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Stockland

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architectus™

Concept urban design report for planning proposal

St Leonards 601 Pacific Highway



601

Pacific Highway, the major North South connector following the ridge-line, will have an exciting new mixed use landmark on its iconic bend in St Leonards.

Architectus Group Pty Ltd
ABN 90 131 245 684

Nominated Architect
Managing Director
Ray Brown
NSWARB 6359

Adelaide
Lower Ground Floor
57 Wyatt Street
Adelaide SA 5000
Australia
T +61 8 8427 7300
Adelaide@architectus.com.au

Melbourne
Level 7, 250 Victoria Parade
East Melbourne VIC 3002
Australia
T +61 3 9429 5733
F +61 3 9429 8480
melbourne@architectus.com.au

Sydney
Level 18, MLC Centre
19 Martin Place
Sydney NSW 2000
Australia
T +61 2 8252 8400
F +61 2 8252 8600
sydney@architectus.com.au

architectus.com.au

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Executive summary

Purpose of this report

The concept urban design report has been prepared by Architectus on behalf of Stockland for land at 601 Pacific Highway, St Leonards (the subject site).

The primary purpose of this report is to accompany a Planning Proposal for the subject site. A detailed urban design analysis and indicative concept plan has been developed demonstrating the future potential distribution of land uses, massing, building form, and an overall building height and floor space ratio for the site. This has been developed with consideration for adequate building separation, and assessment of solar impacts within the site and neighbouring properties.

To demonstrate that development on the subject site is feasible, an indicative concept plan has been prepared that includes indicative basement car parking arrangements, ground level street address, above ground podium including non-residential uses and community benefit, and residential uses above.

The site and strategic context

The site is located at 601 Pacific Highway in St Leonards town centre, within a 400m walking catchment of both the existing St Leonards railway station and proposed Crows Nest Metro Station .

The site is approx. 2,844 sqm in a rectangular shape, bounded by the Pacific Highway to the south, Mitchell Street to the east and Atchison Street to the north. It is well supported by public transport, and at present the site contains a 14 storey commercial tower.

One of the key open space and public domain elements in St Leonards town centre, Mitchell Street Plaza, is located at the eastern boundary of the site and provides a fantastic opportunity for future embellishment and activation.

The North Sydney Local Environmental Plan (LEP) zones the site B3 Commercial Core, with a maximum building height of 49m. East of the site is the B4 Mixed Use zone.

Design options tested

Architectus has developed principles for the site in regards to built form, public domain and character. Key principles include:

- Development on the site should contribute to and reinforce the significance of St Leonards town centre, as a strategic centre on transport links.
- As an important part on this iconic corner of the Pacific Highway and at the highpoint of St Leonards town centre, built form should test a tower to a height and scale appropriate on this strategic site and comparable with other regional and strategic centres (Parramatta, Chatswood, Burwood, Green Square, Epping)
- Creation of active street frontages to Mitchell Street and Atchison Street, and an improved interface with the Pacific Highway.
- Provision of building setbacks and public open space along Mitchell Street and Atchison Street to improve visibility and walking catchments to the St Leonards railway station and proposed Crows Nest Metro Station.
- Tower should be designed to reinforce the iconic corner location, appear slender from the Pacific Highway, avoid 'tower crowding', and facilitate view sharing
- A ground floor plan with active uses which active engage with the public domain + adjacent open space.

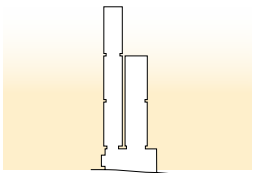
The Proposal

This report presents an indicative concept design for the subject site that results in the following:

3.9:1 – A mixed use development of commercial, community and residential uses, including a 3.9:1 ratio for non residential uses for future employment opportunities;



– A podium providing fine grain retail to both Atchison Street and Mitchell Street Plaza, a defined street edge and active uses to spill out into an engage the public realm; and



– A new split form residential tower above the podium to a maximum height of 212m (64-storeys)

601 Pacific Highway St Leonards can reinforce the position of St Leonards as a priority growth area in metropolitan Sydney. Being one of the last remaining large sites in the town centre and given it's iconic location on the Pacific Highway between St Leonards Train Station and the proposed Crows Nest Metro Station, the site represents an exciting opportunity to add to the St Leonards skyline with a landmark mixed use development.

1.0 Introduction

1.1 Purpose of this report

1.2 The site

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To demonstrate that future development on the subject site is feasible, an indicative concept design has been prepared that includes indicative basement car parking arrangements, ground level street address, above ground podium including non-residential uses and community benefit, and residential uses above.

The indicative concept plan shows one way in which the site could be redeveloped under the controls sought by the Planning Proposal.

Report Objectives

The objectives of this report are to:

1

Investigate the strategic context of the site in light of St Leonards and Crows Nest as Strategic Centres, leveraging the proposed metro station.

4

Understand in detail the features and character of the site, its opportunities and constraints and its potential for renewal.

7

Test potential development scenarios against the urban design and architectural principles and key moves, and identify a preferred option.

2

Present the site's strategic planning context, local character and existing planning controls.

5

Identify appropriate urban design and architectural principles for the site.

8

Prepare an indicative concept design that demonstrates the development potential of the site and the most appropriate built form and public domain.

3

Review and understand North Sydney Council's controls for the site and Council's vision for the St Leonards town centre.

6

Develop key moves for the site based on the understanding of the site achieved through the analysis, and on the implementation of the urban design principles.

9

Provide a preferred planning and urban design recommendation that achieves the best outcome for both the site and the community. The best outcome should be one that celebrates the site's strategic context whilst reinforcing the local character.

1.2 The site

Site context

The site is strategically located within the North Sydney Local Government Area (LGA). It is within five kilometres of Central Sydney, three kilometres of North Sydney CBD and is centrally located in St Leonards Town Centre.

The site is well supported by public transport, located within 400m of the existing St Leonards Train Station and proposed new Crows Nest Metro Station. The site is also well serviced by existing bus services, providing connections to key centres including Epping, Lane Cove, Chatswood and Sydney CBD. The site also has excellent road access, being located on the Pacific Highway, and fronting Atchison Street.

Gore Hill Park, to the west of the site provides a significant regional park, which contains excellent sporting and recreational facilities. The Hume Street Park on the edge of St Leonards is also in close proximity.

Royal North shore Hospital and the Gore hill business Park, as well as Artarmon Industrial Precinct, all provide for a diversity of job types and opportunities to the west of St Leonards station.

The planned Gore Hill Technology Park to the northwest of the site will provide new jobs in St Leonards.

The site's proximity to local and strategic centres, public transport and open space make it an appropriate location for increased mixed use densities.



Site context map in priority precinct



St Leonards, located in North Sydney local government area, is identified as a strategic centre in A Plan for Growing Sydney. The priorities of this strategic centre are to work with Council to:

Provide capacity for additional mixed-use development in St Leonards including offices, health, retail, services and housing.

The indicative concept plan shows one way in which the site could be redeveloped under the controls sought by the Planning Proposal.



2.0 Planning context

2.1 Strategic context

2.2 Building heights and density
in centres of Sydney

2.3 Local development constraints

2.4 Local Council planning controls

2.5 Approved and pending local approvals

2.1 Demographics

At the 2016 census the population of St Leonards was 5,495 people.

The demographic profile of St Leonards suggests that a high density mixed use development in this location would help to serve local accommodation needs and employment space.

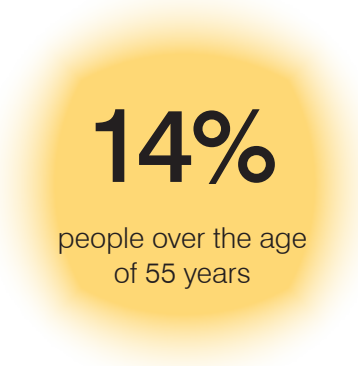
Growth in ancillary needs such as health and education are necessary to cater for the increase in population in St Leonards.

There is also a trend towards a high rate of people who are attending university, lone person households and those that don't own a car. This suggests local services and amenity, shops and active retail, mixed with jobs and housing, would be sought after.

MORE YOUNG PEOPLE



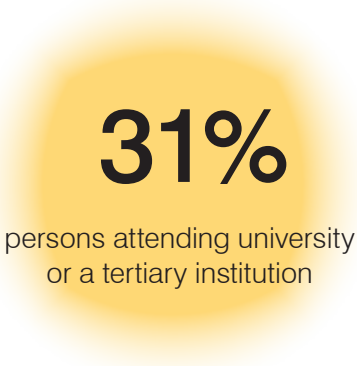
AGEING POPULATION



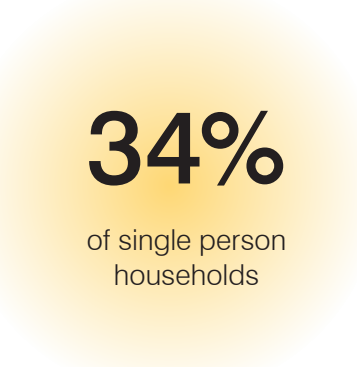
SMALLER HOUSEHOLD SIZE



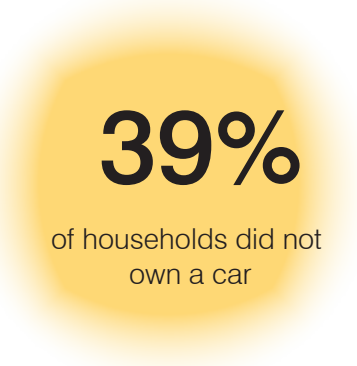
HIGH EDUCATION RATE



HIGH RATE OF LONE PERSON HOUSEHOLDS



LOW CAR OWNERSHIP



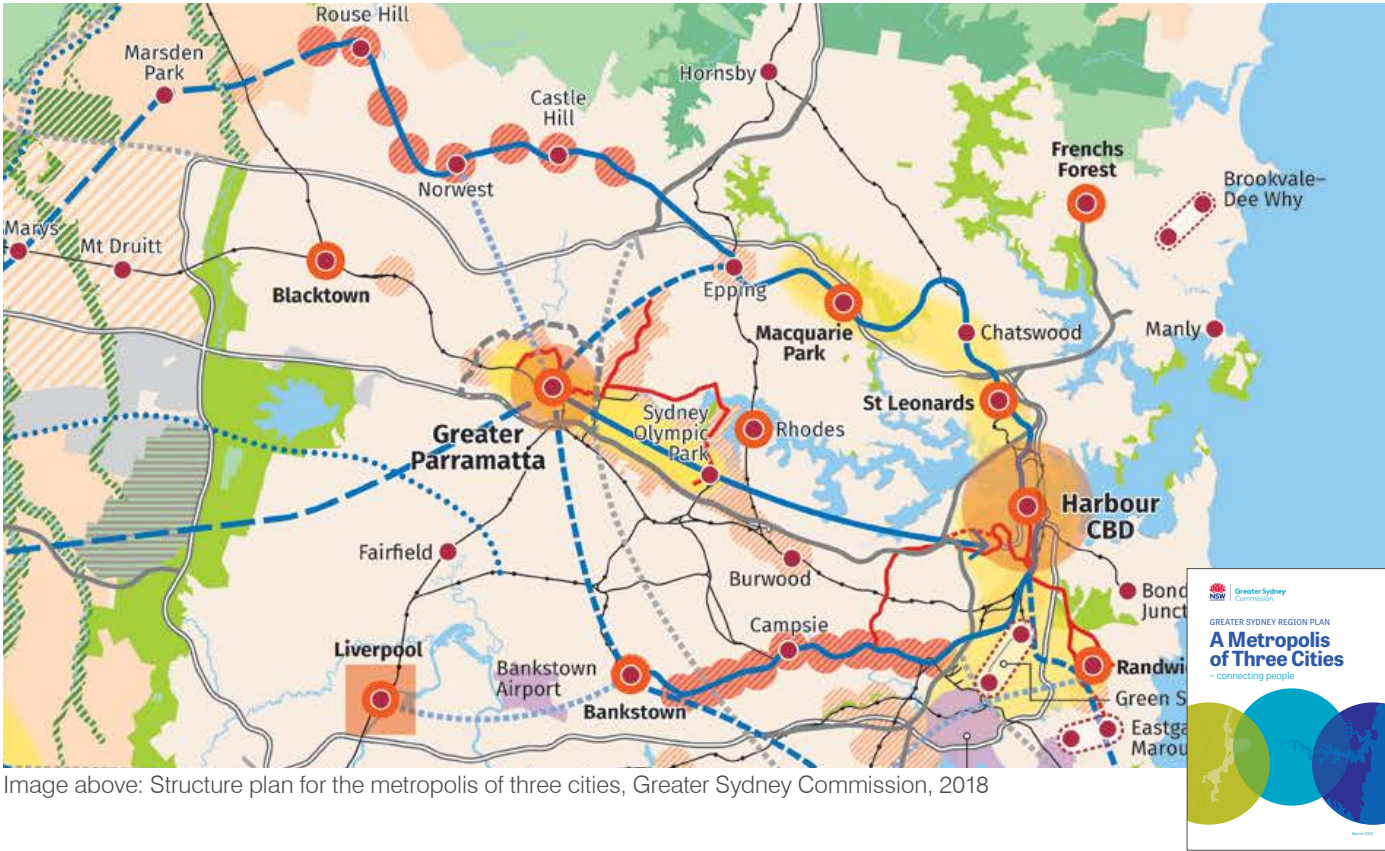


Image above: Structure plan for the metropolis of three cities, Greater Sydney Commission, 2018

Greater Sydney Region Plan: A metropolis of three cities

The Greater Sydney Region Plan, finalised in March 2018, is the new metropolitan plan for Sydney. The plan provides a 40-year vision of Sydney for a city where people will live within 30minutes of jobs, education and health facilities, services and great places.

The vision seeks to meet the needs of a growing and changing population by transforming Greater Sydney into a metropolis of three cities - the Western Parkland City, the Central River City and the Eastern Harbour City.

The site is located within the Harbour CBD in the Eastern Harbour City, which will build on its credentials and leverage its strong financial, professional, health and education sectors and extend its capabilities with an innovation precinct that will boost productivity and global connections.

The Plan provides ten key directions for a metropolis of three cities. Key directions and objectives relevant to 601 Pacific Hwy are outlined below.

- Jobs and skills for the city: creating the conditions for a stronger economy.
- Housing the city: giving people housing choices through greater housing supply that is more diverse and affordable.

This proposal will facilitate the renewal of the site, which will provide more jobs closer to homes, and businesses connected to a large skilled workforce, supported by an effective public transport network. These benefits maximise opportunities to attract higher density and higher residential amenity, which will enhance the vibrancy of the strategic centre, and support walkable neighbourhoods.

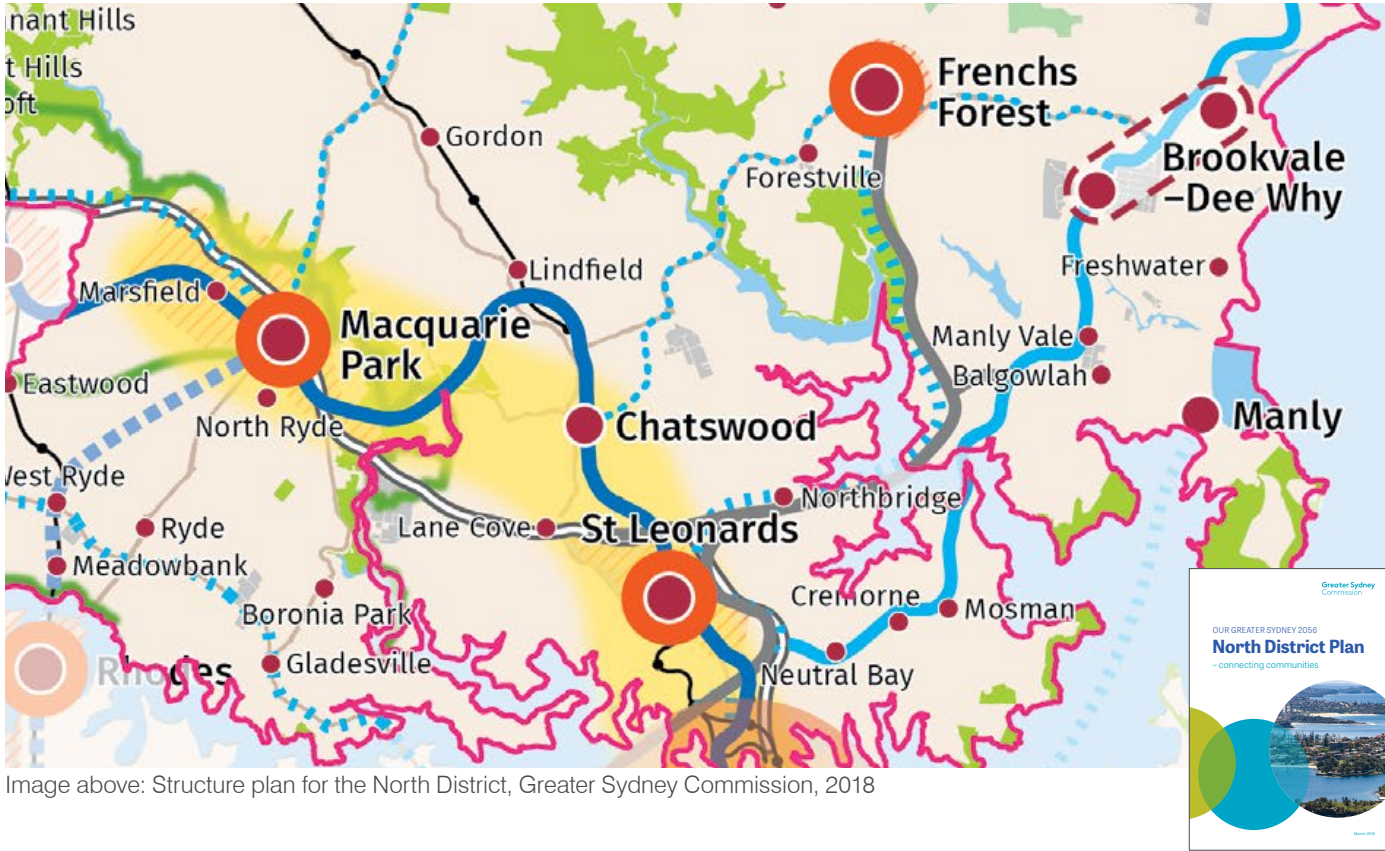


Image above: Structure plan for the North District, Greater Sydney Commission, 2018

Our Greater Sydney 2056: North District Plan

The North District Plan, released by the Greater Sydney Commission in March 2018, sets out the 20 year vision, priorities and actions for the North District.

The population in the North District is projected to increase by an additional 196,350 people, over the next 20 years. The North District will experience the greatest growth in elderly persons, particularly those aged over 65. To support population growth in the North District, an additional 92,000 homes will be required by 2036. To accommodate this growth new homes must be located within proximity to local infrastructure, open space, shops services and public transport, such as St Leonards.

St Leonards is identified as an important strategic centre and health and education precinct, with over 47,000 jobs (2016). As a mixed use centre, there is strong demand for residential

land in the area, which is currently competing with commercial floor space.

There is significant opportunity to define the centre's commercial identity through the integration of health and education uses to grow jobs in complementary health services and existing education facilities.

Key actions for St Leonards are to:

- Leverage from the new Crows Nest Metro Station to deliver additional employment and housing opportunities
- Grow jobs in the centre
- Reduce the impact of vehicle movements on pedestrian and cyclist accessibility
- Deliver new high quality open spaces, public areas and place-making initiatives
- Promote synergies between the Royal North Shore Hospital and other health and education institutions.

Strategic context

St Leonards and Crows Nest Station Precinct Interim Statement

In 2017, the Department of Planning & Environment (DP&E) released the Interim Statement for the St Leonards and Crows Nest Station Precinct which provides the preliminary findings of the strategic planning investigation for the area.

Based on the Department's preliminary studies, there is strategic merit and opportunity for the 601 Pacific Highway to deliver increased residential and employment densities, that would provide a diverse range of housing types and employment space, focused around an efficient public transport network.

The investigation identifies 601 Pacific Highway within the St Leonards Town Centre. The site is highly accessible by public transport; within 400m to the future Crows Nest Metro Station, and less than 200m from the existing St Leonards Train Station.

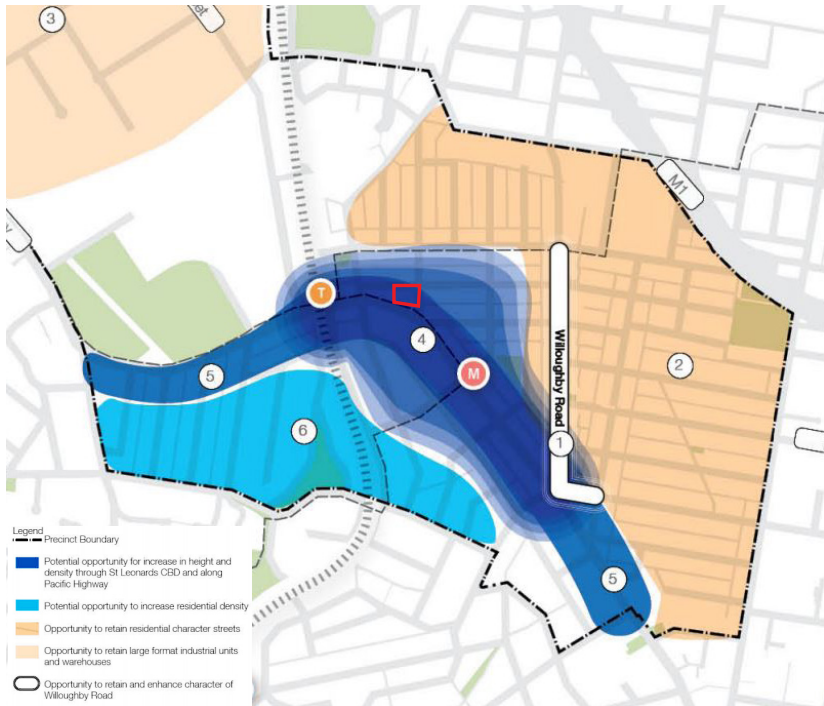
A challenge within this area will be to ensure any uplift within the centre does not erode the employment capacity of St Leonards, and that amenity and pedestrian movement is prioritised, due to traffic volumes and narrow footpaths.

Key opportunities for the site to deliver on these objectives include:

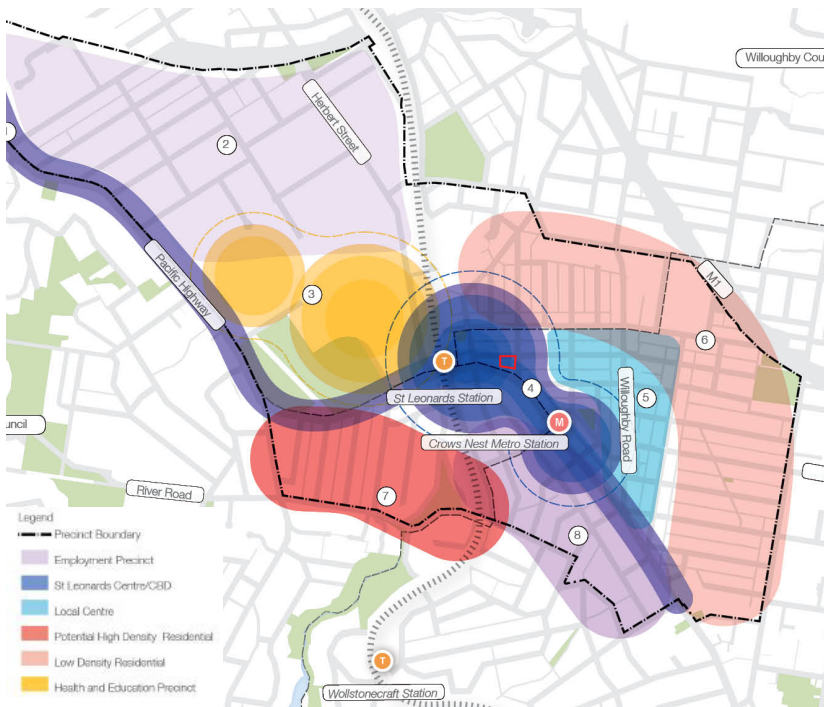
- Increase in height and densities as a result of the new metro station;
- Increase the offering of employment floorspace via the redevelopment of older stock into new mixed-use developments;
- Improving and strengthening existing connections to open space and public transport;
- Protecting and enhancing district views to Narreburn Park.

As part of Stage 2 of the investigation the Department will develop and exhibit a draft Special Infrastructure Contribution (SIC) for the Precinct which will contribute toward funding district level infrastructure including roads, schools and open space.

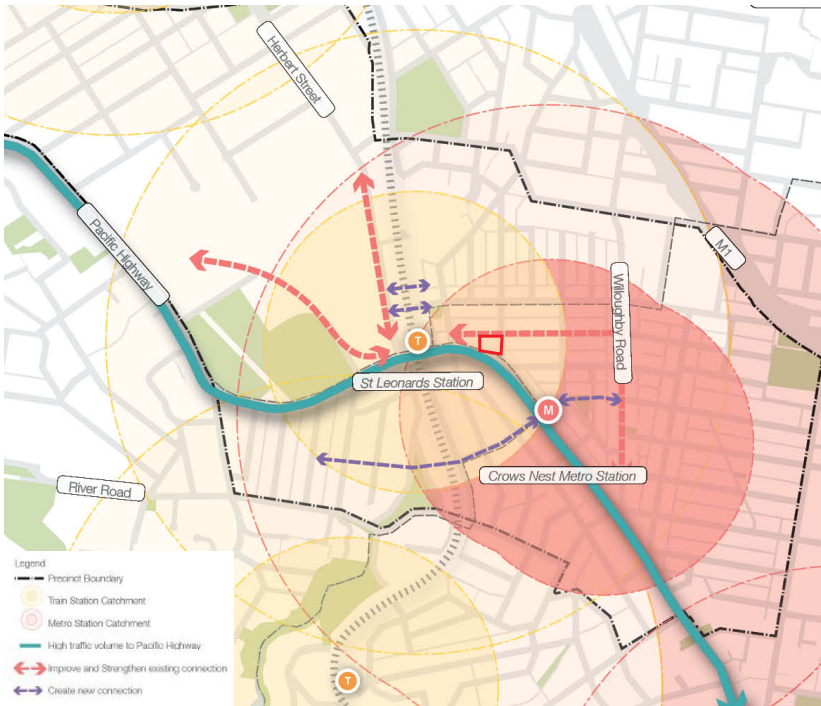
Key directions for the subject site are illustrated in the plans to the right



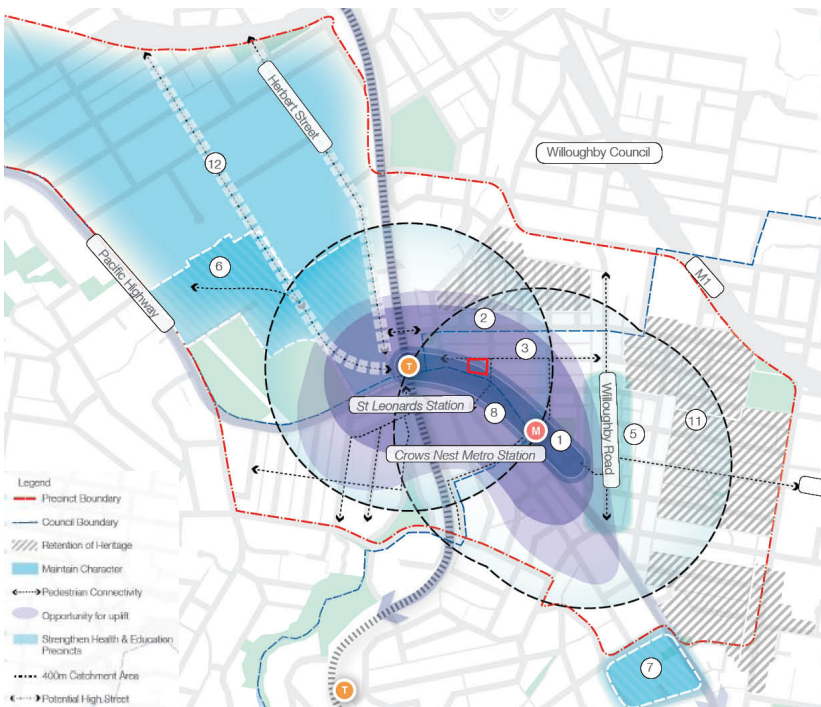
The strategy identifies the site as an appropriate location for potential increase in height and density, located within the St Leonards CBD and along the Pacific Highway.



The site is identified in the St Leonards CBD. The CBD can be strengthened and extended to including the hospital and TAFE and improve access across the train line. This area should build upon the opportunity to renew and increase the offering of employment floorspace through new mixed use development.



The strategy identifies the site within both the St Leonards Train Station and Metro Station catchment. There is also opportunity to improve and strengthen existing connections from the site to existing and proposed infrastructure.



The site is identified within an opportunity corridor for potential uplift along with improved pedestrian connectivity.

Strategic context

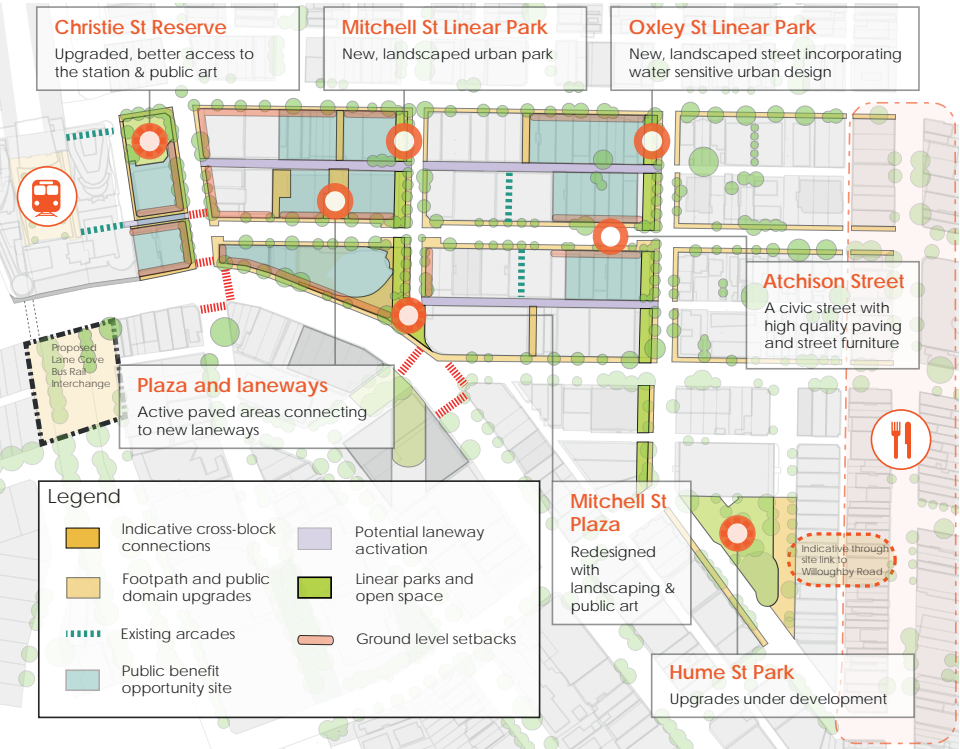


Image above showing the vision for the precinct (Source: SJB Architects on behalf of North Sydney Council, St Leonards Planning Study Precinct 2 and 3)



Image above showing the vision for the precinct (Source: SJB Architects on behalf of North Sydney Council, St Leonards Placemaking & Design Study)



St Leonards / Crows Nest Planning Study- Precincts 2 & 3

In 2015, North Sydney Council released Precinct 2 of the St Leonards and Crows Nest Planning Study, with the aim of accommodating population growth in North Sydney Local Government Area, protecting jobs, and providing new and improved public domain and open spaces. 601 Pacific Highway is located in Precinct 2, within the high density commercial and mixed use area of St Leonards. The Planning Study identifies the following opportunities for the precinct:

- Strong public transport connections;
- 'Fine bones' of a creative precinct;
- A few 'anchor' establishments;
- North/ south streets running along Mitchell and Oxley Streets; and
- Potential to activate lane ways.

Future development is to reflect the high density character of the centre where the impact on neighbouring properties and the public domain is mitigated through well located, tall, slender towers.

Built form objectives relevant to the 601 Pacific Highway include:

- Deliver award-winning architectural design offering quality mixed use and commercial development;
- Create a built form that transforms St Leonards into a modern, mixed use centre;
- Consider additional residential and employment capacity to meet the demand for new jobs and housing in the LGA;
- Provide a human scale to streets and laneways; and
- Provide greater pedestrian amenity and outdoor dining opportunities.

St Leonards Placemaking and Design Study

In 2014, SJB Architects prepared a Placemaking and Design Study for St Leonards which set a range of design principles and framework to assist North Sydney Council's review of built form, public domain and open space controls. The vision for St Leonards was to create an active, vibrant and sustainable precinct with a strong unified identity that reflects the various characters, land uses and attractions within the area.

The study provides an assessment framework which identifies the site in Zone 2, Mitchell Street West. Key objectives for development in the area are to:

- Encourage through site links and ensure activity and surveillance is achieved at the ground plane;
- Promote commercial development within the podium;
- Ensure a level of high residential amenity is achieved.

Key design principles relevant to the site are:

- Improve connectivity to public open space;
- Open up sightlines;
- Creating green spines through the site;
- Promoting active frontages and outdoor dining;
- Improve permeability through new through-site links;
- Ensure sustainable measures are adopted;
- Transition mixed use development from residential areas to the core;
- Encourage smaller commercial developments;
- Redevelop a key site for community purposes;
- Vary height and built form across the precinct;
- Position taller towers on corner blocks;
- Provide ground floor and upper level setbacks to reflect zone character;
- Ensure side setbacks consider the amenity of laneways and adjoining buildings;
- Ensure built form is appropriate to the size and setting of the site;
- Ensure residential amenity is considered for both proposed and existing developments.

2.2 Building heights and density in centres of Sydney

Comparative centres such as Parramatta, Chatswood, Burwood, Green Square and Epping Town Centre with major transport links to some of Sydney's key employment centres are currently undergoing significant growth, resulting in increased densities and building heights.

The current LEP planning controls particularly maximum building height (49m) does not allow the site to be utilised to its maximum potential, given the role of St Leonards as a strategic centre in the eastern economic corridor.

As a point of comparison, a summary of comparable growth areas are shown to the right. It is anticipated that future growth and increased densities and building height in St Leonards will be comparable with these centres.



Parramatta (Metropolitan City Centre)

A recent review of planning controls by Parramatta Council recommended the removal of maximum building height controls in the City Centre, with expected development of 35-75 storeys. The approved 'Aspire' tower is for 90 residential storeys (pictured) and is located on the Parramatta Civic Square near Parramatta Train Station.



Chatswood (Strategic Centre)

The centre is currently being reviewed to investigate further transit oriented development opportunities. Currently, building heights allowing up to 55 storeys apply.



Burwood (Strategic Centre)

Towers in the Burwood Strategic Centre are up to 42 storeys. A vibrant mix of uses are emerging, including high density residential, to create an extended hours urban retail centre for Burwood Town Centre;



Green Square (Strategic Centre)

Towers in the Green Square Town Centre are up to 28 storeys. In the majority of the wider Green Square Renewal Area, lower perimeter blocks and tall, slender buildings mark corners and provide landmarks is the adopted typology.



Epping Town Centre (Strategic Centre' and Priority Precinct)

Building heights between 48m and 72m (approximately 15-23 storeys) apply currently.

Planning proposals are being considered with proposals considering development up to 30-35 storeys.

2.3 Local development constraints

Development constraints to future development within the precinct include:

- Land use
- Solar control
- Existing significant development
- Parks

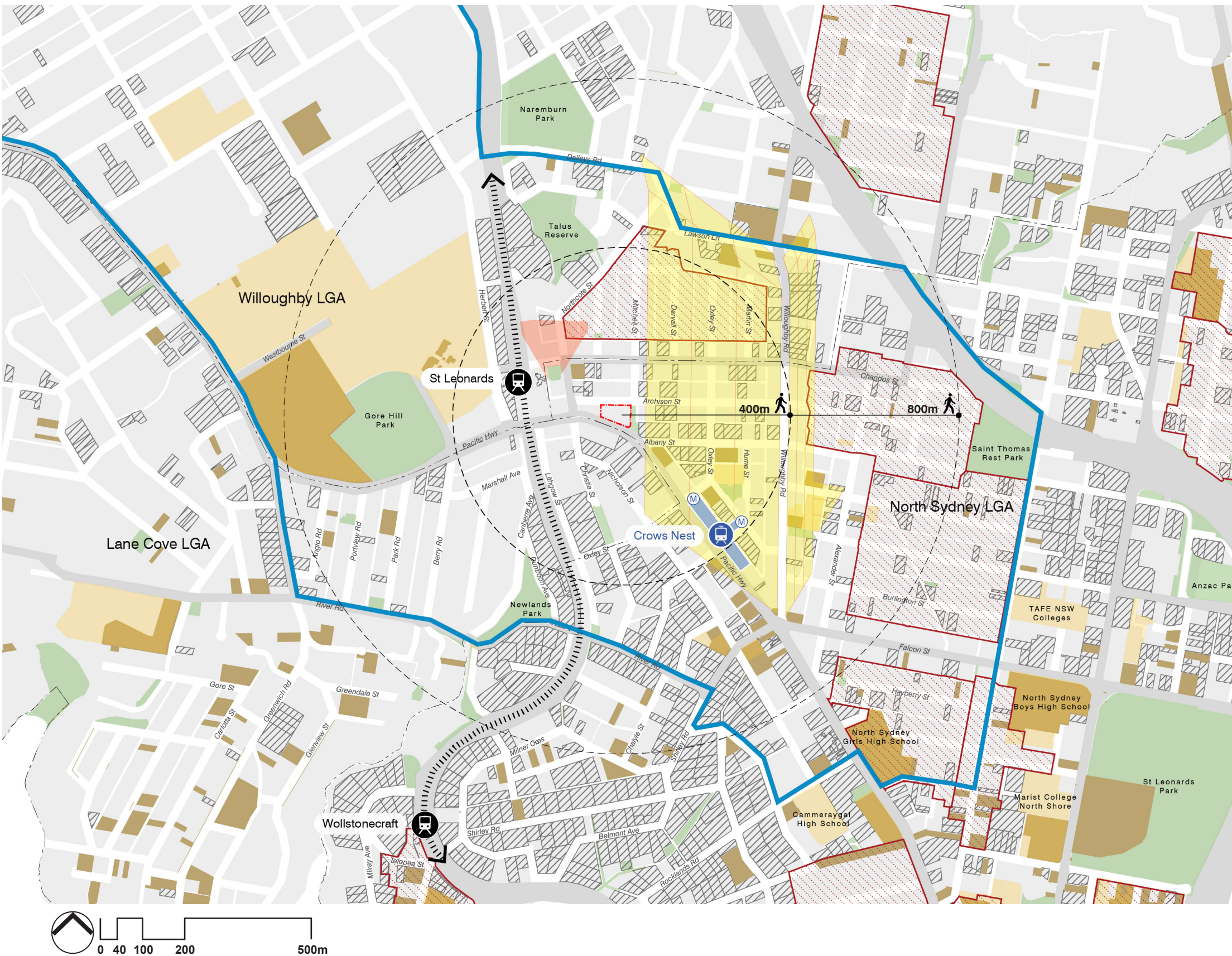
East of the site are lower scale residential conservation zones characterised by single dwellings. A transition zone exists between the conservation area and the site in which mixed use building heights range from 4-20 storeys with significantly higher future development likely.

To the west of the site is St Leonards Train Station and recent development at The Forum.

The area to the south of the site is characterised by residential with strata developments and some single dwellings.

North of Chandos Street there is another conservation area with lower scale single dwellings. The blocks immediately to the north of the subject site make transition in land use and height towards the conservation zone.

- Site boundary
- Study area boundary
- LGA boundary
- St Leonards / Crows Nest district
- Railway
- Primary road
- Lots
- Green area
- Heritage conservation area
- Heritage Items
- Strata
- Infrastructure
- 9am-3pm solar plane
- 10am-2pm solar plane
- 10am-4pm solar plane



2.4 Local Council planning controls

North Sydney LEP 2013

The site is currently subject to the following key controls within the North Sydney LEP 2013:

- B3 'Commercial Core'
- 49 metres maximum building height
- No FSR control
- No non-residential floor space ratio
- No heritage constraints

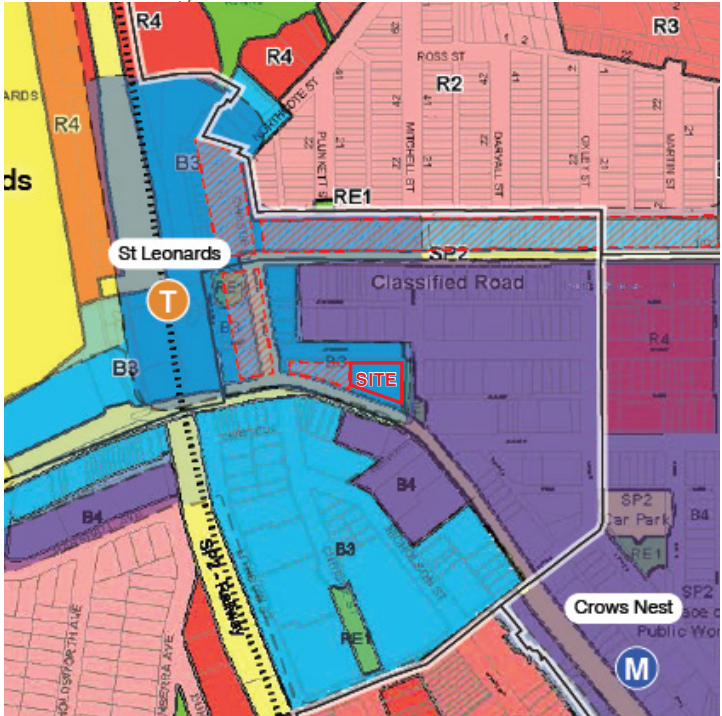
North Sydney DCP 2013

The site is currently subject to the following key controls within the North Sydney DCP 2013:

- 3m ground level setback - 1 storey (Pacific Highway)
- 3m whole of building setback (Mitchell Street)
- 4 storey podium
- 3m above podium setback

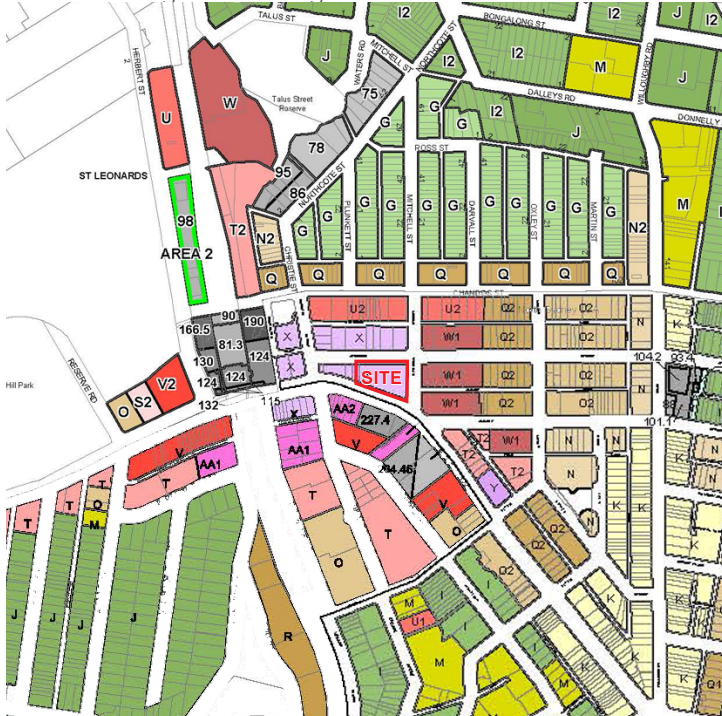
It is noted that the hatched sites in the Land Use Zoning Map, whilst zoned B3 Commercial Core, have overriding controls that enable residential development.

Land use zoning



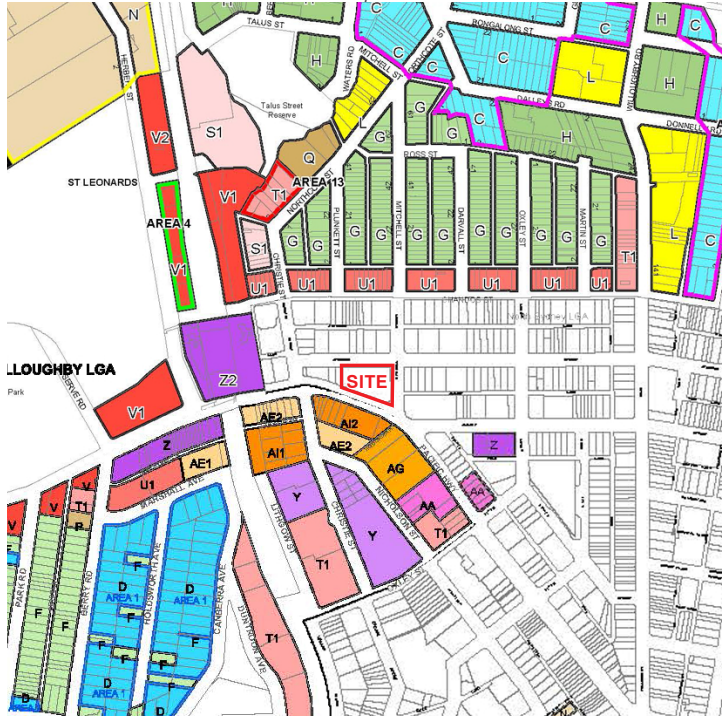
B3	Commercial Core
B4	Mixed Use
E2	Environmental Conservation
E3	Environmental Living
I1	Light Industrial
I2	Working Waterfront
R2	Low Density Residential
R3	Medium Density Residential
R4	High Density Residential
P1	Public Recreation
P2	Private Recreation
S1	Special Activities
S2	Infrastructure
U1	Unzoned Land
U2	Mixed use site (pending)

Maximum Height of buildings



A	1	S	24
I	8.5	T1	25
K	10	T2	26
L	11	U1	30
M	12	U2	33
N	13	W1	40
O1	15	W2	42
O2	16	X	49
Q1	19.15	Y	50
Q2	20	AA1	65
		AA2	72

Minimum non-residential floor space ratio



D	0.5	U1	2.5
F	0.6	U2	2.7
H	0.7	V	3.0
J	0.8	X	4.1
N	1.0	Y	4.5
O	1.1	Z	5.1
P	1.2	AA	6.0
R	1.4	AE1	10.0
S1	1.5	AE2	10.1
S2	1.6	AG	12.0
S3	1.7	AI1	14.1
S4	1.8	AI2	17.1
T1	2.0		
T2	2.4		

2.5 Approved and pending local approvals

Existing building heights in St Leonards are up to about 35 storeys. Several planning proposals and development applications will exceed this height, with towers up to 50 storeys.

Development around the future Crows Nest Station is expected to take on a similar character and scale, with the tallest buildings around the railway station assumed to be around 40-45 storeys.

#	Address (storeys)	Status
A	The Forum, 201 Pacific Highway (34 & 35 storeys)	Built
B	1-13 Marshall Avenue, St Leonards (29 storeys)	Under construction
C	82-90 Christie Street &, 546-564 Pacific Hwy & 71-79 Lithgow Street (16, 28 & 49 storeys)	DA lodged
D	500 & 504-520 Pacific Highway (43 storeys)	Consent received
E	472-494 Pacific Highway, St Leonards (27 & 35 storeys)	Construction
F	617-621 Pacific Highway, St Leonards (50 storeys)	Construction
G	100 Christie Street, St Leonards (36 storeys)	DA consent
H	575-583 Pacific Highway, Crows Nest (18 storeys)	Gateway
I	545-551 Pacific Highway, St Leonards (16 storeys)	Built
J	Future Crows Nest OSD (45 storeys)	In progress
K	6-16 Atchison Street, Crows Nest (32 storeys)	Built
L	18-20 & 22-24 Atchison Street, St Leonards (16 storeys)	Approved
M	Gore Hill Business Park PP Approved (4 Broadcast Way, Artarmon) (7 storeys)	Approved
N	7-11 Albany Street, St Leonards (13 storeys)	Construction
O	50-56 Atchison Street, St Leonards (15 storeys)	Planning Proposal
P	23 Atchison Street, St Leonards (16 storeys)	Lodged PP

- Site boundary

Study area boundary

LGA boundary

St Leonards / Crows Nest Station Precinct

Railway

Primary road

Lots
- Green area

Built

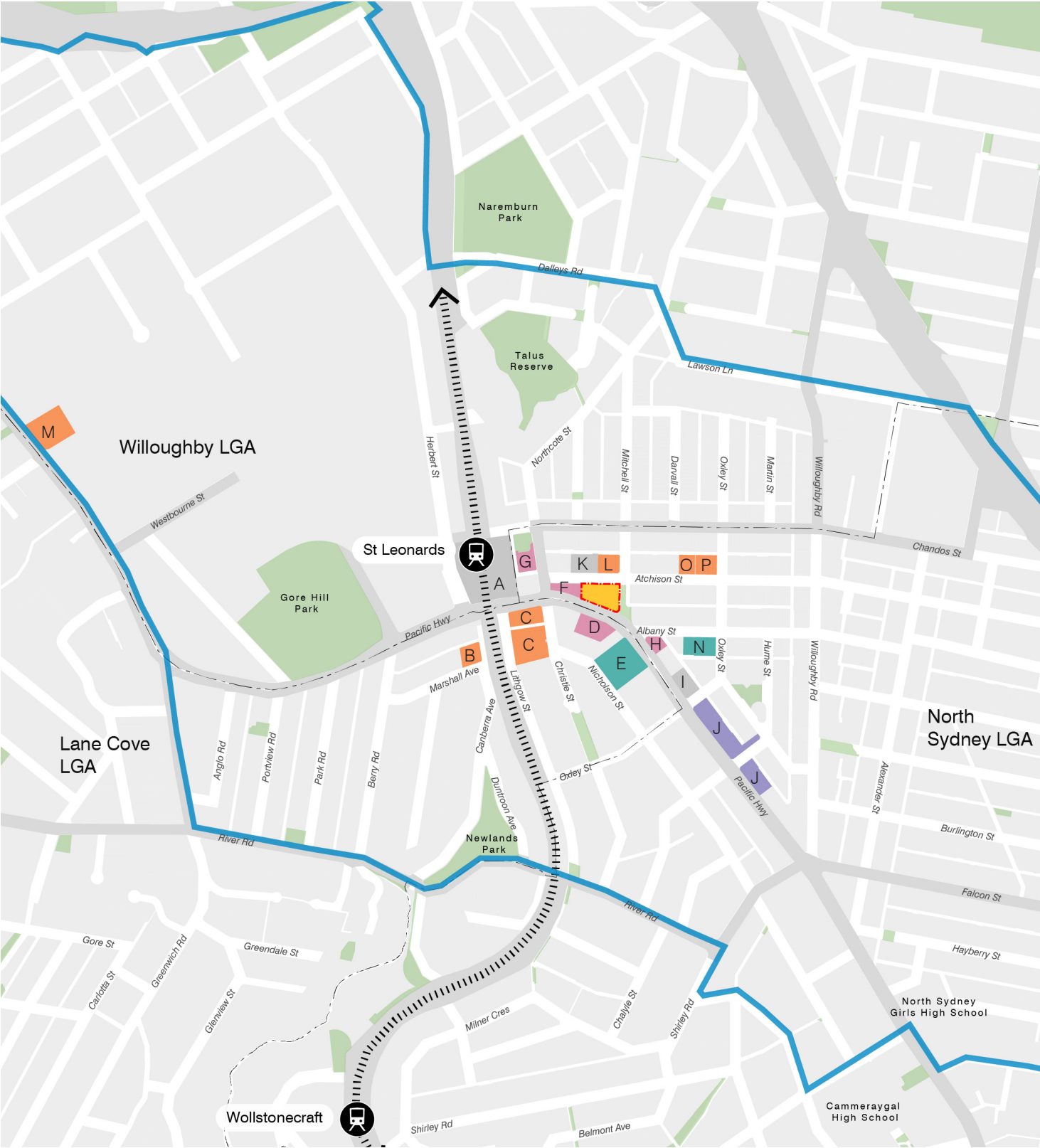
Under construction

Approved

Pending approval

Potential future development

Proposed building

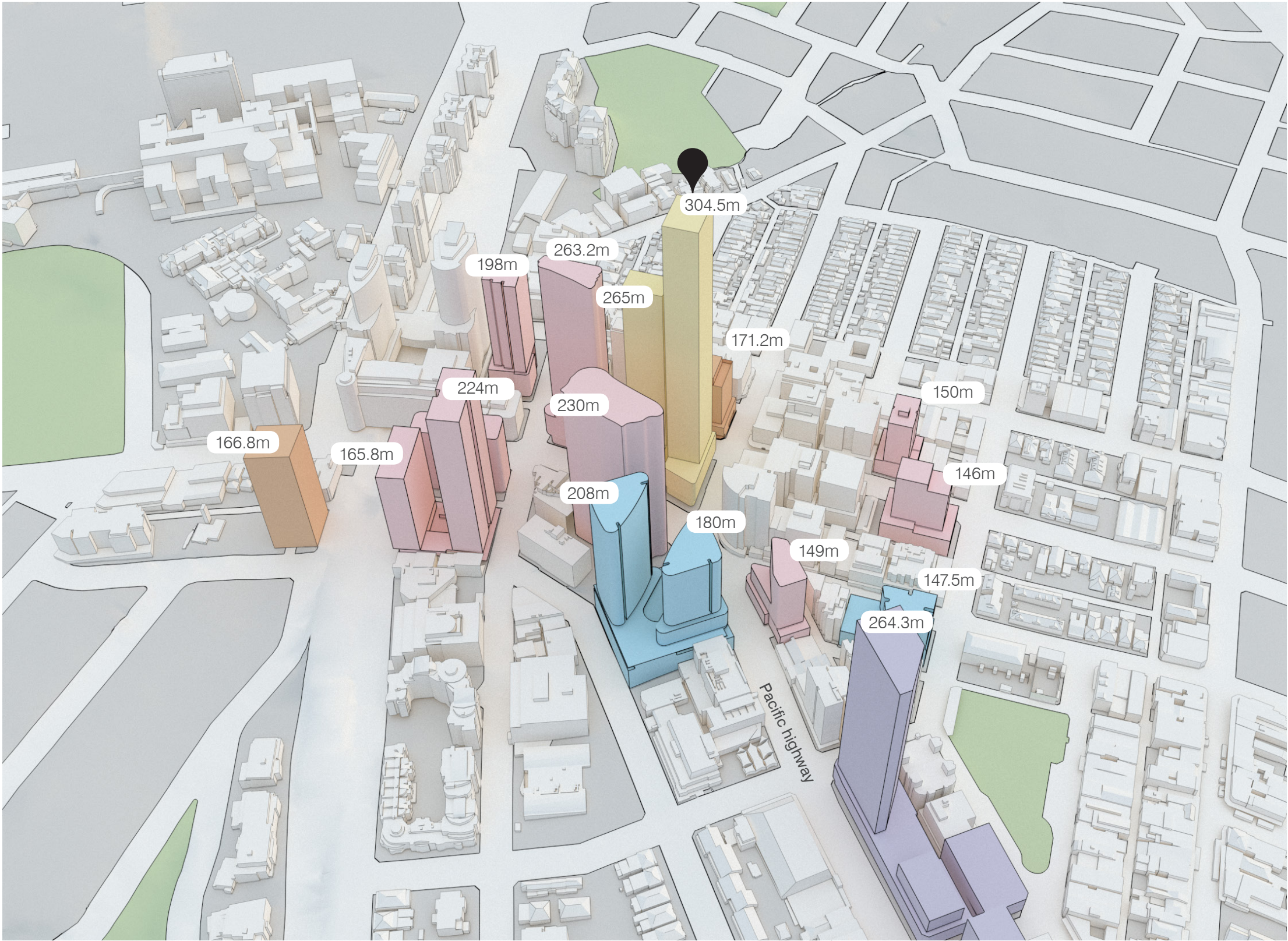


Building heights

The proposed indicative building envelope for the subject site would be the highest of current proposals in St Leonards Town Centre.

We believe this can be supported by the following:

- The site is in an iconic location at the bend in the Pacific Highway
- The site is located at the topographic high point of the town centre, and as such
- It is located between two stations
- Given the size of the site, the tower form would appear slender and provide sufficient sapce to permit sky between adjacent towers
- The tower could become a visual marker of the town centre on the skyline.



Potential massing for adjoining site

Approved and pending local approvals



South elevation


East elevation



North elevation

West elevation

- Legend
- Built
 - Under construction
 - Approved
 - Pending approval
 - Potential future development
 - Proposed building

An aerial photograph of St Leonards, Sydney, Australia. The image shows a dense urban environment with a mix of residential and commercial buildings. In the foreground, there are several multi-story apartment buildings and commercial structures. A prominent white building with 'IBM' signage is visible on the right. In the background, a tall telecommunications tower stands out against the sky. The city is surrounded by greenery and hills in the distance.

The site is located within in the suburb of St Leonards in the North Sydney Local Government Area (LGA) at the boundary of both Lane Cove and Willoughby LGAs.

The precinct within which the site is located has been identified by North Sydney Council as a high-density commercial and mixed use area



3.0 Site analysis

3.1 Site location

3.2 Site character

3.3 Site analysis

3.4 Summary of opportunities
and constraints

3.1 Site location

Located on the iconic bend in the Pacific Highway, this site has a prominent position in St Leonards.

The site is located within in the suburb of St Leonards in the North Sydney Local Government Area (LGA) at the boundary of both Lane Cove and Willoughby LGAs. The site is approximately 200m from St Leonards Train Station and 400m to the proposed new Crows Nest Metro Station. St Leonards Train Station is an established and well-served transport interchange. The site is on the corner of Atchison and Mitchell Streets and bounded on the south by an arterial road (Pacific Highway).

The site is within the Precinct 2 area identified in the North Sydney Council St Leonards / Crows Nest Planning Study (May 2015). Precinct 2 is a high-density commercial and mixed use area immediately east of St Leonards Train Station .

Legend

Subject site

St Leonards/Crows Nest Planning Study precinct boundaries

Suburb boundary

Local Government Area (LGA)

Open space

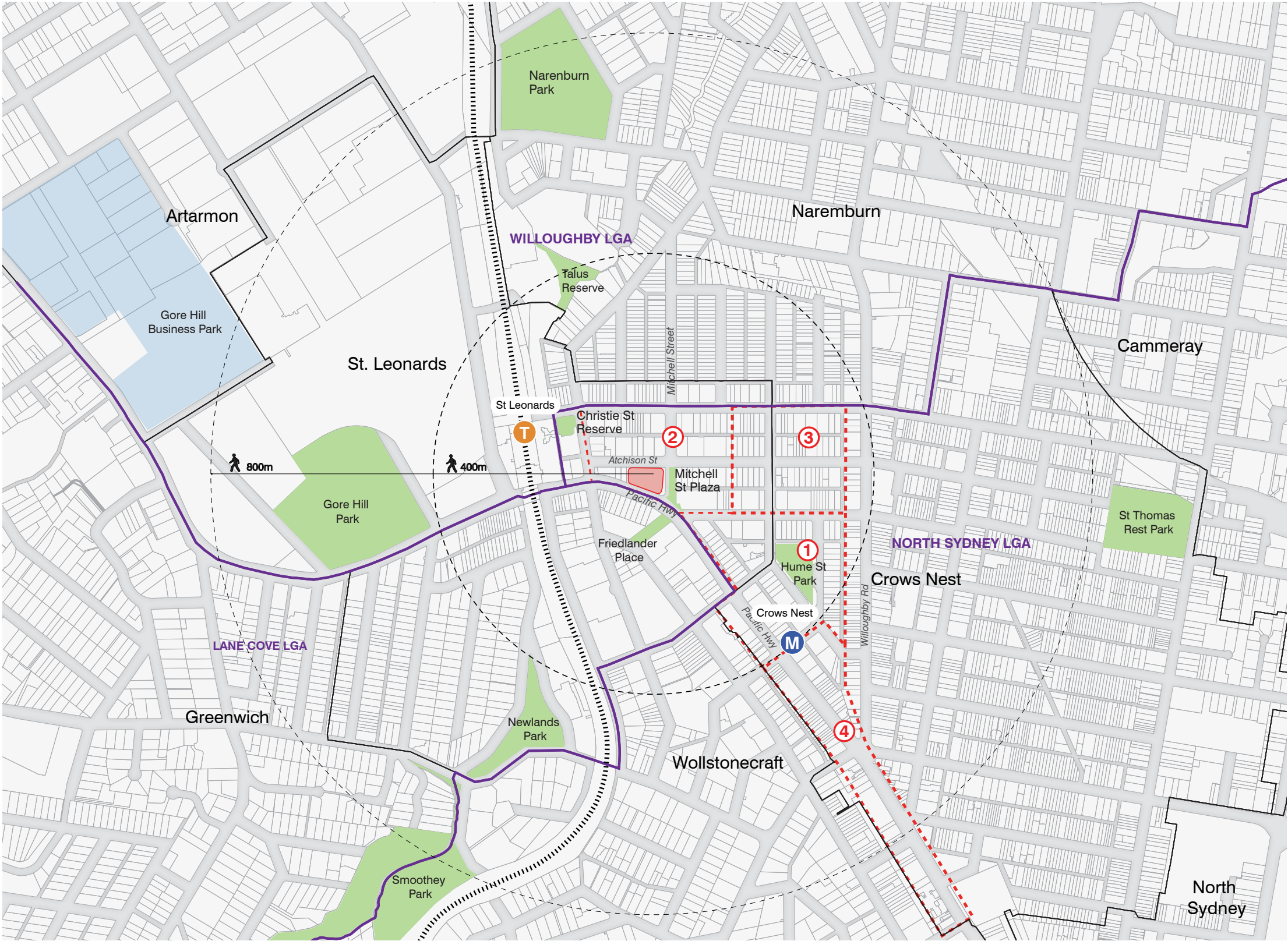
Train Station

Proposed Crows Nest Metro Station

Distance from Centre

Radius Circle

Precinct numbers identified in St Leonards / Crows Nest Planning Study produced by North Sydney in May 2015

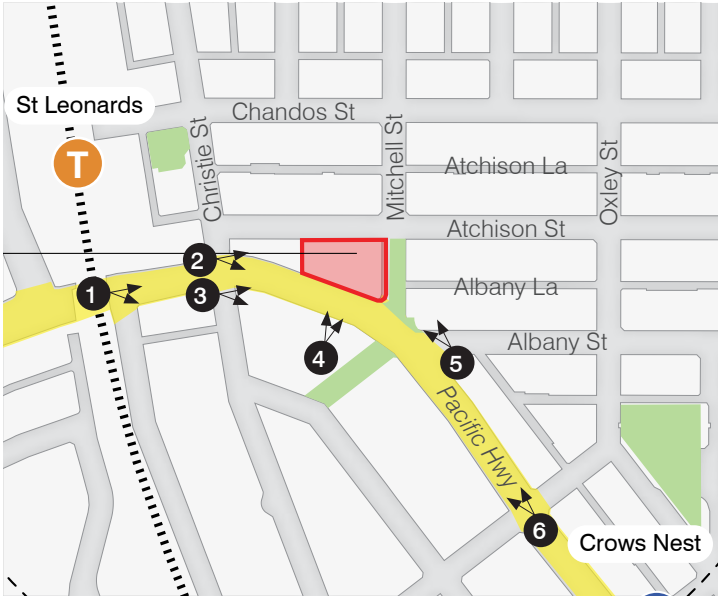


3.2 Site character

Pacific Highway

A major arterial road with a poor pedestrian environment

The southern edge of the site is bound by the Pacific Highway, a busy arterial road. The high volumes of traffic and noise, the wind tunnel effect from existing buildings and the narrow footpath result in a poor and hostile pedestrian environment. Buildings adjacent to the site are predominantly commercial at lower levels with little ground floor activation along the Highway. In spite of the uninviting pedestrian environment, many pedestrians use the Pacific Highway and Albany Street to walk between St Leonards Station and Crows Nest.



1. The bus stop located outside St Leonards station and the Forum plaza through the pedestrian walkway to Pacific Highway provides public transport connection and has the most active frontage, retail activity and pedestrian movement.

2. View towards the IBM site, a steep up hill slope with narrow footpaths, inactive street frontages and mature trees on the paved street kerb.

3. On the corner of Pacific Highway and Christie Street, a few remaining small adjoining two-storeys top-shops currently not active.

4. View of IBM tower site and Mitchell Street Plaza currently under redevelopment.

5. On the Pacific Highway ridge and Albany Street is a busy and noisy intersection with heavy traffic and uninviting street for pedestrian movement.

6. View towards the ridge of Pacific Highway, the IBM tower shows the prominent and a true landmark on the lower North Shore.

Subject site

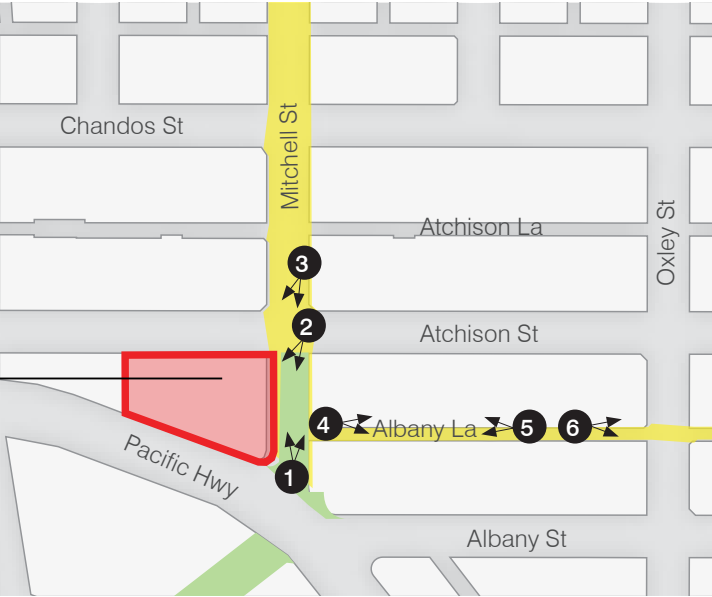
Site character

Mitchell Street & Albany Lane

Mitchell Street Plaza, currently under construction, will transform this street into a focal landscaped open space for St Leonards

The site is situated at the pedestrianised southern end of Mitchell Street, where it meets the Pacific Highway and T-junction of Albany Lane. Mitchell Street is a short local street which acts as the interface between commercial and mixed uses at it's southern end, and two storey residential properties at it's northern end. The southern end of Mitchell Street, along the frontage of the site is currently being transformed by Council into a improved landscaped plaza with a one-way-north shared traffic and pedestrian zone and soft and hard landscaping. The space receives good solar access, but is exposed to strong winds, noise from the Pacific Highway, and a gradient change towards the Highway.

Albany Lane has a mixed use character with low to medium density apartments and low scale commercial office buildings. The laneway is dominated by driveways and vehicular movements, has little or no footpath and lacks ground floor activation.



1. Street view facing north of Mitchell Street. Next to the site is Mitchell Street Plaza currently under construction and redevelopment.

2. Mitchell Street Plaza wedged between the three different streets; arterial road, local street and laneway.

3. Mitchell Street looking up hill to the IBM tower located at the high point of the topography.

4. The start of Albany Lane, view from Mitchell Street.

5. Looking up-hill towards the IBM tower from 8 to 16 storey apartments and offices with narrow street at Albany Lane.

6. Further to the east towards the Hume Lane, small scale lots and from medium density to low scale offices and residential dwellings and apartments.

Subject site

Site character

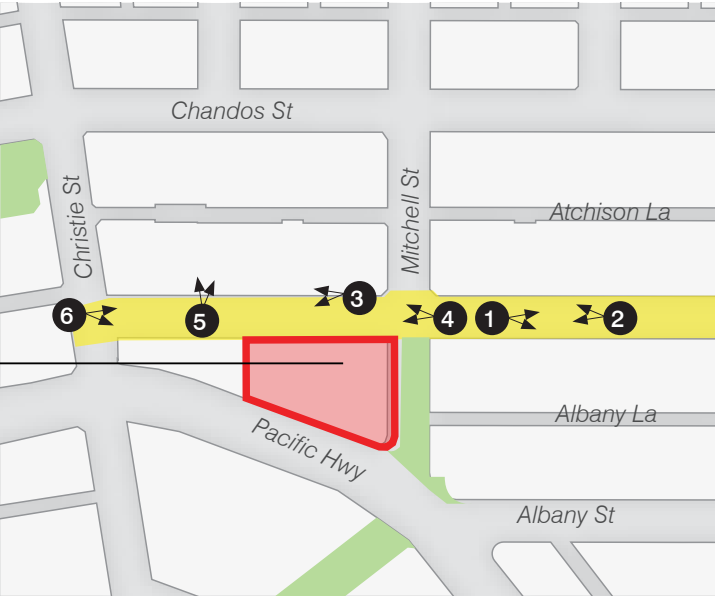
Atchison Street

A key east-west pedestrian connector with a focus on outdoor dining

The north side of the site is bounded by Atchison Street, which has one-way eastbound traffic movements between Christie and Mitchell Streets. Atchison Street rises steeply from west to east, with the high-point in the topography being at the corner of Mitchell Street. In spite of the topography, Atchison Street is a major east-west pedestrian connector between St Leonards Station at Christie Street, the surrounding commercial area and the Crows Nest town centre at Willoughby Road.

The existing building at 601 Pacific Highway presents steep topography with stairs and ramps dominating the ground plane. The adjoining site on the west presently has inactive frontage which is dominated by solid walls and driveway access to basement parking. Between Christie and Mitchell Streets, Atchison Street has recently undergone public domain improvements including footpath widening, seating and planting. With low traffic volumes and active edges, particularly food and beverage tenancies at ground floor, the street has the potential to become a pleasant pedestrian oriented civic street.

The Planning Study has further ambition to transform Atchison Street into a pedestrianised civic environment.



1. Street sloping down towards Willoughby Road are medium density apartments and offices and low scale residential dwellings with low traffic volume.

2. View towards the existing IBM building, the street sloping up hill.

3. Adjacent to the site, public domain upgrade with new planting and seating. Hedges and pergolas plants creates a buffer and enclosed landscape open spaces zoned by the slope stepping along the ground topology.

4. The highrise building on 6-16 Atchison Street adjacent to the IBM site requires consideration of air space and over shadowing.

5. Opposite to the site, there is better pedestrian amenity on the ground level of 6-16 Atchison Street. On the street level, public open space is accessible for pedestrians and connects to Atchison Lane.

6. Atchison Street between Christie and Mitchell Street is one way street and includes paid street parking and a dedicated cycle lane. The painted cycle lane is recently implemented.

Subject site

Site character

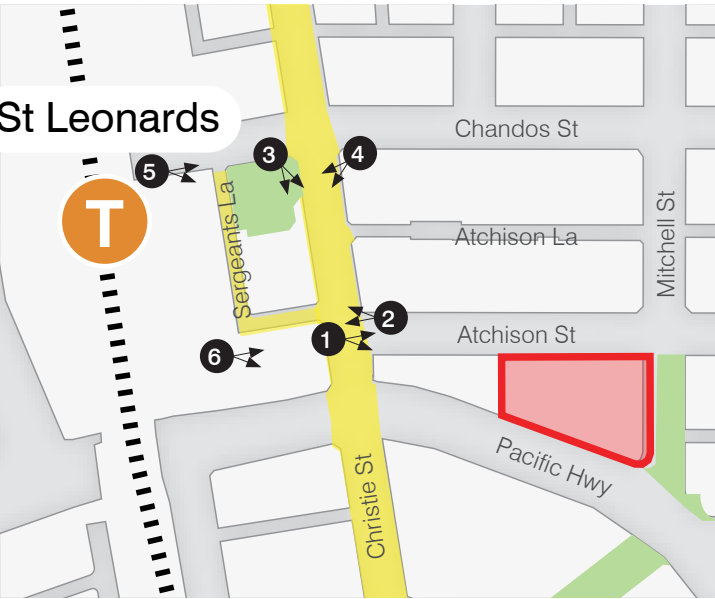
Christie Street

This busy street forms a barrier to east-west pedestrian movement to and from St Leonards Station

Christie Street is characterised by high rise commercial and features street planting, narrow footpaths and a heavily trafficked road.

Pedestrians travel to and from St Leonards Station from Christie Street via a pedestrian walkway at Stargate Lane or via Chandos Street.

At the corner of Christie and Chandos Streets, Christie Street Reserve is a public green space. The reserve is close to the station, receives ample sunlight and is well utilised by working community at lunch hours.



1. Intersection of Christie Street and Atchison Street. There is significant pedestrian movement at street level via Sergeants Lane during the peak hours.

2. Sergeants Lane connecting Christie Street. The laneway provides pedestrian connection and access between Christie Street and the adjoining St Leonards Station and Forum plaza.

3. Christie St Reserve is a small park with plane trees planted around the perimeter of the reserve. The pedestrian movements correspond with the lunch time visits to the Christie Reserve, the surrounding commercial premises and the Forum Plaza.

4. 100 Christie Street existing commercial building is under planning proposal for redevelopment.

5. To Forum Plaza via pedestrian covered through link from Stargate Lane.

6. To Forum Plaza via pedestrian covered through link from Chandos Street.

Subject site

3.3 Site analysis

Land use

The subject site is at the edge of a commercial zone. To the north of the site are conservation zones with low density residential dwellings. Beyond the 200m radius is the retail and dining strip of Willoughby Road, being the high street of Crows Nest. A health precinct is located to the west of the site on the western side of the St Leonards Train Station .

Despite the commercial core zoning, several sites in the Commercial Core area have historically gained, or are currently seeking, the ability to develop as shop top housing (subject to approvals). This means the Commercial Zone is, in fact, largely a mixed precinct.

Legend

Subject site

Commercial core zone

Commercial zone

Health Precinct zone

Mixed Use zone

Mixed Use site (pending)

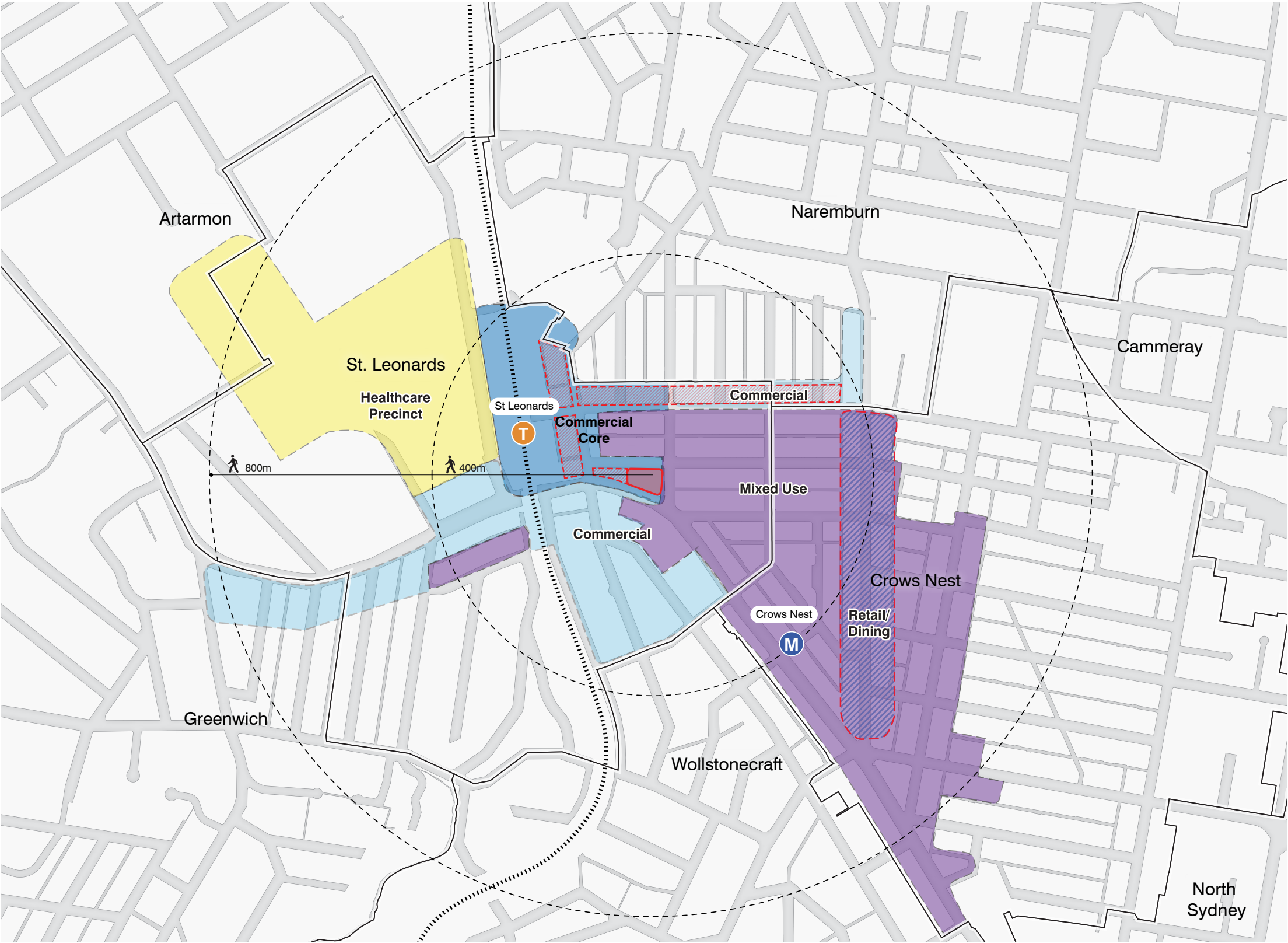
Crows Nest Retail / Dining Strip

Train Station

Proposed Crows Nest Metro Station

Distance from Centre

Radius Circle



Site analysis

Community Infrastructure

To the west of the site, a major health precinct is clustered around Royal North Shore Hospital. Most places of public worship are located along Willoughby Road.

There are a number of schools and colleges in the area, however most are located further south along the Pacific Highway towards North Sydney.

The approved proposed building at 617-621 Pacific Highway adjacent to the site includes a proposal for 2 level Community arts centre within the podium of 1,830sqm. The hospital expansion plans the industrial land to North, and Gore Hill business park will all provide new jobs in the area.

Open Space

Mitchell Street Plaza, which is one of the key public domain elements in St Leonards Town Centre, is adjacent to the site. Christie Street Plaza and Hume Street Park are located within a 200m radius of the site. Gore Hill and Newlands Parks are larger recreational open spaces and are located further of the west, approximately 400m from the site. Further afield around 800m from the site are St Thomas Rest Park to the east and Smoothey Park to the south-west.

Legend

Subject site

Parks and Plazas

Education

Health

Church / Cemetery

Community Facilities

T

 Train Station

M

 Proposed Crows Nest Metro Station

400m

 Distance from Centre

 Radius Circle

 Suburb boundary

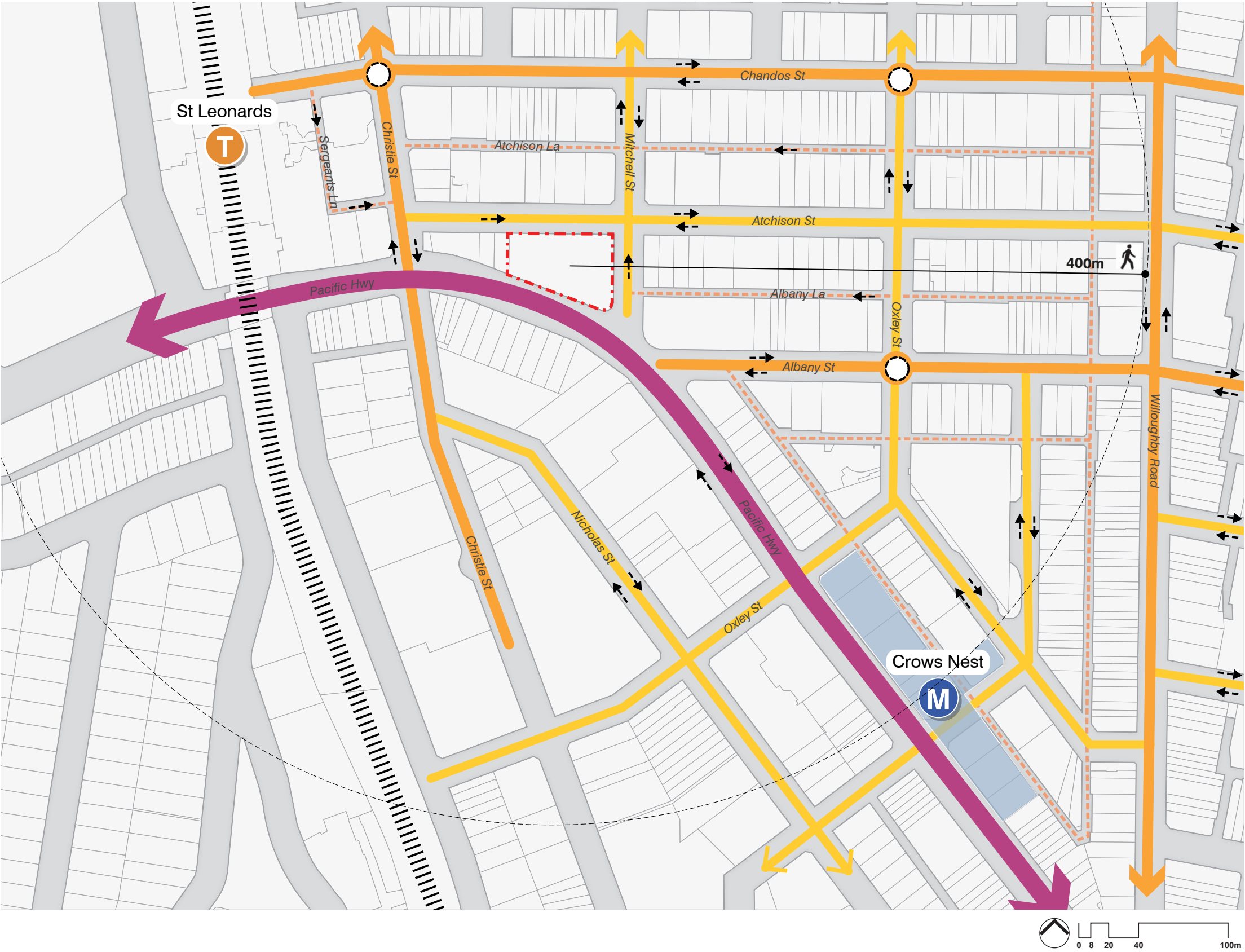


Site analysis

Street grid and hierarchy

The urban structure around St Leonards is characterised by a fragmented parallel grid system with street blocks on average 150m in length and typically 35m in depth.

The site is bounded by an arterial road, the Pacific Highway on the south and rectilinear street grid on the other sides. The four collector roads are served by Christie Street, Chandos Street, Willoughby Road and Albany Street carrying traffic from Naremburn and Crows Nest past the site to the Pacific Highway. Atchison, Mitchell and Oxley Streets are internal local roads and are quiet streets with low volumes of traffic. Laneways run parallel between the collector and local roads which are usually located at the rear of building with narrow streets.



- Legend
- Subject site
 - Arterial Road
 - Collector Road
 - Local Road
 - Laneway
 - Train Station
 - Proposed Crows Nest Metro Station
 - Road direction


Site analysis

Transport


Key public transport opportunities in the locality are:

- **Train**
The site is approximately 200m from St Leonards station, an established and well serviced transport interchange.
- **Proposed Sydney Metro Station**
The site is approximately 400m from proposed Crows Nest Metro, currently under construction.
- **Bus**
Buses runs frequently along Pacific Highway and Willoughby Road and connect with rail, servicing Macquarie Park and Chatswood to the west and north, Manly to the east and Milsons' Point to the south.
- **Cycle**
Improvements to the cycle environment at St Leonards are taking place. Recently a wide dedicated cycle path lane has been implemented on the uphill section of Atchison Street.
- **Taxi**
There is an informal taxi drop off and pick up on Pacific Highway in front of the site and close to the station.


Legend




Subject site




Bus Route and Bus Stop




Council Proposed bicycle path




Dedicated on-road bicycle path




On-road bicycle path




Train Station




Proposed Crows Nest Metro Station



Informal taxi drop off/pick up



Distance from Centre



Radius Circle



Pedestrian access and connectivity

- Footpaths**
Atchison and Chandos Streets and the Pacific Highway are currently primary east-west pedestrian desire lines connecting with St Leonards Station. There is pressure on existing signalised and un-signalised pedestrian crossings across Christie Street, which is a busy street separating the site from the train station. Although there have been some recent upgrades to the public domain on Atchison Street, new development at 601 Pacific Highway has the potential to improve the pedestrian environment along the southern edge of Atchison Street.
- Through-site links**
Well-used through site links exist through the Forum Plaza and connect Atchison Street and the site with St Leonards Train Station. There are a number of other north-south through-site links connecting streets with lanes, however visibility and desirability tend to be poor.
- Laneways**
The streets at Albany and Atchison Lanes have the potential laneway activation to provide a safe and accessible street for pedestrians and view connections. They provide view and connection to the site via covered pedestrian walkways and site links.

Legend

Subject site

Parks and Plazas

Pedestrian covered opens space

Primary pedestrian desire line

Secondary pedestrian desire line

Covered pedestrian walkway

Pedestrian through site links

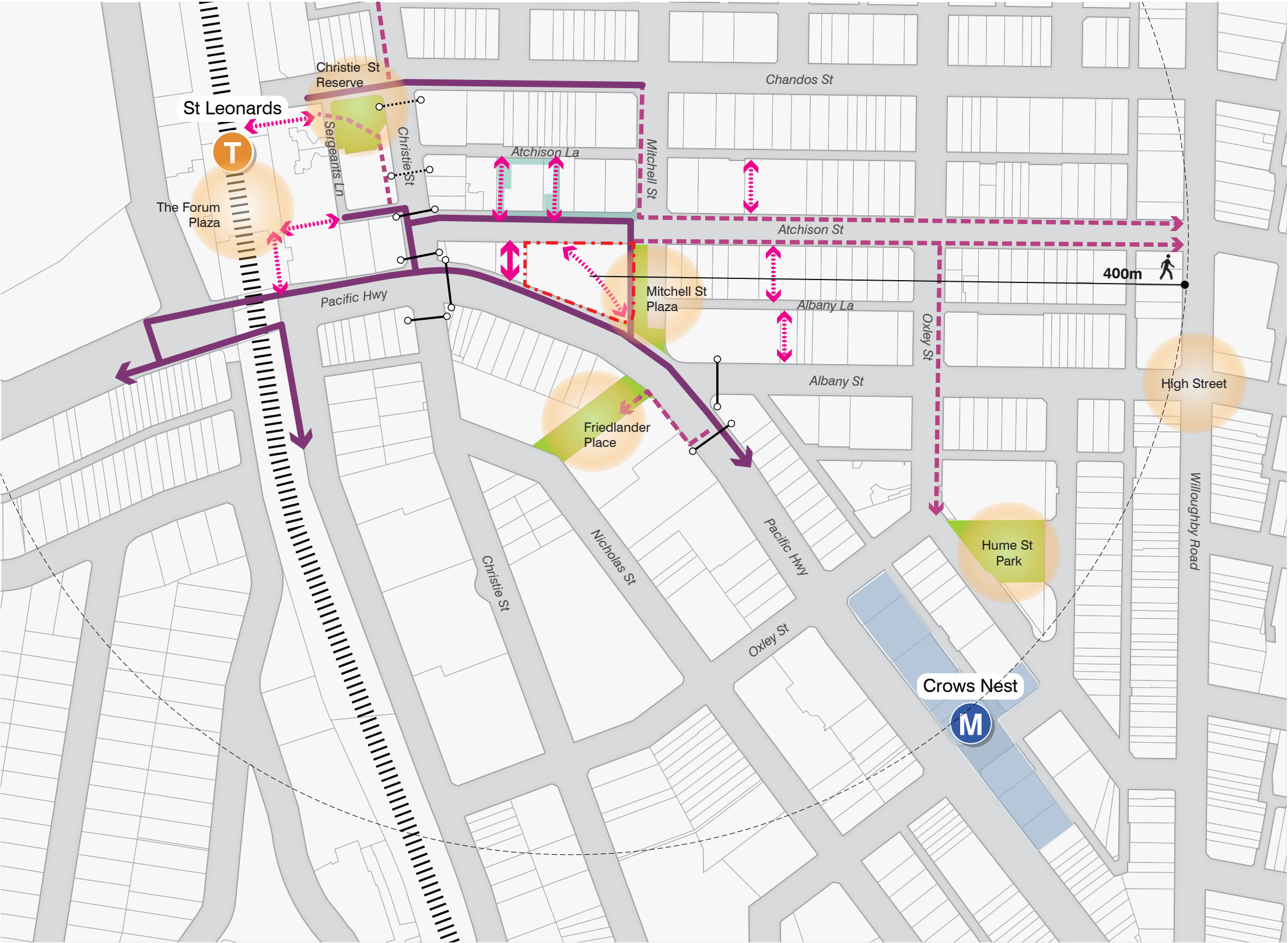
Pedestrian signalised crossing

Pedestrian desired line unsignalised crossing

Train Station

Proposed Crows Nest Metro Station

Key attractors

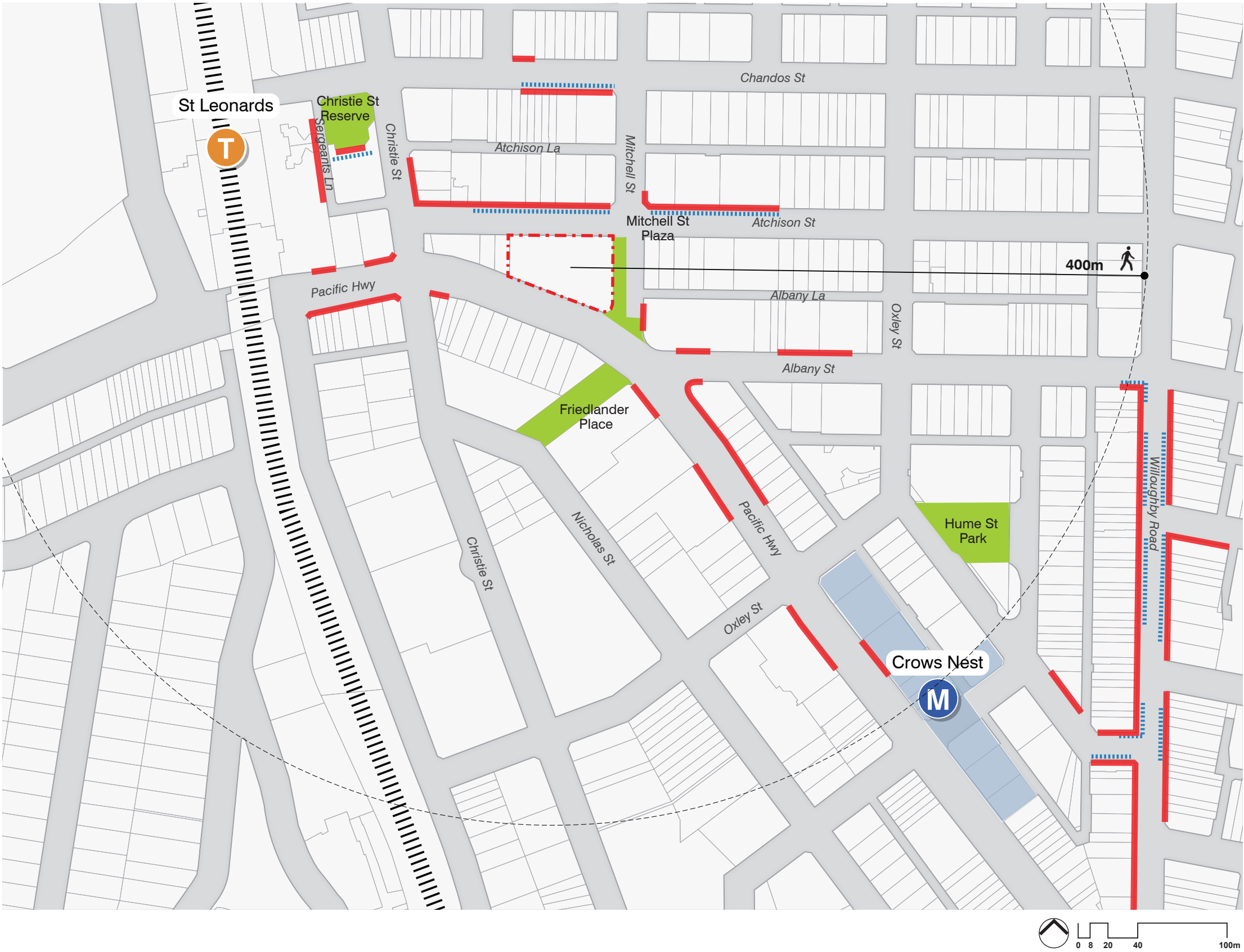


Site analysis

Active street frontages

Atchison Street has recently undergone public domain improvements with streetscape and pedestrian amenity, as well as some isolated active retail, dining and public open space at street level. Pacific Highway has little or no active street frontage on the north side between Christie Street and Albany Street.

Mitchell Street currently has few active street frontage or outdoor dining, but the Mitchell Street Plaze investment by council will provide excellent opportunities for an activated public domain.



- Legend
- Subject site
 - Parks and plaza
 - Active frontage
 - Footpath dining
 - Train Station
 - Proposed Crows Nest Metro Station
 - Distance from Centre
 - Radius Circle

Site analysis

Topography

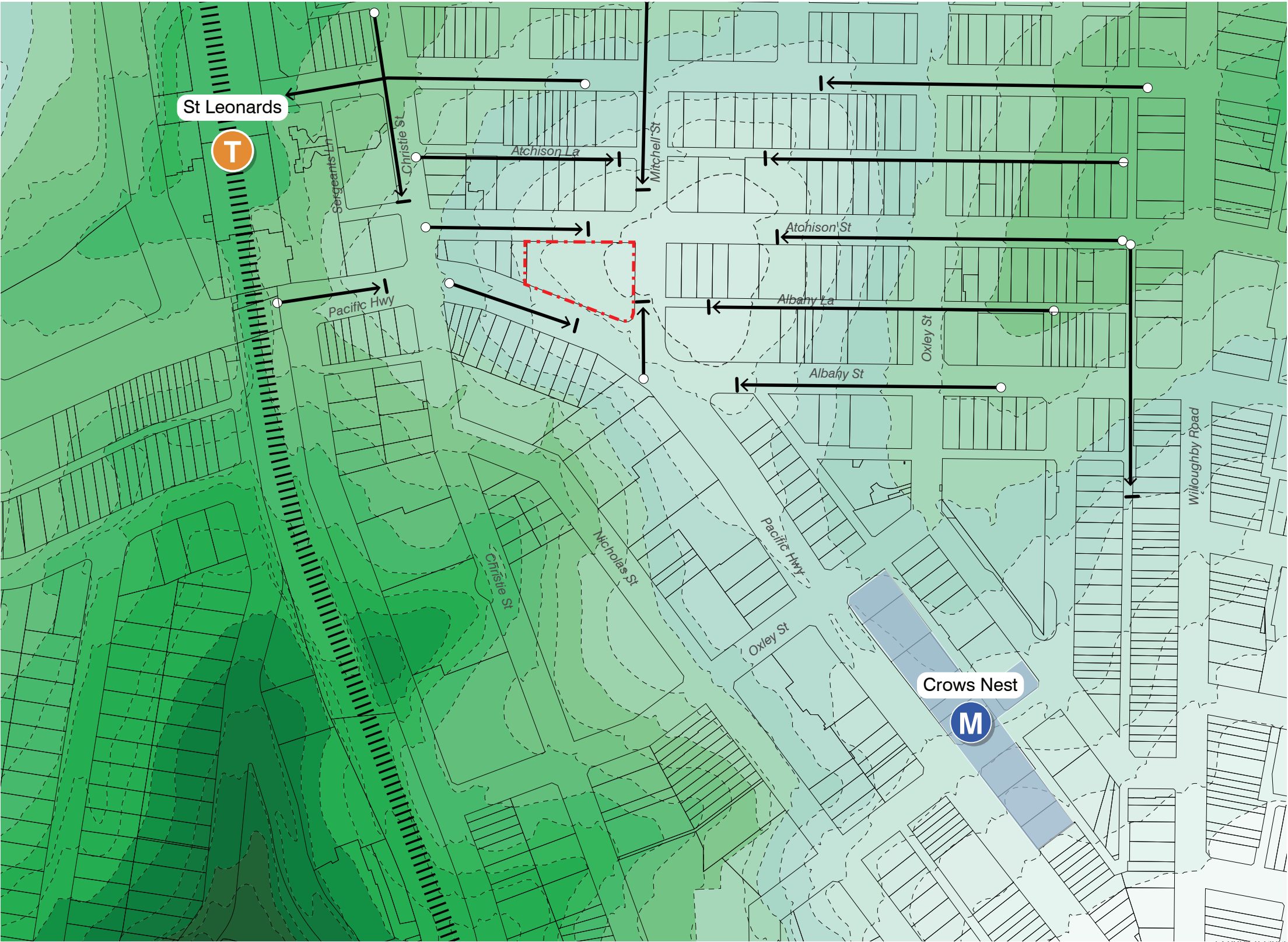
The Pacific Highway runs along the natural ridge line connecting North Sydney to the upper North Shore. 601 Pacific Highway is located at the high point of this ridge, marking the site as the iconic centre of St Leonards.

The high point is located mid-block between Mitchell Street and Atchison Street, at an of RL 92, from which point the terrain slopes away in all directions.

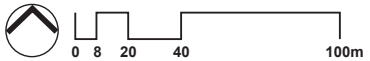
Within the site, there is a fall of approximately 3m from east to west, and a fall of approximately 1.5m from north to south across the site.

Sight-lines and Vistas

The terrain drops to the west and the south away from the high-point at the corner of Mitchell and Atchison Streets. The steep nature of Atchison Street makes east-west pedestrian connections more difficult and also impacts on vistas and sight-lines from west to east along Atchison Street.



- Legend
- Subject site
 - Vistas interrupted by topography
 - Contours @ 2m intervals
 - Site fall - light (high) to dark (low)
 - High point
 - Train Station
 - Proposed Crows Nest Metro Station

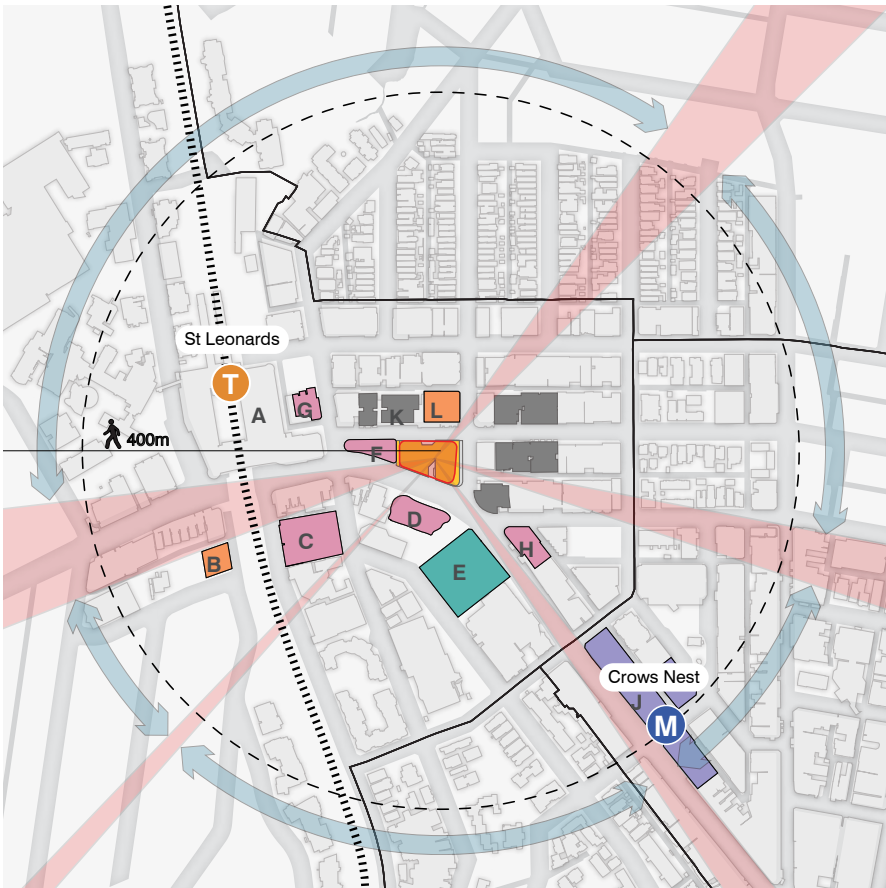


Site analysis

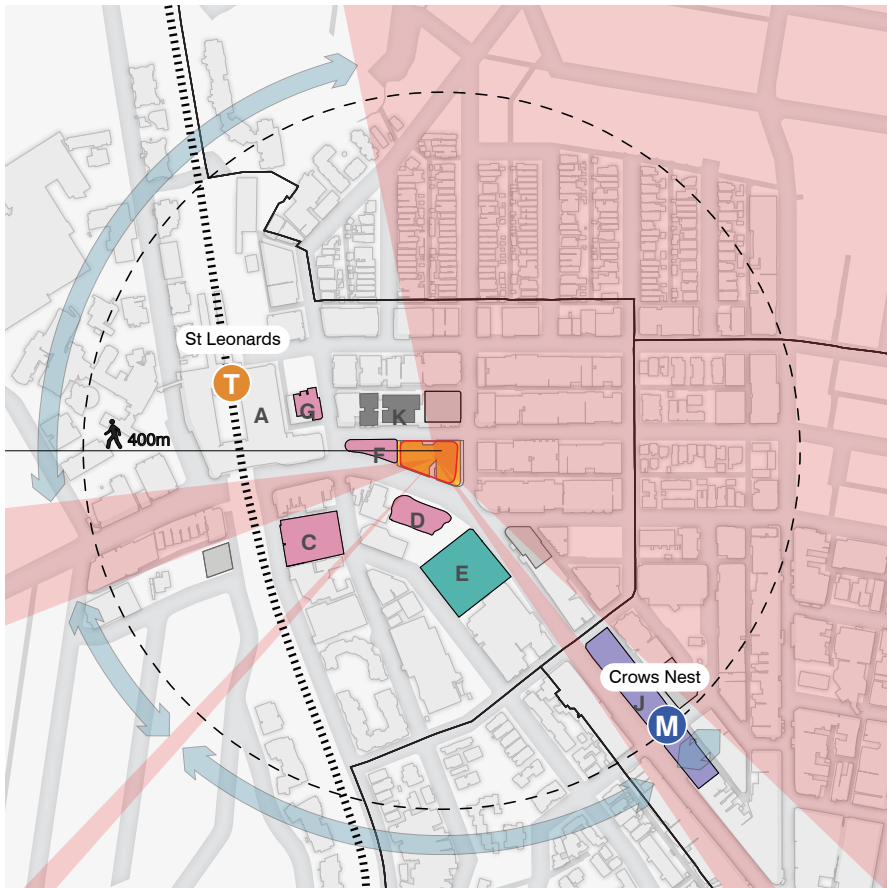
Views

Excellent views particularly towards the harbour to the south and the ocean to the east, would be available from upper levels of any proposed new development at 601 Pacific Highway.

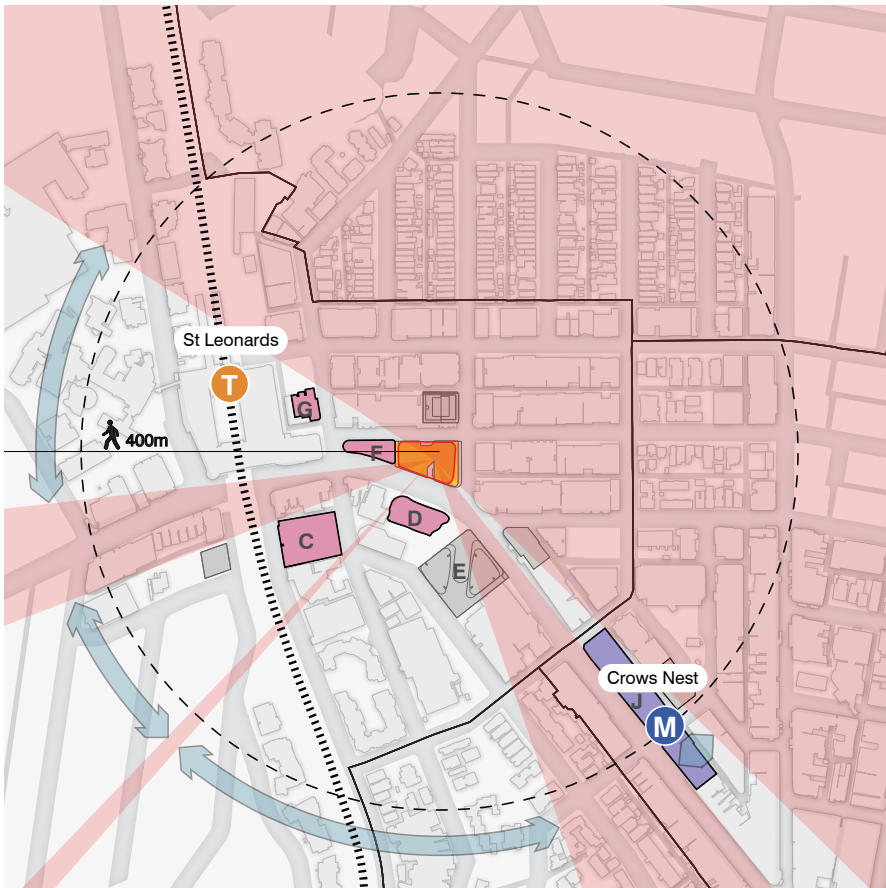
Proposed new development surrounding the site would block some of these views, as indicated on the adjacent diagram. Proposed and new developments are described in detail in section 2.5 approved and pending local approvals.



Views available between L9 to L20



Views available between L21 to L40



Views available from L41 upwards

Legend

- Subject site
- Views available
- Views interrupted by other development
- Train Station
- Proposed Crows Nest Metro station
- Distance from Centre
- Radius Circle
- Built (approximate to site)
- Under construction
- Approved
- Pending approval
- Potential future development
- Proposed building

#	Address (storeys)	Status
A	The forum, 201 Pacific highway (34 & 35 storeys)	Built
B	1-13 Marshall Avenue, St Leonards (30 storeys)	Approved
C	86-90 Christie Street & 75-79 Lithgow Street (44 storeys)	Gateway
D	504-520 Pacific Highway (43 storeys)	DA Progress
E	472-494 Pacific Highway, St Leonards (27 & 35 storeys)	Construction
F	619-621 Pacific Highway, St Leonards (50 storeys)	Awaiting gateway

G	100 Christie Street, St Leonards (36 storeys)	Notified
H	575-583 Pacific Highway, Crows Nest (18 storeys)	Gateway
I	545-551 Pacific Highway, St Leonards (16 storeys)	Built
J	Future Crows Nest OSD (45 storeys)	In progress
K	6-16 Atchison Street, Crows Nest (32 storeys)	Built
L	18-20 & 22-24 Atchison Street, St Leonards (16 storeys)	Approved

Site analysis

Views

Indicative views to the right taken from a context model show views that would be available from nominated floors of a potential new tower on the subject site.

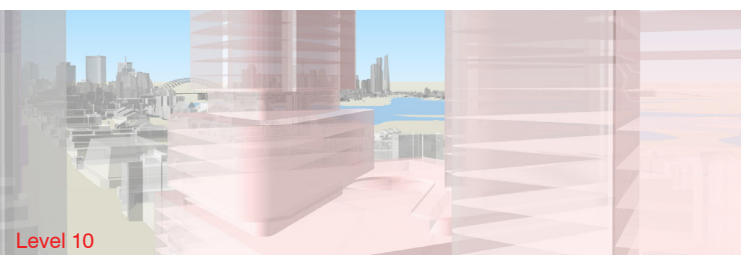
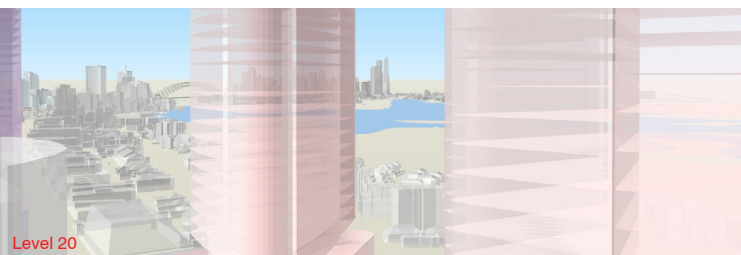
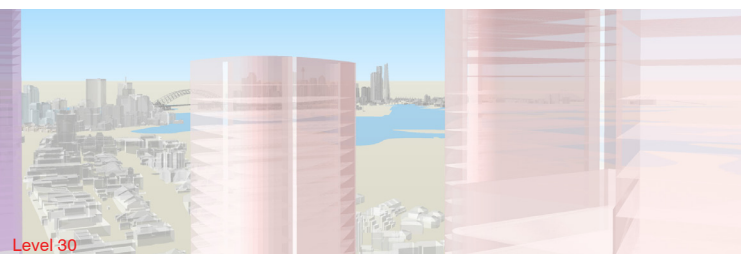
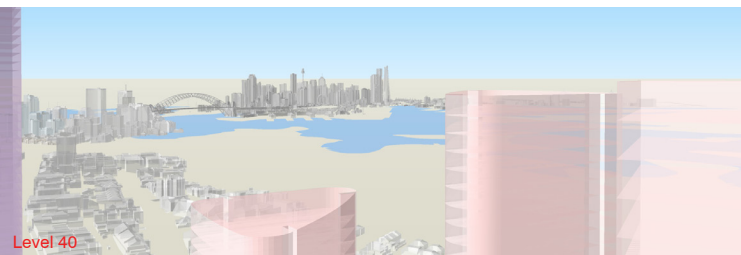
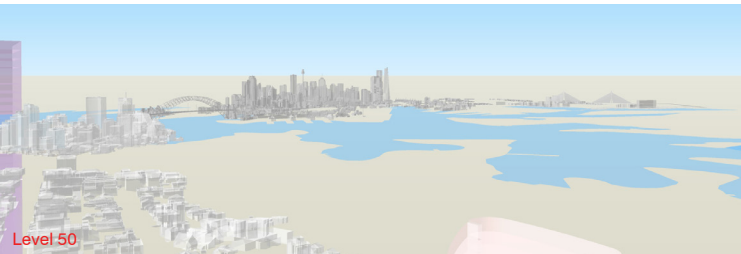
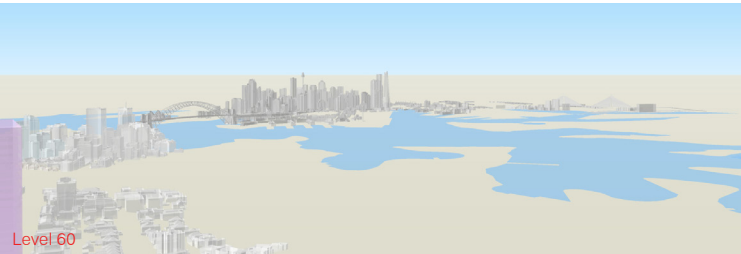
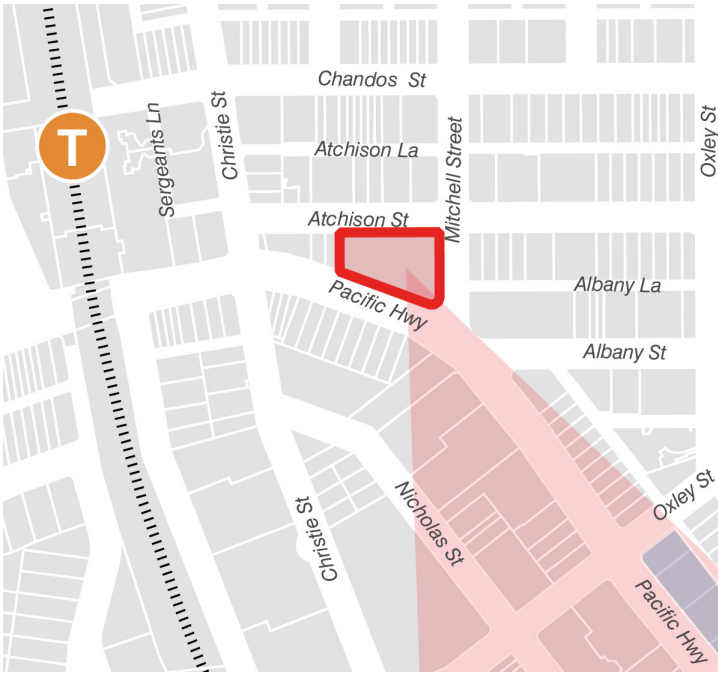
View from existing commercial building on site



View from level 13 of the existing building



South East view towards the CBD harbour



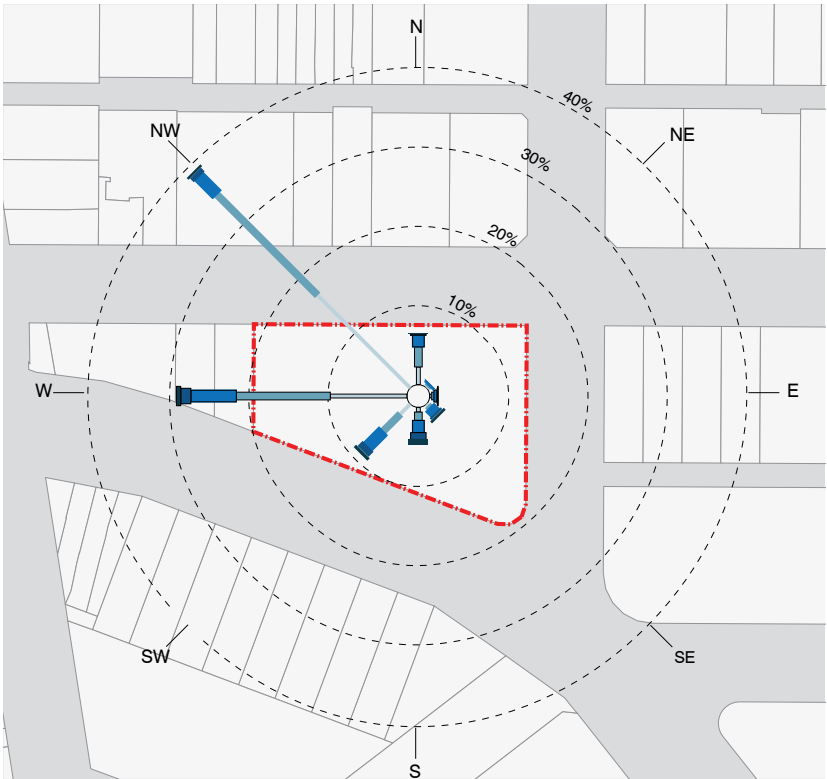
Context model of South East view taken at different levels

Site analysis

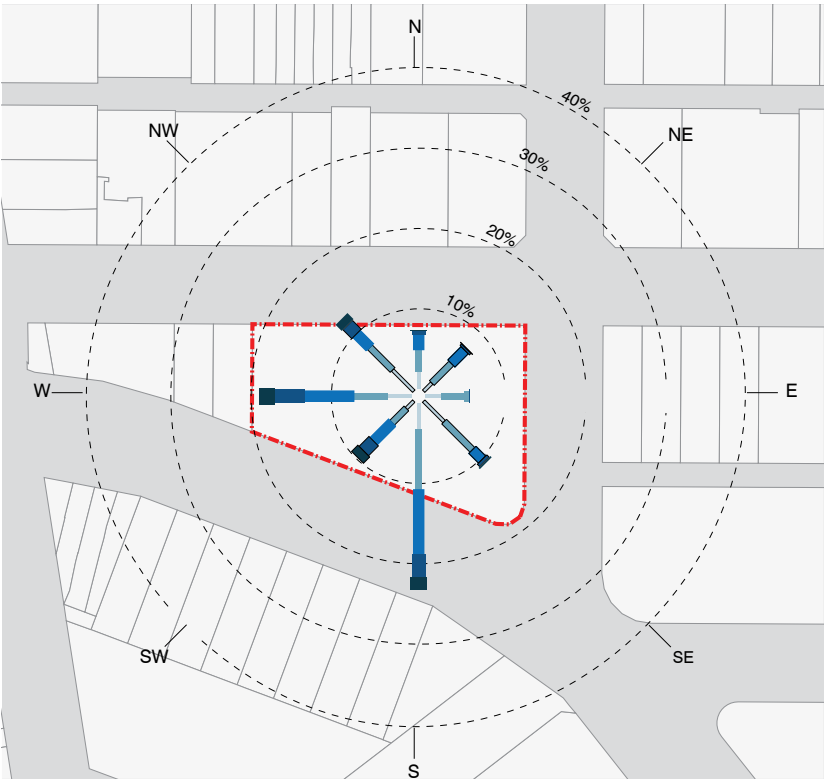
Prevailing wind

The wind rose from the Australia Government Bureau of Meteorology demonstrates that:

- In winter the prevailing winds are from the west and north-west in the morning and tend to change in the afternoon to be predominately from the south.
- In summer prevailing winds in the morning are from the south, while in the north-easterly breeze picks up and dominates in the afternoon and evening.
- Existing and proposed tall buildings in the vicinity of the site also generate specific wind tunnel environments.

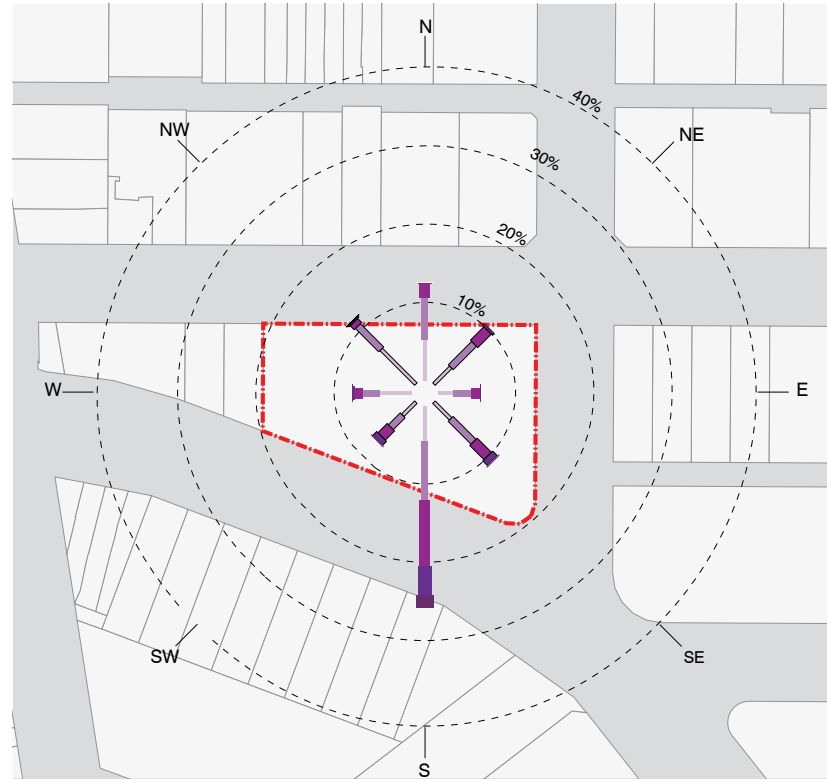
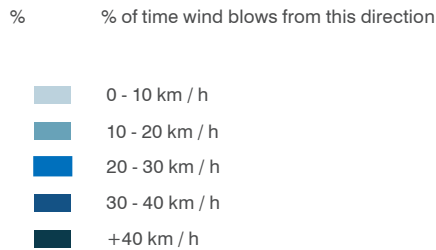


9am Winter

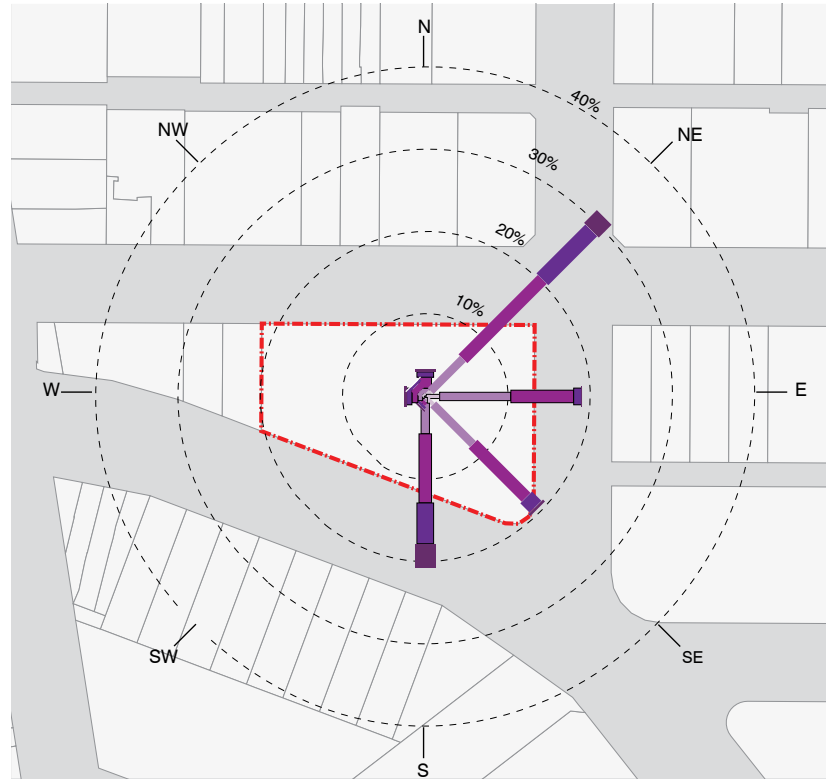


3pm Winter

Winter Wind direction

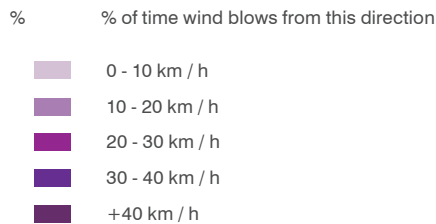


9am Summer



3pm Summer

Summer Wind direction



Legend
Subject site

Source: Australia Government Bureau of Meteorology

3.4 Summary of opportunities and constraints

Constraints

In summary, the key constraints impacting the subject site and indicative concept design include:

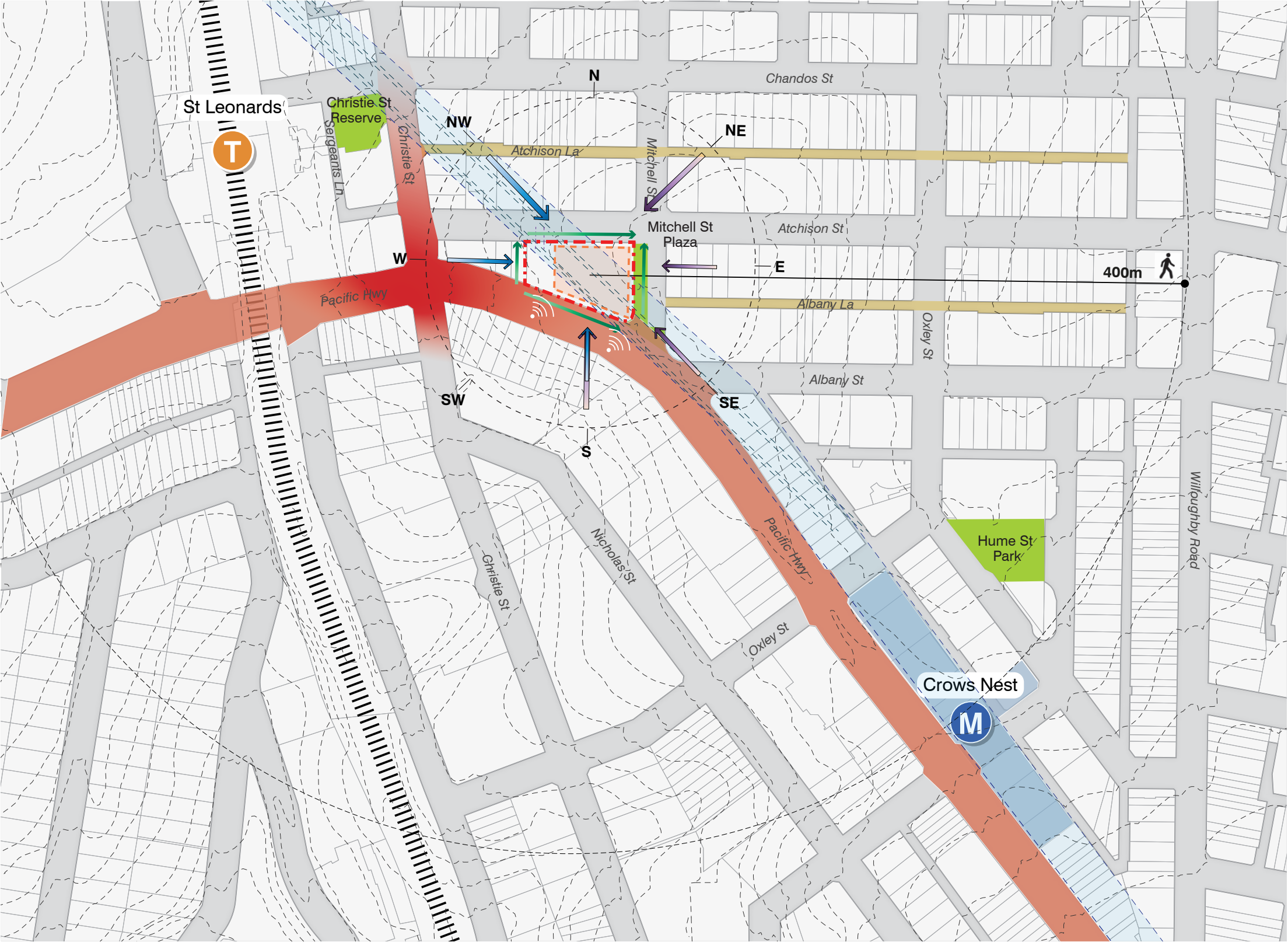
- Traffic noise from the busy Pacific Highway;
- Strong breeze and winds from a southerly direction throughout the year;
- Access for pedestrians approaching the site from St Leonards Train Station is compromised by traffic congestion on Christie Street, the rising gradient from Christie Street up to Mitchell Street and the hostile and noisy environment of the Pacific Highway; and
- Lack of shelter or activation for pedestrians along the frontages of adjacent properties;
- New and proposed development in immediate surrounds.

Metro corridor constraints

The site is above the proposed metro tunnel alignment, which impacts on the potential structural solution for future development on the site.

Legend

- Subject site
- Resulting Building Envelope
- Proposed Metro tunnel underground
- Heavy traffic on Pacific Highway
- Traffic congestion
- Contours @ 2m intervals
- Topography
- Winter wind direction
- Summer wind direction
- Noise
- Unsafe laneways
- Vehicle access



Summary of opportunities and constraints

Planning constraints

The North Sydney Council DCP (2013) stipulates:

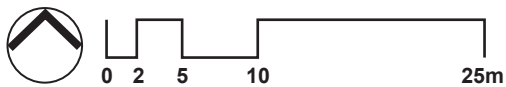
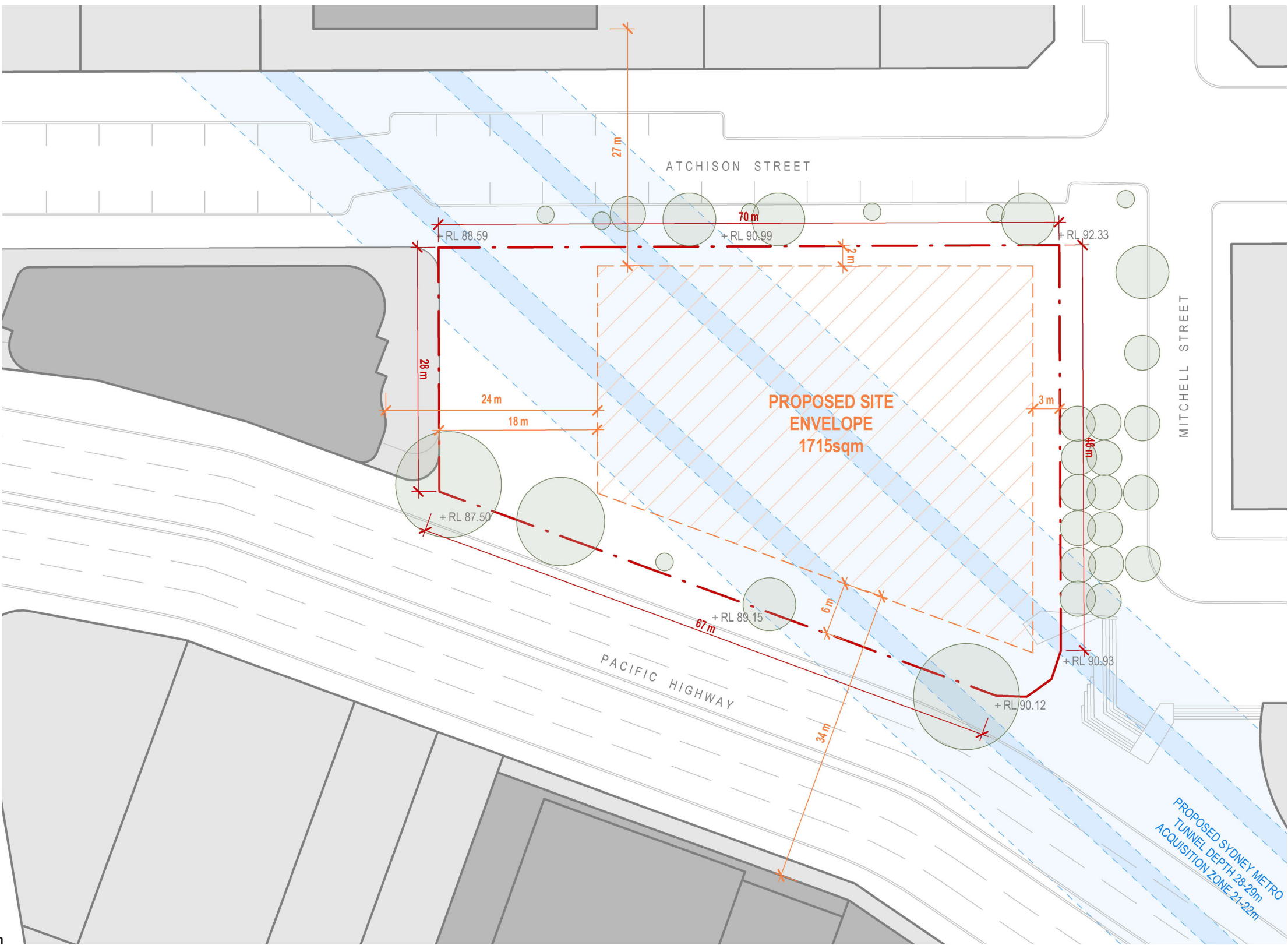
- 3m ground setback - 2 storeys at Pacific Highway
- 3m whole of building setback at Mitchell Street
- 4 storey for podium
- 3m above podium setback all streets at Pacific Highway, Mitchell and Atchison Streets
- Ideally 2m or consistent setback to align to adjoining buildings on Atchison Street.

Guidelines under State Environmental Planning policy 65 – Design Quality Flat Development SEPP 65 for tall buildings and residential towers required building separation of 24m.

Architectural constraints

The site is subject to the following planning controls. All design options have considered the setbacks and envelope constraints below:

- Minimum 18m setback to 617-612 Pacific highway lot boundary
- Minimum 2m setback along Atchison Street to continue street character
- Minimum 3m setback from Mitchell Street above podium
- Minimum 6m tower setback along Pacific Highway
- Minimum 24m building separation.



Summary of opportunities and constraints

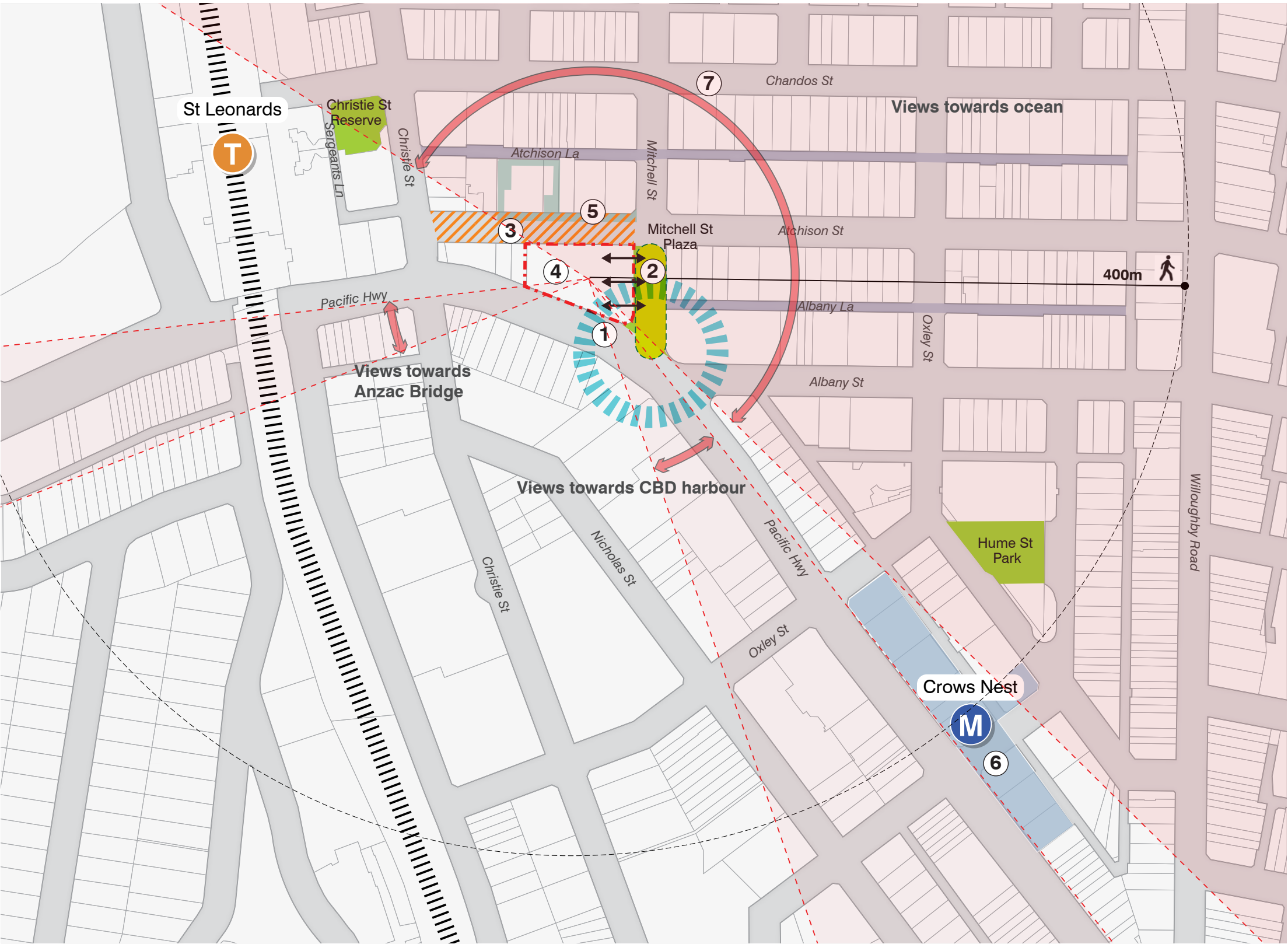
Opportunities

Taking into account the site constraints, there is significant opportunity to:

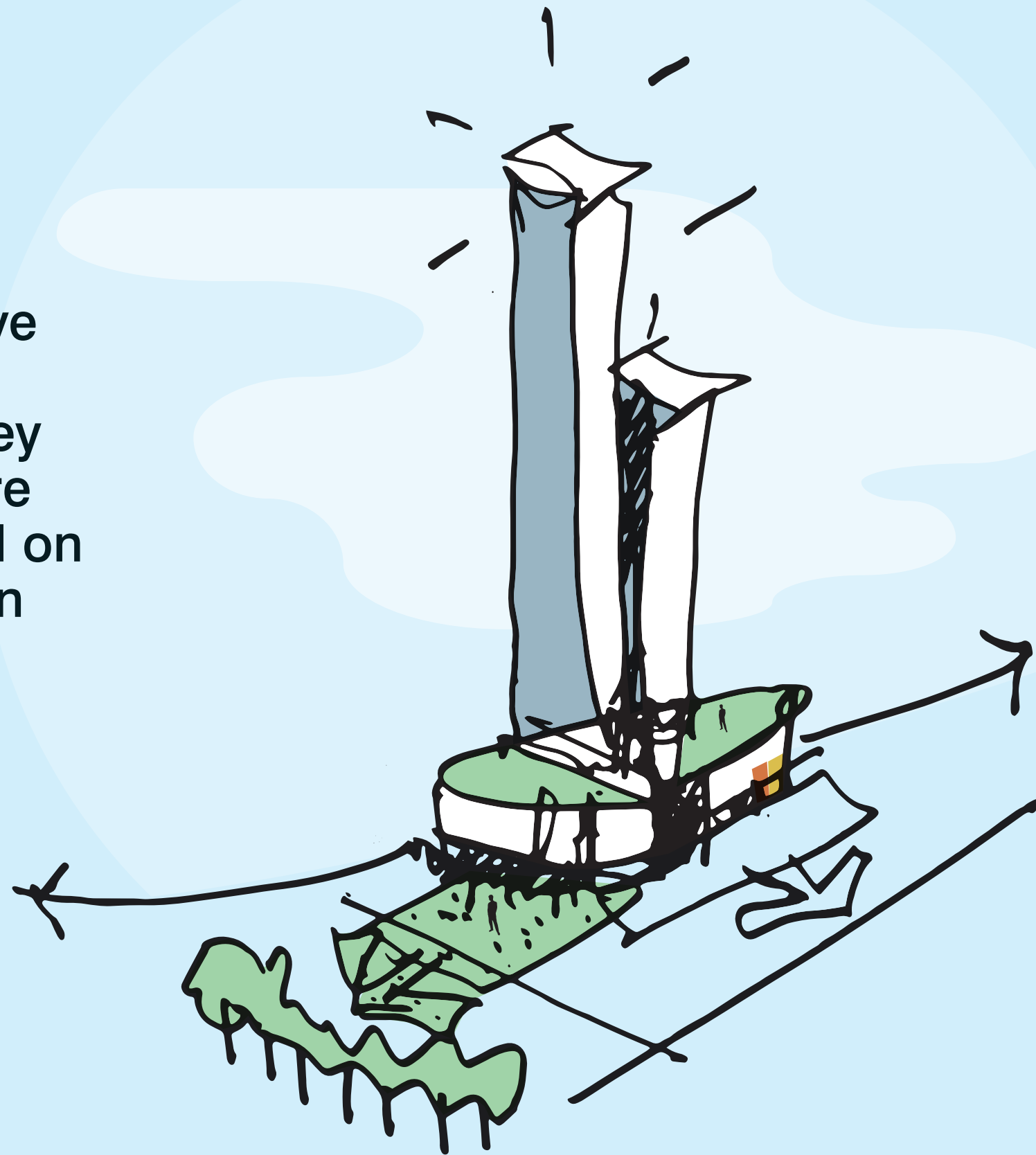
1. Create an iconic gateway development at the high point of St Leonards and on the important vista at the bend in the Pacific Highway.
2. Capitalise on and integrate the Mitchell Street Plaza public domain into the site, ensuring that the podium provides a high quality interface, activation and good integration.
3. Contribute to the activation of the public domain and pedestrian environment along Atchison Street. There is an opportunity strengthen the character of Atchison Street as a civic, retail and dining street with active frontages, reduce the traffic role of Atchison Street and create a stronger focus for pedestrians.
4. Provide commercial and non-residential uses as part of the employment strategy to support the long term investment in the broader Centre.
5. Provide additional community uses to meet local needs and reinforce the site's central location within the town centre.
6. Improve walking connections and gradients to the proposed Crows Nest Metro Station.
7. Excellent views will be available from level 40 onwards, particularly towards the east.

Legend

- Subject site
- Parks and plaza
- Public Open space / plaza
- Activate Atchison Street
- Laneway activation
- Adjacent open spaces connection
- Green spine connecting to parks
- Gateway
- Train Station
- Proposed Crows Nest Metro Station
- Distance from Centre
- Radius Circle



In developing the indicative concept design plan we explored principles and key moves which would ensure that the design is founded on best practice urban design and planning thinking.



4.0 Developing the indicative concept design

4.1 Principles

4.2 Key moves

4.3 Option summary

1 Support Mitchell Street Plaza

To become an active landscaped public space that can become the focal point for the community and revitalise this iconic corner. Ensure that the edges of the building offer compatible uses which can spill into the plaza and provide 24 hour activation.



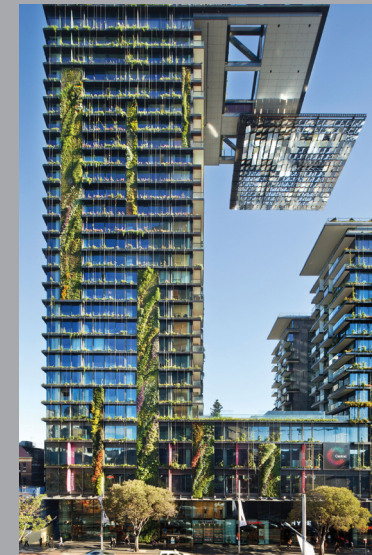
2 Activate Atchison Street

Provide built form that creates active edges to Atchison Street, and a high quality public domain generating opportunities for outdoor dining on footpaths to reinforce Atchison Street as the key day and night dining precinct.

3 Ensure a mix of land uses

Create a landmark development that offers a mix of non-residential, residential and community uses.

Importantly, improve the non-residential offering to better match the employment needs in the town centre.



One Central Park, Sydney: active lower level, low podium, slender towers, sky gardens. Completed: 2013.

Chatswood Transport Interchange: tall slender towers. Completed: 2009.



O'Dea Avenue, Waterloo: active lower level, slender tower, interface to public open space. Expected completion: end of 2016.

Greenland Centre, Sydney: tall slender towers. Expected completion: 2019.

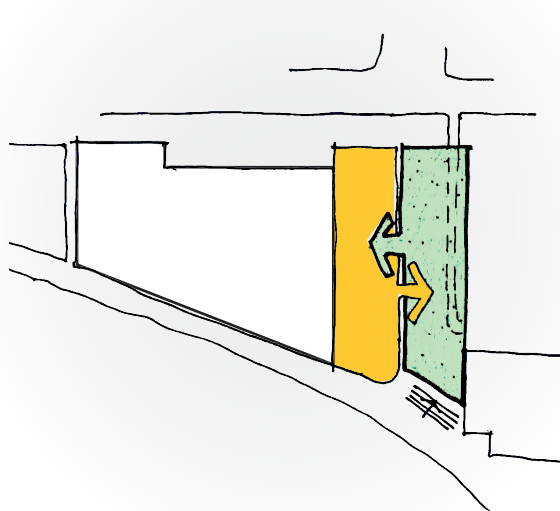
4 Landmark built form and tower envelope

Ensure that the podium has active ground uses, engages with the public domain and has well distributed and clear building entries. Uses on upper levels of the podium should be articulated from the outside. The tower form should be slender and articulated and designed to maximise separation from other towers for view sharing and to minimise the effect of 'tower crowding'.

4.2 Key moves

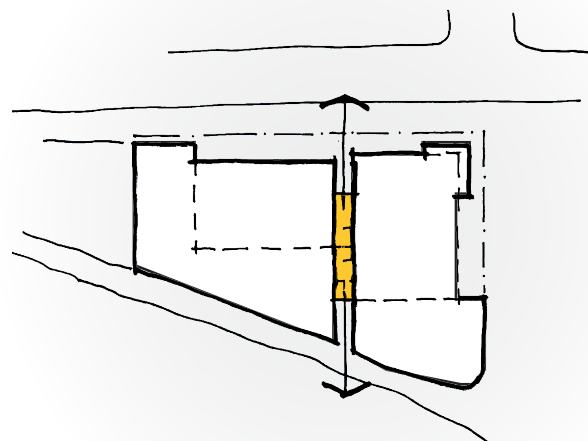
The design is underpinned by the following key moves:

Urban design key moves



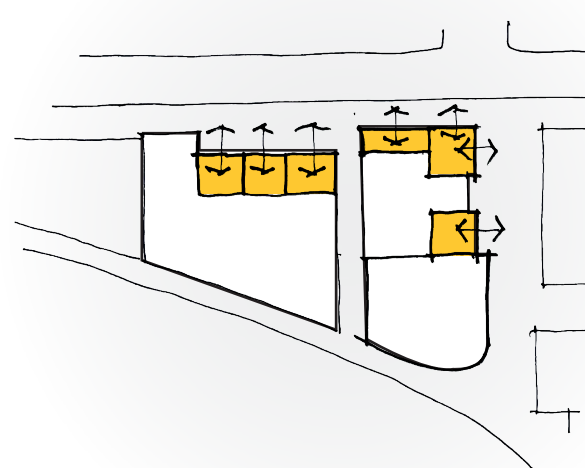
1 Open space

The site fronts Mitchell Plaza which is currently undergoing reconstruction as an improved landscaped open space with a shared way connection to Atchison Lane. The site's redevelopment could provide an active and permeable frontage to the western side of the Plaza, ensuring that Mitchell Street Plaza becomes an iconic focal point within St Leonards town centre. Retractable and transparent frontages at ground level would allow retail activity to permeate the open space, and the open space to contribute to the retail character.



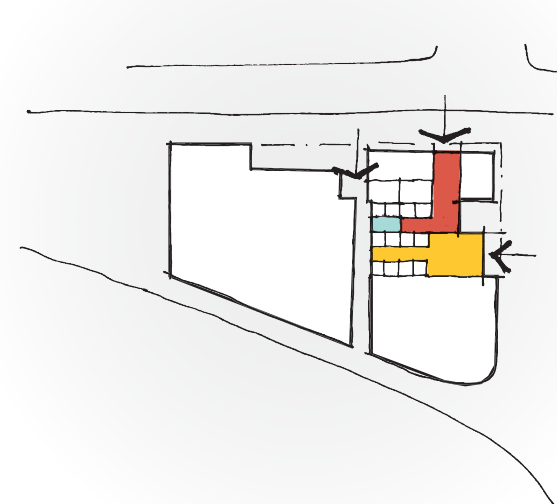
2 Through site link

A through site-link could be available between the Pacific Highway and Atchison Street mid-block through podium during retail hours. This link could be partially open to the sky, being aligned with a gap between towers over, and therefore have access to natural daylight.



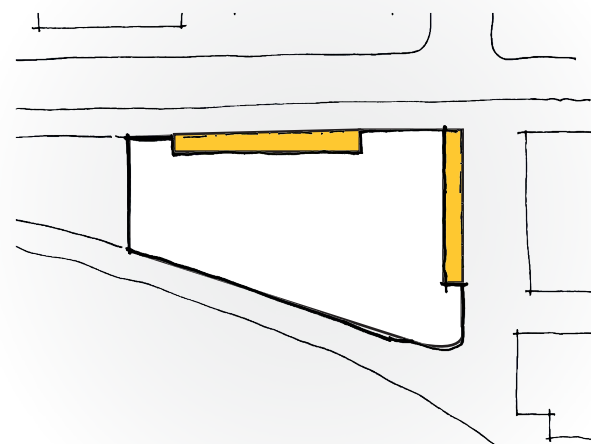
3 Fine grain retail

The ground plane is proposed to be dominated by fine-grain active retail uses. Retail would include predominantly food and beverage offers to strengthen the civic function of Atchison Street as a key dining street within the town centre, and activate the Mitchell Street Plaza open space 24 hours a day. Locating a driveway at the western boundary would ensure that the active pedestrian and retail corner is not interrupted with vehicular movements.



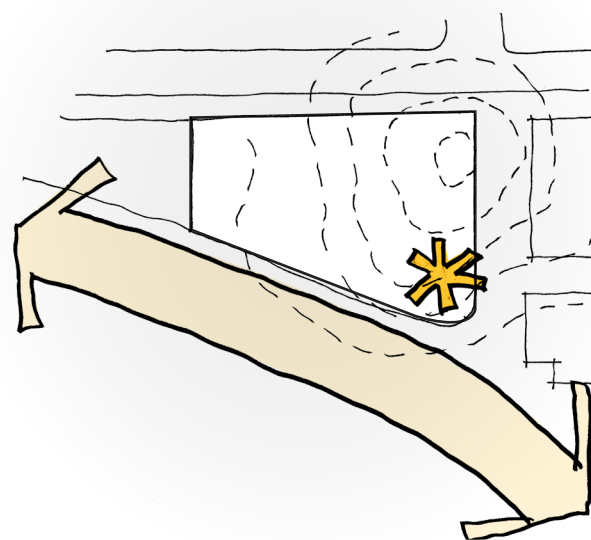
4 Street activation

In addition to the retail activation, well-designed lobbies would make a significant contribution to street activation. These can be distributed along both Atchison and Mitchell Street frontages to maximise 24 hour activity at ground level.



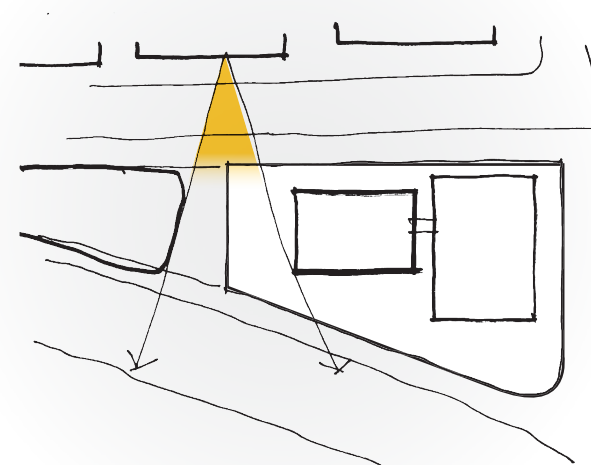
5 Podium setback

The podium footprint has been set back along both Atchison and Mitchell Streets to provide wider footpaths for outdoor retail and dining opportunities.



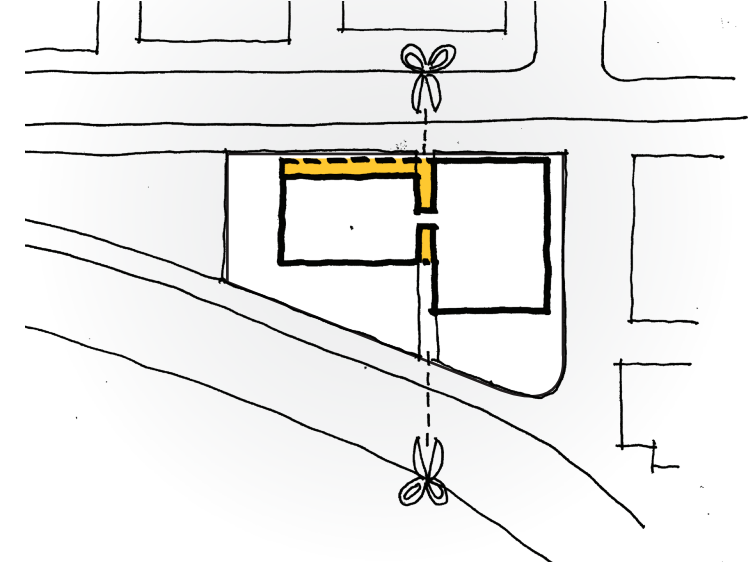
6 Iconic corner

A tower is located at the topographic high point of St Leonards, and on the bend in the Pacific Highway, being the historic road following the ridge line northward from North Sydney. Due to these key factors, the site forms the iconic town centre and gateway, and is a natural location for a tall slender tower marking the vista up the Highway. The tower proportions and separation have been designed to ensure a sensitive architectural form on the corner.



7 Tower separation and view sharing

The tower is set 24m back from the Western boundary to ensure separation between habitable rooms and the proposed new development on the neighbouring site. On the eastern side, Mitchell Street Plaza ensures adequate landscaped separation from any future towers to the east, while to the north, Atchison Street provides separation from towers on the northern side of the site. The tower has been located with consideration to view sharing with existing towers on the northern side of Atchison Street, and with separation from the proposed development at 619-621 Pacific highway to reduce visual 'tower crowding'

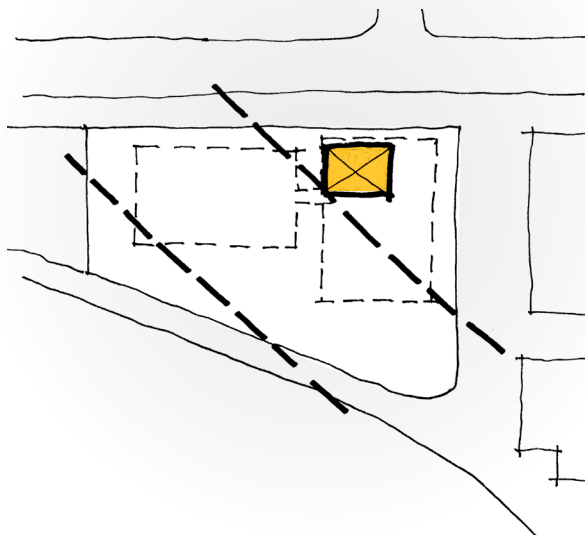


8 Tower and podium articulation

The tower form has been refined from an L-shaped block and cut away to reveal what could be designed to appear as two slender towers.

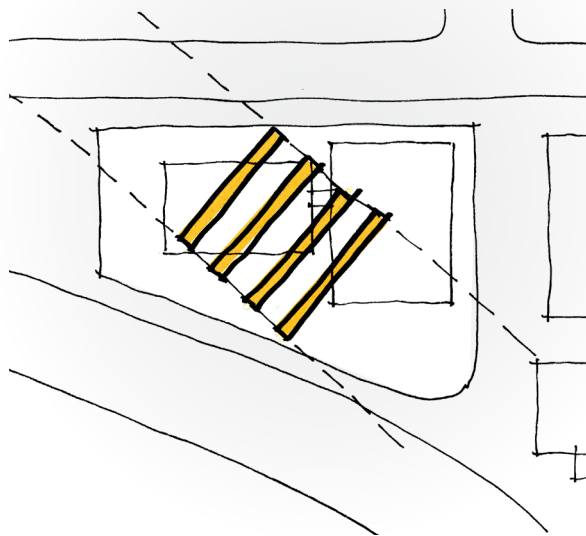
The articulation could continue down through the podium in the through site link. The extent of the break can be designed creatively to create the appearance of a distinctive break.

Architectural key moves - podium



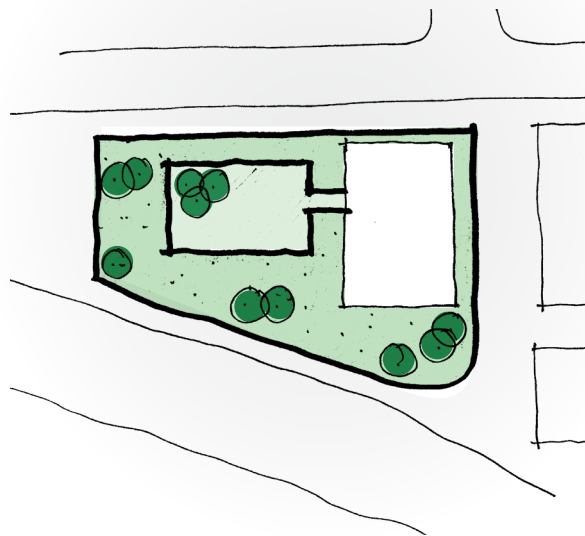
1 Core location

Given the structural constraints presented by the rail corridor beneath the site, the design accommodates a core located to the north of the rail tunnel zone of influence.



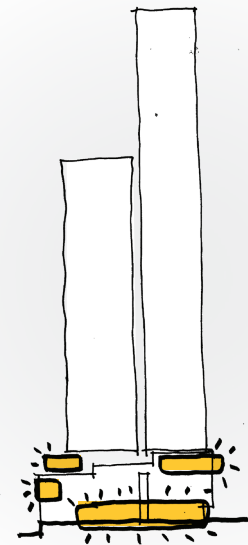
2 Structure

The structural support for a building is required to span the rail corridor, which may result in a transfer structure above the podium, transferring the tower load to an external structure around the podium. This is just one of the structural solutions possible that is still to be explored in detail, however it has been considered in the design testing.



3 Upper level open space

The podium roof offers an opportunity for a generous flexible garden space which could be provided for a community use. The roof of the shorter tower floor plate provides communal open space opportunity for residents. Landscaping to all upper level spaces could be visible from street level to provide a lush landscaped character to the building.



4 Visible podium uses

Proposed podium uses can be clearly expressed on the outside of the building through the architectural treatment. Double height spaces for a community use would modulate the facade and offer upper level landscaping opportunities.

Architectural key moves - tower



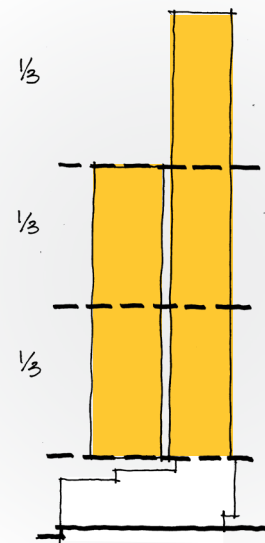
1 Scale

The proposed tower will reinforce the town centre's importance on the skyline by identifying it as the transport hub on the topographic high point, at the mid-point between the Sydney Metro Station at Crows Nest and St Leonards Train Station.



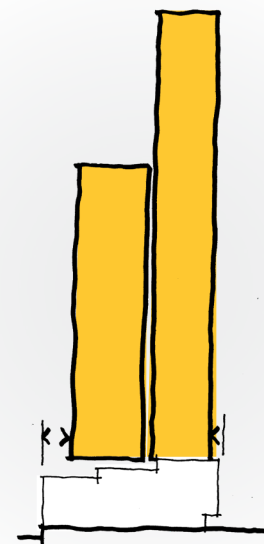
2 Height to width ratio

The tower will have a rate of 1x width to 6x height, resulting in a slender form.



3 Proportions

By splitting the tower form in 2, the bulk is reduced and an elegant form results. The lower part of tower is 2/3 height of higher portion of the tower so that the form becomes more slender where it meets the sky.



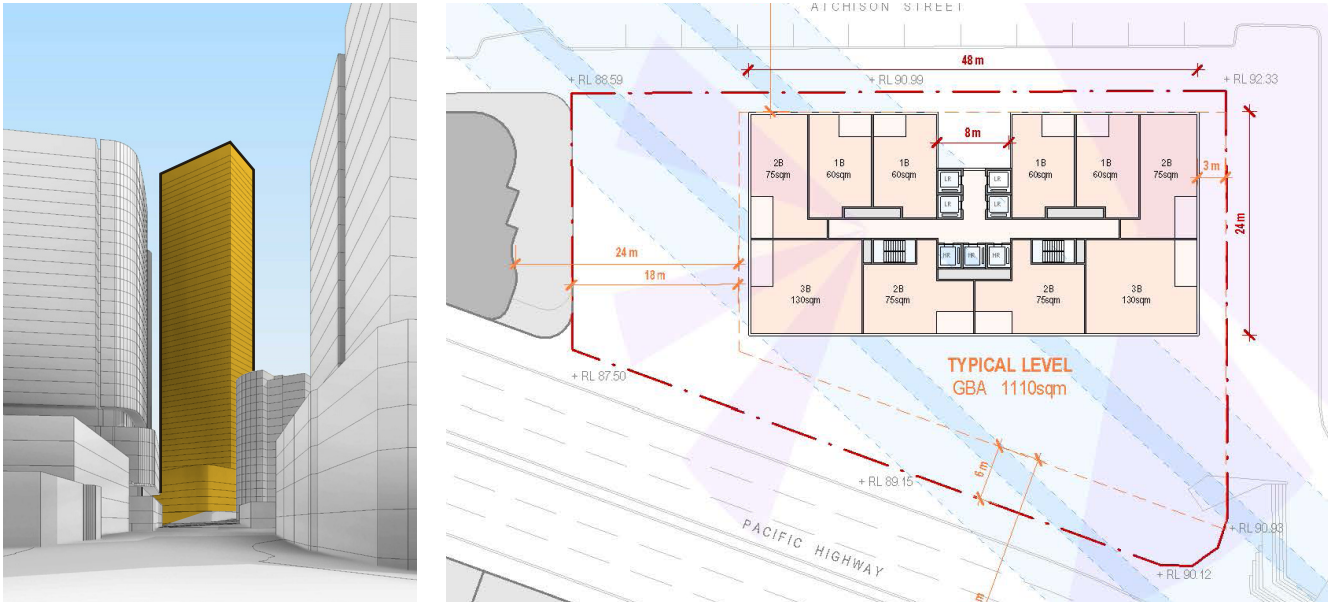
4 Setbacks

The tower is set back from podium edges to reduce its apparent bulk and scale when viewed from ground level.

4.3 Option summary

A number of tower configurations were tested to respond to the design principles and site constraints. These include:

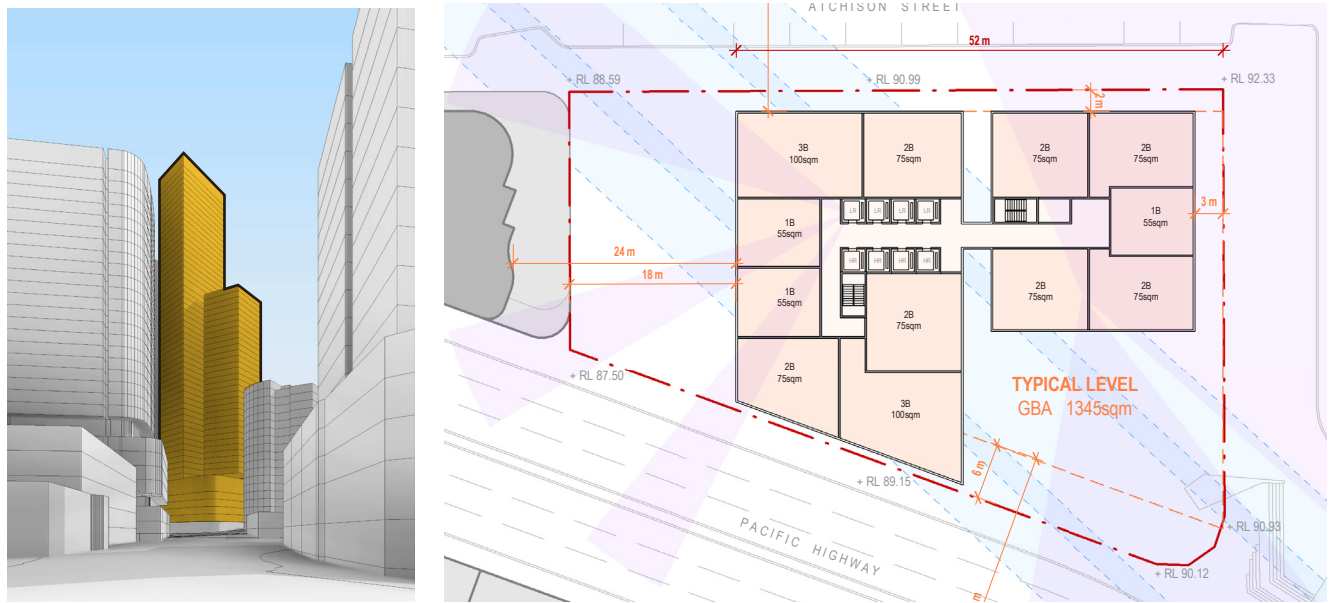
1 Option 1: A tower form running east-west



✗	+	+	✗
Core located outside rail corridor	Tower separation	Sky visibility between towers	Slender tower

- Achieves minimum separation and setback requirements.
- Long northern façade maximises solar access, but there is some overshadowing impact from 6-16 Atchison Street on the proposed tower.
- Setback from the Pacific Highway means that the tower does not succeed in creating an iconic gateway from the southern Pacific Highway approach.
- Lift core is positioned in the proposed zone of influence for the Sydney Metro.

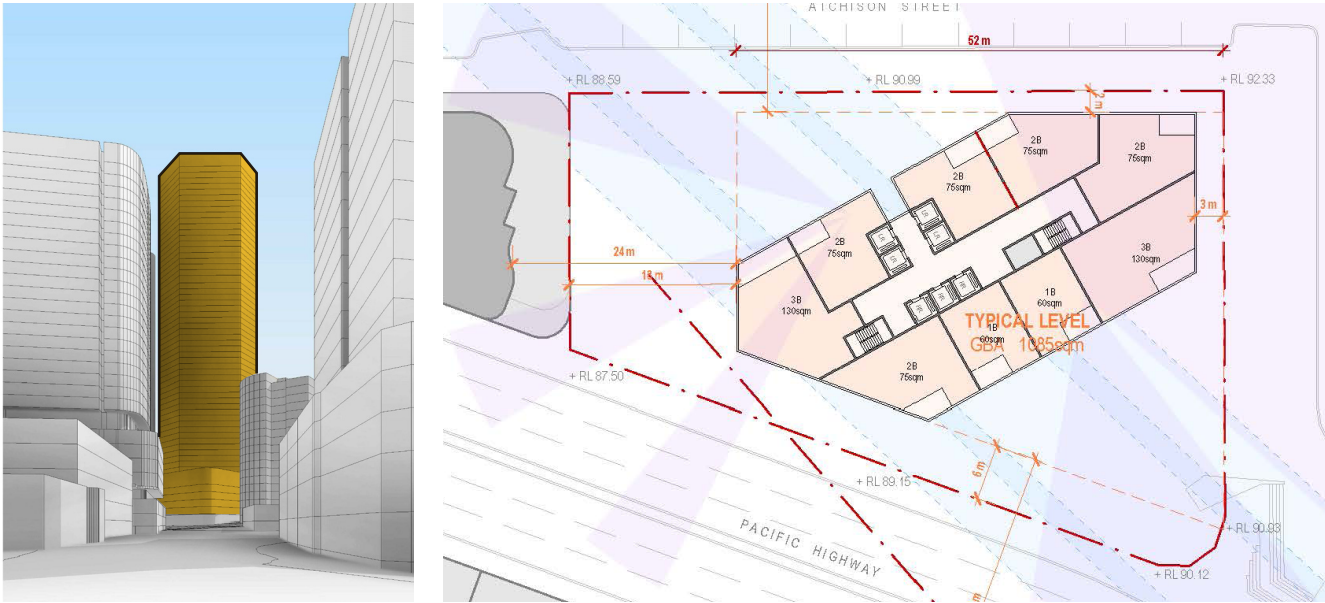
2 Option 2: Split tower form with shorter floor plate to the east



✗	+	✗	+
Core located outside rail corridor	Tower separation	Sky visibility between towers	Slender tower

- Achieves minimum separation and setback requirements on all sides except the Pacific highway where the tower aligns with the podium and is overly prominent from the Pacific Highway.
- Presents view impact implications for 6-16 Atchison Street.
- Visual 'tower crowding' occurs with the taller tower being located closer to the adjoining proposed development at 617-621 Pacific Highway, and closer to the proposed development at 504 Pacific Highway across the road.
- Lift core is positioned in the proposed metro zone of influence.

3 Option 3: Tower located diagonally across the site

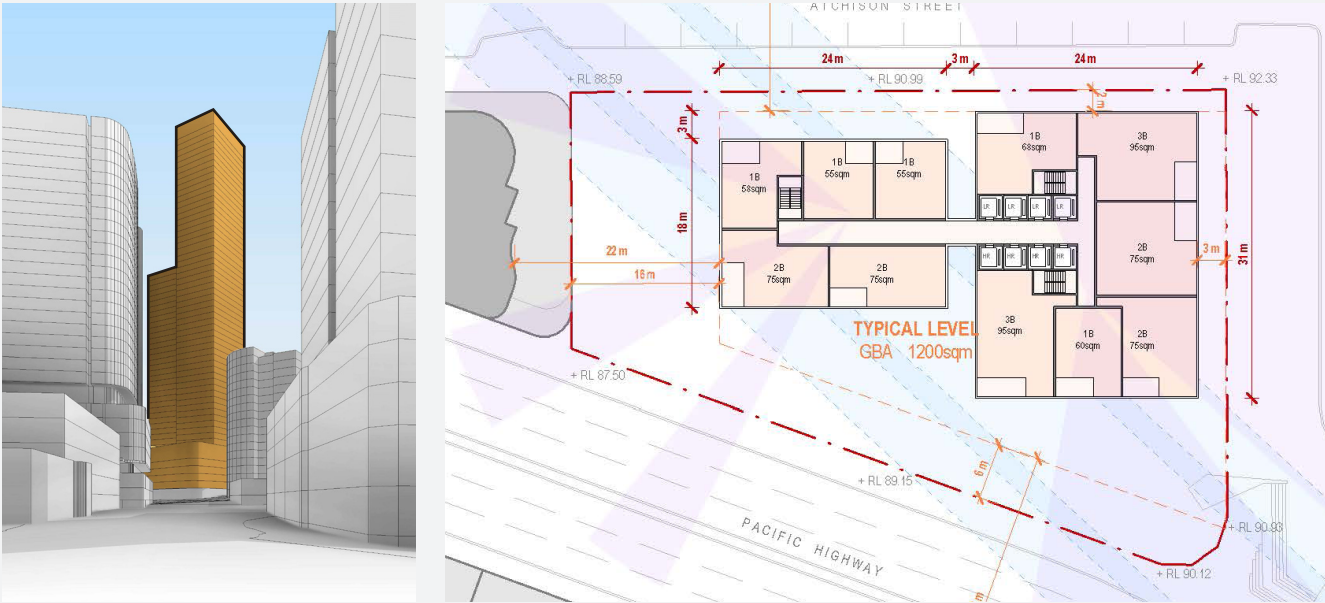


✗	+	✗	✗
Core located outside rail corridor	Tower separation	Sky visibility between towers	Slender tower

- Achieves minimum separation and setback requirements.
- The long side of the tower faces the Pacific Highway and creates visual bulk from the southern approach.
- The tower form has no relationship to the established street block grid.
- Lift core is positioned in the proposed metro zone of influence.

Preferred

4 Option 4: Split tower form with shorter floorplate to the west



+	+	+	+
Core located outside rail corridor	Tower separation	Sky visibility between towers	Slender tower

Option 4 (Preferred): Split tower form with shorter floorplate to the west

- Achieves minimum separation and setbacks
- Minimises tower crowding and view impacts on 6-16 Atchison Street.
- The tower establishes and iconic form from the Pacific Highway approach. The separation from 617-621 Pacific Highway permits a view of sky between towers.
- The lift core is predominantly positioned away from the Sydney Metro tunnel and acquisition zone

An architectural rendering of a modern building with a glass facade and a green roof. The building is multi-storied, with visible interior spaces and balconies. A large white text overlay is centered on the image. The foreground shows a paved plaza with people walking, a cyclist, and a car. There are trees and landscaping elements. The overall scene is a vibrant, modern urban environment.

601 PACIFIC HIGHWAY

5.0 The indicative concept design

5.1 Indicative design

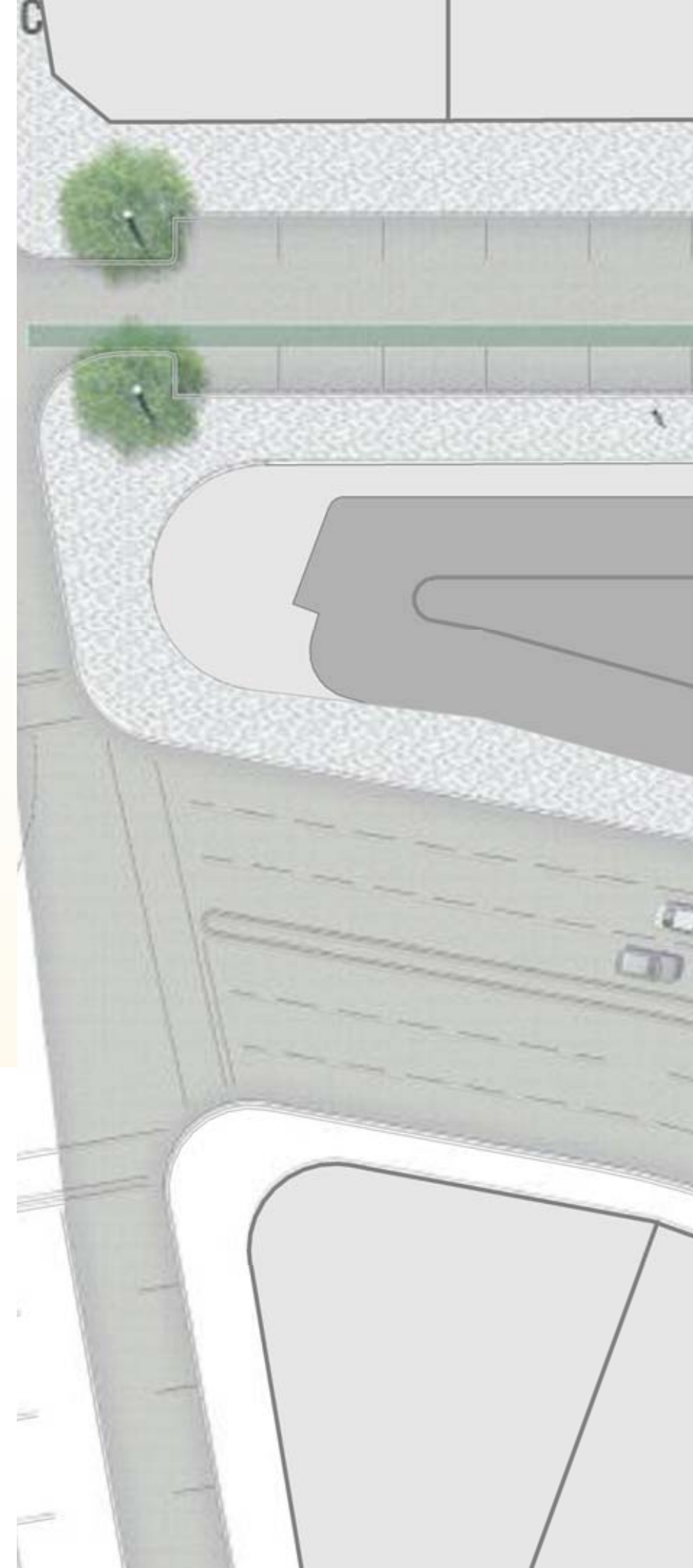
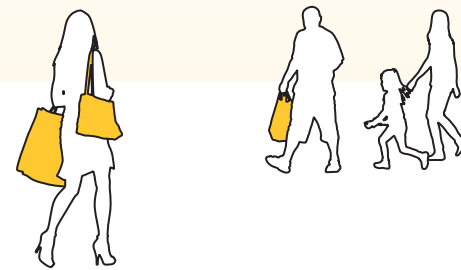
5.2 Indicative floor plan

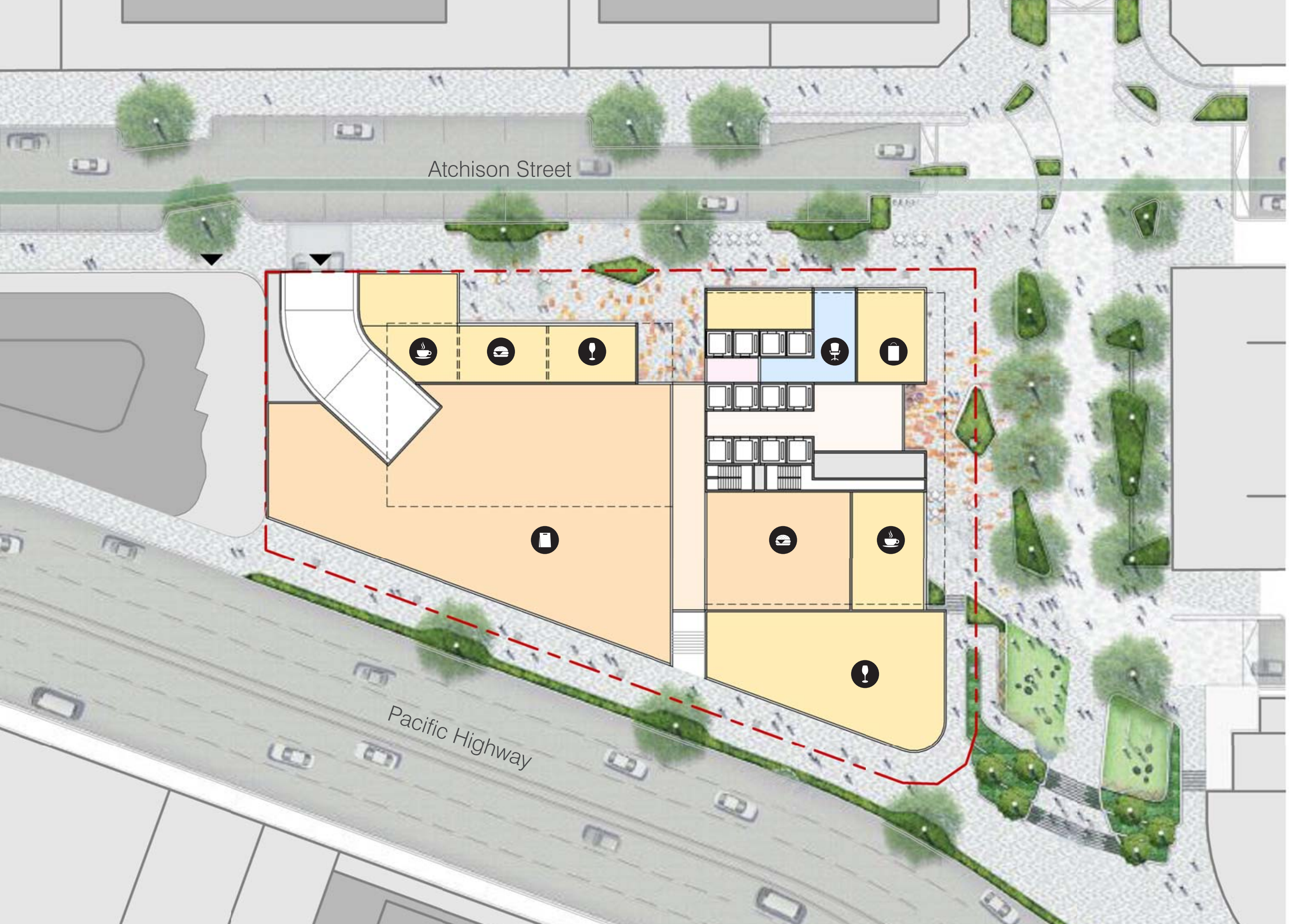
5.3 Indicative section



5.1 Indicative concept design

601 Pacific Highway will be a place where people shop, live, work and gather to enjoy the public domain. The indicative concept design results in a design outcome which will strengthen the town centre with active and engaging ground floors and provide an iconic tower appropriate to its strategic location.





Atchison Street

Pacific Highway





Indicative concept render - Atchison street



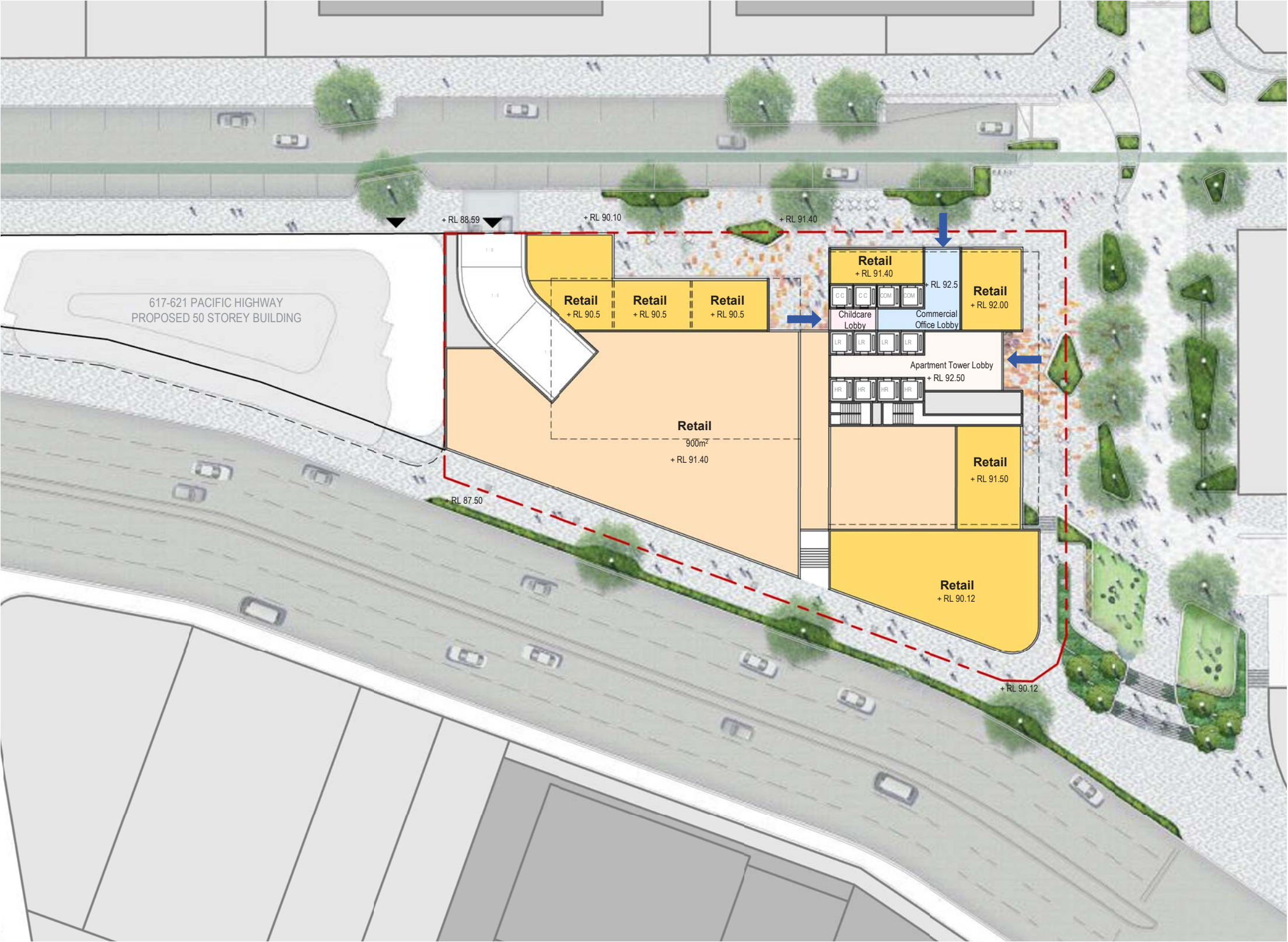
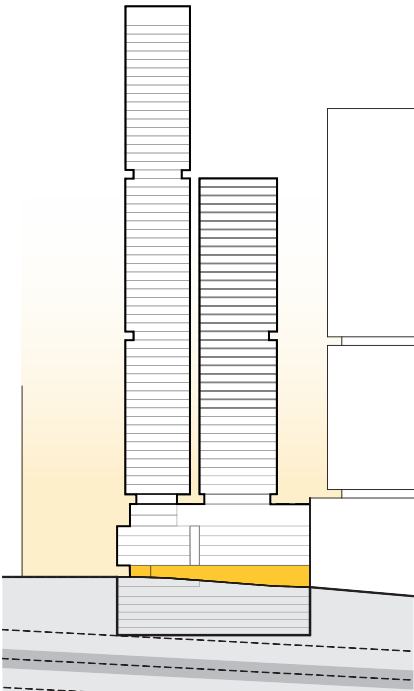
Indicative concept render - Mitchell street



Indicative concept render - Pacific highway

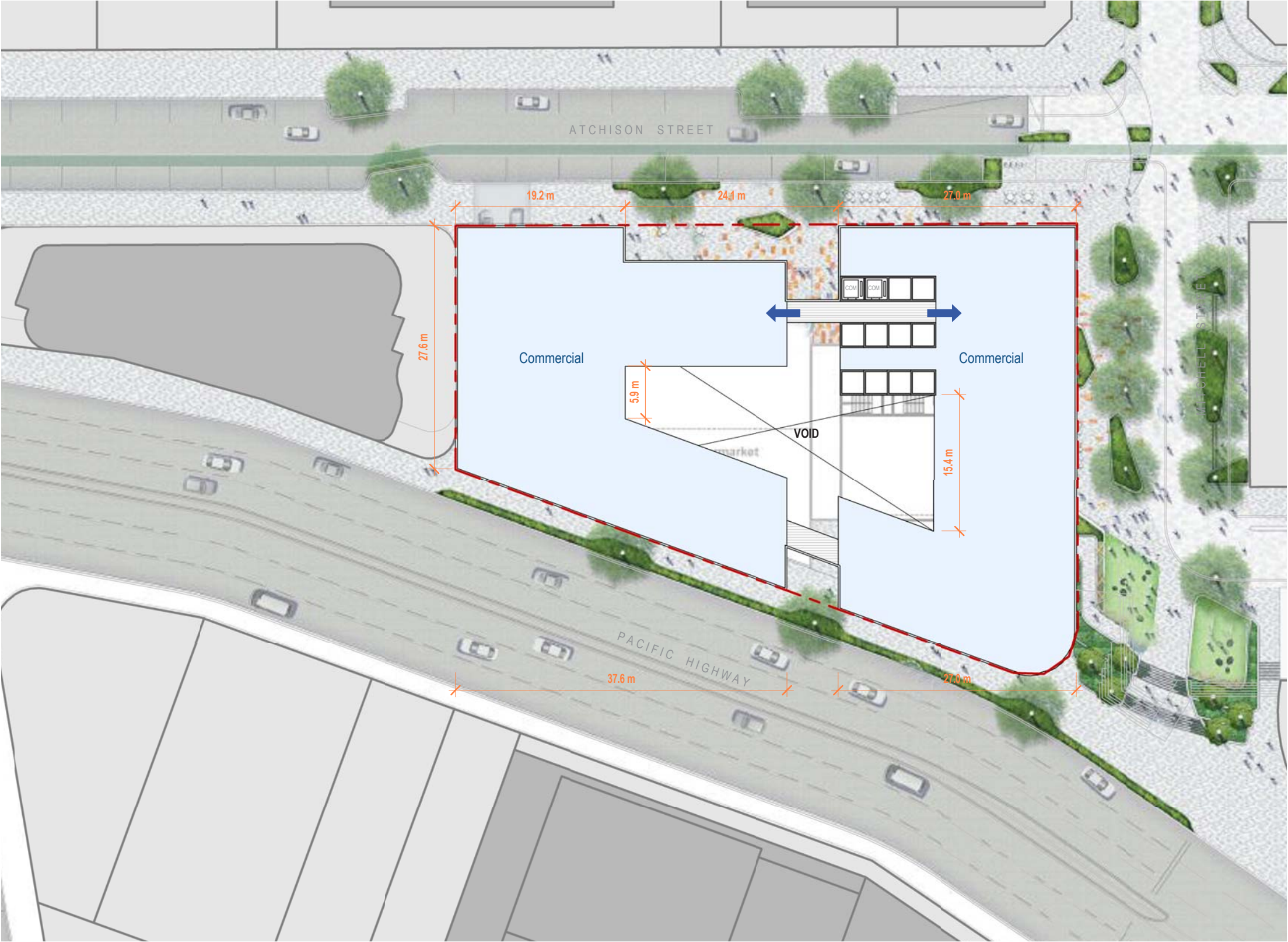
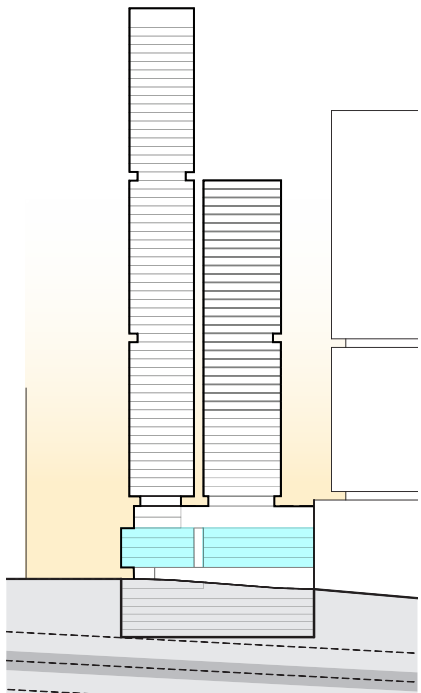
5.2 Indicative floor plan

Indicative floor plan - ground floor



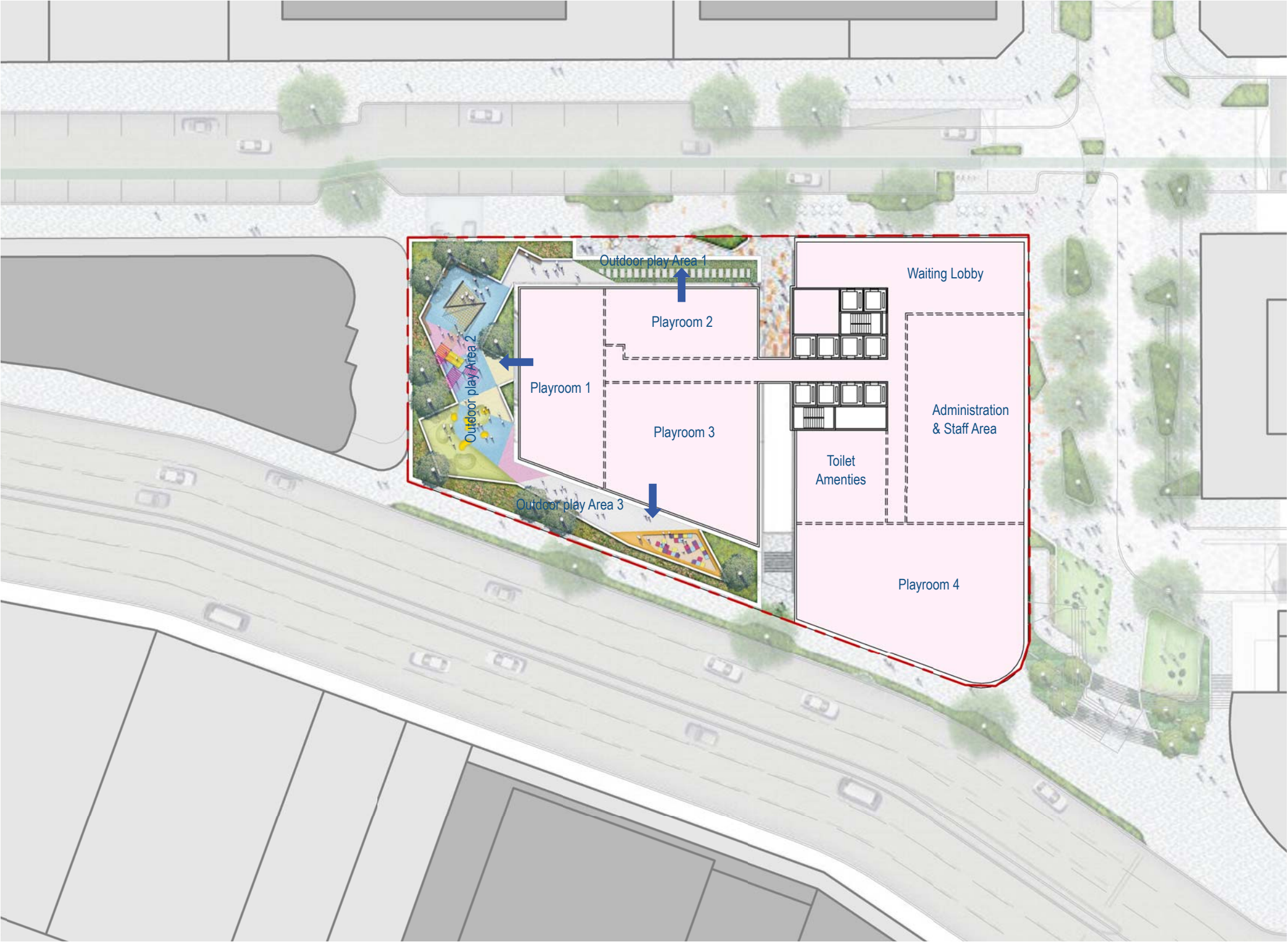
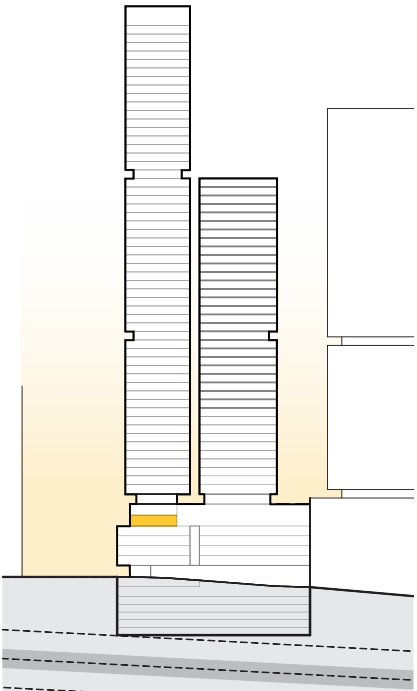
Indicative floor plan

Indicative floor plan - typical podium



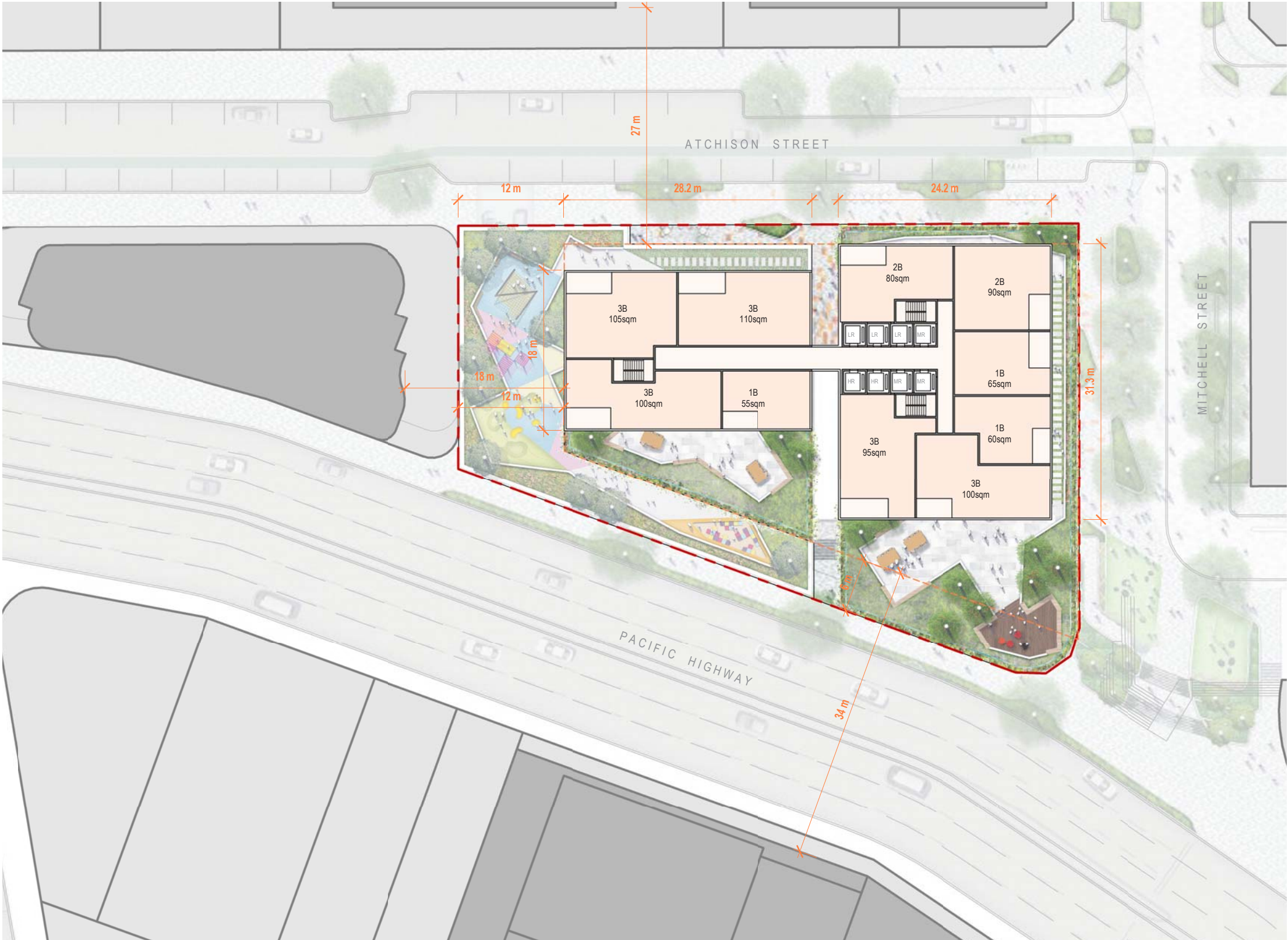
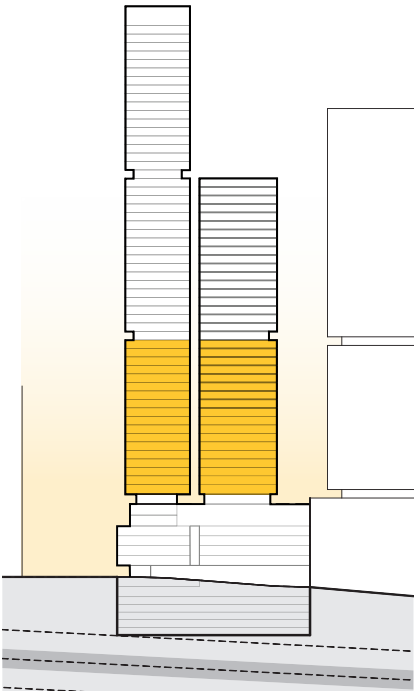
Indicative floor plan

Indicative floor plan -community space (childcare)



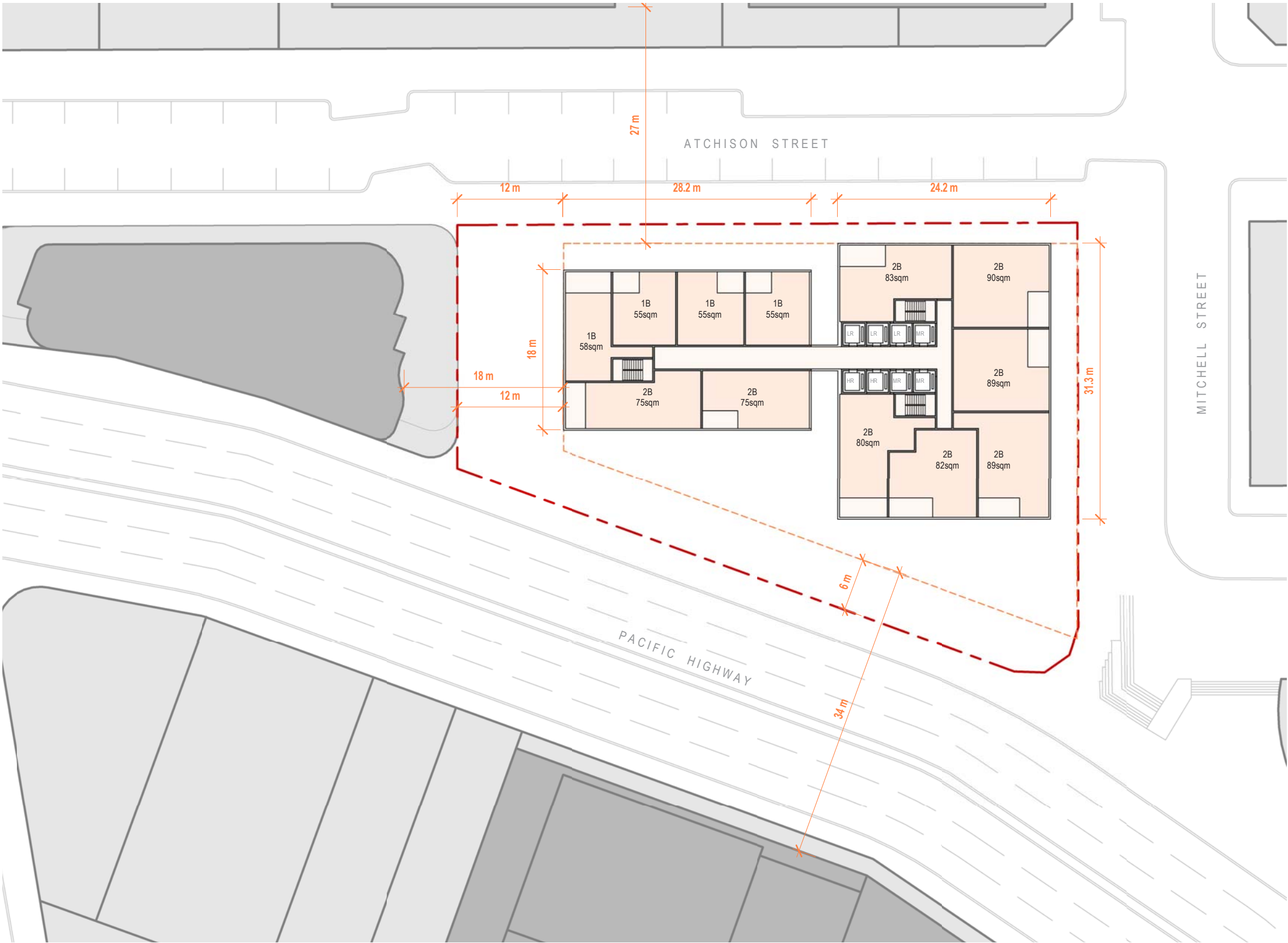
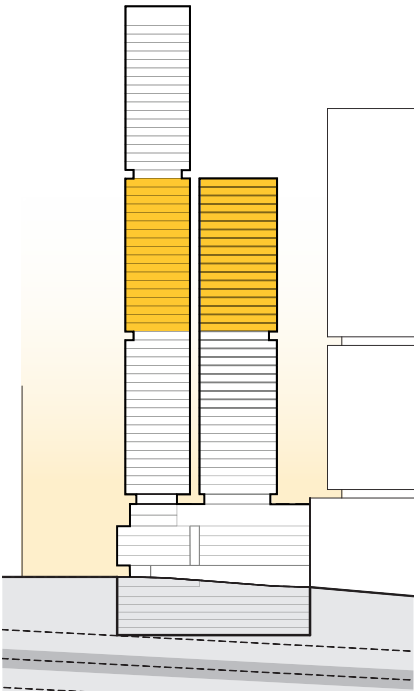
Indicative floor plan

Indicative floor plan - Tower level (Low rise)



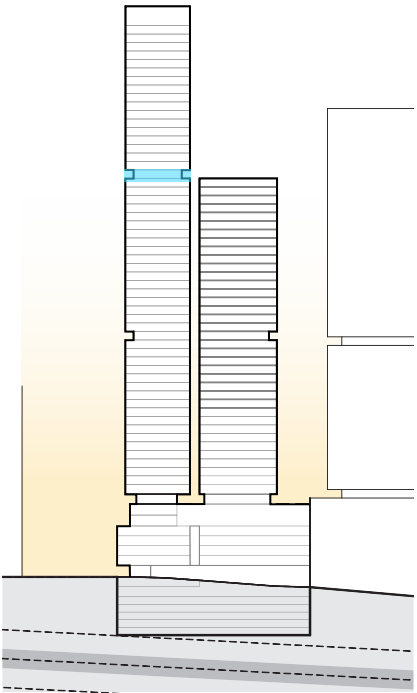
Indicative floor plan

Indicative floor plan - Tower level (Mid rise)



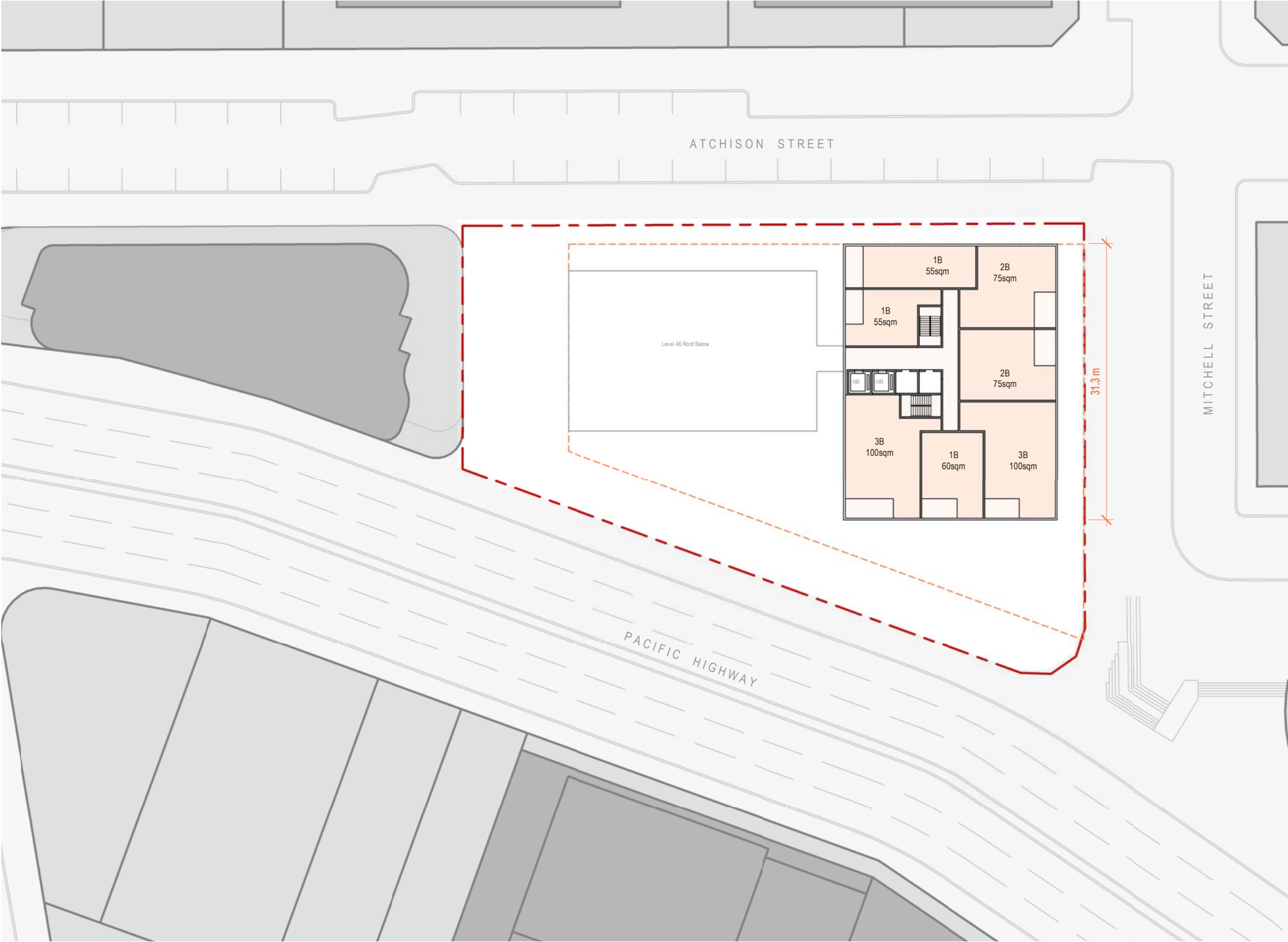
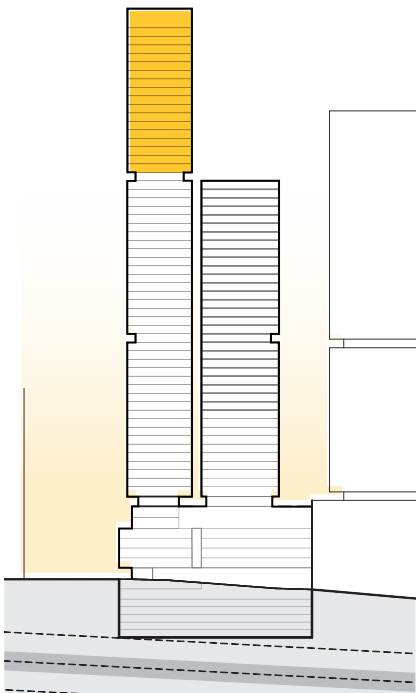
Indicative floor plan

Indicative floor plan - Tower level (community space)



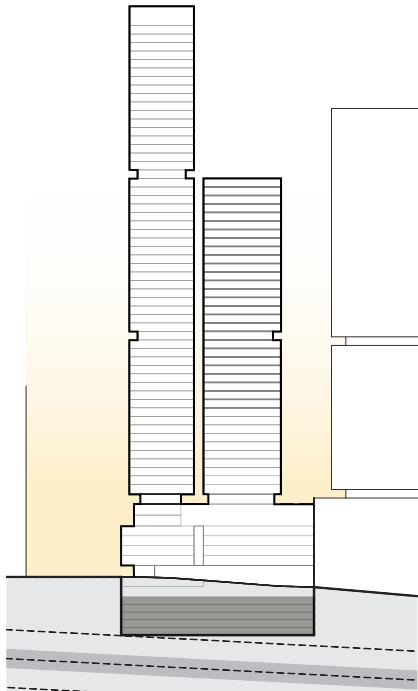
Indicative floor plan

Indicative floor plan - Tower level (High rise)



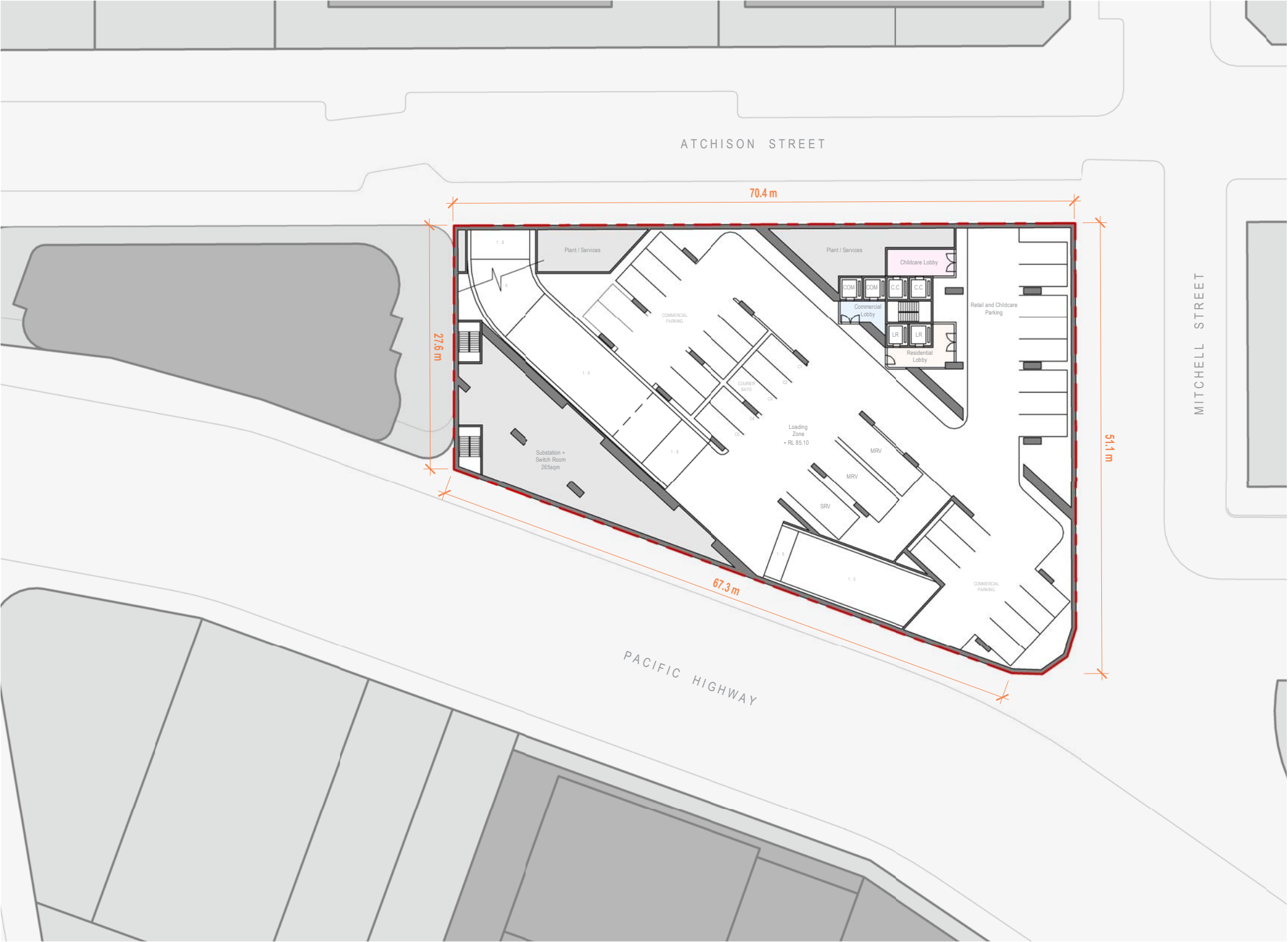
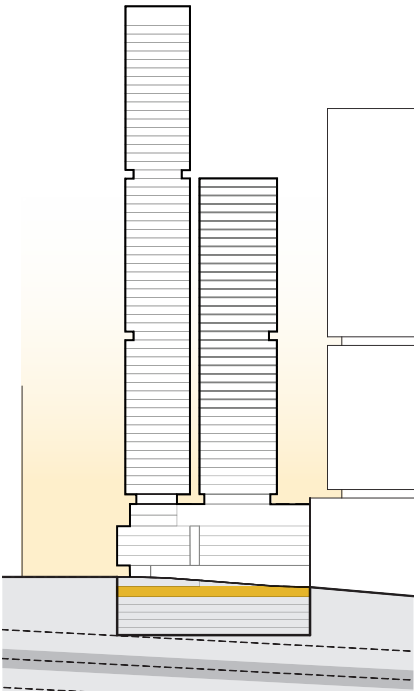
Indicative floor plan

Indicative floor plan - typical basement

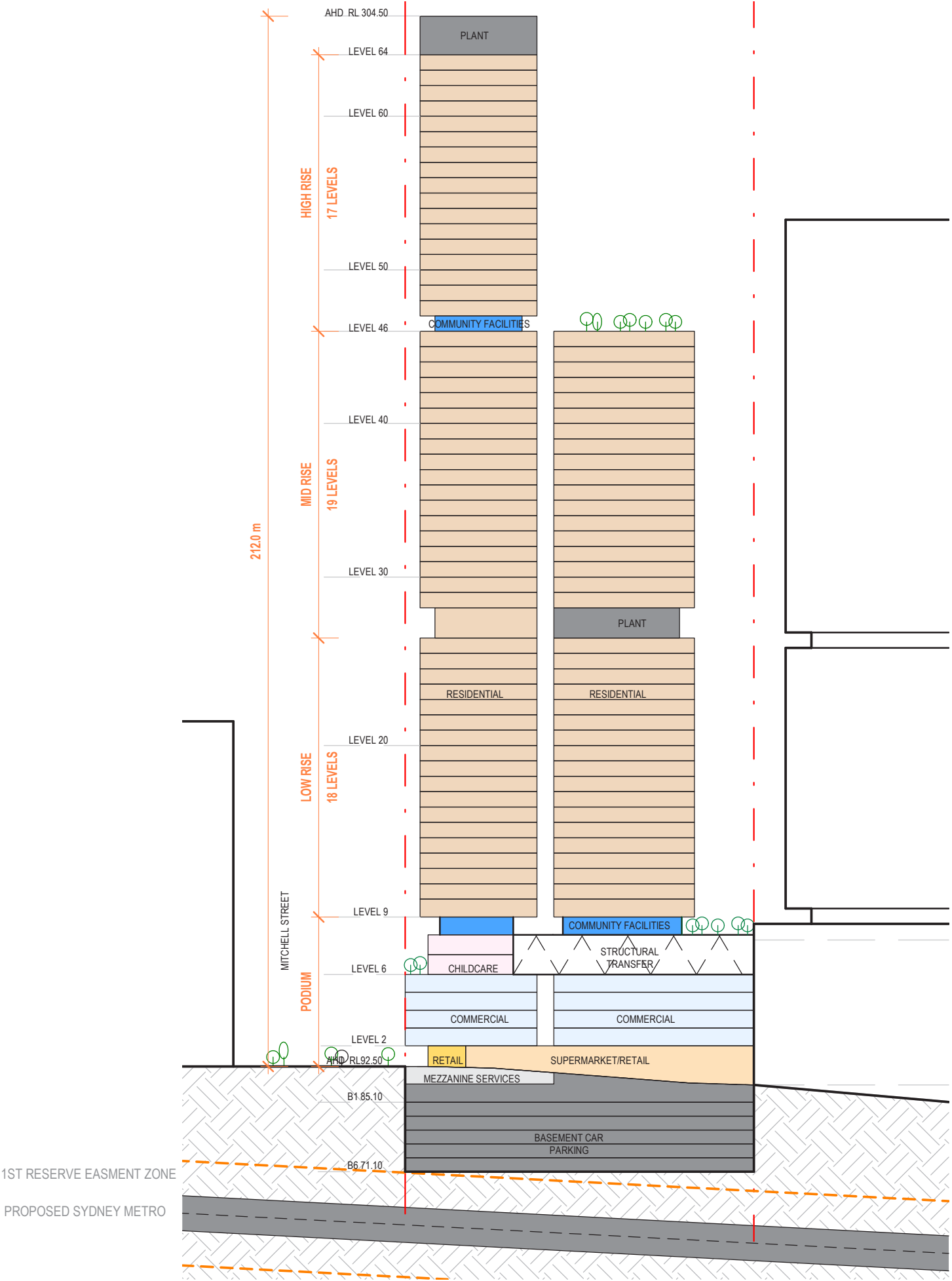
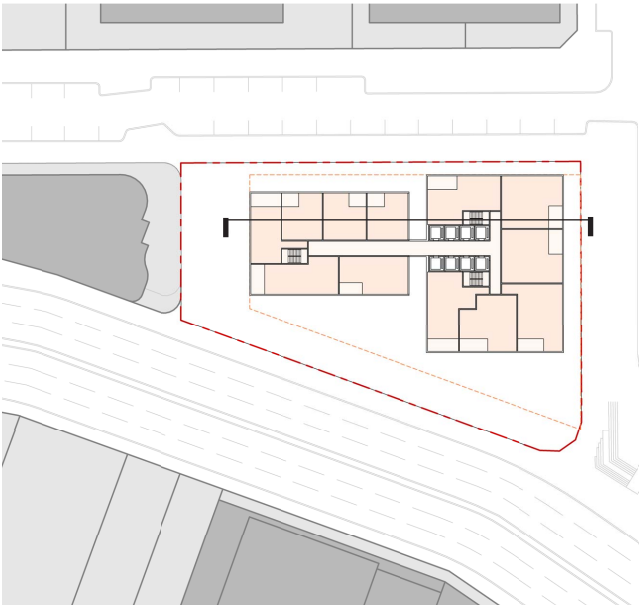


Indicative floor plan

Indicative floor plan - basement 1



5.3 Indicative section



6.0 Assessment

6.1 SEPP 65 review

6.2 Solar access

6.3 Shadow analysis

6.4 Visual impact

6.5 Aviation height limits

6.1 SEPP 65 review

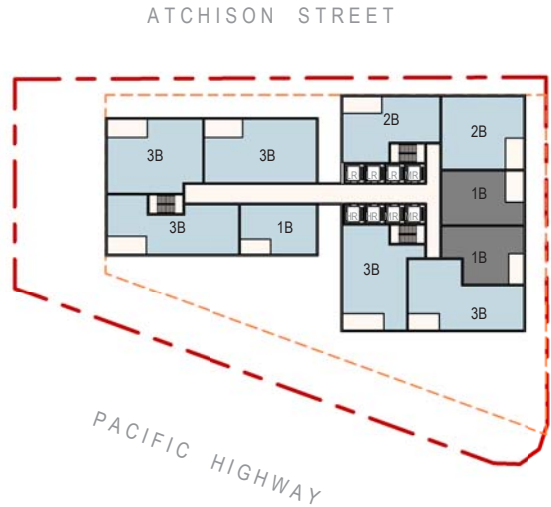
Solar access



Cross ventilation

APARTMENTS WITH NATURAL VENTILATION

144/180

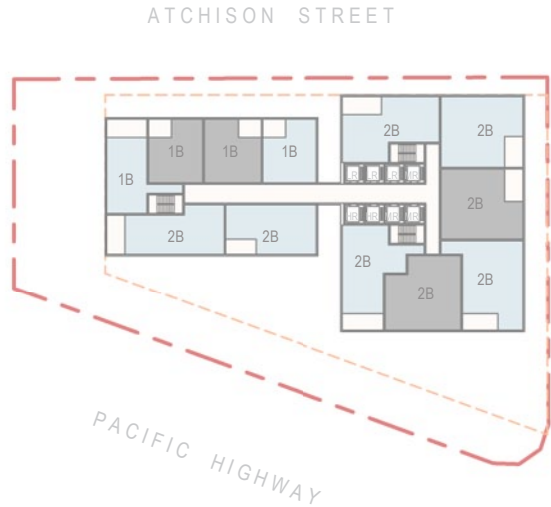


LOW RISE FLOOR PLAN - LEVELS 9-26

80% of units on level 9 are naturally cross-ventilated

APARTMENTS WITH 2-3 HR SOLAR ACCESS

152/228



MID RISE FLOOR PLAN - LEVELS 27-45

Units above L9 do not require natural cross ventilation under the ADG

APARTMENTS WITH NATURAL VENTILATION

68/119



HIGH RISE FLOOR PLAN - LEVELS 47-63

Units above L9 do not require natural cross ventilation under the ADG

Sepp 65 - Natural Ventilation



6.2 Shadow analysis

Shadows are indicated in the adjacent diagrams at every hour between 9am and 3pm on June 21.

The study indicates that during the winter solstice the tower casts a long shadow that is relatively fast moving and affects surrounding buildings only for short periods of time. A majority of the shadow falls within the shadow cast by existing buildings surrounding the subject site, meaning that the additional shadow has a relatively minor impact. The greatest impact is before midday when the shadow briefly reaches Newlands Park.



9am

The majority of the shadow falls within the shadow cast by existing and proposed development. A small number of additional residential properties on Berry Lane and Wilona Ave will be affected.



10am

The majority of the shadow falls within the shadow cast by existing and proposed development. A portion of the western edge of Newlands Park is affected, with shadow falling predominantly along the tree canopy along Canberra Ave.



11am

The majority of the shadow falls within the shadow cast by existing and proposed development. Any additional shadow falls on the roadway of Duntroon Ave.



12pm

The majority of the shadow falls within the shadow cast by existing and proposed development.



1pm

The majority of the shadow falls within the shadow cast by existing and proposed development.

A number of residential properties on Nicholas Street will be affected.



2pm

The shadow falls predominantly on the Pacific Highway, and commercial strip fronting the Highway. No residential properties are affected.



3pm

The shadow falls predominantly within shadows cast by existing and proposed development along the Pacific Highway. A portion of Mitchell Plaza is affected, but no residential dwellings are affected.

6.3 Visual impact

The Visual Impact assesement takes into account views from all directions at a local(short) and suburban (medium) distance.

The assessment demonstrates that the proposal will have a moderate impact on views, considering the importance of public views, timing of view and screening provided by approved and likely future development in the vicinity of the proposal. In most views, the poposal will partially obstrcut views of the sky, however the proposal is consistent with the scale of future development in the centre and presents a slender form againset sky.

When viewed from the Pacific Highway from the south and the north, and from Falcon Street, the proposal is partially obscured by approved and likely adjacent future development. From the Pacific Highway at Reserve Road, a large portion of sky view is preserved. When viewed from local vantage points in Willoughby Road, the proposal is shorter than other likely future development and has minimal impacts on views of the sky. When viewed from medium vantage points in Northbridge, Artarmon, Greenwich and Willoughby, the propsal has a moderate impact on the skyline. This is mitigated by the slender tower form and approved and likely future adjacent development.



Falcon Street, Pacific Highway and Willoughby Road



Shirley Road at Nicholson Street



Willoughby Road at Hallstrom Park between Small Street and Walter Street



Frenchs Road at Tulloh Street



Pacific Highway at Greenwich Road



Pacific Highway at Reserve Road



Naremburn Park - Station at Dalleys Road



Strathallen Avenue at Baroona Road



Willoughby Road and Clark Street



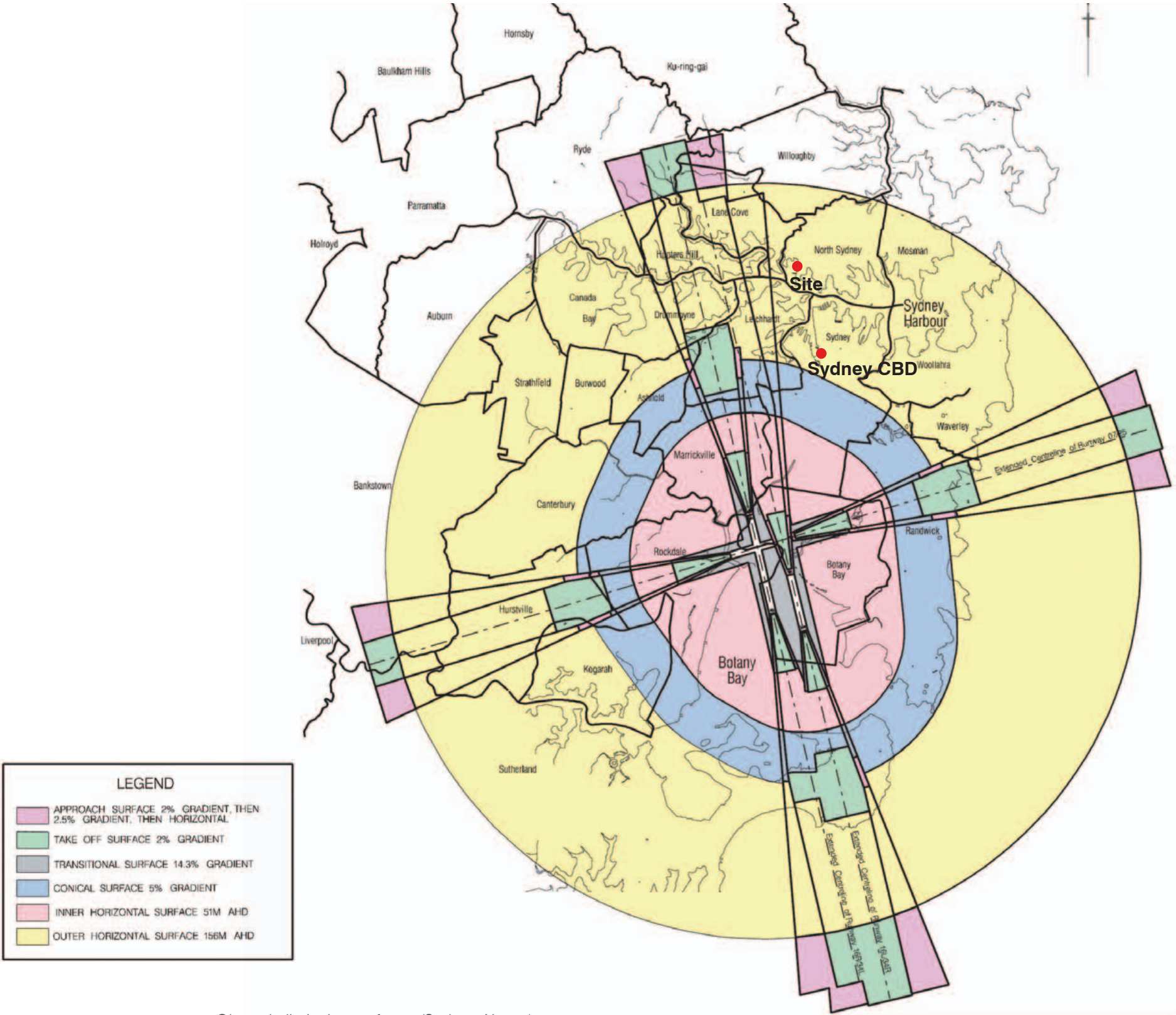
Willoughby Road and Albany Street

6.4 Aviation height limits

Aviation height limits apply to the site.

A detailed aeronautical assessment has been completed by AvLan.

The proposed building maximum heights of 304.50m AHD and construction cranes of 329.5m AHD is well under the PAN-OPS surface height of 335.2m AHD for Sydney Airport.



7.0 Conclusion

7.1 Conclusion and recommendations

The planning proposal for the site provides opportunity to facilitate the creation of an exciting new addition to St Leonards for both local residents, workers and visitors. It is designed to stimulate the economy and provide much needed quality housing close to transport, retail and other key amenities. The subject site is ideally suited to a landmark development, being one of the largest remaining sites in St Leonards and being located between St Leonards Train Station and the proposed Crows Nest Metro Station .

Having investigated the site and its context in detail, Architectus is confident that the Planning Proposal, and this indicative concept design that underpins it, represents the best urban design and public domain outcome for the site.

Key benefits of the proposal include:

- 1

A unique site. Having been identified as a Priority Growth Area, the site has the opportunity to achieve the priorities outlined in the Draft Metropolitan Plan, including the opportunity to increase capacity for mixed use and contribute to meeting Sydney's housing demand
- 2

An iconic tower on the bend of the high point of the Pacific Highway that will reinforce the importance of St Leonards town Centre
- 3

A sensitive, well considered tower form for the site that integrates with the future skyline of St Leonards. The tower form has generous separation distances from adjacent towers, ensuring view sharing, mitigating a 'crowding' effect and protecting solar access to open spaces and public domain
- 4

A vibrant mix of retail, public benefit, community, commercial and residential uses that activate and revitalise Mitchell Street Plaza, and capitalise on Council's investment on this important piece of public realm
- 5

An appropriate density and built form to enhance and consolidate the role of St Leonards in the sub-region and hierarchy of centres, with a significant podium of non-residential uses to create a defined and distinct street edge.
- 6

Improved public domain and pedestrian amenity at ground floor, and a potential through site link to improve walking catchments to and from the proposed Metro Station, provide a short-cut that mitigates the topography.
- 7

Active ground floor edges which interface with the public realm in Mitchell Street Plaza, and podium setbacks to provide wider footpaths for additional public domain to be used for outdoor dining and retail activation
- 8

24 hour activation and improved safety can be achieved by locating building lobbies and retail on all street frontages to maximise pedestrian patronage at all times of day
- 9

Maintaining employment uses. In reconfiguring an old commercial building and making it fit for purpose, employment uses can be maintained on site is a better and more flexible format.



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