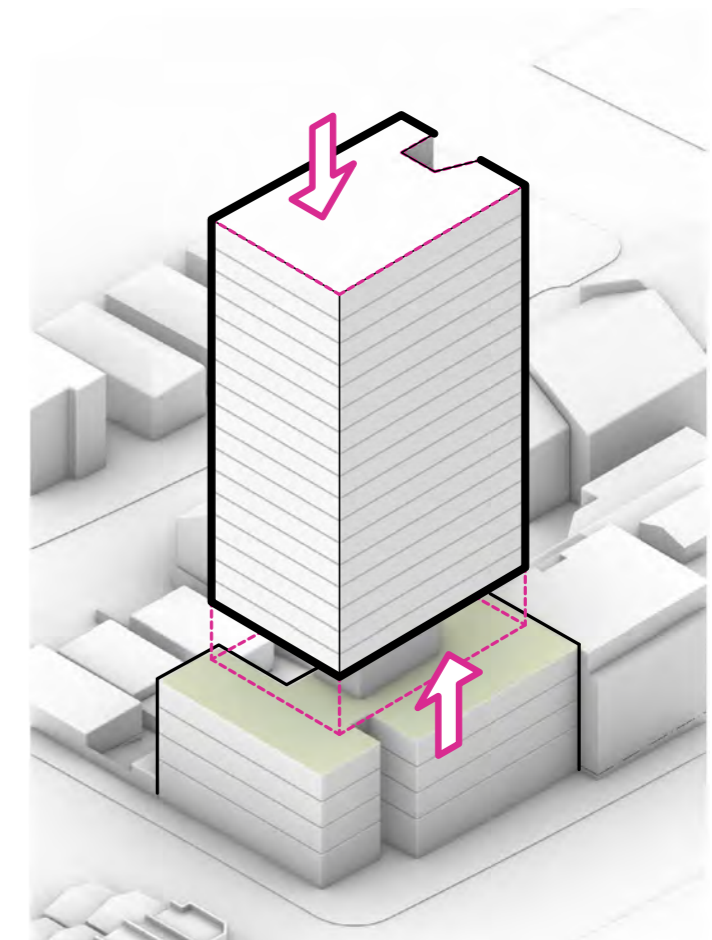
- › 10th May 2021 - The pre-application scheme, to set an indicative buildable envelope, and as a starting point to commence discussions regarding our interpretations of the setback requirements for the North Sydney DCP, 2036 Plan, LEP and ADG.
- › North Sydney Council expressed the need to comply with the 2036 Plan FSR in particular, as well as additional setbacks from Pacific Highway also indicated in the 2036 Plan.

24th August Planning Proposal



- › 24th August 2021 - Planning Proposal submitted with a 15% uplift in FSR and a re-visiting of the setbacks, particularly along Pacific Highway. As further studies were conducted, the overall height is controlled via a solar plane so as not to overshadow past the 2036 Plan boundary.
- › Key notes from North Sydney Council that affected the massing; reiterating not exceeding the FSR and that a reduction in height would also be supported.

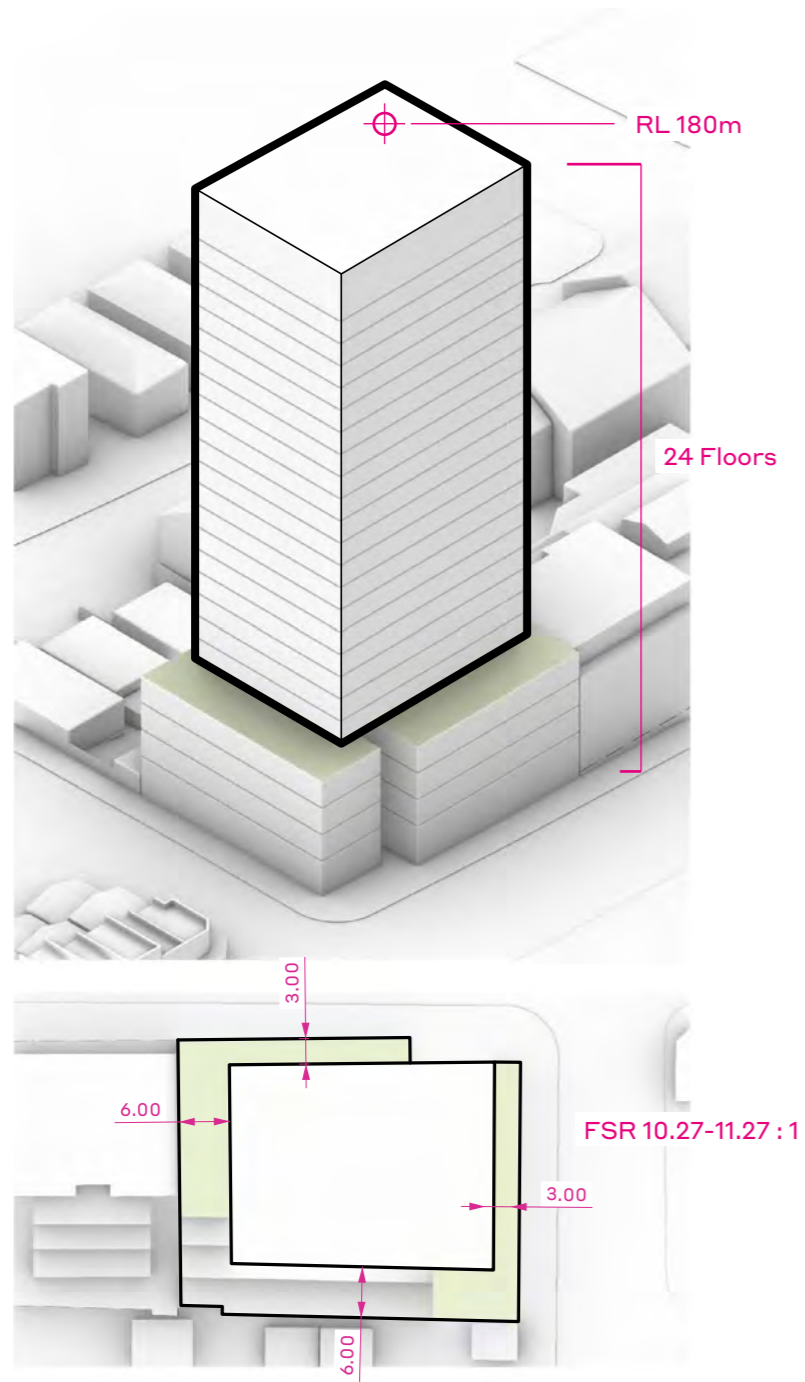
15th December Amended Planning Proposal



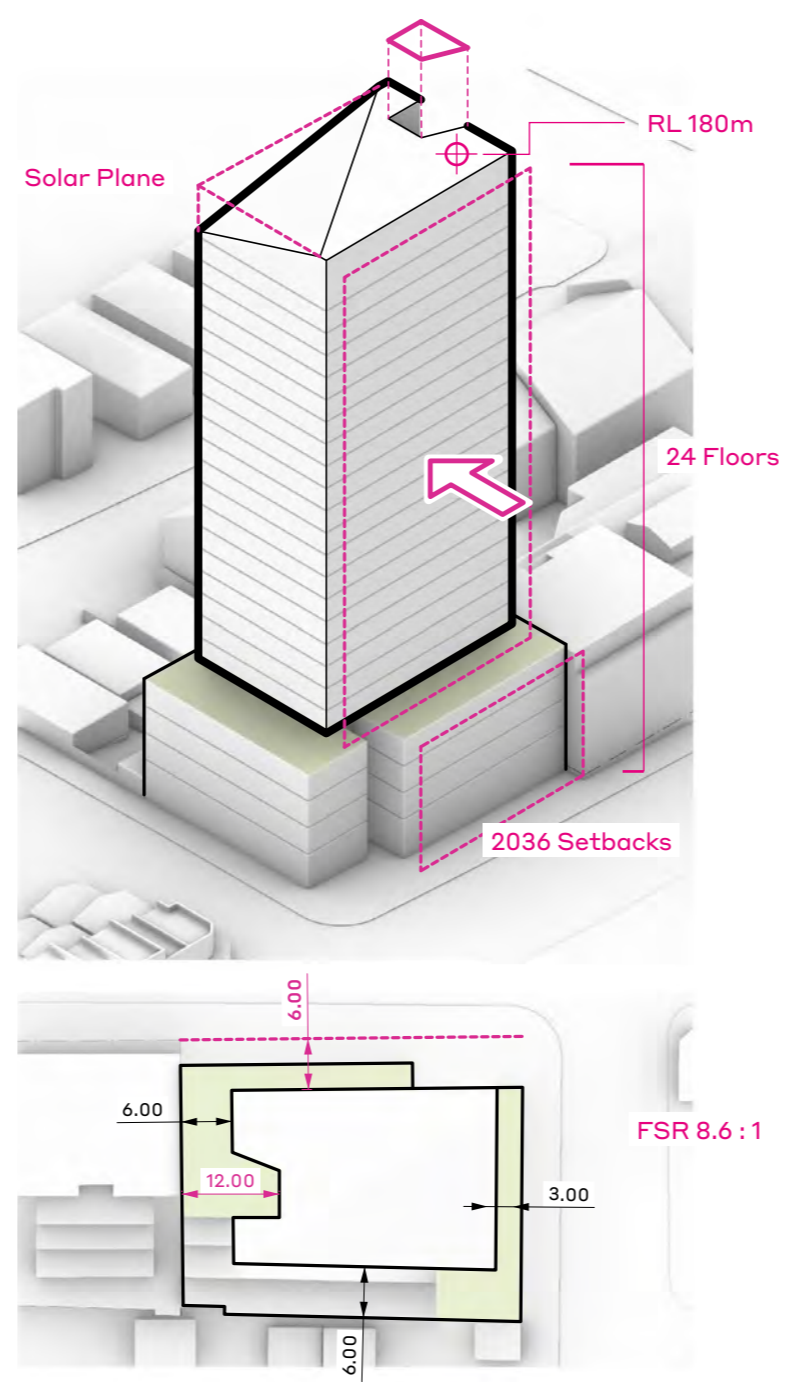
- › To date our current Tower massing complies with the number of storeys indicated in the 2036 Plan, compliant setbacks for both the DCP & 2036 Plan, number of levels for the 2036 Plan, FSR for 2036 Plan, and consideration towards ADG Guides.

Design Evolution...

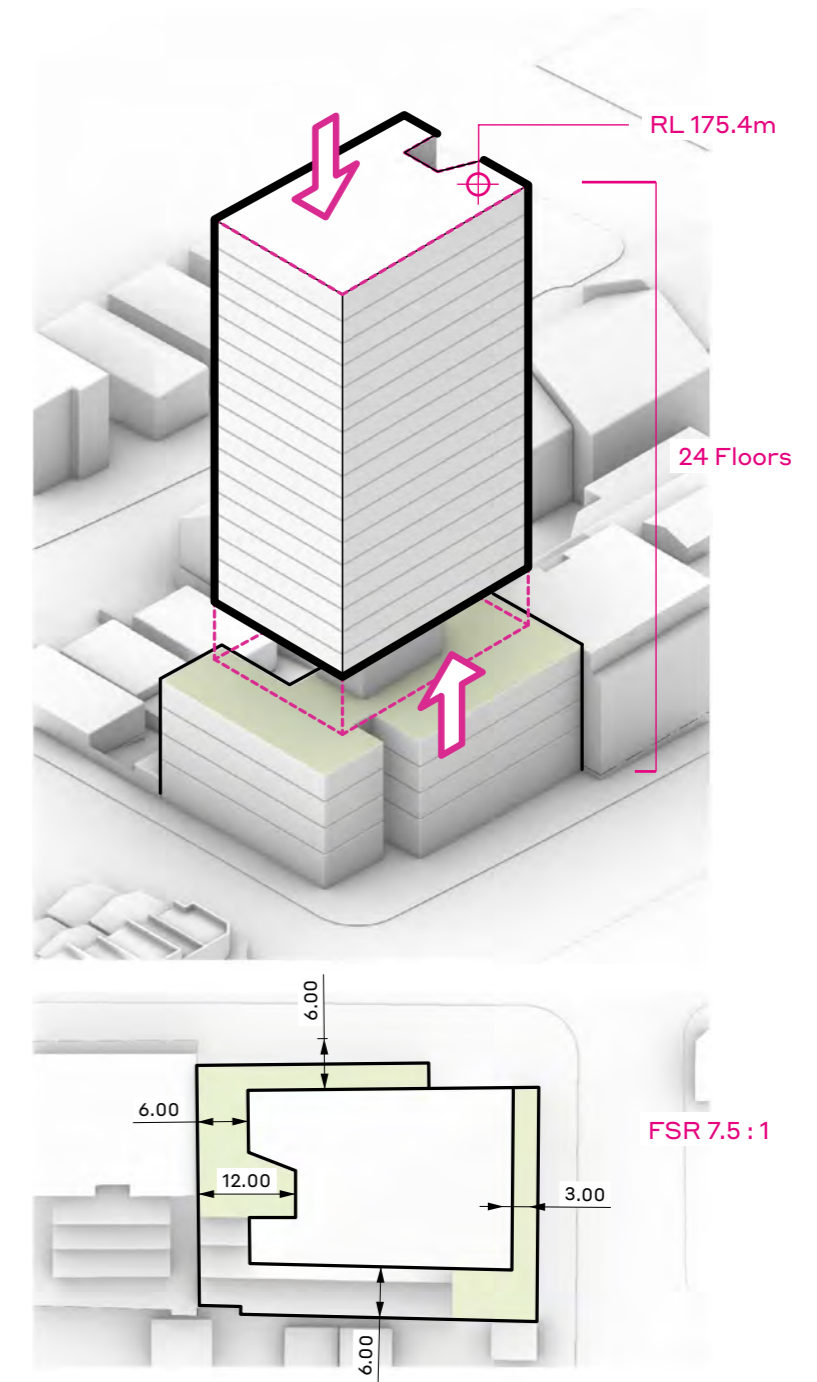
10th May Pre-Application Massing



24th August Planning Proposal



15th December Amended Planning Proposal



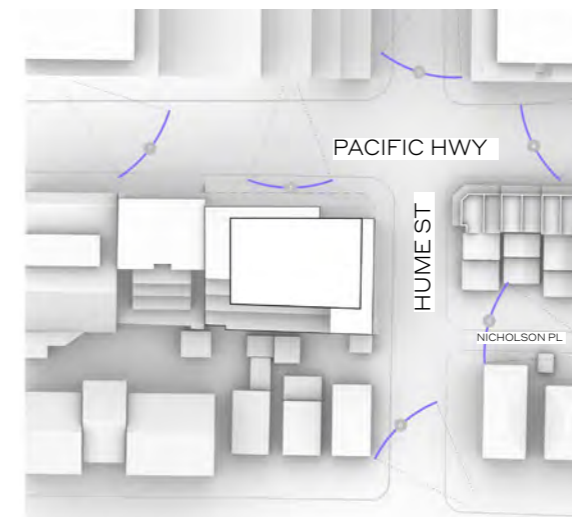
Amenity level study



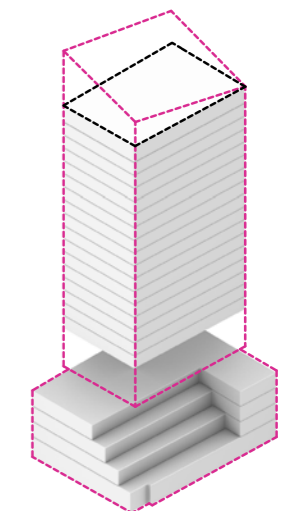
Amenity Level View Analysis

Existing proposal tower massing -----

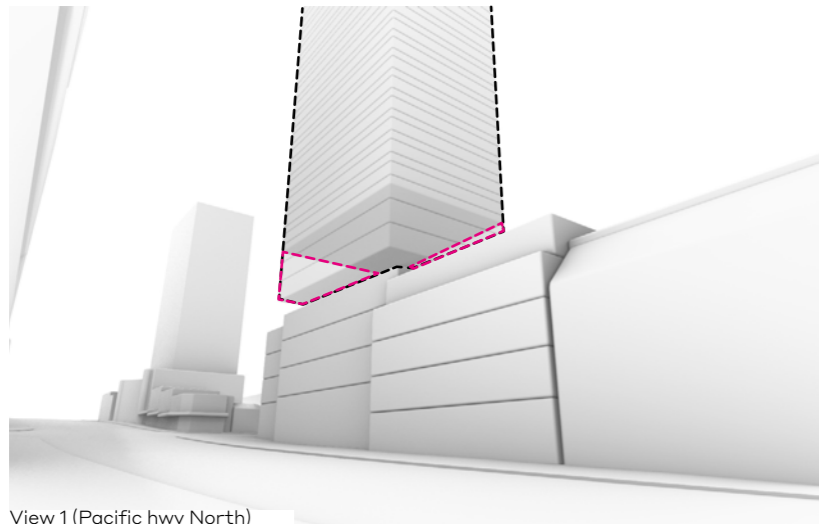
New tower proposal improved access to sky views - - - - -



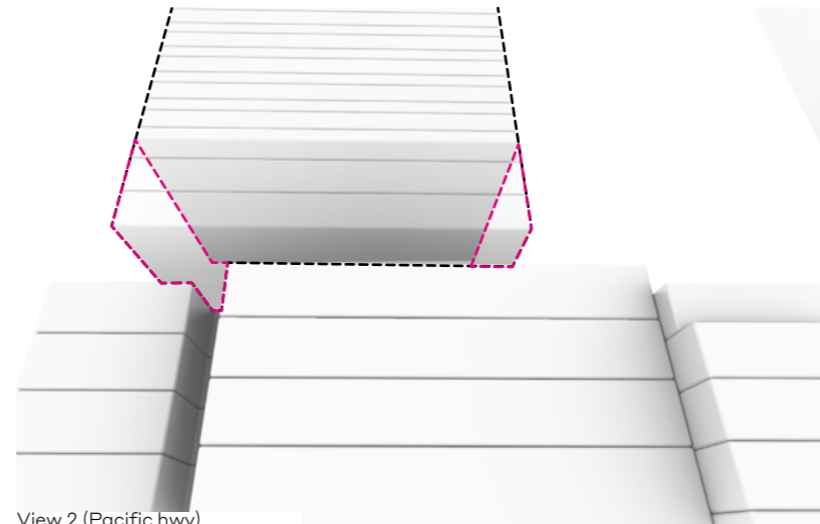
Key Plan



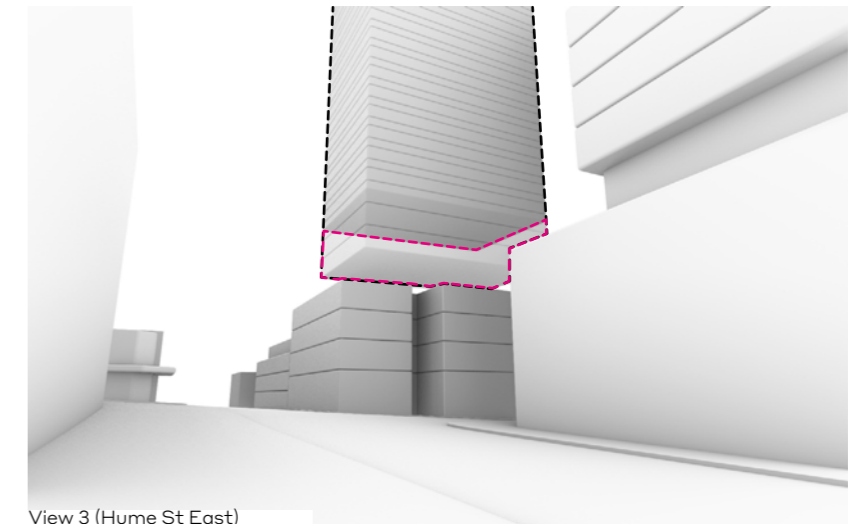
02 - Crown + Amenity Reduction



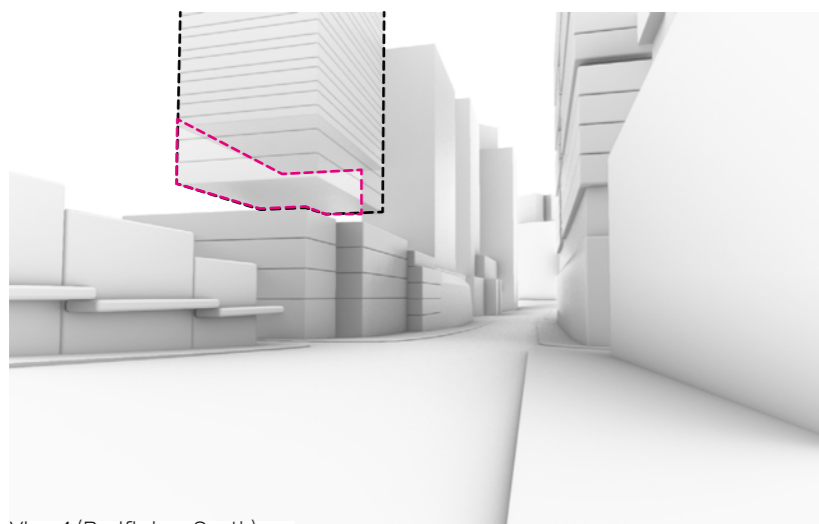
View 1 (Pacific hwy North)



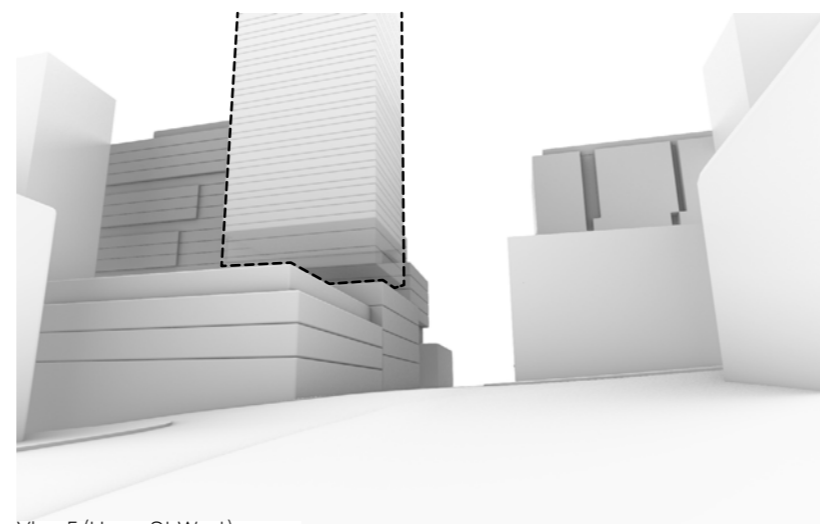
View 2 (Pacific hwy)



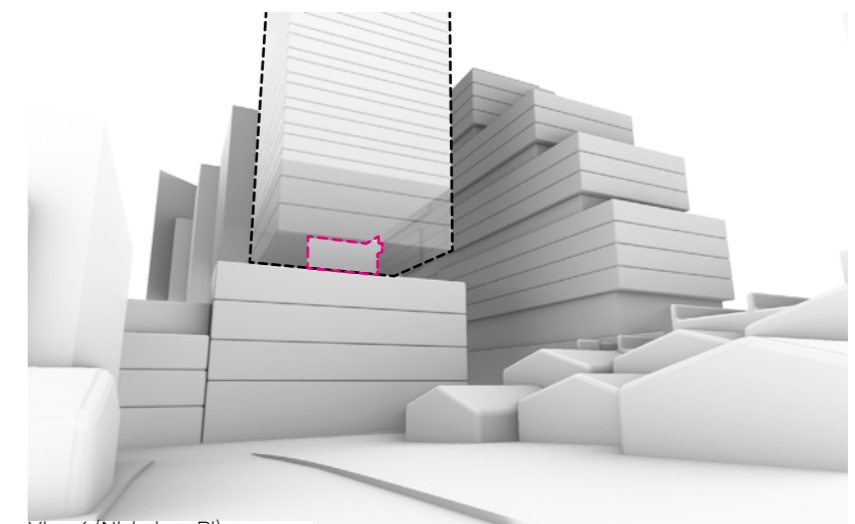
View 3 (Hume St East)



View 4 (Pacific hwy South)



View 5 (Hume St West)



View 6 (Nicholson Pl)

Reference Project - Short Lane



Reference Project - The Ivy

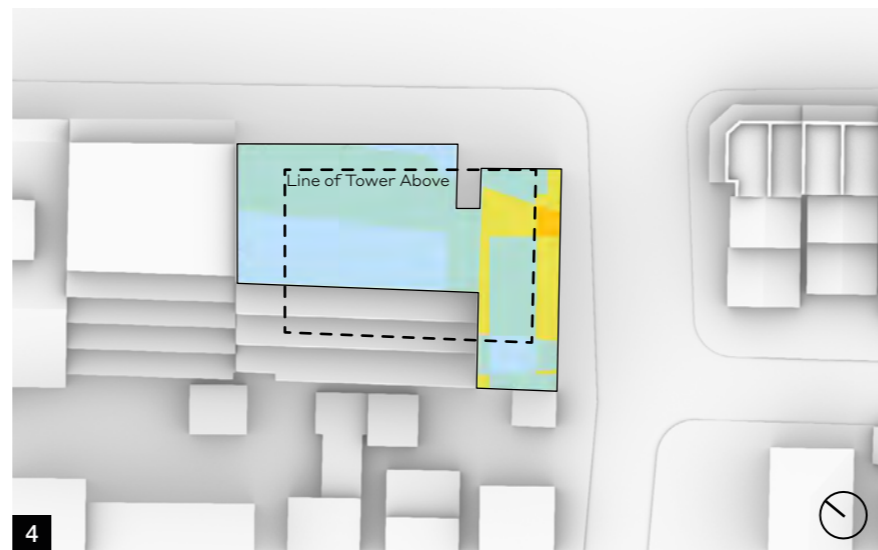
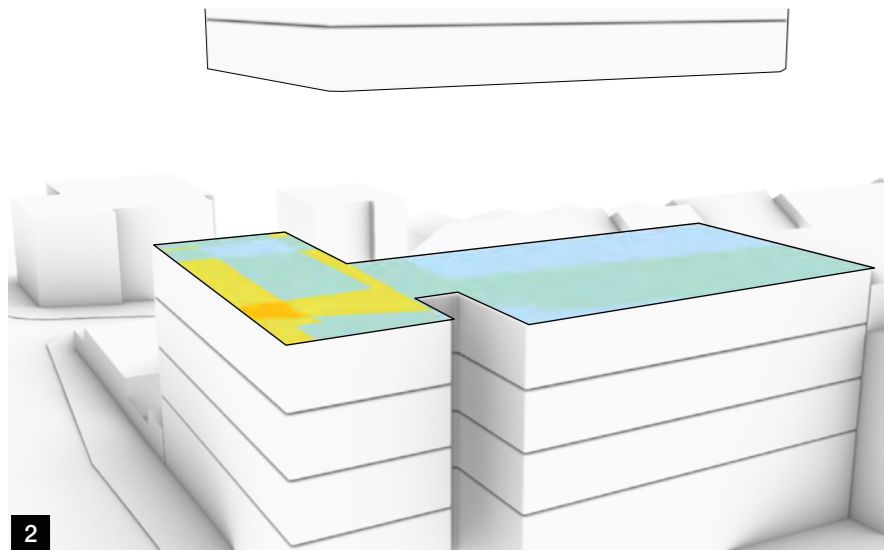
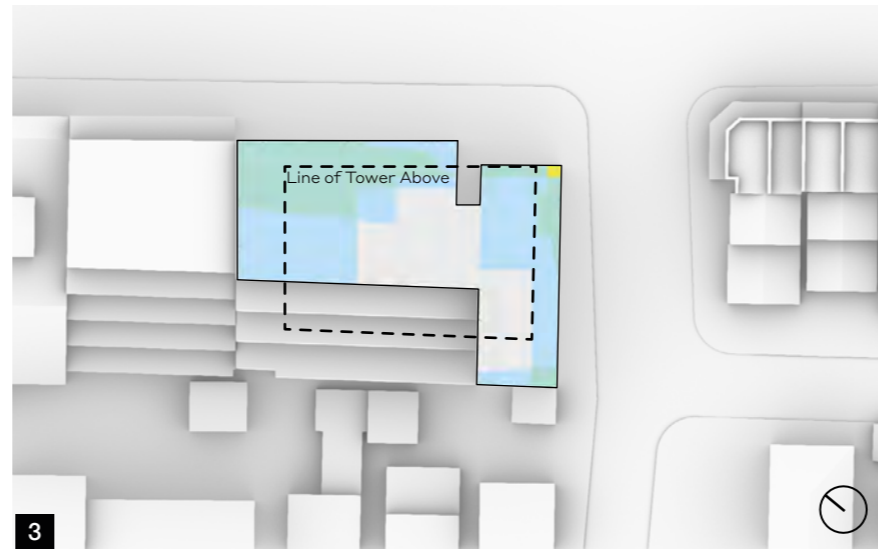
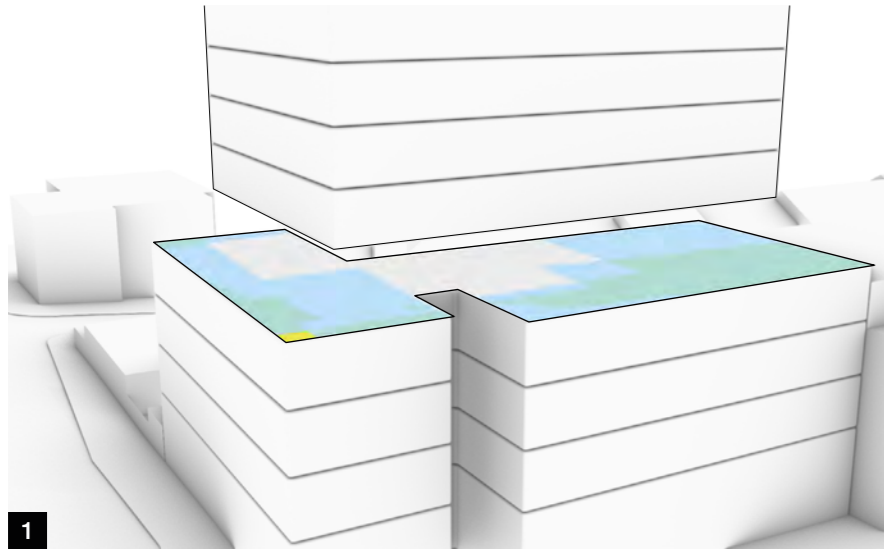


Sketch Vision





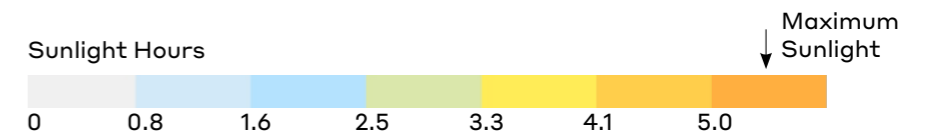
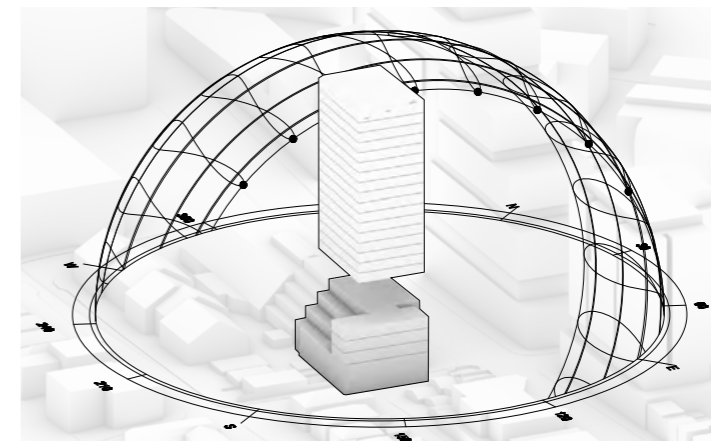
Solar Access - June 21



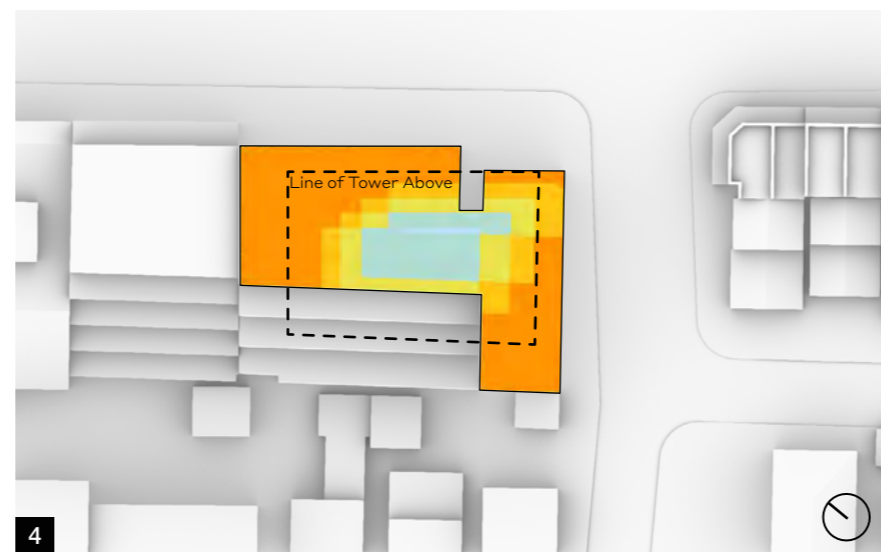
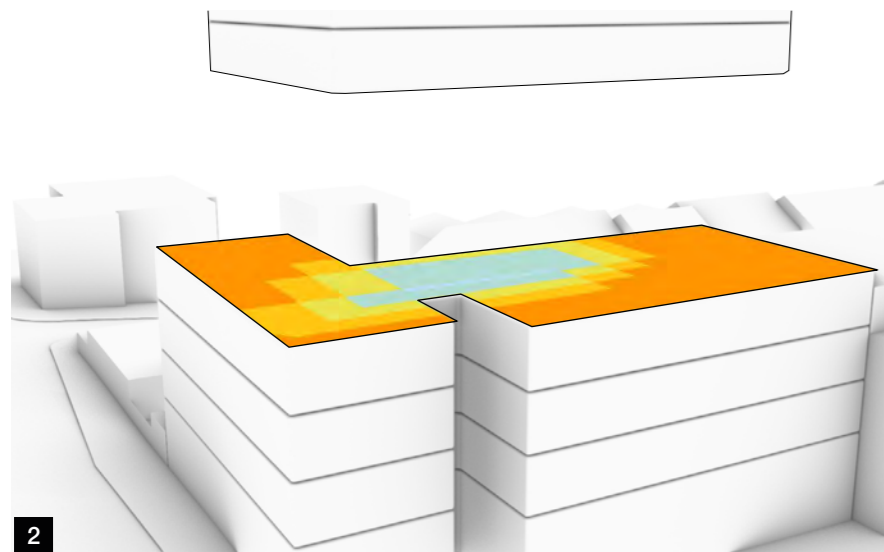
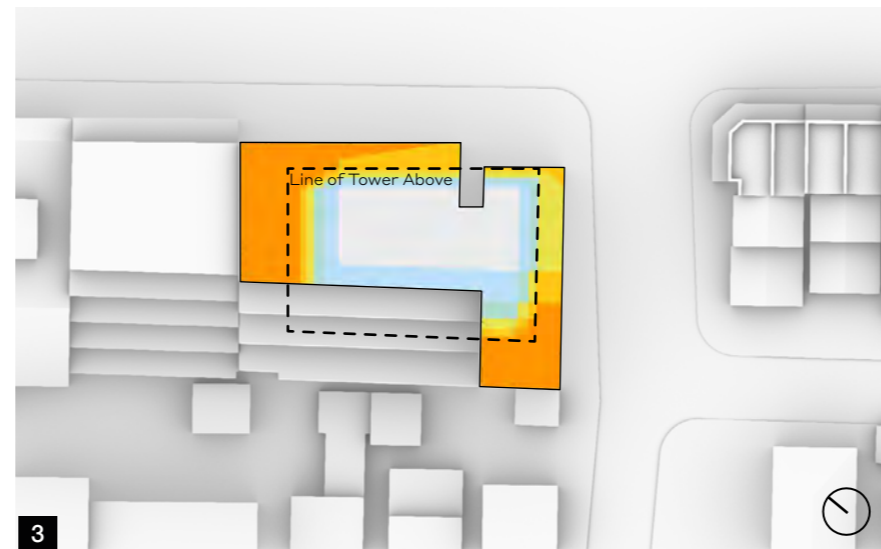
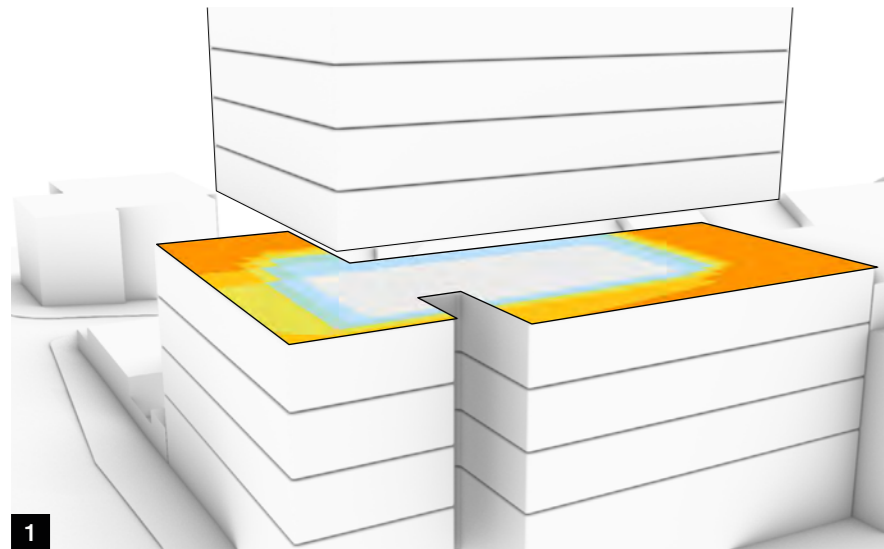
+ 2.0 Hours
1:00 PM → 3:00 PM

The analysis considers the solar access of the amenity level on the winter solstice between the hours of 9:00am and 6:00pm

1. Western elevated perspective previous proposal
2. Western elevated perspective amended proposal
3. Plan view of previous proposal
4. Plan View of amended proposal



Solar Access - December 21

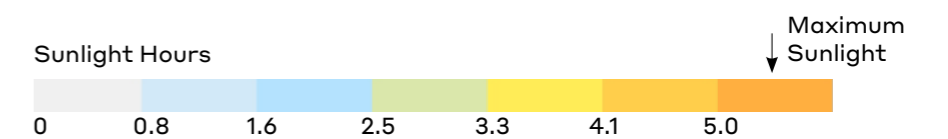
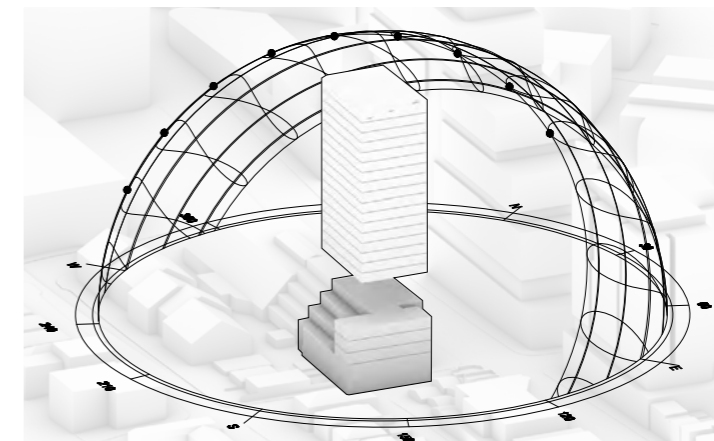


+ 3.0 Hours

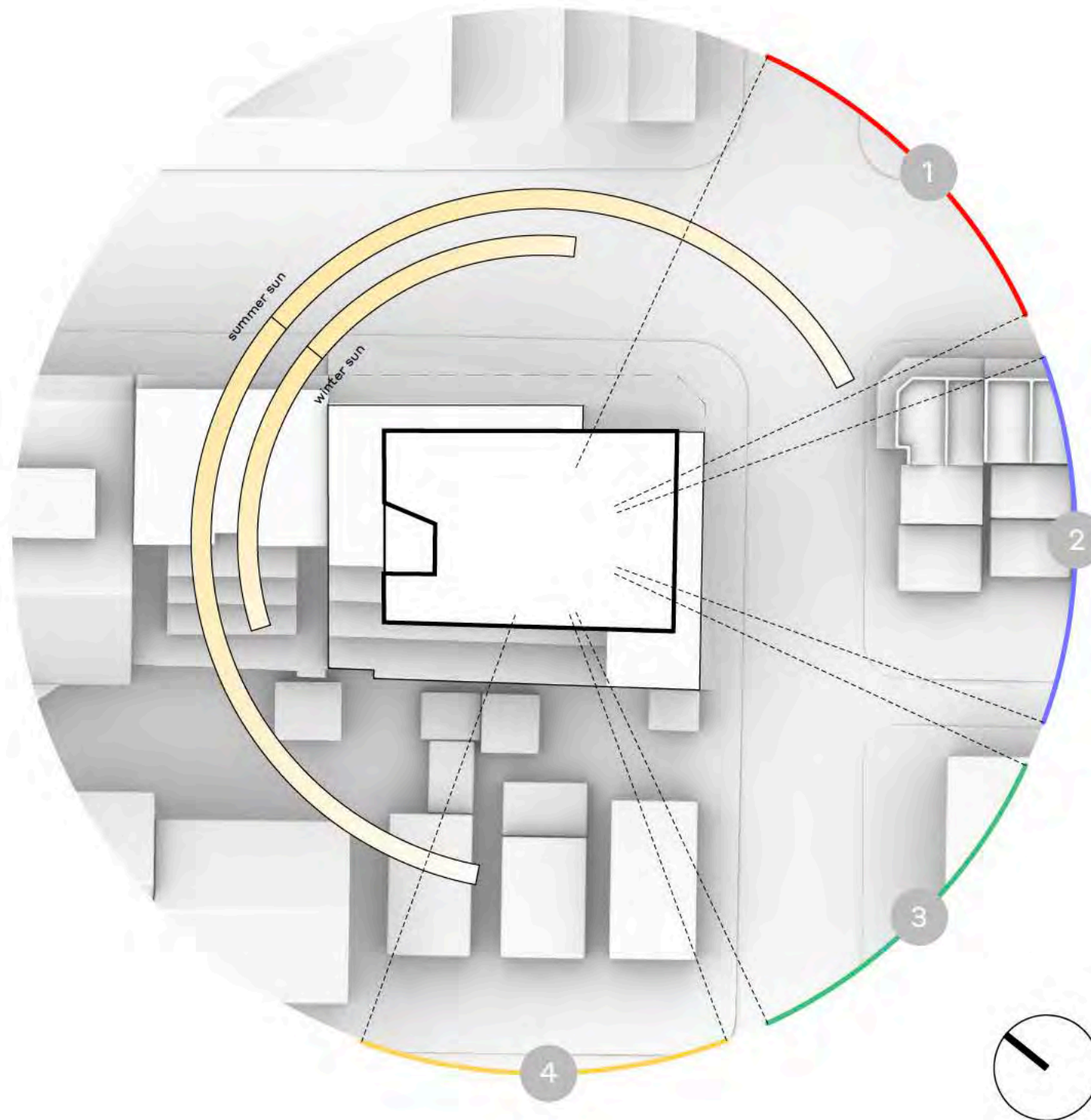
9:00 AM → 10:00 AM
3:00 PM → 5:00 PM

The analysis considers the solar access of the amenity level on the summer solstice between the hours of 9:00am and 6:00pm

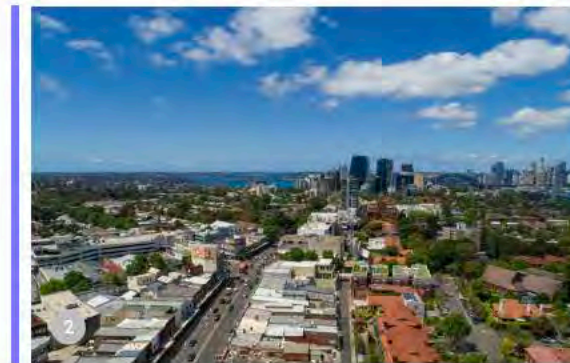
1. Western elevated perspective previous proposal
2. Western elevated perspective amended proposal
3. Plan view of previous proposal
4. Plan View of amended proposal



Views & Solar Amenities



View east over Crows Nest towards Cremorne



South East views towards North Sydney and the CBD



Southerly views towards the CBD and Sydney Harbour



South Westerly views to Wollstonecraft & Greenwich

Site Solar Constraints

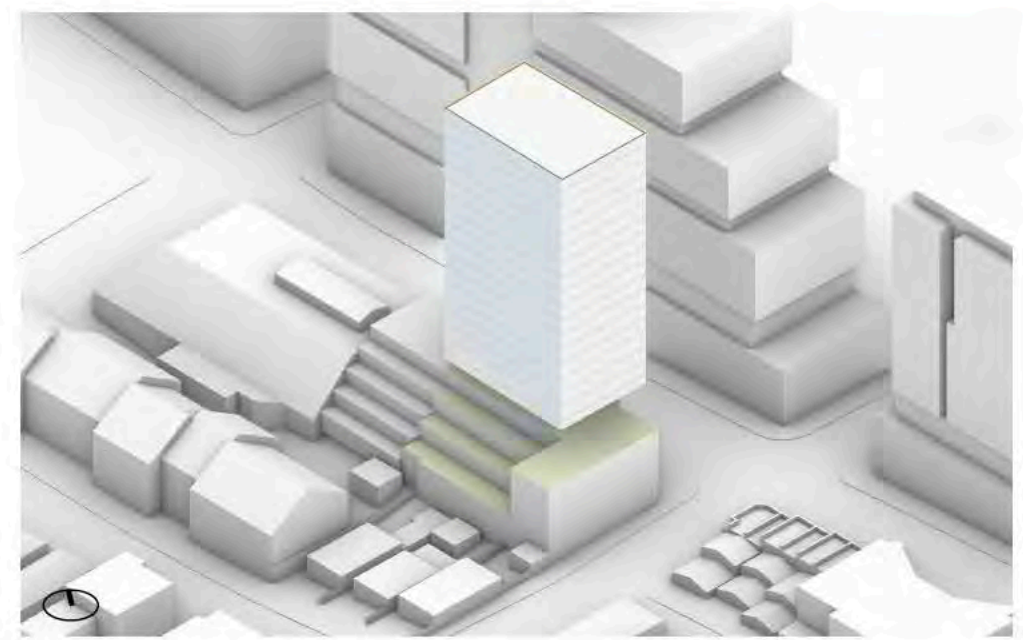
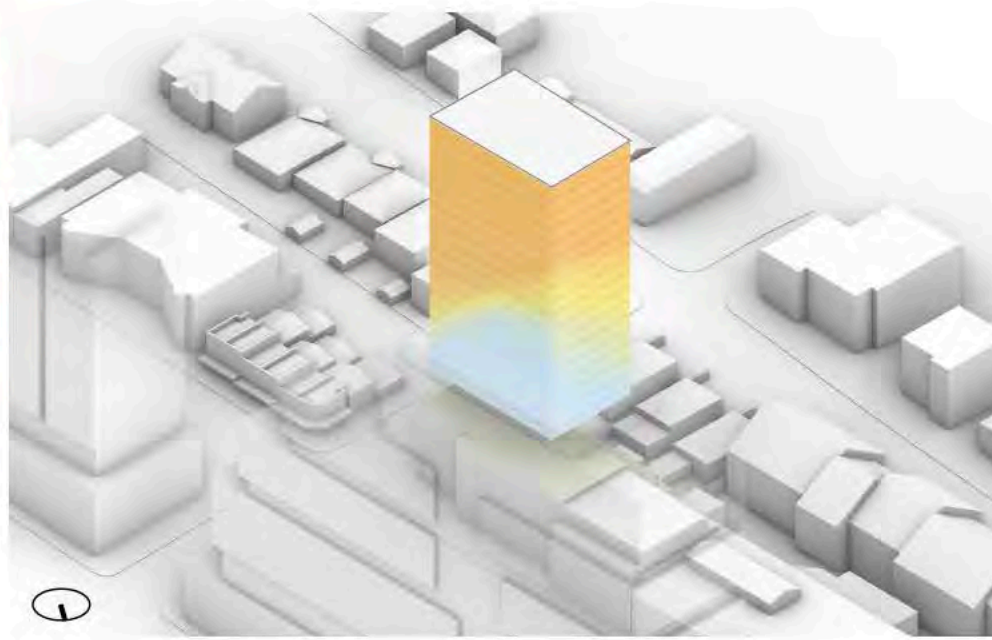
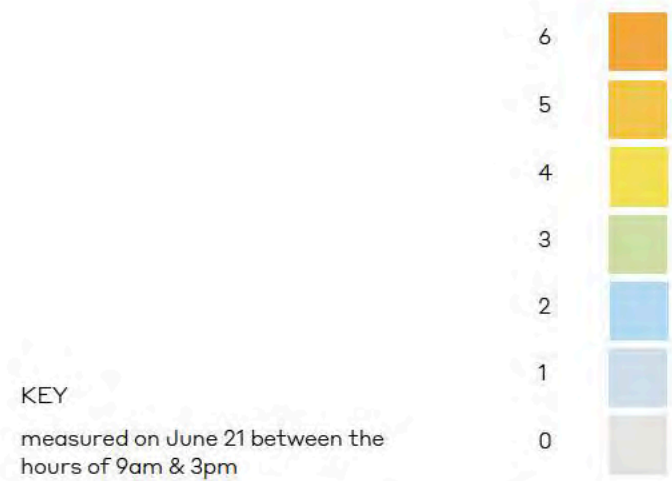
Objective 4A-1
To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space

Design criteria

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

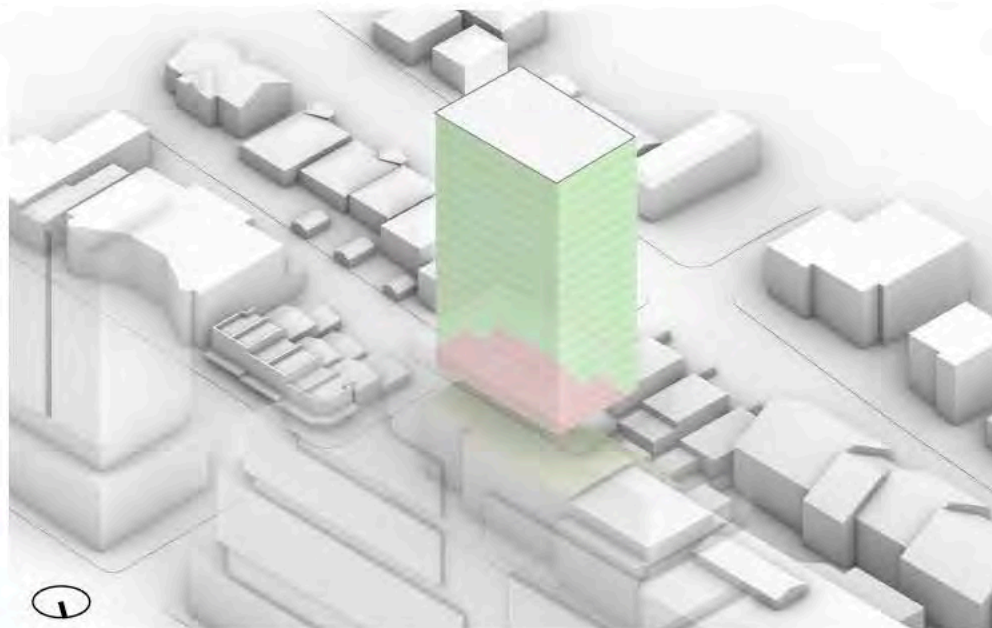
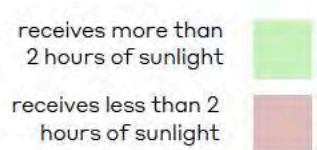
3. A maximum of 15% of apartments in a building receive no direct sunlight between 9 am and 3 pm at mid winter



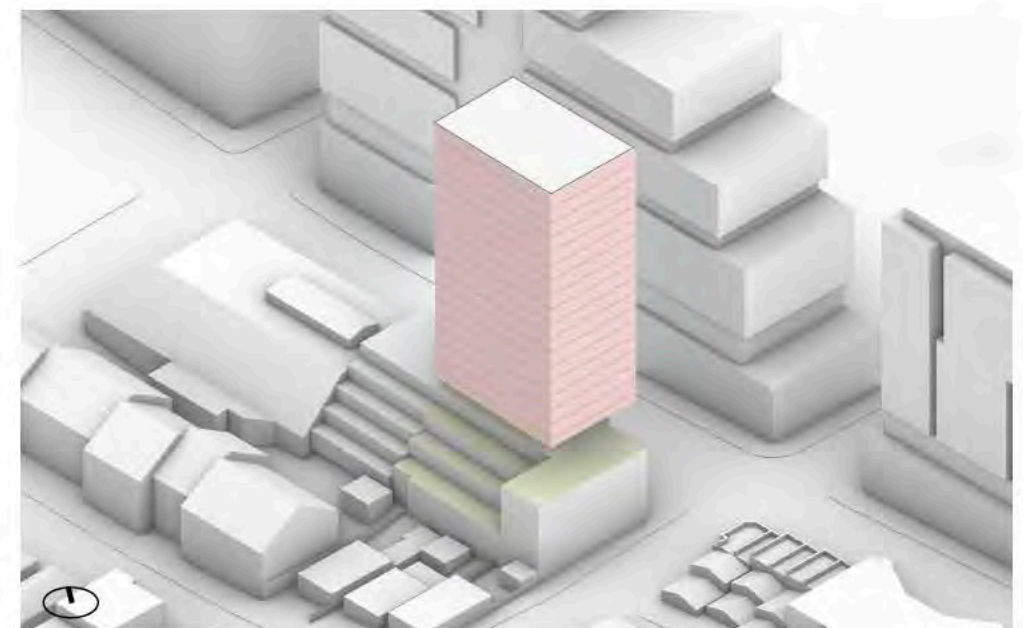
Daylight Hours Received

Overshadowing

***Note**
As indicated, units in the lower levels of the residential tower are overshadowed more severely by the future train station OSD.
Decreasing the height and/or number of levels proposed for the amenities would drop the overall RL's of the residential levels, therefore decreasing the percentage of apartments with adequate solar amenity.



View from North West



View from South East

Overshadowing Impact of Metro OSD

Daylight Hours Received By 29-33 Nicholson Street

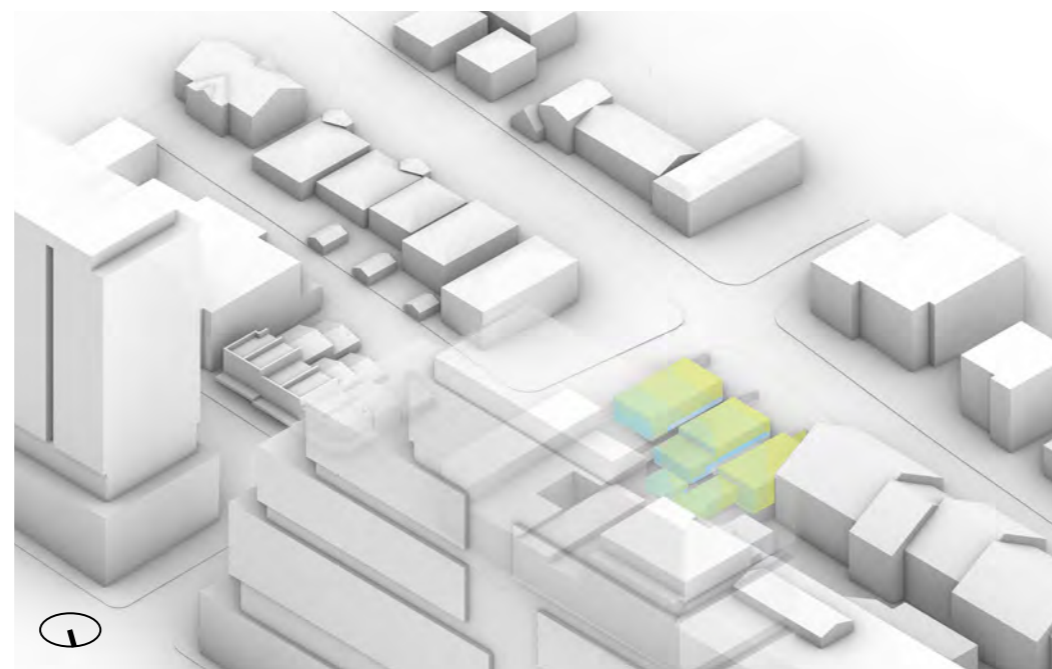
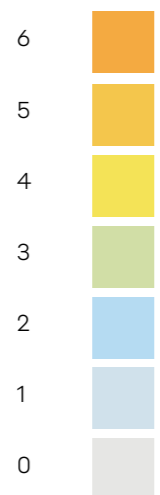
*Note

Our findings are that plots 29-33 along Nicholson street are receiving significant overshadowing from the future OSD development and are not further affected from an overshadowing point of view by our massing.

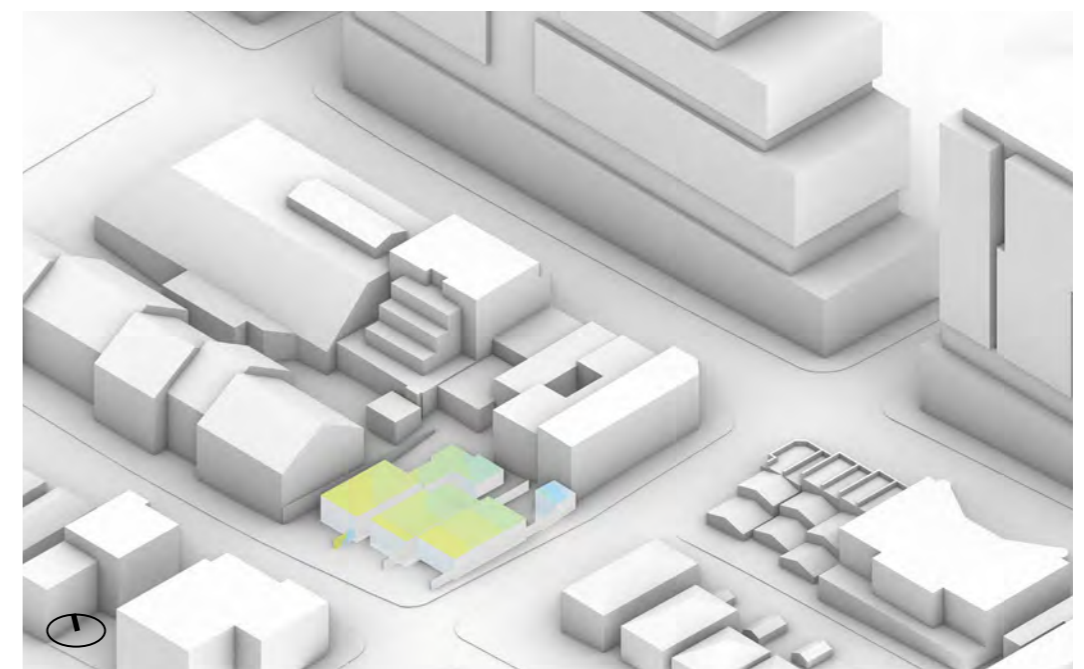
The following shadow studies section will further explore this in more detail.

KEY

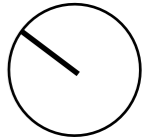
Note: measured on June 21 between the hours of 9am & 3pm



View from North West



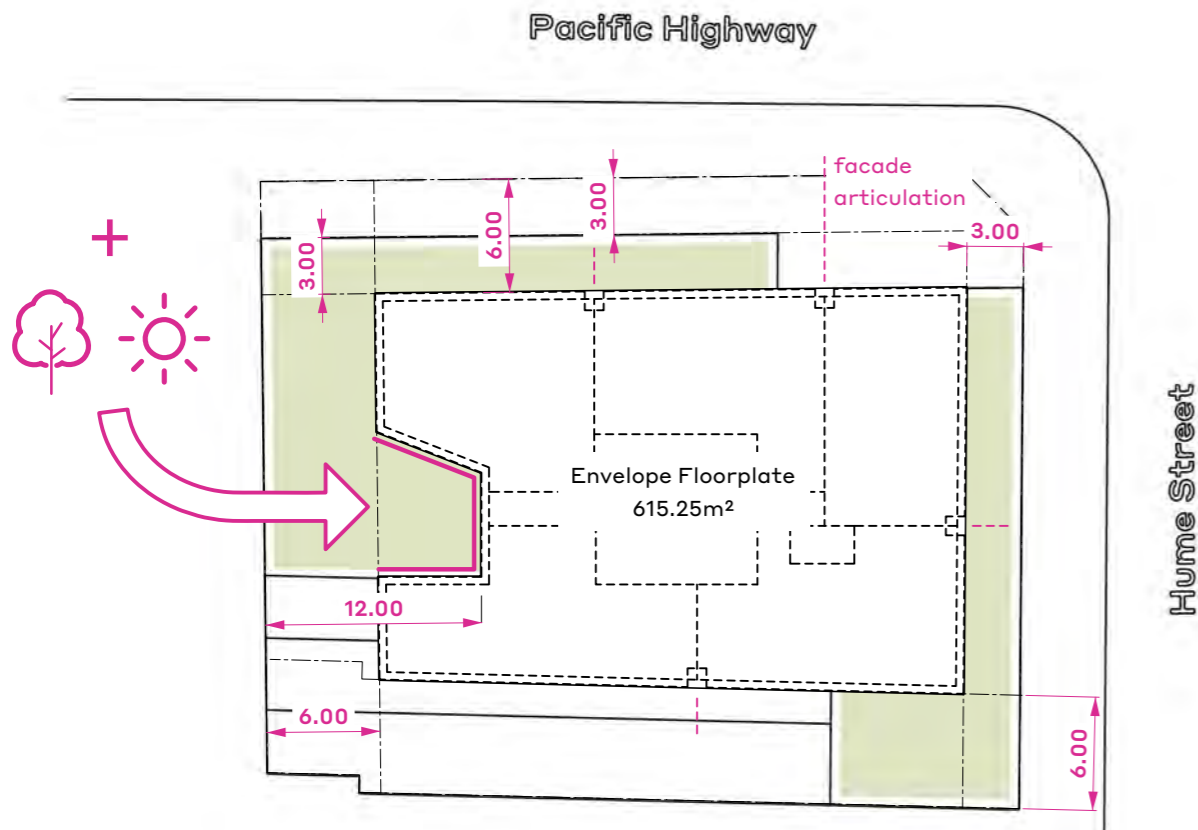
View from South East



Tower Floorplates

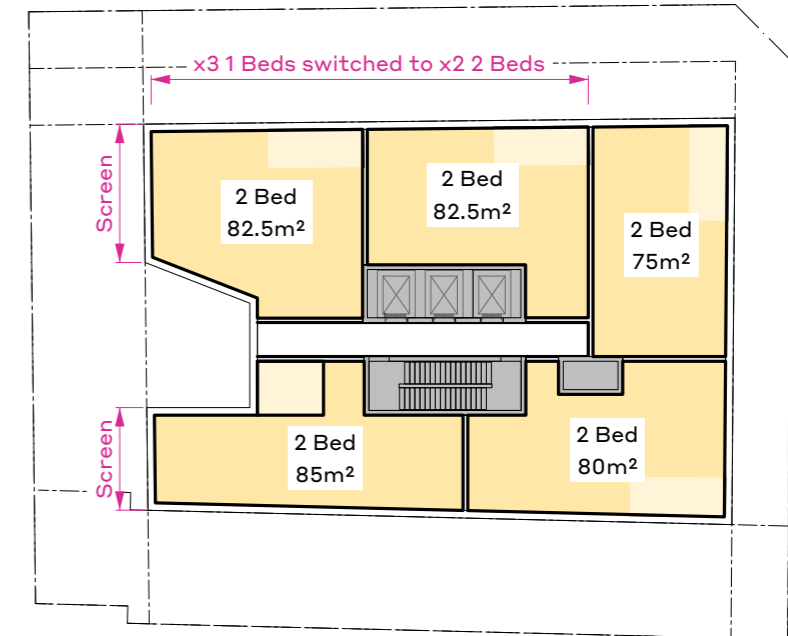
Envelope Floorplate

- Application of the 2036 Plan, DCP & ADG site setbacks when considering tower floorplate
- Facade zone articulation, to break down massing potentially at apartment and/or balcony intervals
- Introduction of a large notch along the NorthWest facade, further articulating the urban form and increasing space for light & landscape to podium residential amenities



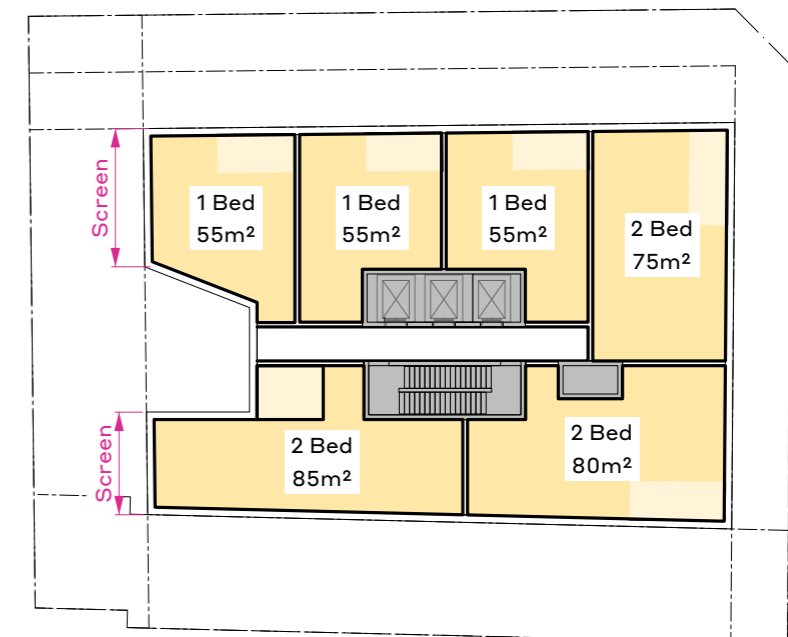
Typical Floorplate 01

- Apartment mix consisting of all 2 Bedroom Units
- Approximately 450m² GFA per floor *with nominal core shown
- Change in mix on 7.5m grid for structural efficiency and reducing structural transfers



Typical Floorplate 02

- Meeting the need for 1 Bedroom sized living in the area ie. young professionals looking to take advantage of the 30 minute city
- Approximately 450m² GFA per floor *with nominal core shown



Tower Floorplates - ADG Checklist

01. Solar and Daylight Access

- At least 70% of apartments receive at least 2 hours of direct sunlight on June 21 between 9am and 3pm
- A maximum of 15% of apartments receive no direct sunlight on June 21 between 9am and 3pm



02. Natural Ventilation

- At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building



03. Minimum Ceiling Heights

- Habitable rooms: 2.7m
- Non habitable rooms: 2.4m

04. Minimum Apartment Sizes

- 1 Bedroom: 50m²
- 2 Bedroom: 70m²
- 3 Bedroom: 90m²

05. Minimum Balconies

- 1 Bedroom: 50m²
- 2 Bedroom: 70m²
- 3 Bedroom: 90m²

06. Common Circulation

- Maximum number of apartments off a circulation core is 8
- Windows should be provided in common circulation spaces

07. Storage Requirements

- *At least 50% provided within apartments
- 1 Bedroom: 6m²
- 2 Bedroom: 8m²
- 3 Bedroom: 10m²

08. Acoustic Privacy

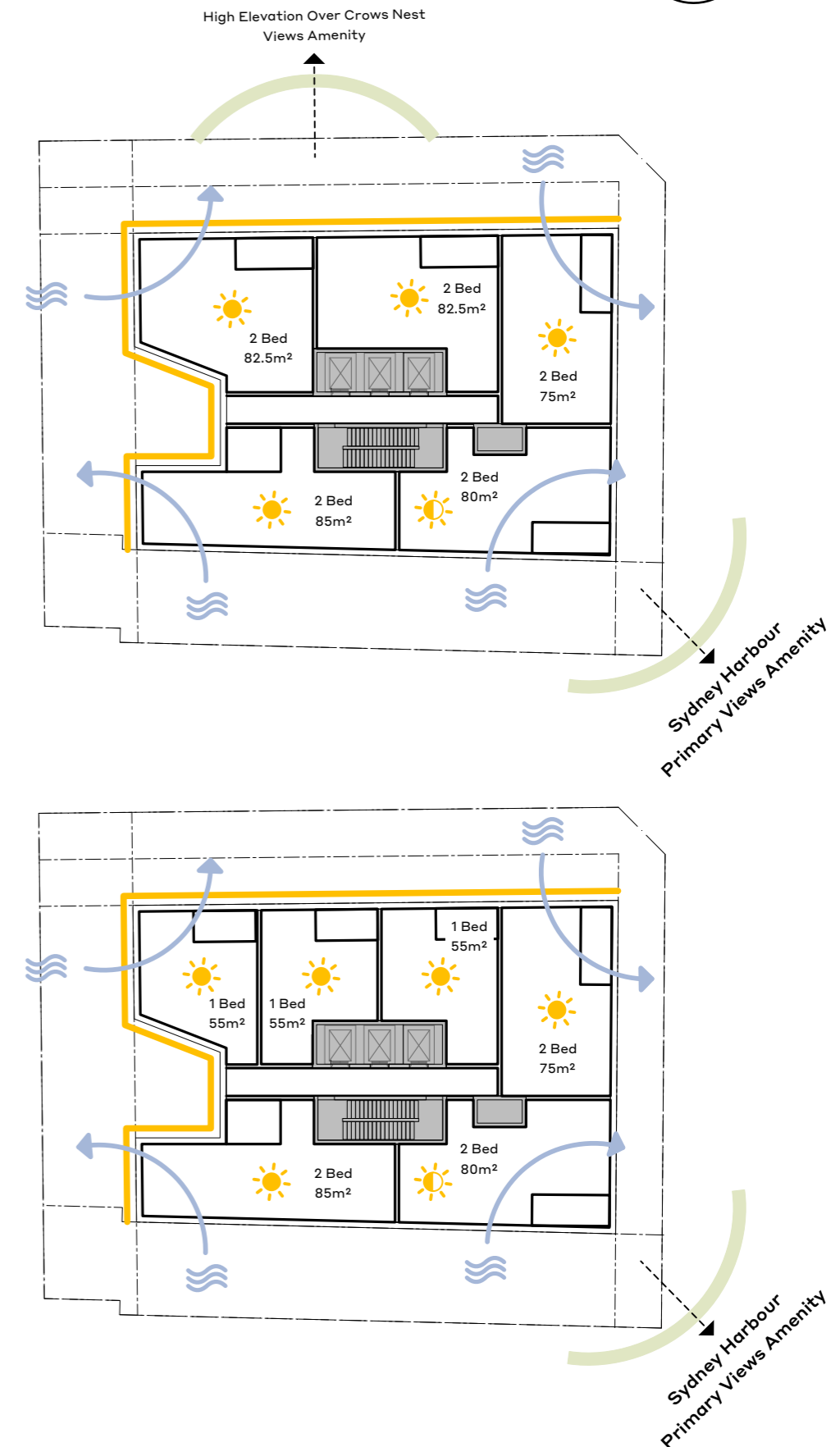
- Adequate separation provided within the development and from neighbouring buildings

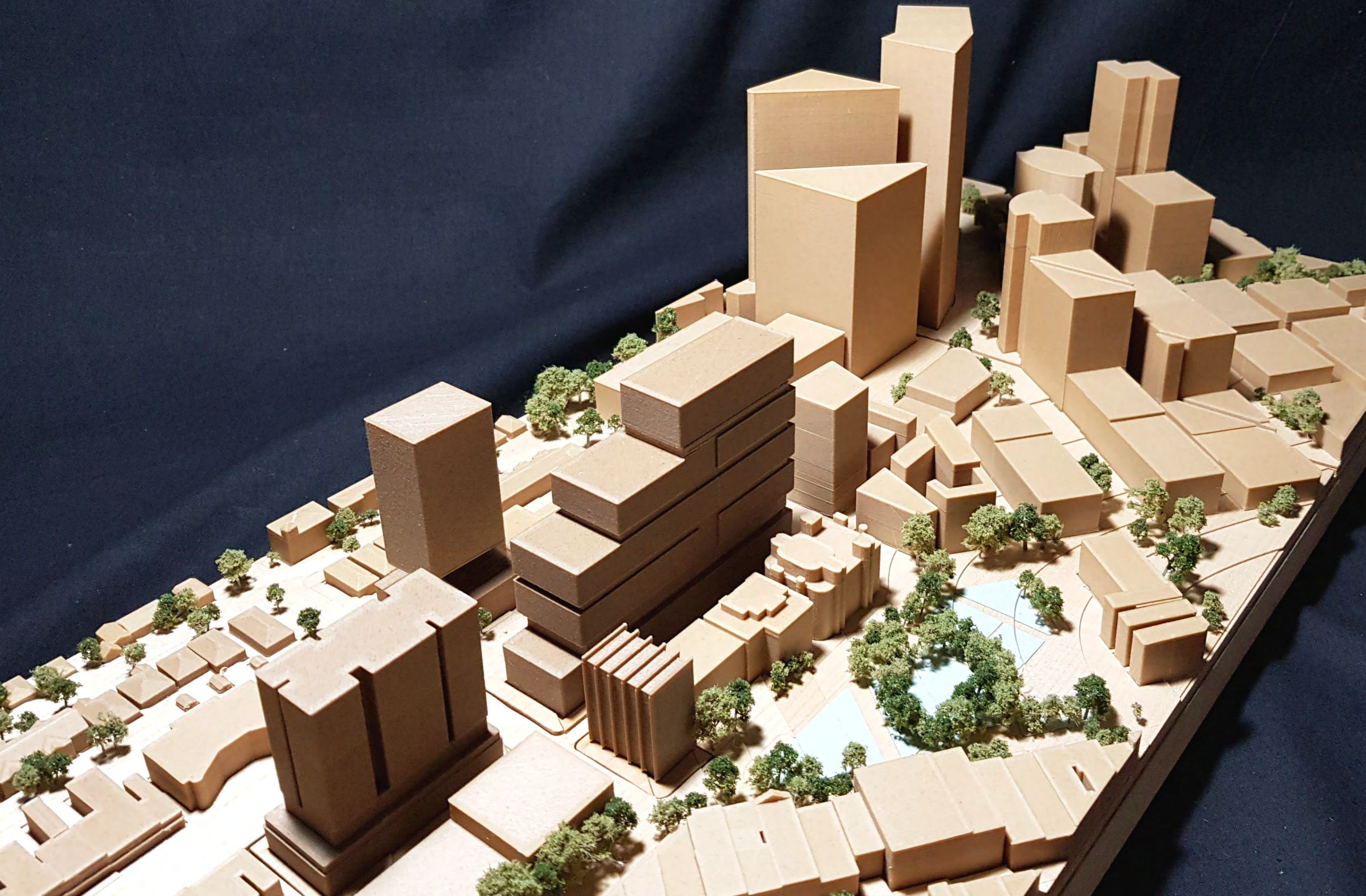
09. Noise & Pollution

- Non-residential uses sited at lower levels

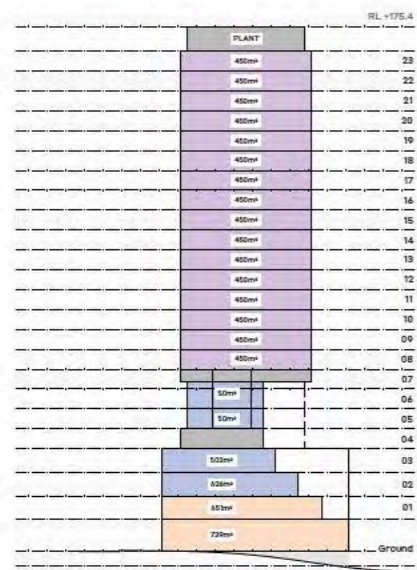
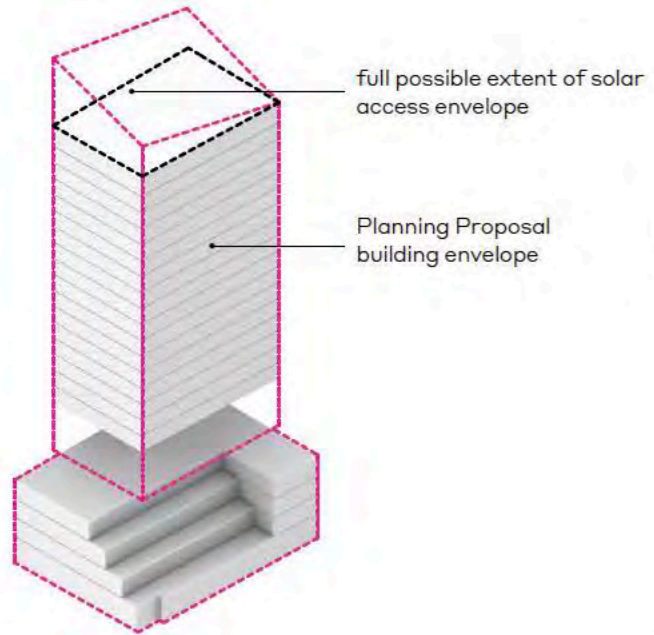
10. Apartment Mix

- A variety of apartment types and sizes are offered





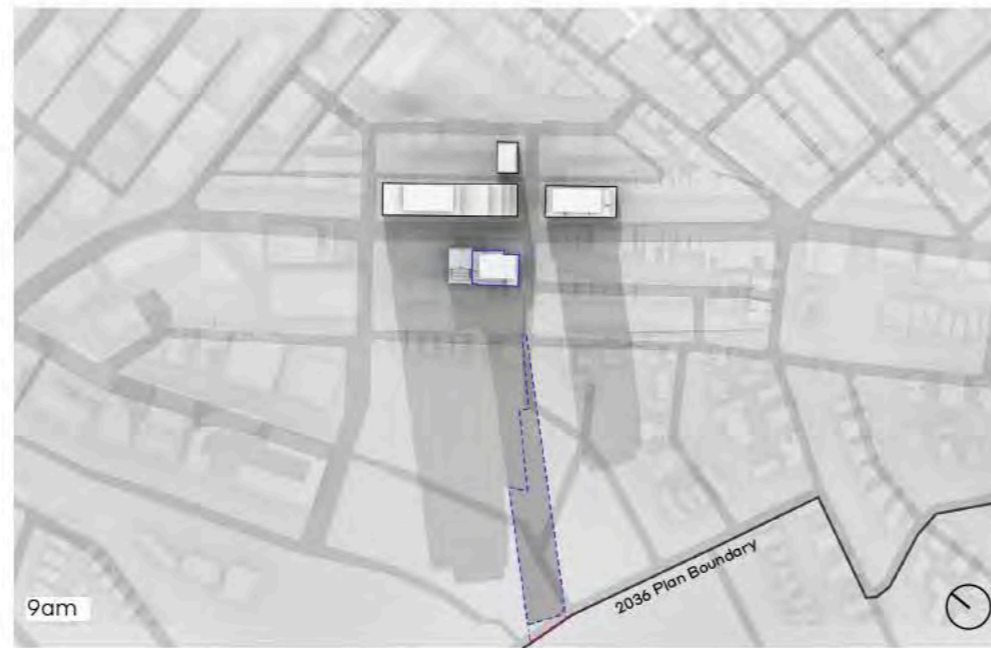
Shadow Diagrams - June 21



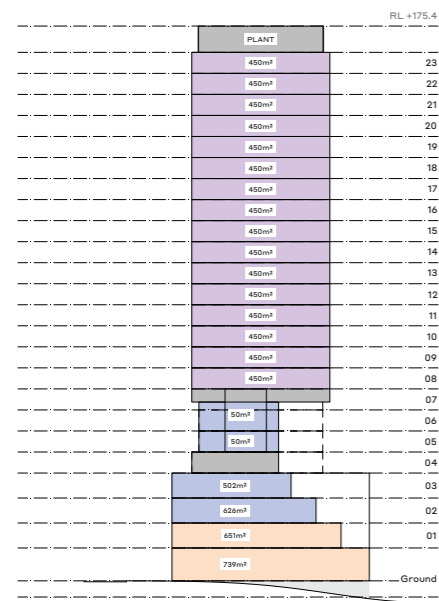
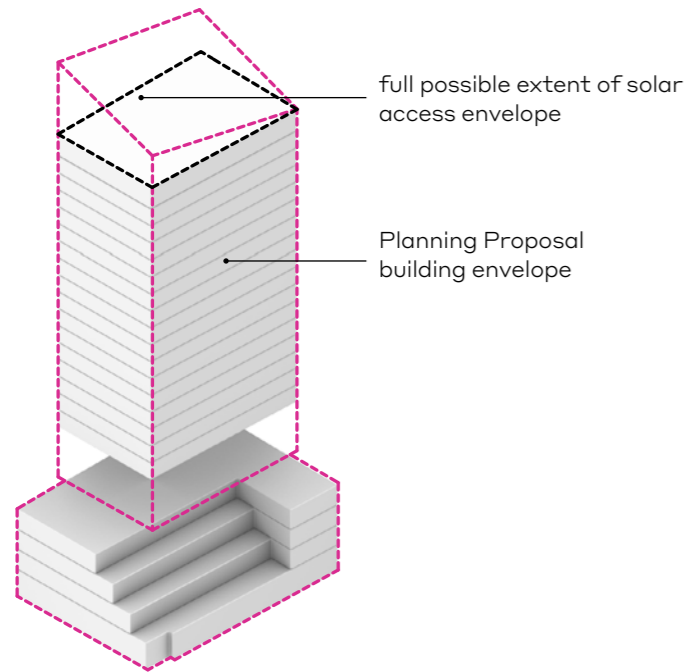
- boundary of Crows Nest St Leonards planning area ———
- additional shadow cast by 378-398 Pacific Highway - - -
- full extent of solar envelope - - -

KEY

shadow cast by 378-398 Pacific Highway and future Metro OSD

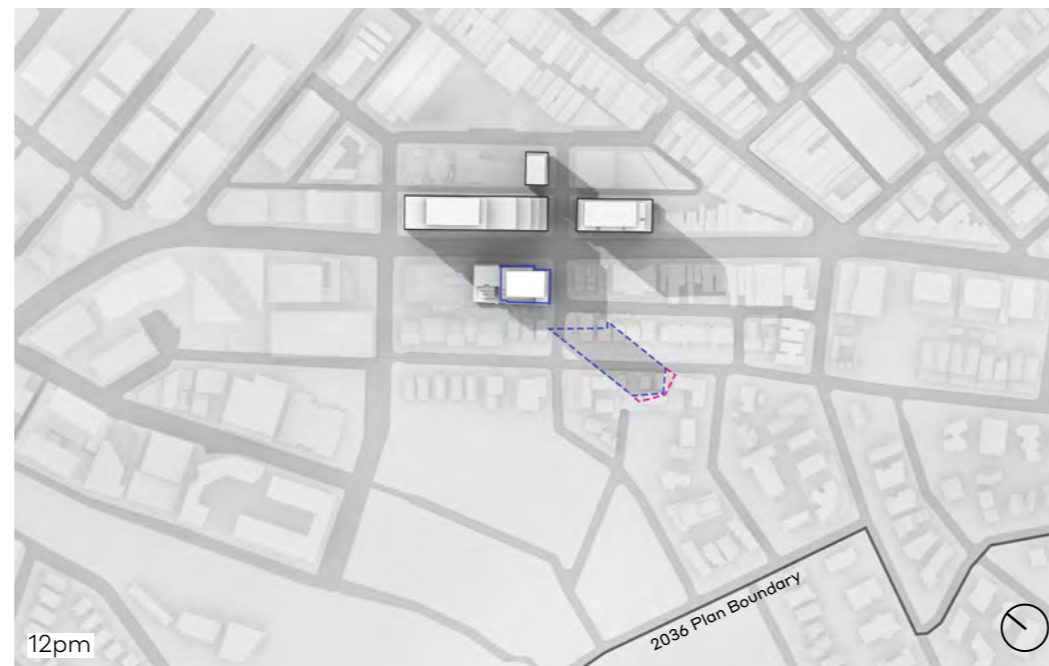


Shadow Diagrams - June 21



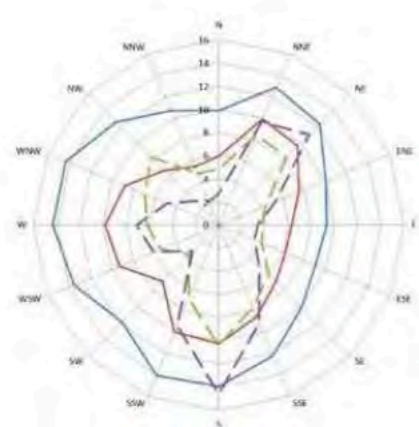
- boundary of Crows Nest St Leonards planning area ———
- additional shadow cast by 378-398 Pacific Highway - - -
- full extent of solar envelope - - -
- shadow cast by 378-398 Pacific Highway and future Metro OSD ■■■

KEY

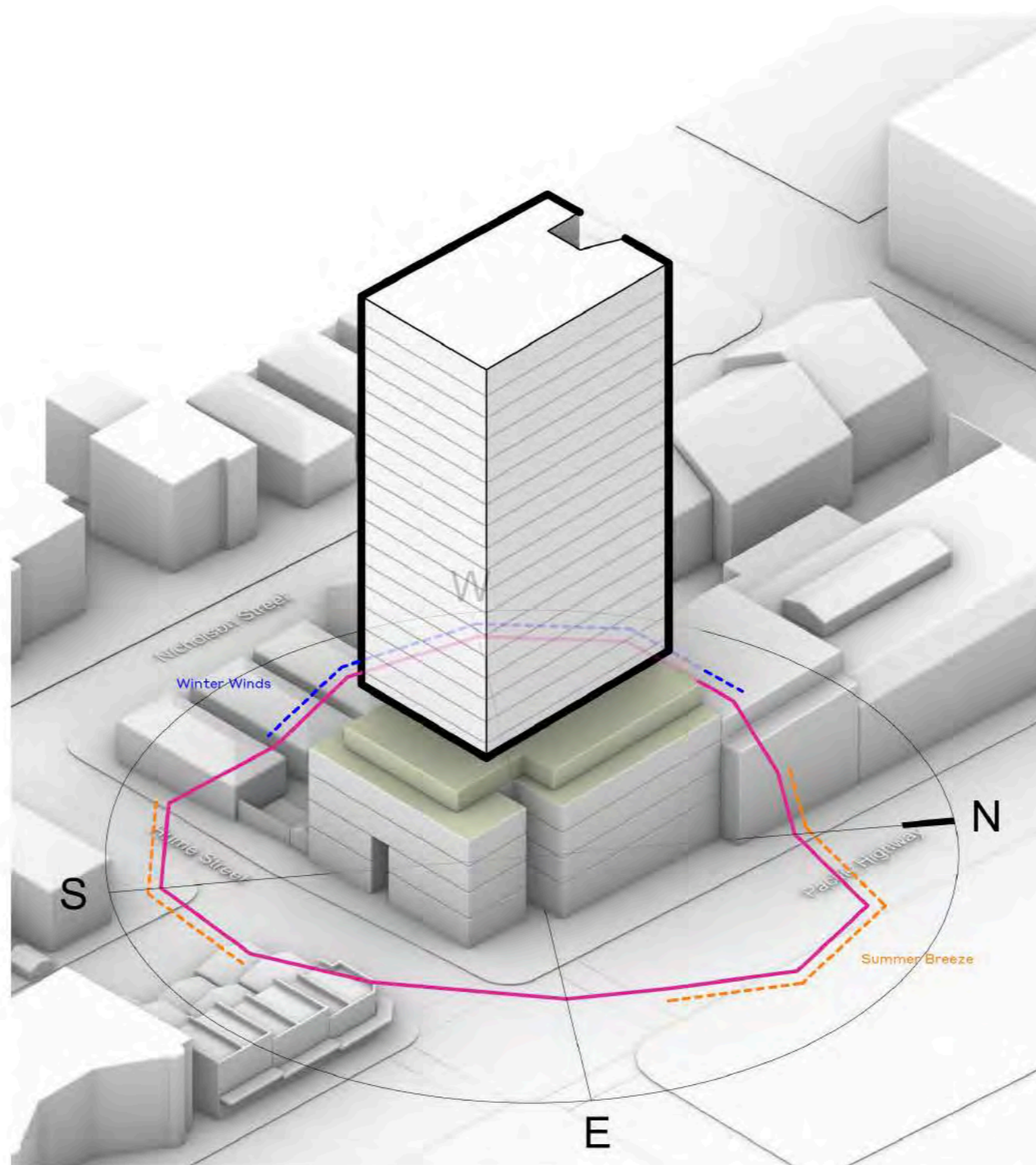


Wind Considerations

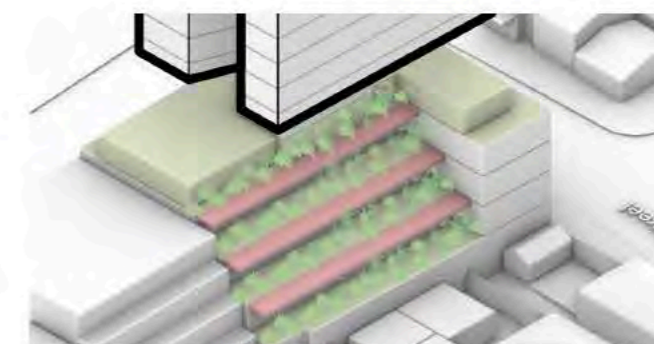
Month	NorthEast	South	West
Jan	x	x	
Feb	x	x	
Mar	x	x	
Apr		x	x
May			x
Jun			x
Jul			x
Aug			x
Sep		x	x
Oct	x	x	
Nov	x	x	
Dec	x	x	



Yearly Forecast



Wind Direction Analysis



- West terraces awning strategy - awnings & softscape



- Facade ribbing to reduce side-streaming



- Softscape buffering



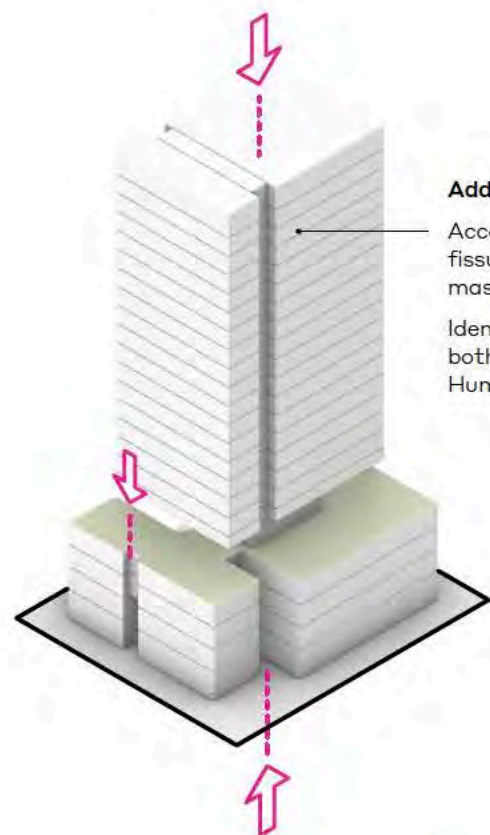
- Rounded form



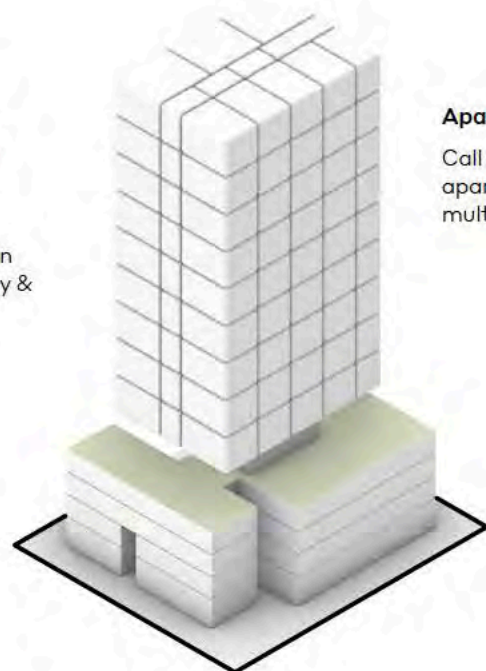
- Awnings Strategy to mitigate downwash

Facade Articulation Strategies

Tower Articulation Sketchbook



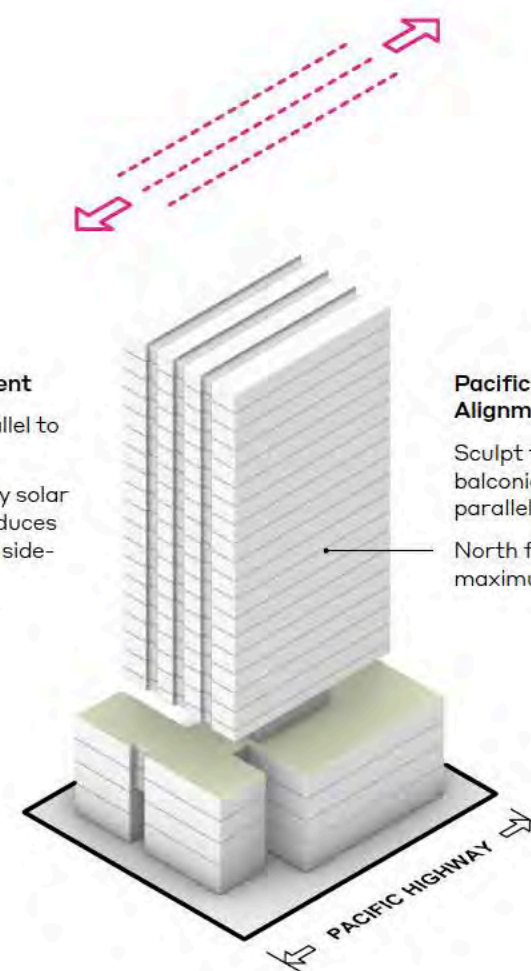
Address & identity
 Accentuate lines of fissures in podium massing.
 Identify entrances on both Pacific Highway & Hume St.



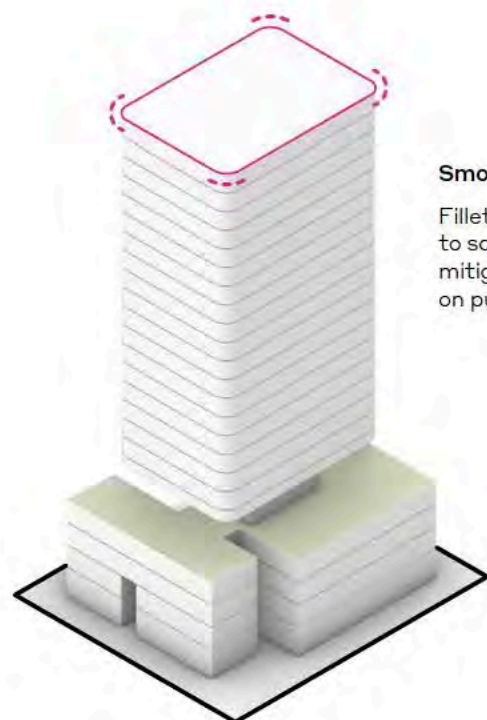
Apartment Expression
 Call out lines of apartment divisions as multi-level boxes.



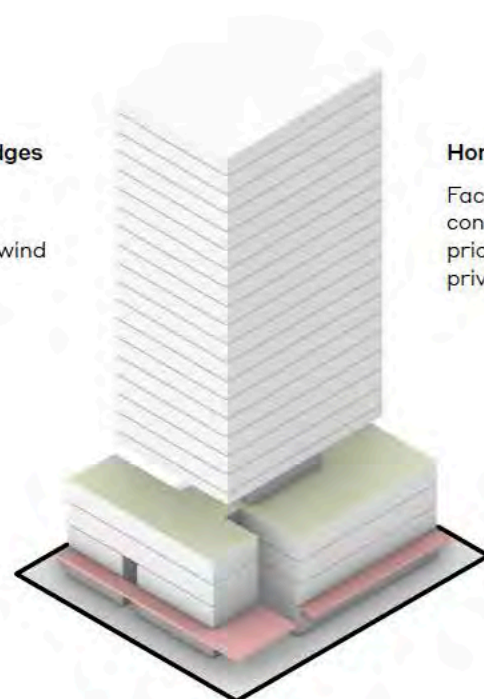
Hume St. Alignment
 Sculpt tower parallel to Hume St.
 Provides Northerly solar protection and reduces possibility of wind side-streaming.



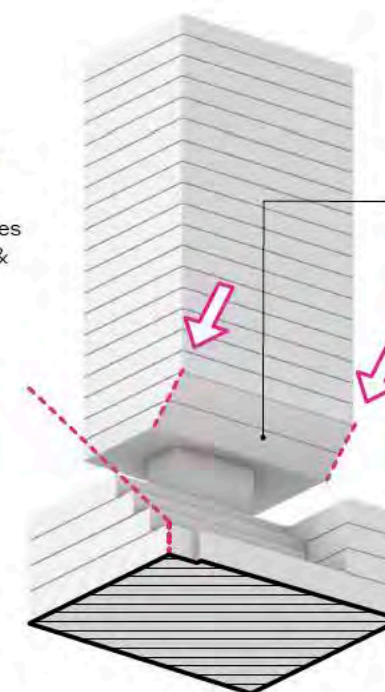
Pacific Highway Alignment
 Sculpt tower with balconies & gardens parallel to Pacific Hwy.
 North facing facade for maximum solar gain.



Smoothed Tower Edges
 Fillet tower edges to soften massing & mitigate impacts of wind on public realm.



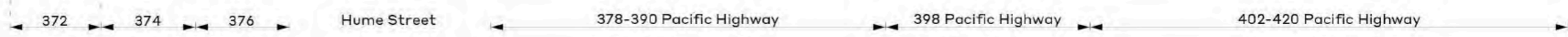
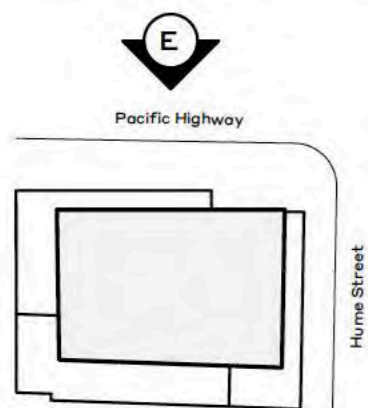
Horizontal Expression
 Facade & Balconies as continues horizontal lines prioritizing protection & privacy.



Undercroft Articulation
 Sculpt underside of undercroft to compliment angled terracing in Podium.



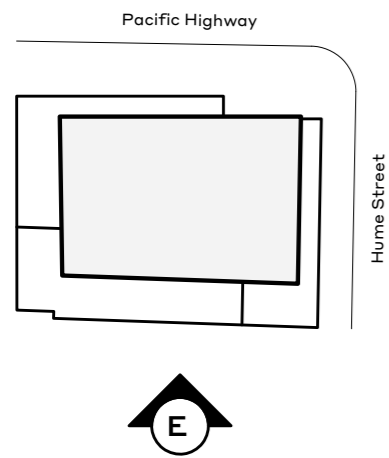
Elevation - NorthEast Pacific Hwy



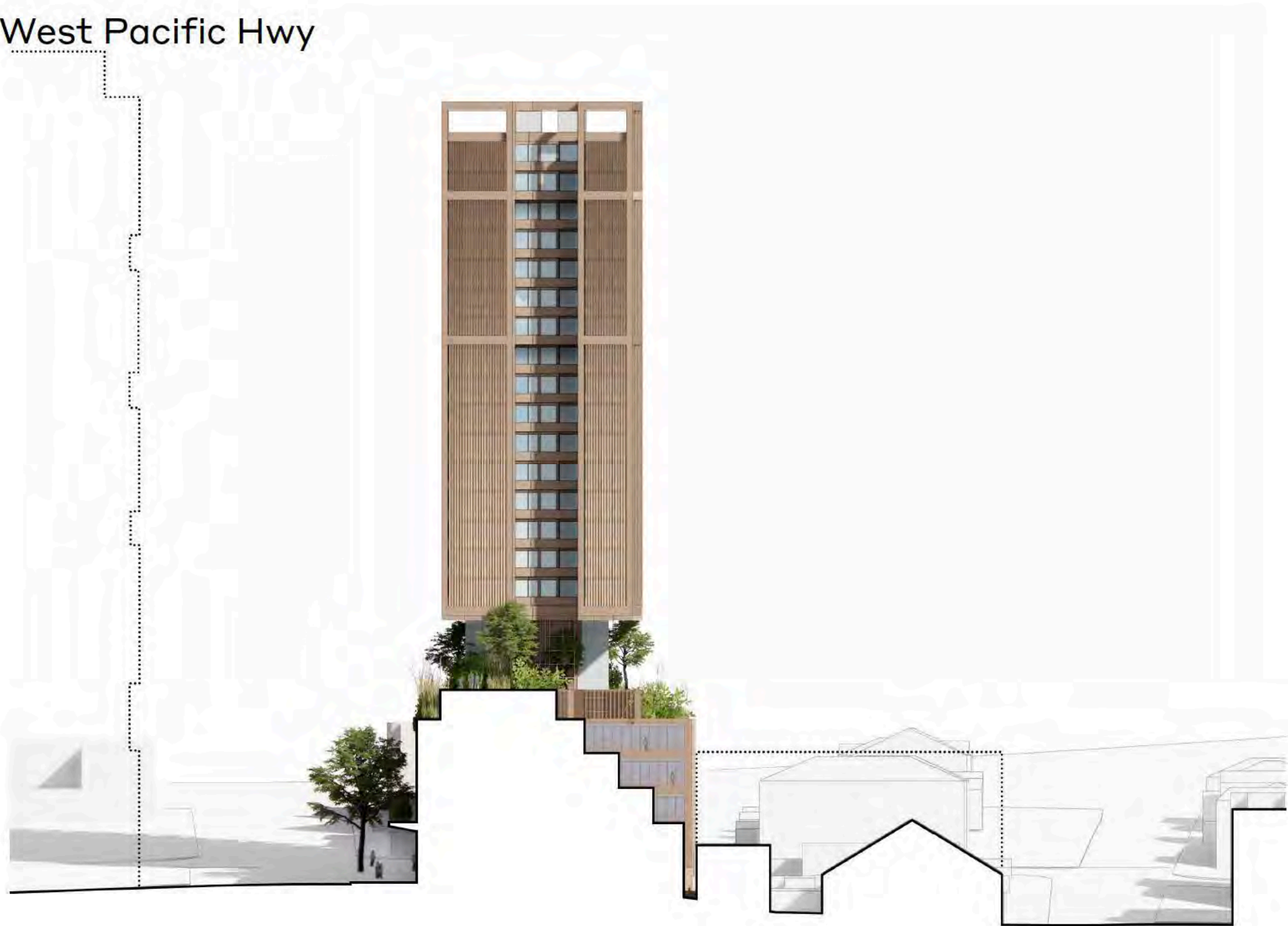
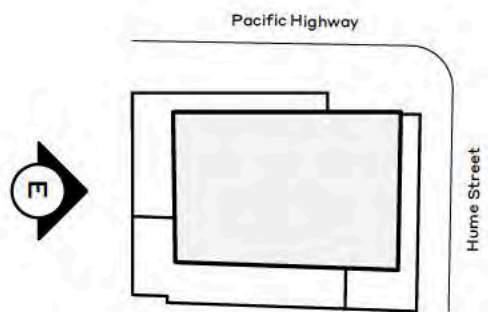
Elevation - SouthEast Hume St



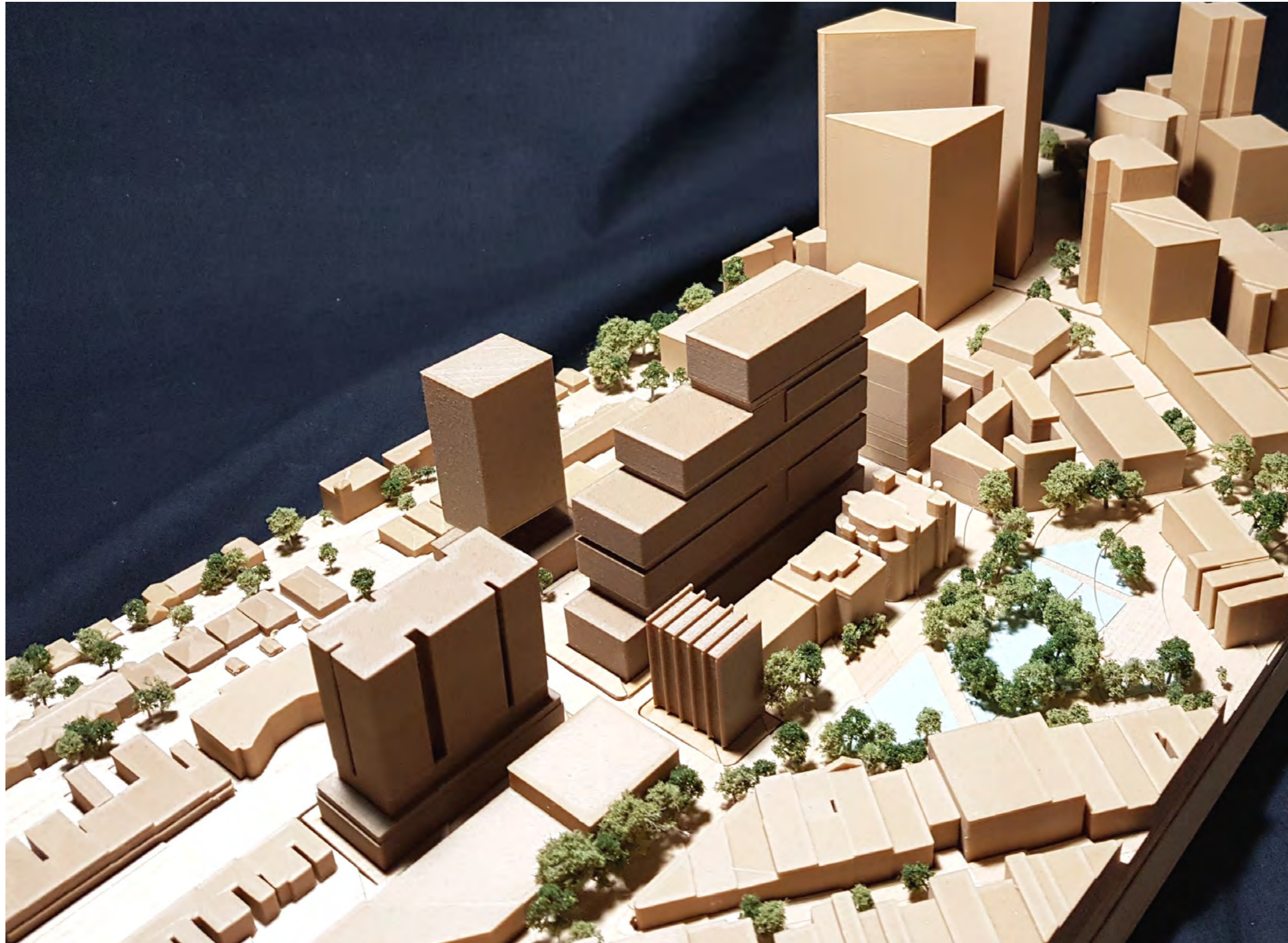
Elevation - SouthWest Nicholson St



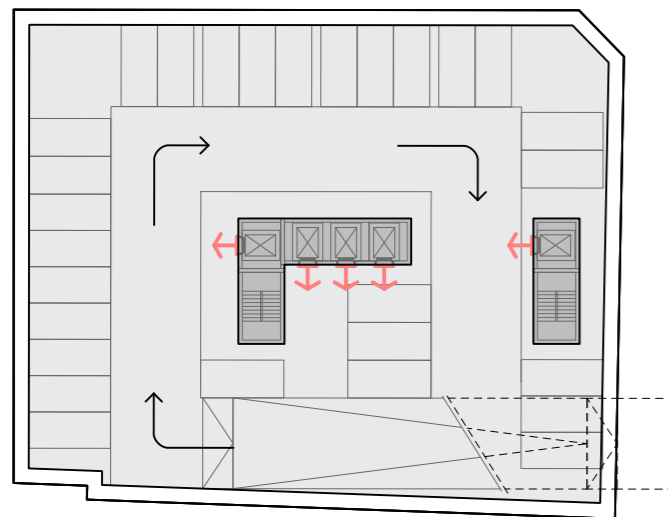
Elevation - NorthWest Pacific Hwy



1:1000 Context Model

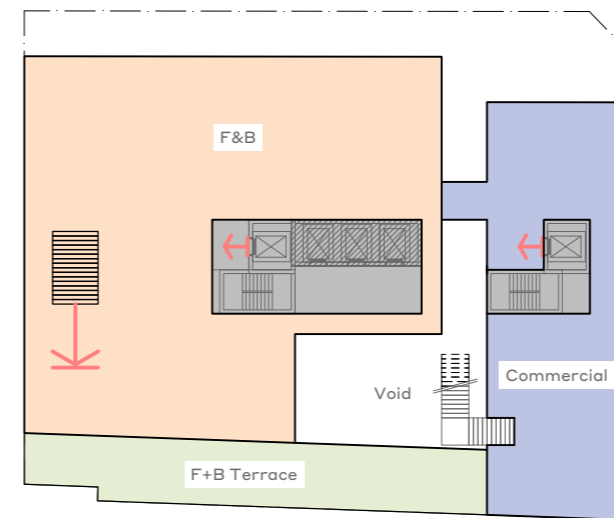


Spatial Planning



Basement Typical

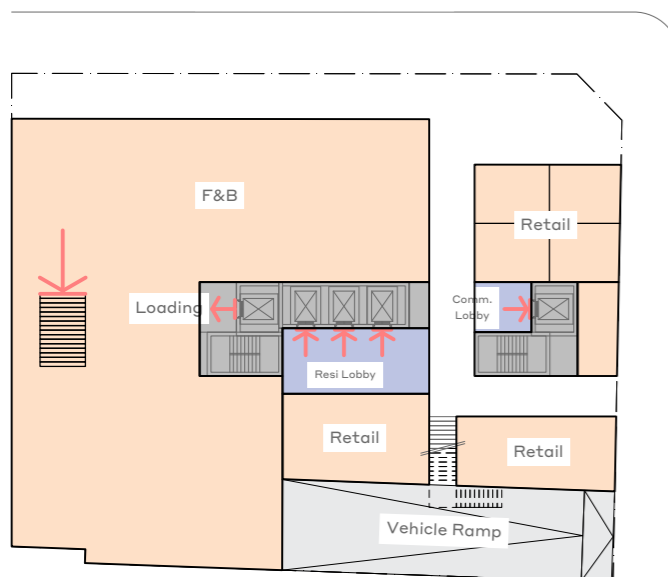
- Retain ramp access from Hume Street as far from Pacific Highway as possible to reduce potential congestion.
- Ramp is for resi parking & access for deliveries & loading.
- Servicing to upper floors intended to take place through commercial lift/ goods lift.
- Carpark numbers TBD.



Podium Level 01

- GFA: 651m²
- F&B stair access from Ground to expand on L01 and have access to rear outdoor terrace spaces.
- Corner as Commercial block or possibly expansion of Ground anchor retail depending on the size of tenant.
- Residential lifts pass through to Amenity level and above.

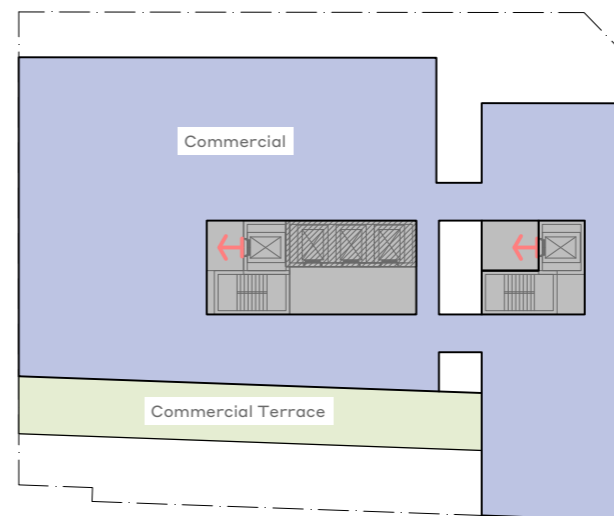
Pacific Highway.



Podium Ground

- GFA: 739m²
- Retail anchor at corner, as single block or divided into smaller tenancies.
- F&B frontage to activate Pacific Highway streetscape.
- Secure residential lift lobby accessed from within laneway, corporate lift (podium lift) with secure lobby also accessed from internal laneway.

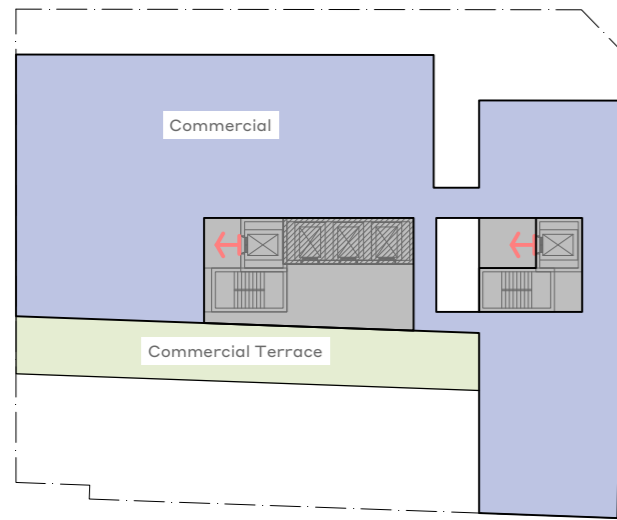
Hume Street.



Podium Level 02

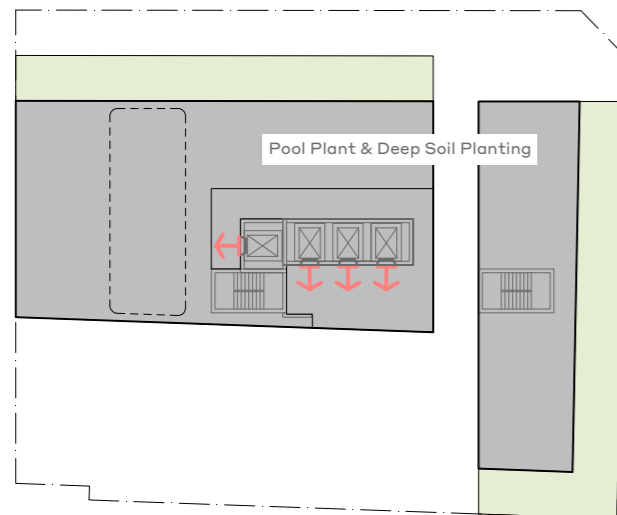
- GFA: 626m²
- Full commercial floorplate with terraces.
- Can be subdivided into multiple commercial tenancies.
- Residential lifts pass through to Amenity level and above.

Spatial Planning



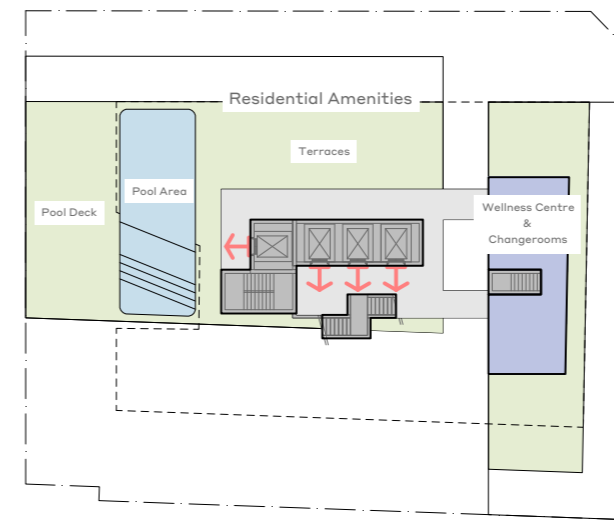
Podium Level 03

- GFA: 502m²
- Full commercial floorplate with terraces.
- Residential lifts pass through to Amenity level and above.



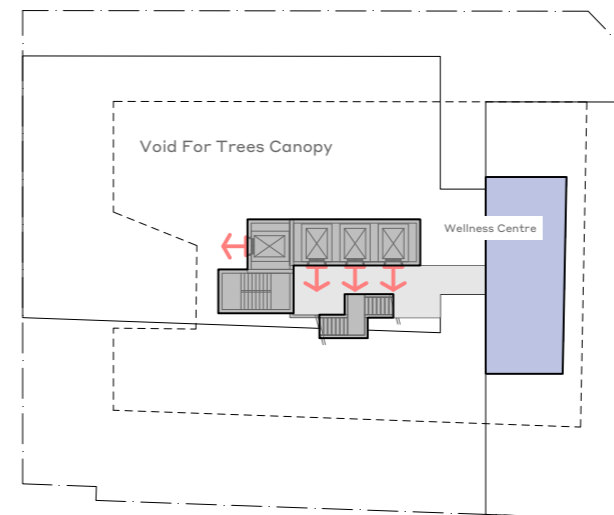
Plant Level 04

- GFA: 0m²
- Residential outdoor amenities spaces in total covering >25% of total site area.
- Access to Pool Mechanical spaces as well as providing zones for deep soil tree planting.



Amenities Level 05

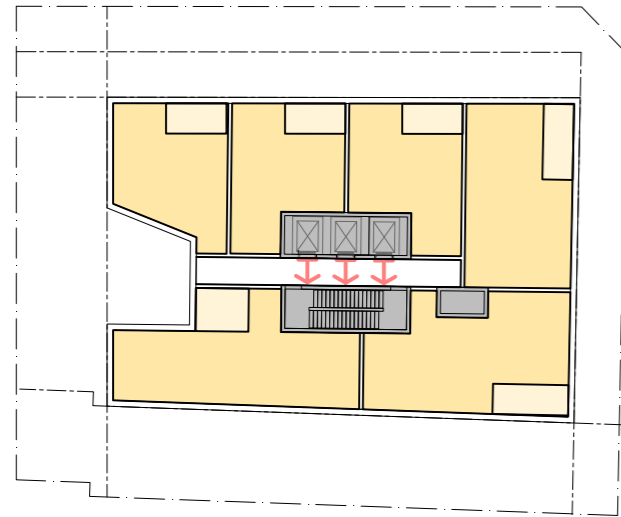
- GFA: 50m²
- Residential outdoor amenities spaces in total covering >25% of total site area.
- Wellness centre & Pool area changing facilities.



Amenities Level 06

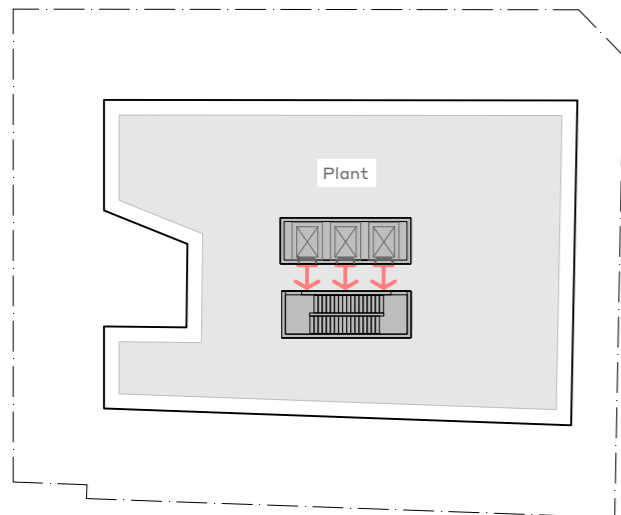
- GFA: 50m²
- Voids for tall trees, also providing solar access to pool and decking areas.
- Second level of wellness centre.

Spatial Planning



Tower Typical

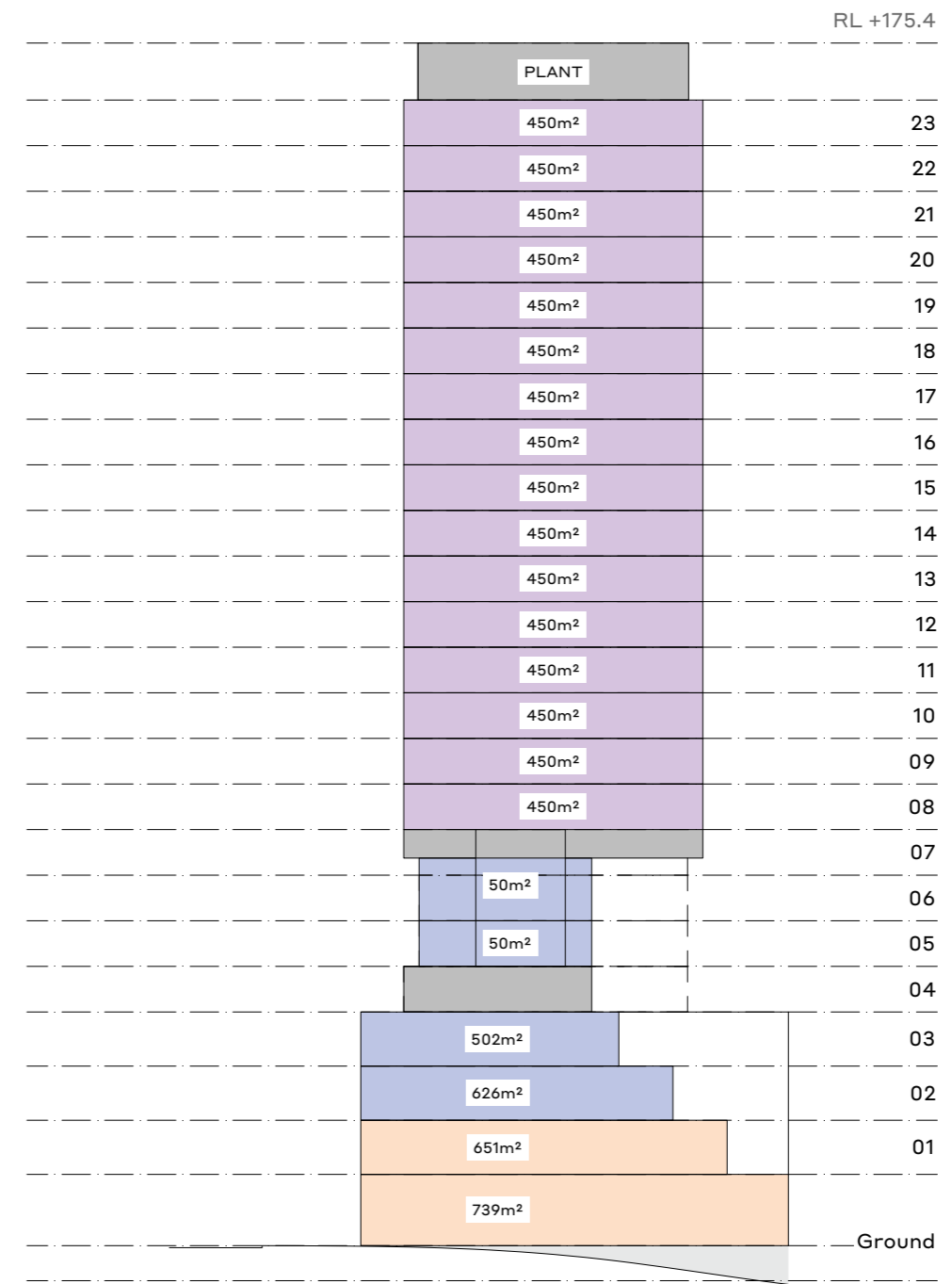
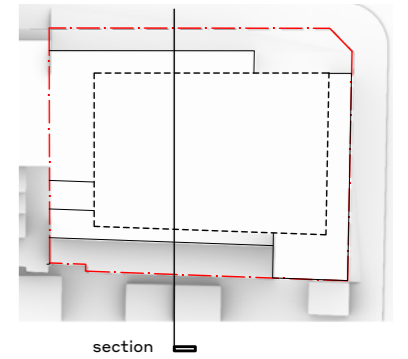
- GFA: 450m²
- Apartment planning & types as previously outlined and according to ADG guidelines.



Roof L24

- Space dedicated to mechanical plant & lift overruns, specifics TBD.

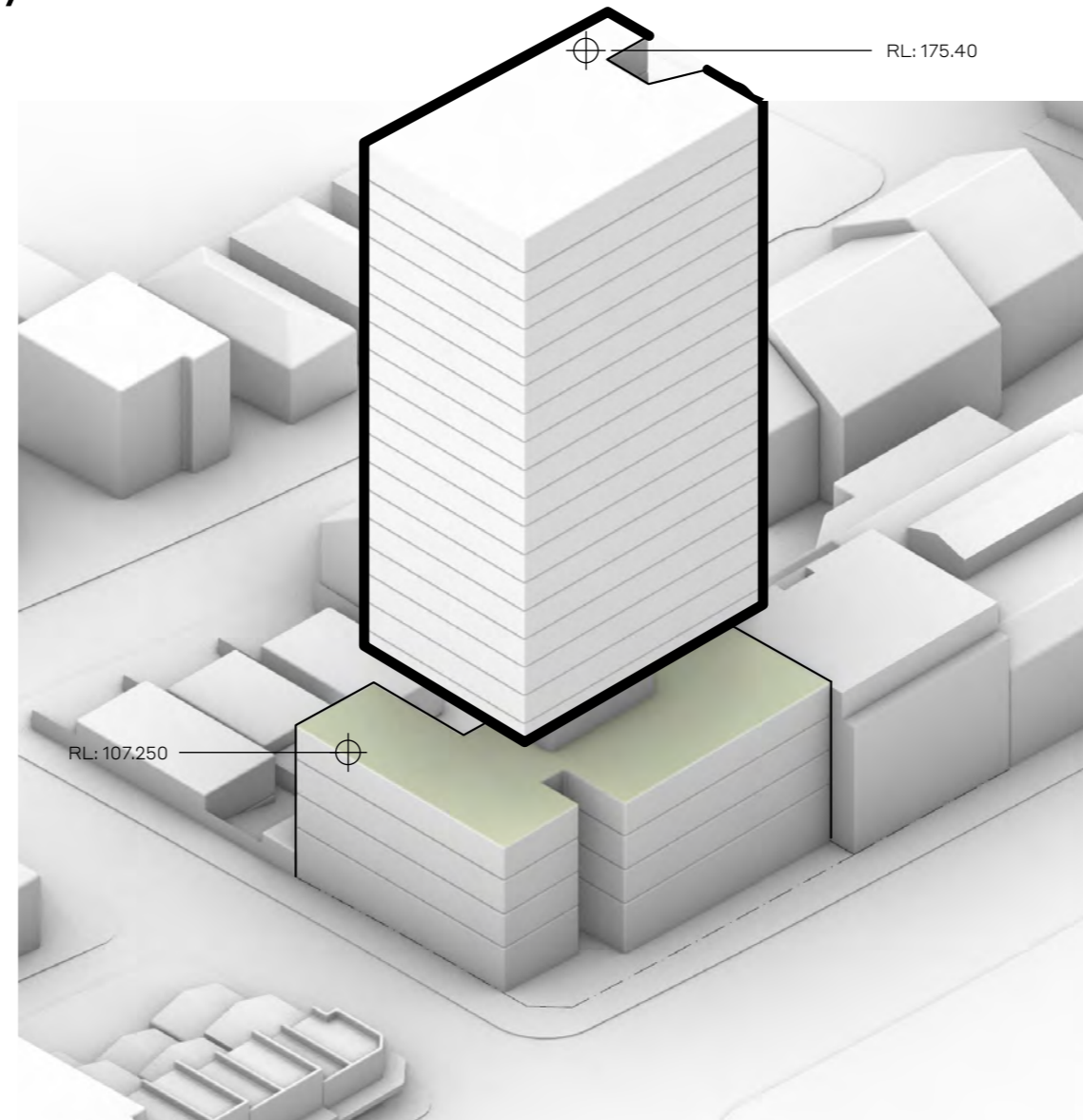
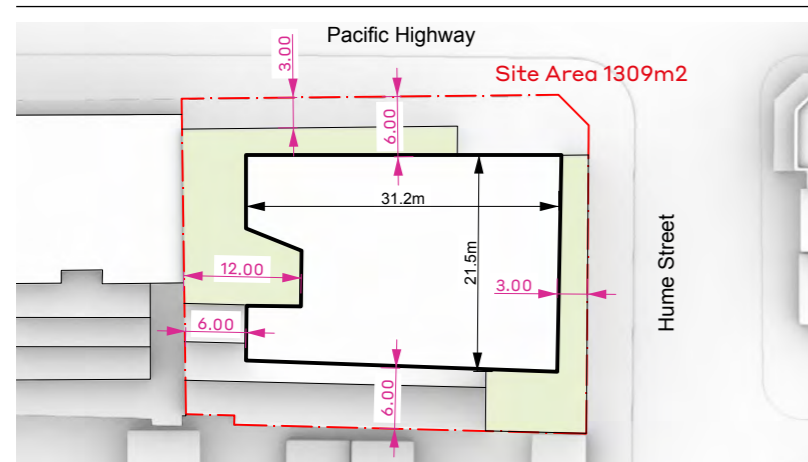
Massing Section



Indicative Massing Summary

Control Type	Site Specific	Indicative Massing
Height Limit	24 Storeys Maximum (2036 Plan)	24 Storeys - x 16 Storey Tower - x 4 Mixed Amenities - x 4 Storey Podium
Overall FSR	7.5 : 1 (2036 Plan)	7.5 : 1
Non-Residential FSR	2 : 1 Minimum (2036 Plan)	2 : 1 Podium
Residential FSR	5.5 : 1 (2036 Plan)	5.5 : 1
Setbacks	2036 Plan & DCP	Refer Diagram Below

2036 Plan & DCP Setbacks



Level	Area (m ²)
23	450.00
22	450.00
21	450.00
20	450.00
19	450.00
18	450.00
17	450.00
16	450.00
15	450.00
14	450.00
13	450.00
12	450.00
11	450.00
10	450.00
9	450.00
8	450.00
7	0.00
6	50.00
5	50.00
4	0.00
3	502.00
2	626.00
1	651.00
G	739.00

378-390 Pacific Hwy - Site Area 1309m²

Commercial Area		
	TOTAL	2036 Plan
GFA	2618.00	2618.00
FSR	2.00	2.00

Residential Area		
	TOTAL	2036 Plan
GFA	7200.00	7199.50
FSR	5.50	5.50

Overall Areas		
	TOTAL	2036 Plan
GFA	9818.00	9817.50
FSR	7.50	7.50

Regulatory Summary

Regulatory Document	As Stated	WB Comment
2036 DOP Development Plan	- p70 map indicates 3m Pacific Highway setback.	
North Sydney Council DCP	- Part C 3.1.3 P10 Above Podium Setbacks map indicates 3m setbacks to Pacific Highway and Hume Street.	
ADG Guidelines	- 6m non-habitable wall facing possible future residential development.	

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