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WMK ARCHITECTURE

5-9 GORDON AVE. CHATSWOOD

URBAN DESIGN STUDY

14 / AUGUST / 2020

Date of Issue	Reason for Issue	Prepared by	Checked by
05/03/2018	Planning Proposal Lodgement	JB , CH	JV , LD
06/03/2018	Planning Proposal Lodgement	JB , CH	JV , LD
09/03/2018	Planning Proposal Lodgement	JB , CH	JV , LD
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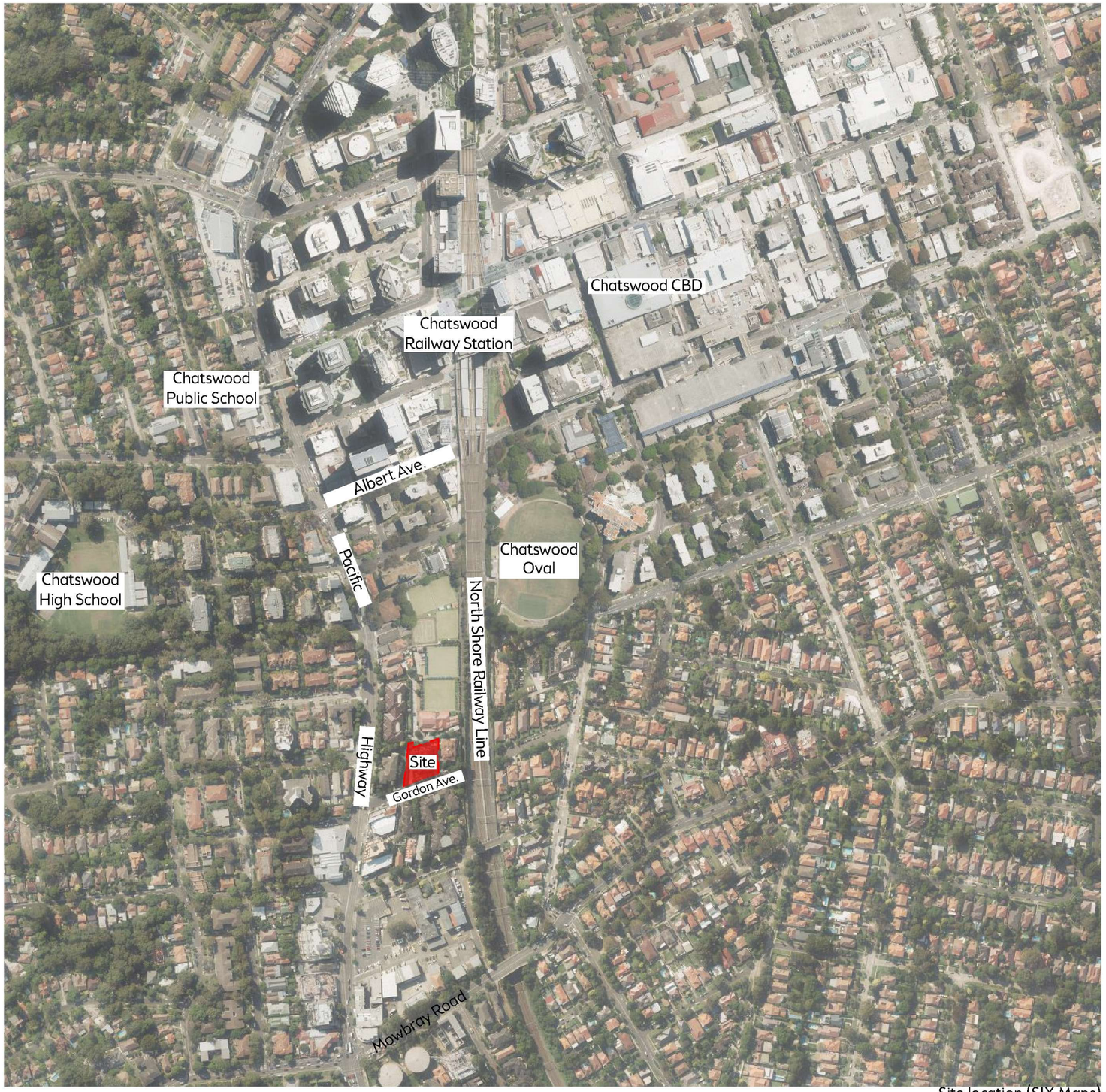
Overview



Site location (SIX Maps)

Introduction

This report has been prepared by WMK Architecture on behalf of DPG Project 32 Pty Ltd to support a Planning Proposal submission to Willoughby City Council for the land at 5-9 Gordon Ave. Chatswood.

The report will demonstrate that the Density and Height of Building controls proposed in the Chatswood CBD Strategy are appropriate for the site and will deliver an attractive, tall and slender built form outcome as envisaged in the Strategy.

Rigorous urban design analysis of strategic and local context, site, and desired future character will determine appropriate site specific development principles and controls to ensure the best possible contribution to the neighbourhood character of Gordon Ave. while contributing to strategic planning outcomes for the region.

Location

The subject site comprises Strata Plan SP57091, No. 5-9 Gordon Ave. Chatswood NSW 2067. The site has an area of 1,522sqm.

The site is located on the northern side of Gordon Ave., between the Pacific Highway and the North Shore rail line, approximately 650m south of Chatswood Railway Station and Transport Interchange.

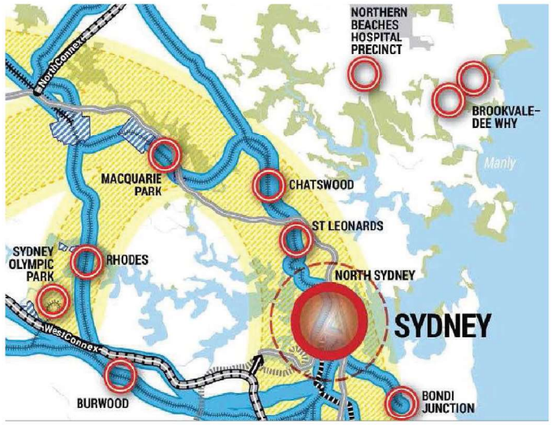
The Northern boundary adjoins the 'Chatswood Bowling Club'.

The western side boundary joins 'Hammond Lane' which provides access to Chatswood Bowling Club and a residential development fronting the Pacific Highway.

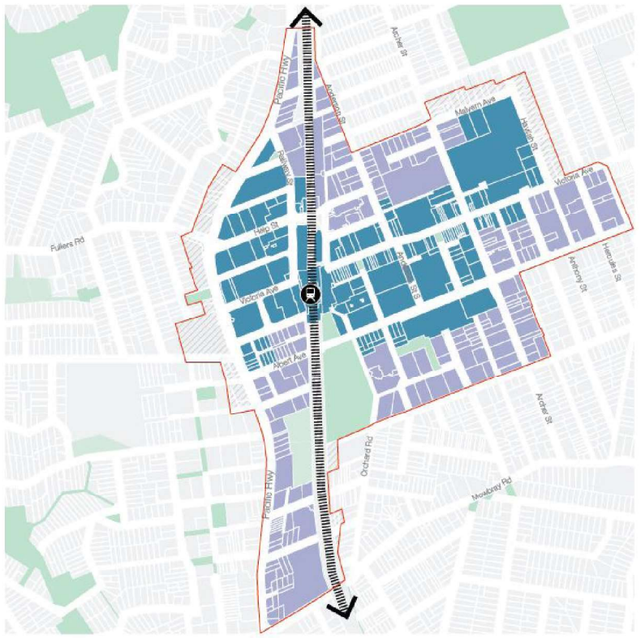
The eastern boundary adjoins a 3 storey residential flat building adjacent to 'Frank Channon Walk', providing a pedestrian link to the Chatswood CBD.

N

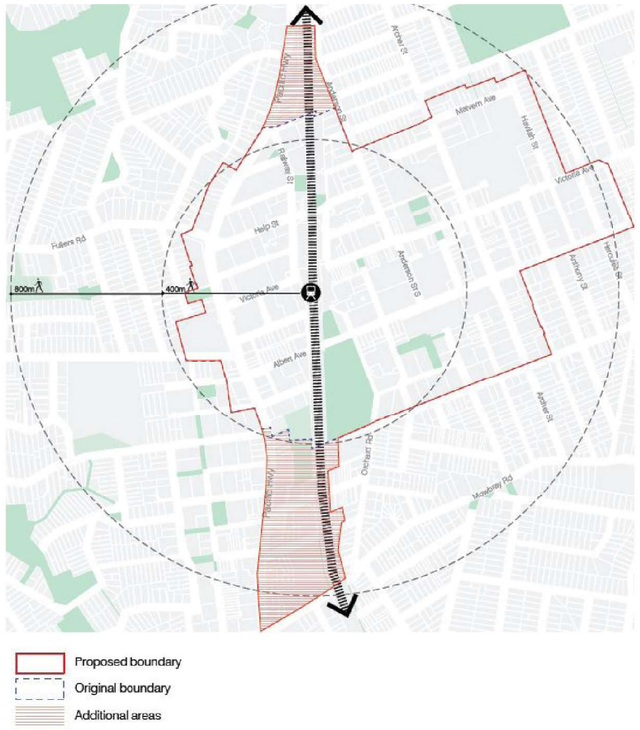
Strategic Planning Controls



Regional Location
Source: A Plan for Growing Sydney (NSW Department of Planning and Environment)



Recommended Land Use
Source: Chatswood CBD Urban Planning and Design Strategy



Recommended Chatswood CBD Boundary
Source: Chatswood CBD Urban Planning and Design Strategy

A Plan for Growing Sydney (2014)

- The Plan for Growing Sydney is the NSW Government's plan for the future of the Sydney Metropolitan Area to 2034, and identifies Chatswood as a 'Strategic Centre'.
- Priorities for Chatswood are to work with council to provide capacity for additional mixed-use development including offices, retail, services and housing.
- Key directions of the Plan include:
  - Clause 1.6 - Expand the global economic corridor
  - Clause 1.7 & 2.2 - Grow centres that provide more jobs closer to homes
  - Clause 2.1 - Improve housing supply across Sydney
  - Clause 2.3 - Improve housing choice to suit different needs and lifestyles
  - Clause 3.1 - Revitalise existing suburbs
  - Clause 3.3 - Create healthy built environments

This proposal seeks to contribute to delivery of these key strategic directions.

Revised Draft North District Plan (Updated October 2017)

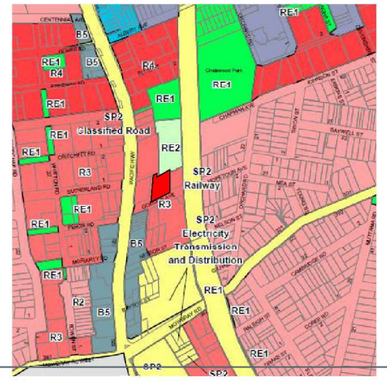
- The North District Plan identifies Chatswood as retail focused with one of the largest shopping precincts in Greater Sydney. Combined with entertainment and dining the centre supports a vibrant night time economy
- A 'place based' approach to enhance liveability is recommended to create and renew great places, neighbourhoods and centres
- The North District Plan proposes to strengthen Chatswood through approaches that:
  A. Protect and grow the commercial core
  B. maximise the land use opportunities provided by Sydney Metro
  C. Promote the role of the centre as a location for high quality, commercial office buildings and a diverse retail offering
  D. Enhance the role of the centre as a destination for cultural and leisure activities
  E. Promote and encourage connectivity, and upgrade and increase public open spaces

- This proposal contributes to these strategic goals through provision of fringe retail and office space focused on boutique tenants, and high density housing within level walking distance of the Chatswood CBD and Transport Interchange

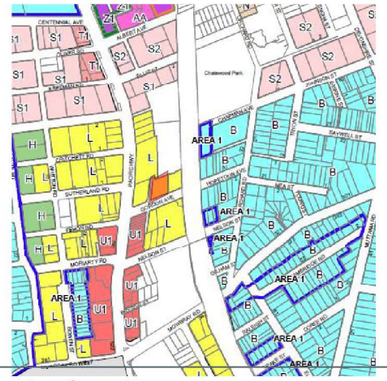
- Liveability goals are achieved through positive contributions to the public domain, activation of street façades and provision of housing choice including affordable housing

WILLOUGHBY LEP 2012

Maximum FSR	0.9
Maximum Building Height	Zone M - 12m
Heritage	Outside of Conservation Area

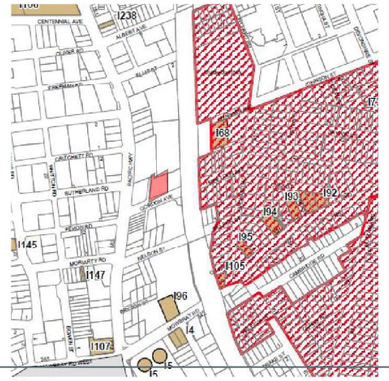


Zoning



Floor Space Ratio


Building Height



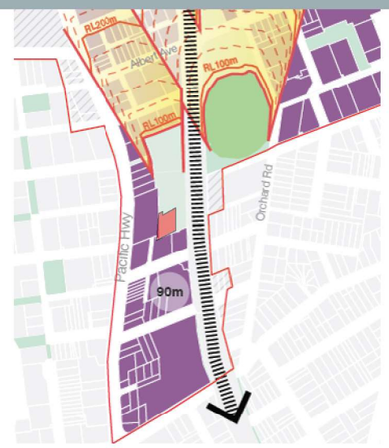
Heritage

CHATSWOOD CBD STRATEGY

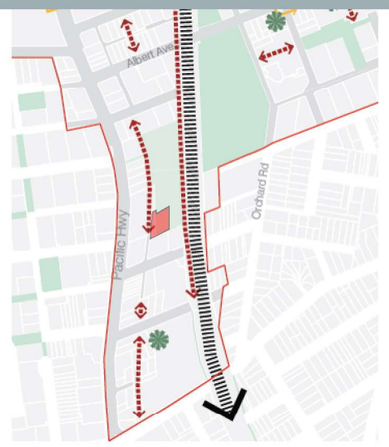
Maximum FSR	6:1
Maximum Building Height	90m
Links and open spaces	Adjacent to Frank Channon Walkway 6 to 14m street wall
Street Frontage	Min 3m setback above street wall
Tower Setback	4.5m front setback, 6m east setback, 9m rear setback, 12m from C/L of Hammond Lane west setback
Street Section	6 to 14m street wall Ground floor retail Widen footpath
Site Amalgamation	1-3 Gordon Ave. owned by Transport for NSW and cannot be amalgamated at this time Ensure future development viable

Land Uses

Maximum FSR

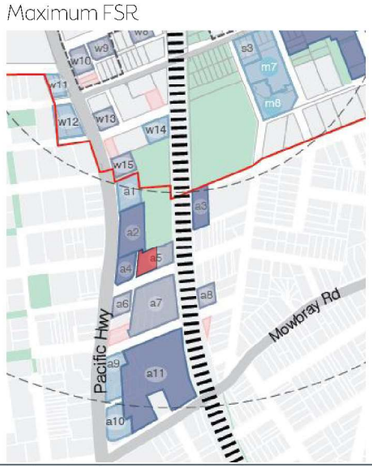


Building Height



Links and Open Space

Street Frontage



Indicative Amalgamation Pattern

Street Section - Typical - Mixed Use Zone - Commercial ground floor

APARTMENT DESIGN GUIDE - Design Quality Principles (SEPP65)

Principle 1. Context and Neighbourhood Character

1. Improve pedestrian experience
2. Contribute to Hammond Lane as through site link
3. Fine grain podium responds to existing streetscape character
4. Wider footpath encourages ground floor activation

Principle 2. Built form and scale

1. Podium / tower typology presents low rise streetscape
2. Tall, slender tower under 700m2 GFA per floor
3. Planting as buffer to Hammond Lane
4. Provide additional planting to Gordon Ave.

Principle 3. Density

1. Delivers strategic density aligned to desired future character within 600m of Chatswood Station

Principle 4 Sustainability

1. Reduction of car parking encourages mixed mode transport
2. Improved footpaths encourage walkable neighbourhood
3. Podium level planting reduces heat island effect
4. Meets Cross Ventilation and Solar Access objectives

Principle 5. Landscape

1. Podium level feature visible from street enhances green credentials
2. Unique north facing micro-climate

Principle 6. Amenity

1. Small floor plate maximises residential solar access
2. Apartment layouts optimised for current and future view opportunities
3. Efficient layouts maximise available space within available footprint
4. Cross ventilation and Solar Access objectives enhanced

Principle 7. Safety

1. Highly active ground plane
2. Residential uses at podium level provide passive surveillance
3. Step free access provisions
4. Legible and physically separated vehicular / pedestrian uses
5. Improved lighting and surface treatments

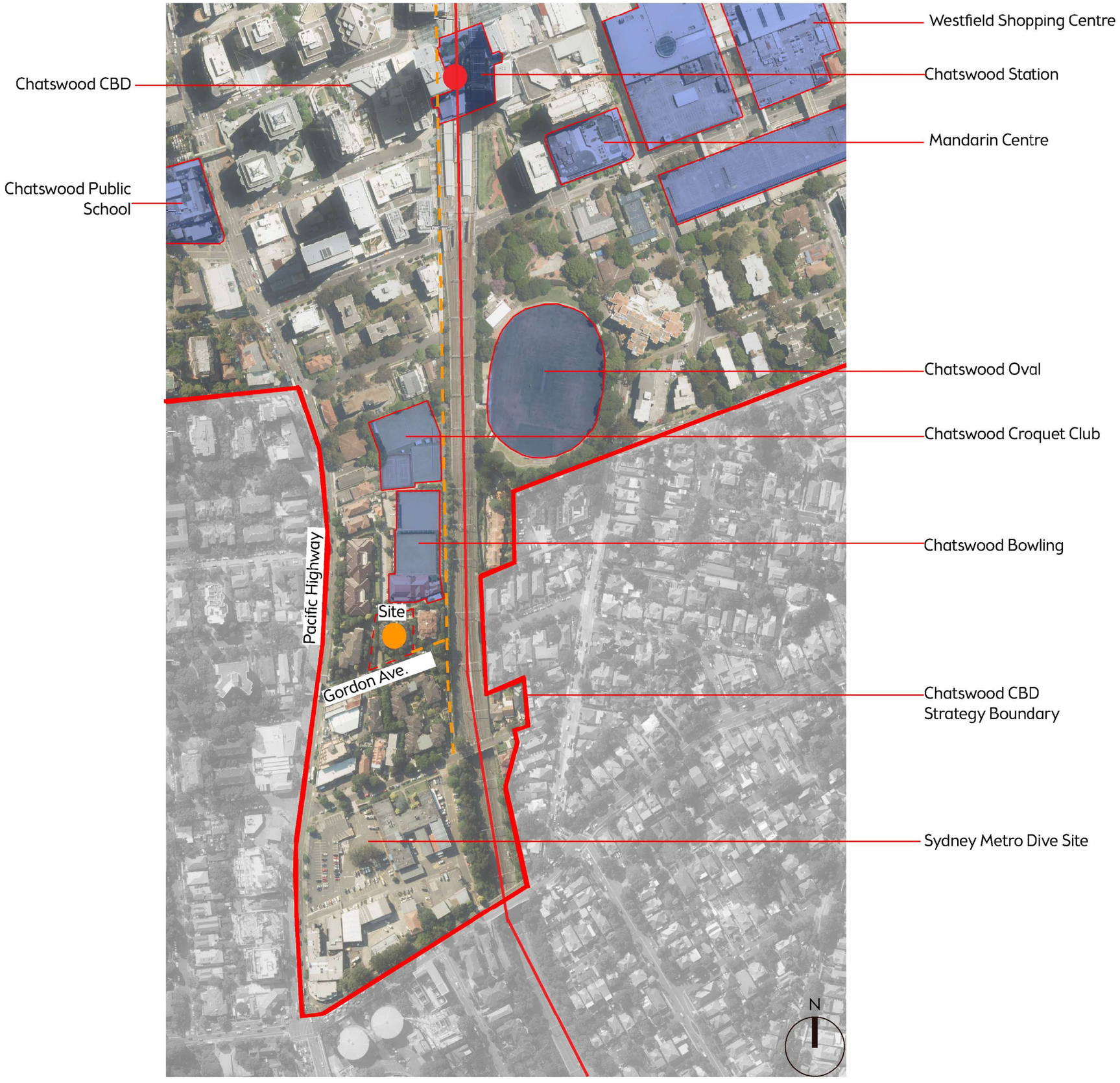
Principle 8. Housing Diversity and Social Interaction

1. 30 / 65 / 5% split between 1B / 2B / 3B units
2. Podium communal open space encourages meeting neighbours
3. Foyer integration with retail uses encourages chance meetings and social interaction

Principle 9. Aesthetics

1. Finishes and detailing should reflect the high density neighbourhood and build on Chatswood's existing high quality tall building stock. Future opportunities will be demonstrated through a 'look book' or vision board.

Site Analysis



Site Information

Site Address: 5-9 Gordon Ave. Chatswood NSW 2067.
Site Area: 1,522 sqm

Summary of Site & Context Analysis

Opportunities

- Mixed use development delivers strategic housing and commercial floor space growth
- Provision of housing close to jobs (within 800m of Chatswood CBD)
- Enhance existing attractive green streetscape with additional setbacks and planting
- Enhance walkability with wider footpaths to make Gordon Ave. a place for people
- Take advantage of uninterrupted northern aspect over the bowling club
- Demonstrate compliance with ADG controls for overshadowing
- Built form should respond to wind analysis recommendations and maximise natural cross ventilation opportunities
- Relocation of vehicle driveway and loading dock access from Hammond Lane
- Contribute to desired pedestrian connection along Hammond Lane
- Activation of street frontages returning along Hammond Lane

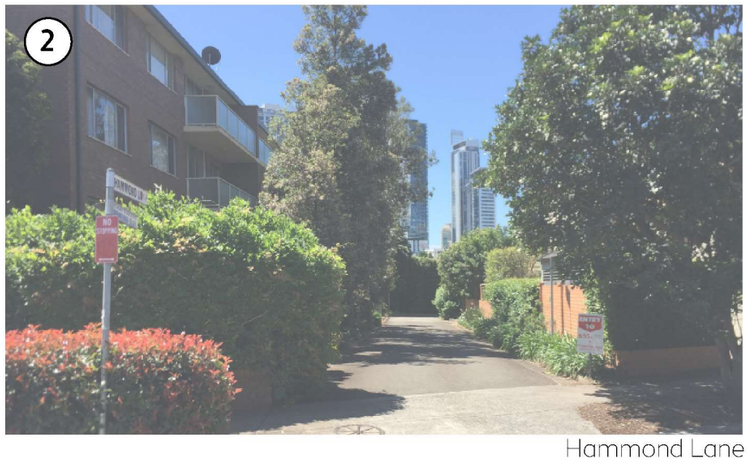
Constraints

- Existing street tree locations
- Existing vehicular access location on Gordon Ave.
- Existing underground services
- Overshadowing & privacy of neighbouring properties
- Amalgamation patterns identify 1-3 Gordon Ave. as an 'isolated site'

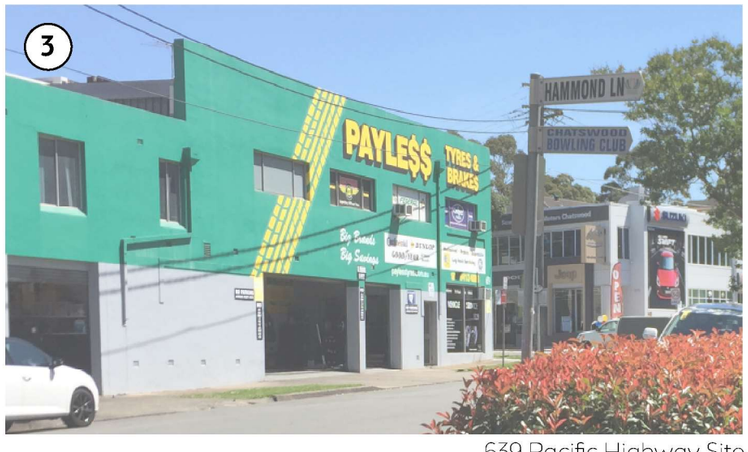
Key Plan

Gordon Ave. Built Context

5-9 Gordon Ave. Site

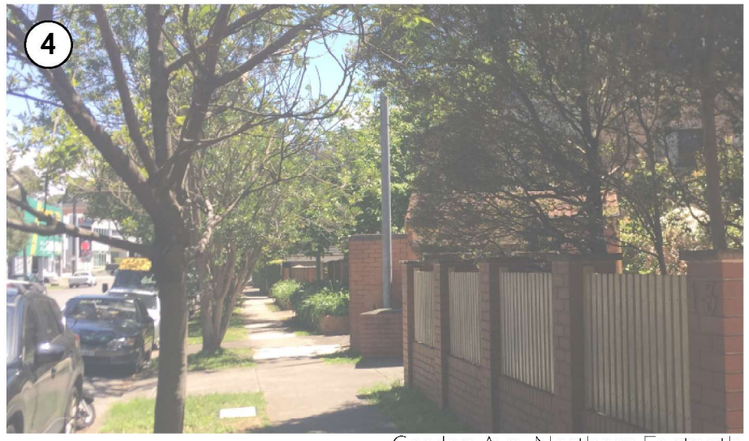


Hammond Lane



639 Pacific Highway Site

Gordon Ave. Public Domain



Gordon Ave. Northern Footpath

Gordon Ave. Northern Footpath

1-3 Gordon Eastern Footpath

Site Surrounding

Frank Channon Walkway

Bowling Club

Bowling Club

1-3 Gordon Ave. Context

1-3 Gordon Ave. Northern Footpath

1-3 Gordon Ave. Site Context

1-3 Gordon Ave. Frontage

641-653 Pacific Highway Context

641-653 Pacific Highway from Gordon Ave.

641-653 Pacific Highway from Gordon Ave.

641-653 Pacific Highway from Hammond Lane

Open Spaces

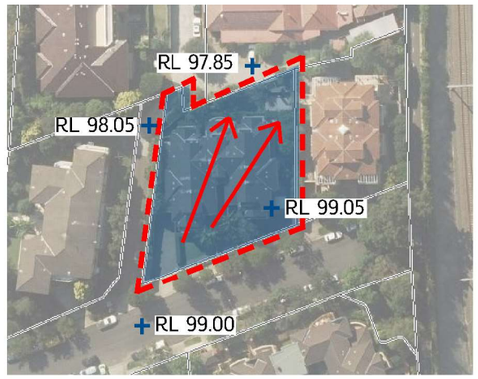
- Existing green streetscape and pocket park
- Immediate vicinity of Chatswood Oval
- Immediate vicinity of Bowling Club
- Immediate vicinity of Croquet Club
- Views over future Green Space

Solar Access

- Uninterrupted solar access to North
- Moving shadows may impact residential development to the South
- Analysis of ADG compliance
- Analysis of overshadowing of existing buildings

Recommendations

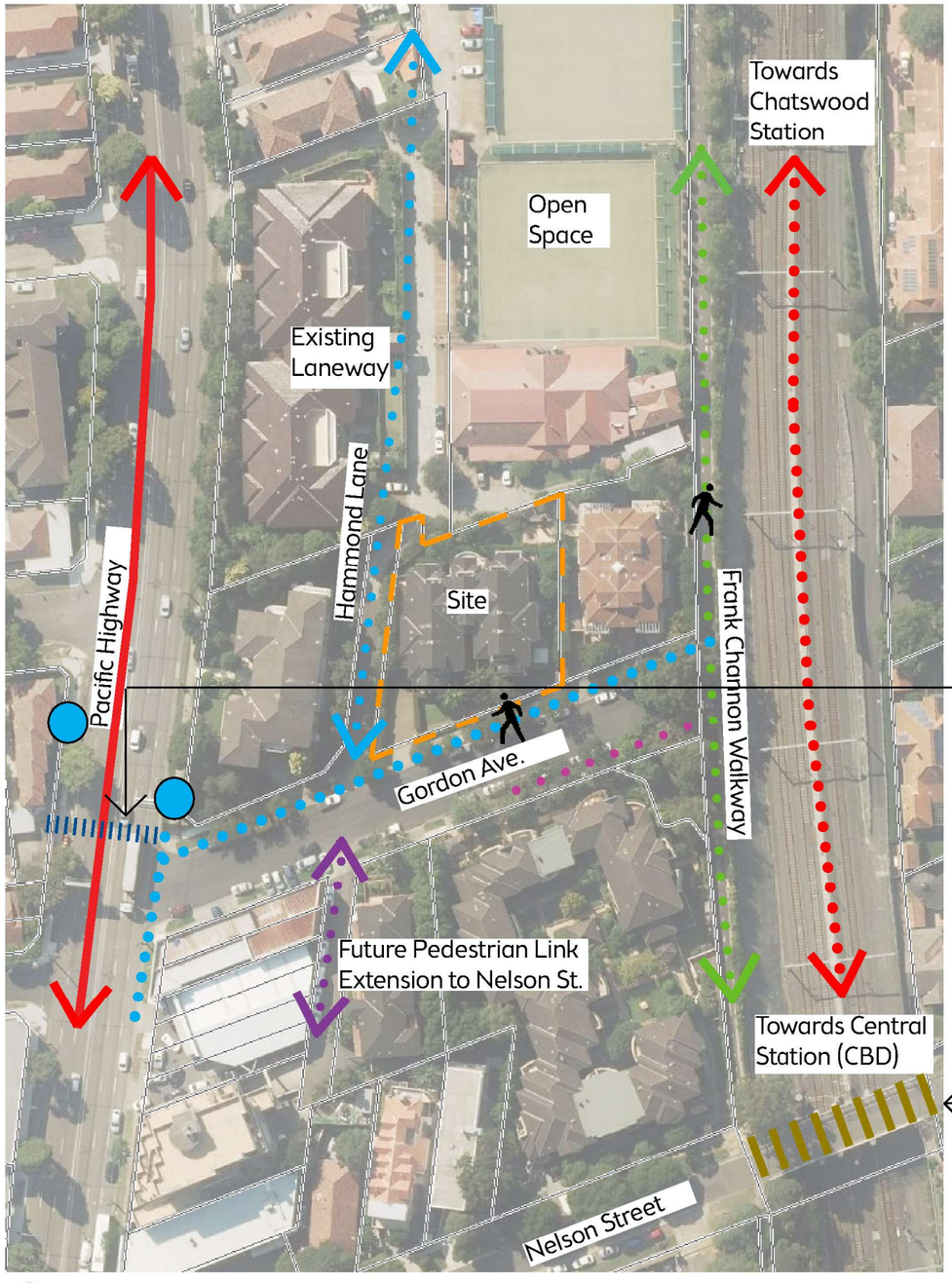
- Enhance the existing streetscape character with more planting and wide footpaths contributing to walkability and a local open space network
- Take advantage of uninterrupted northern aspect over the Bowling Club
- Demonstrate compliance with ADG controls for overshadowing
- Built form should respond to wind analysis recommendations and maximise natural cross ventilation opportunities



Topography

There are gentle falls from the South boundary (RL 99.00) to the North boundary (approximately RL 97.85)

The site falls approximately 1m across the length of a 48m site, or a gentle 2% fall from South to North.



Overview

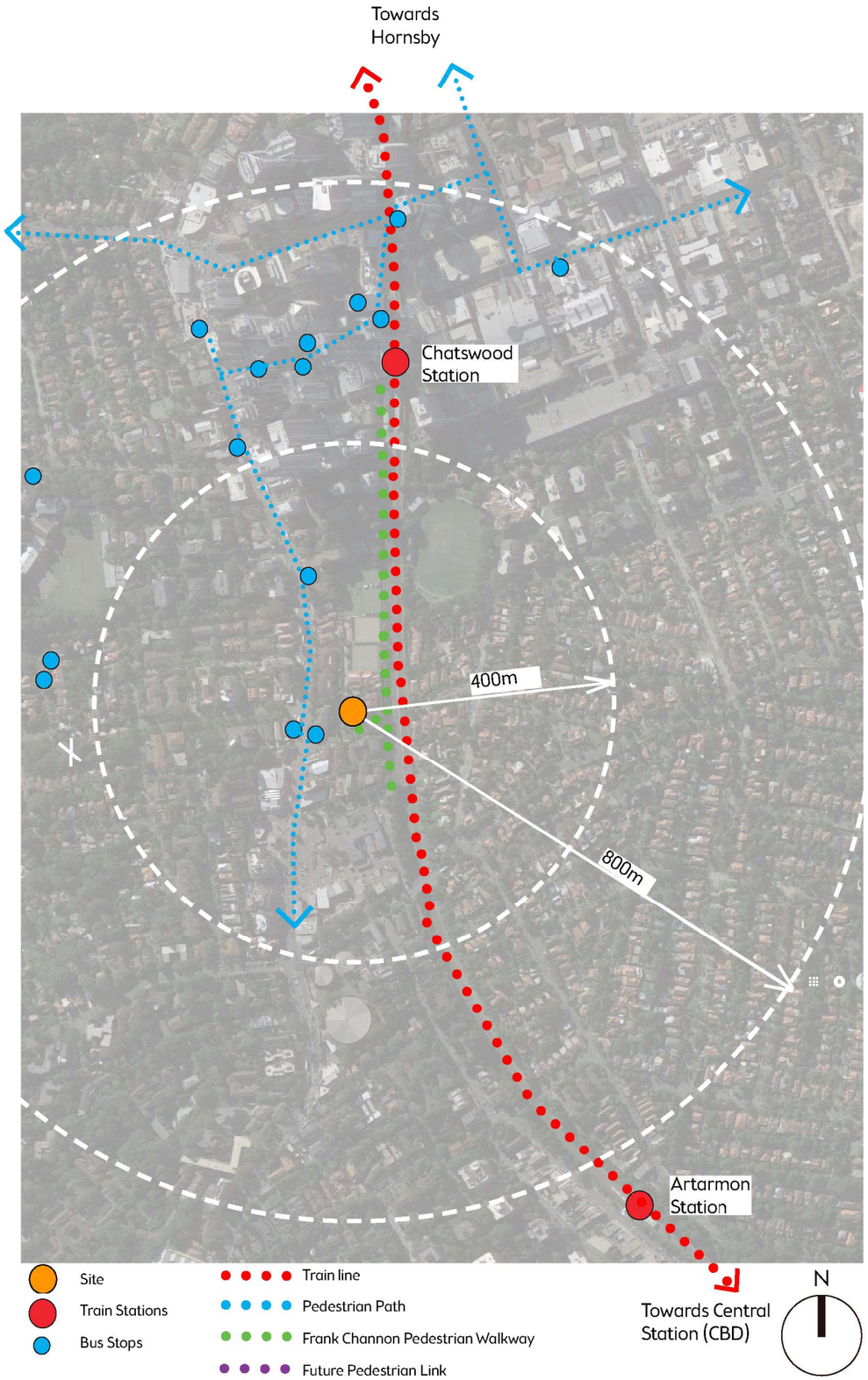
The site is located within a walkable neighbourhood with safe, convenient connections to public transport, walking and cycling networks encouraging sustainable modes of transport.

Pedestrian Access

- Existing high quality step-free access north & south via Frank Channon Walk
- Pedestrian unfriendly access via Pacific Highway
- Potential future upgrades to Hammond Lane as shared pedestrian / vehicle access
- Opportunity for level separated crossing at Pacific Highway (not part of this proposal)
- Opportunity for footpath improvements to encourage active transport

Vehicular Access

- The site is accessed by a driveway in the south west corner from Gordon Ave.
- Vehicles leaving the site can travel:
  - South via Pacific Highway (left turn only)
  - East & West via Mowbray Rd
  - North via Mowbray Rd, Orchard Rd & Albert Ave. onto Pacific Highway
  - Refer to traffic engineers report for detailed analysis

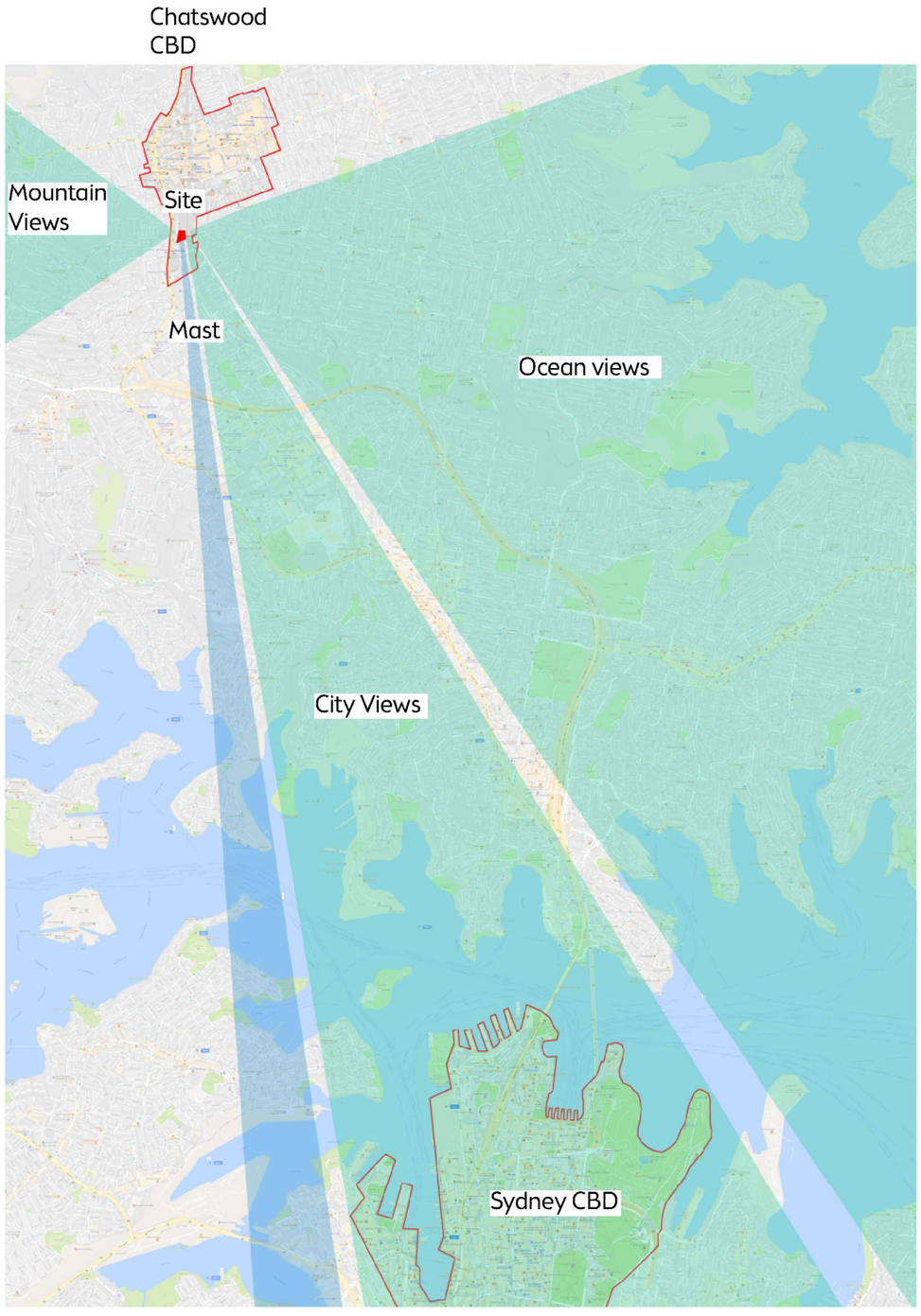


Public Transport

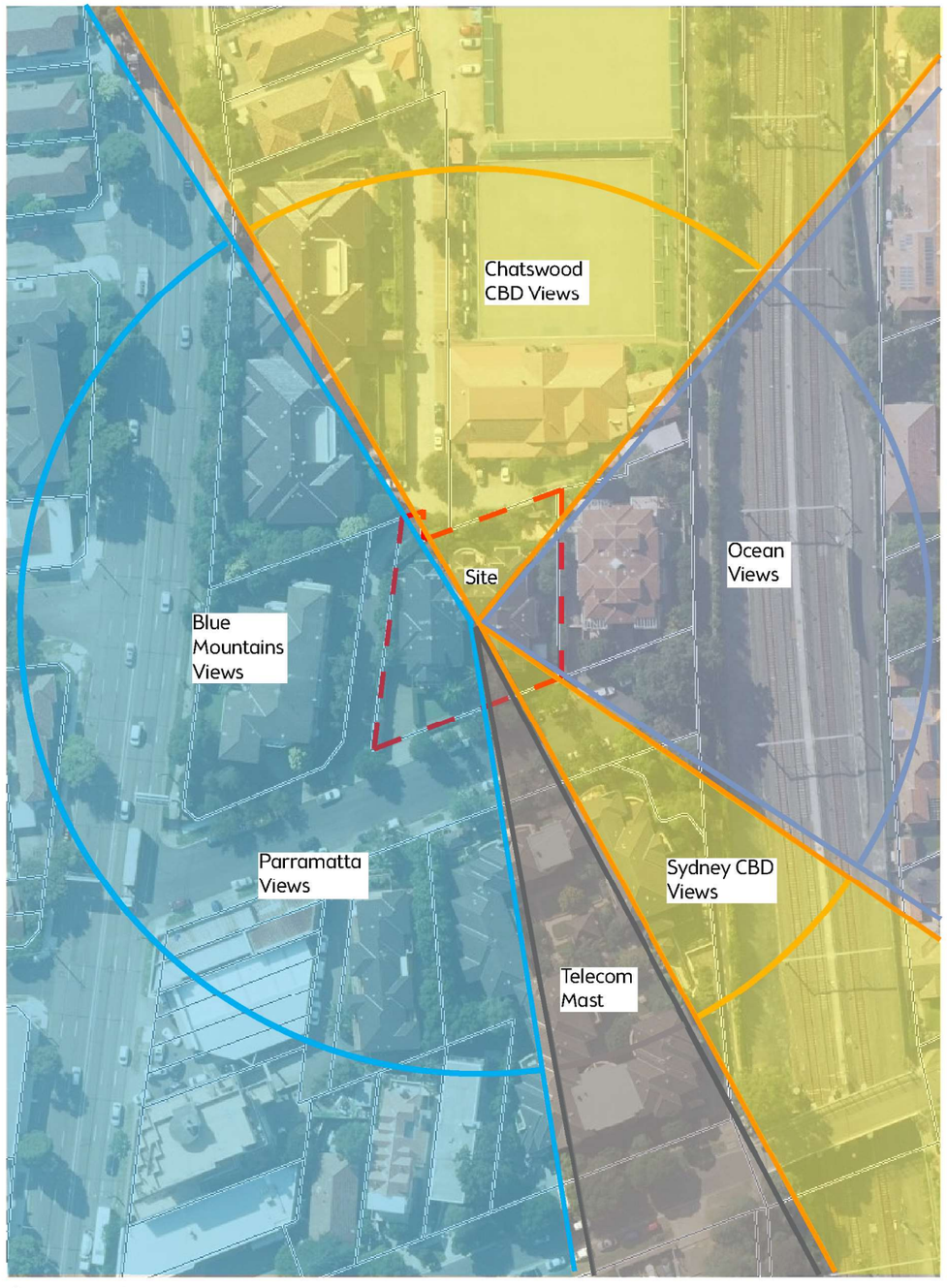
- Chatswood Station is less than 800m from the site, or a 7-10 minute walk
- North Shore & Northern Line trains to Sydney CBD, Hornsby, Macquarie Park and Central Coast
- Chatswood Transport Interchange is also less than 800m from the site. Various bus connections to Northern Beaches, Lower North Shore, and west to Parramatta
- Bus routes on Pacific Highway is less than 50m from the site:
  - 143 & 144 to Manly
  - 258 to Lane Cove West
  - 261 to Lane Cove and City
  - 530 to Burwood Station
  - 533 to Sydney Olympic Park
  - 534 to Ryde
  - 536 to Gladesville

Recommendations

- Due to the numerous active and public transport connections available, this site is ideal for densification and delivery of homes near jobs
- Opportunities to enhance walkability of the local neighbourhood should be maximised with a focus on turning Gordon Ave. into a place for people
- Opportunity to relocate driveway to Hammond Lane



Mast obstruction analysis



Current urban context

Current View Conditions

Opportunities

- Unobstructed views over green open space such as the Bowling Club to North
- Communication tower mast located to the South of the site does not impact on Sydney CBD views from upper levels
- Limited views to Blue Mountains to West from upper levels
- Limited views to Pacific Ocean to East from upper levels
- Views to Parramatta to South

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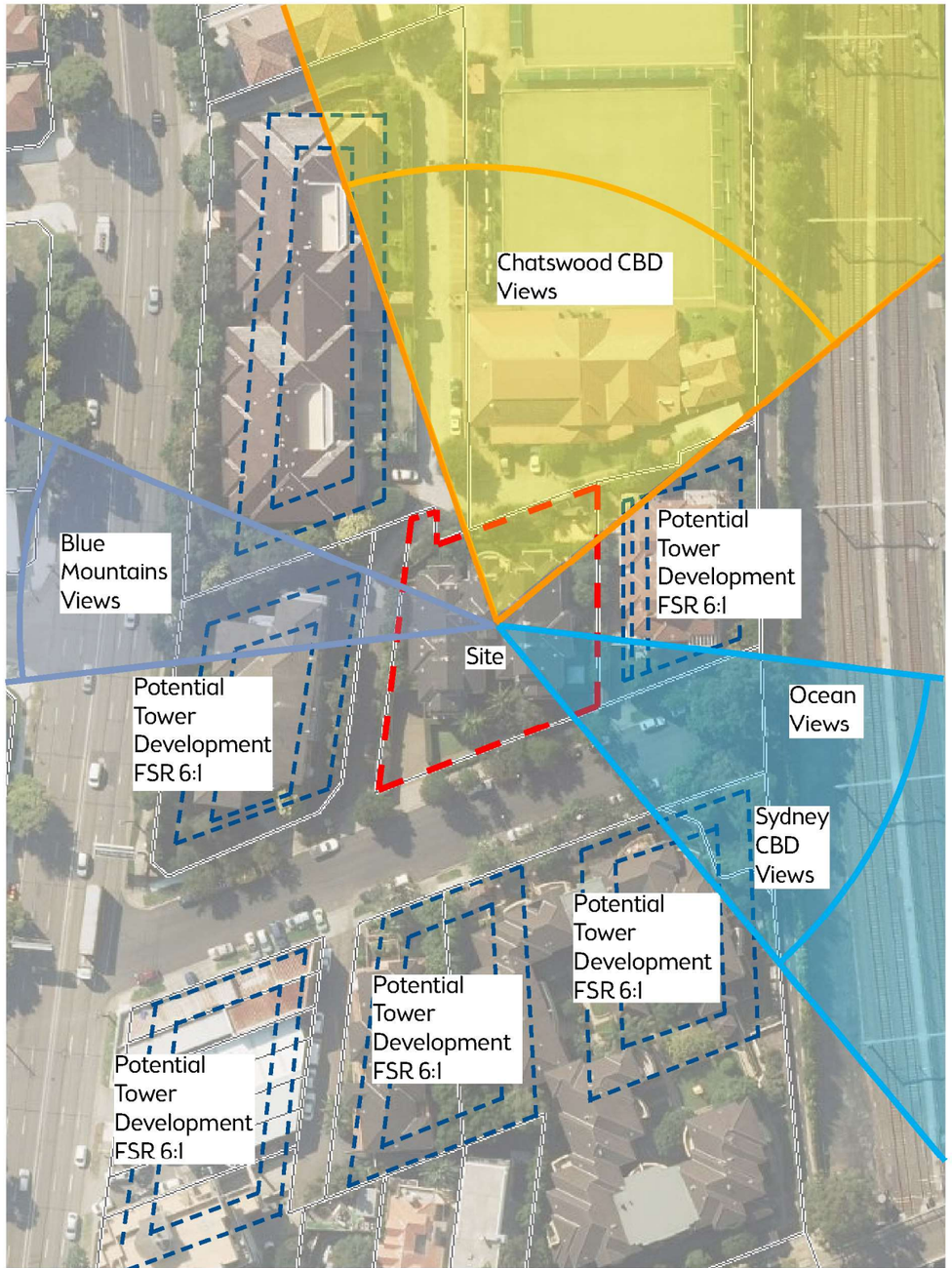

Future urban context

Natural views
Urban views

Constraints

If development control recommendations in the Chatswood CBD Planning and Urban Design Strategy are taken into consideration, future developments on neighbouring sites (assuming they are built to maximums under the controls) would partly obscure views to Sydney CBD.

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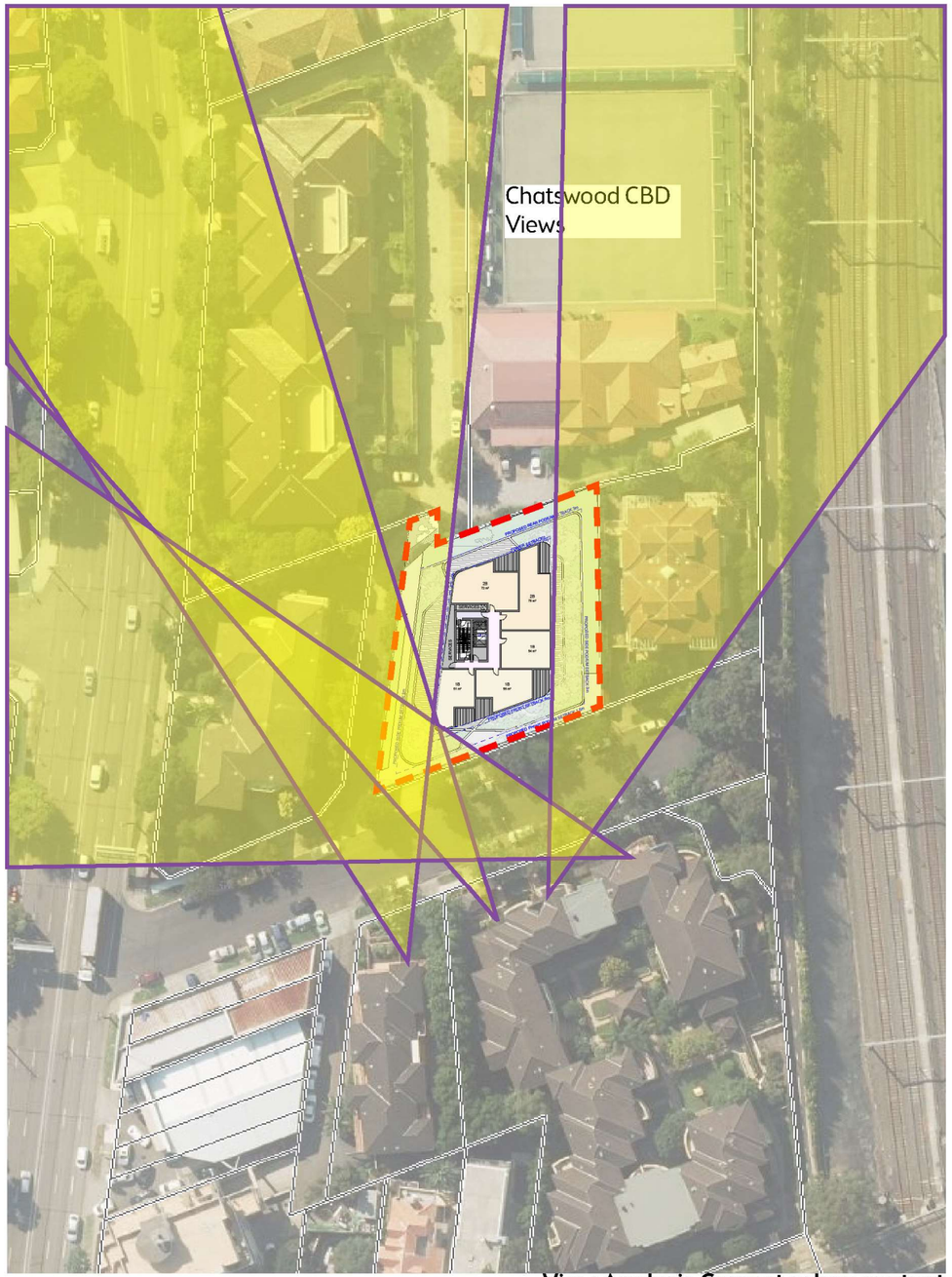
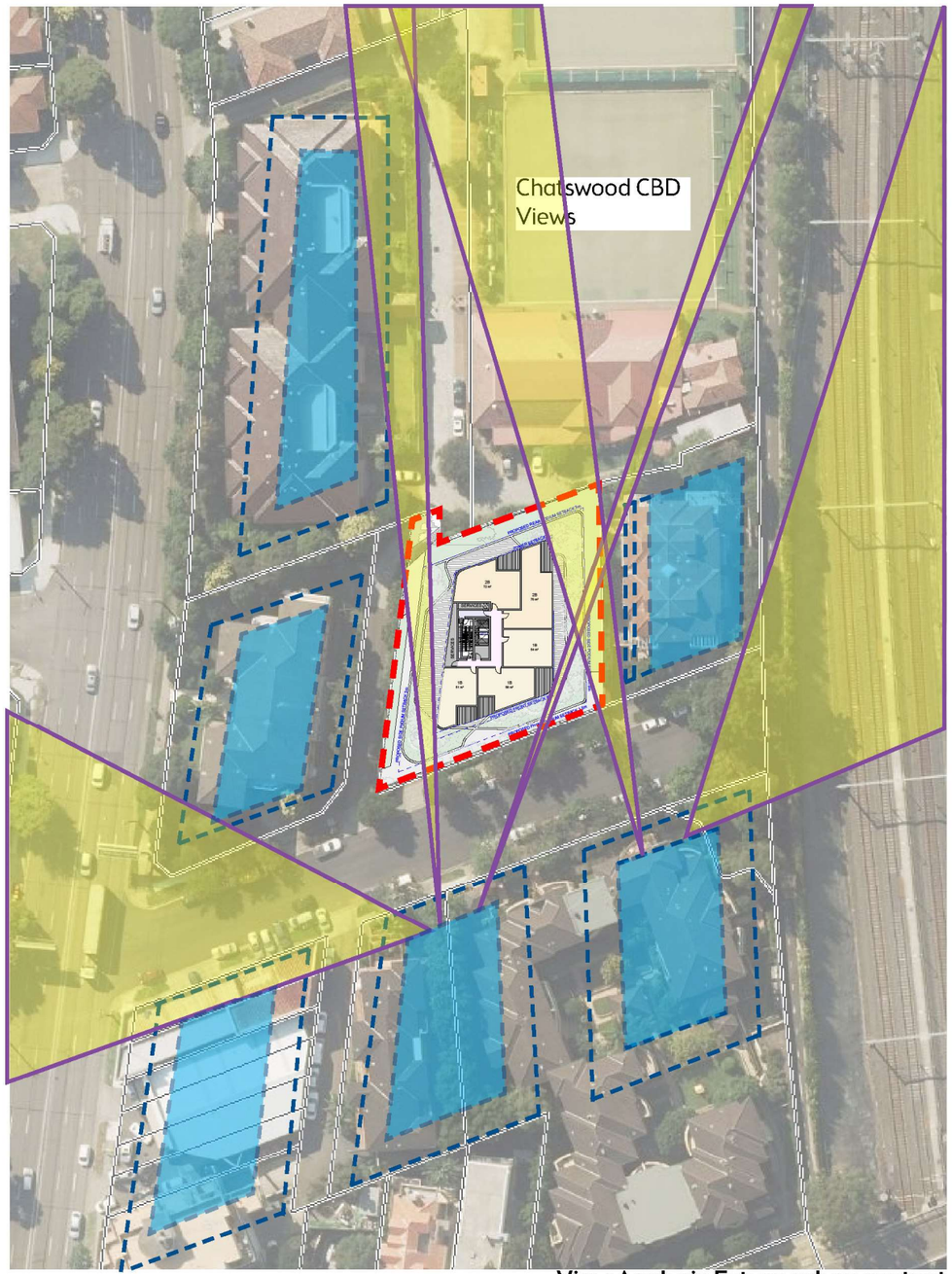


View Analysis Current urban context



View Analysis Future urban context

View Analysis

View from Level 04 balconies of adjoining buildings facing North

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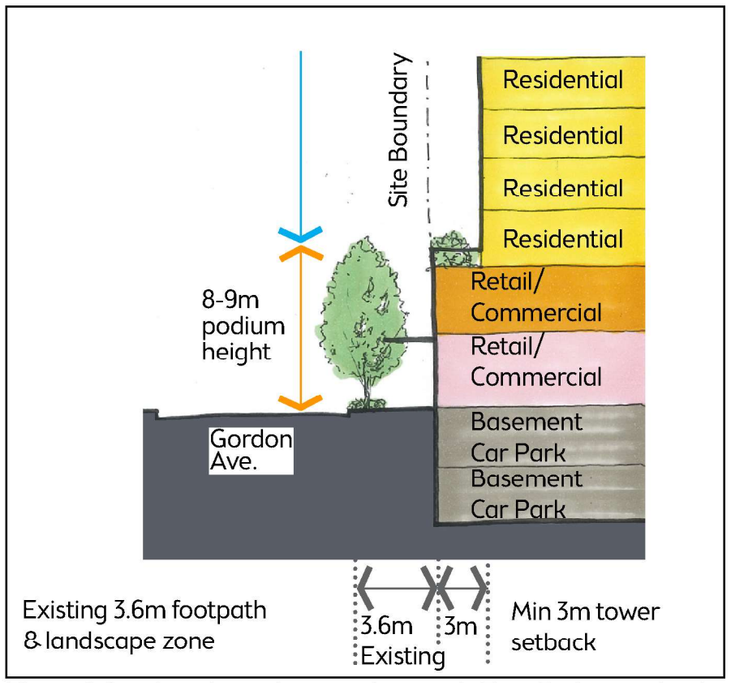


Figure 1. Southern boundary condition with Zero Podium setback and 3m to the tower, compliant with CBD Strategy

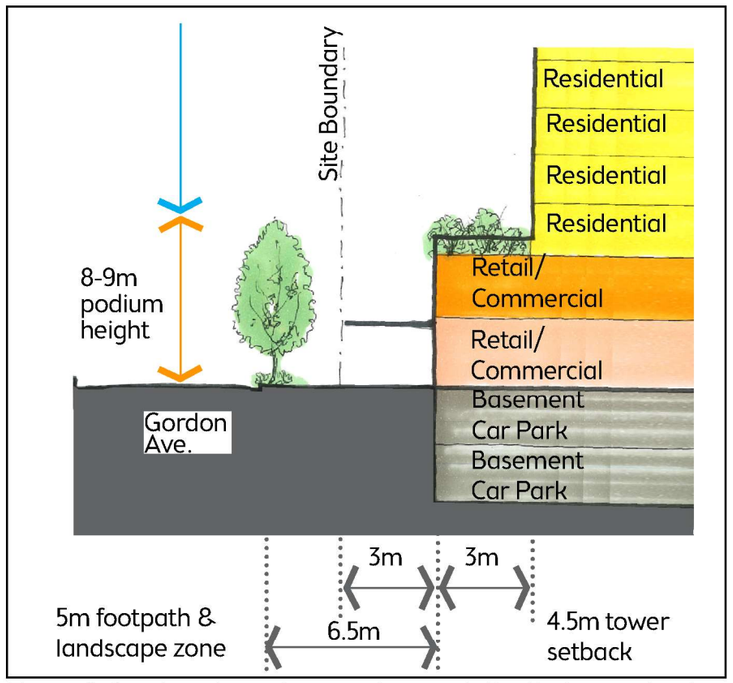


Figure 2. Southern boundary condition with 3m Podium setback and 4.5m to the tower, better outcome compared to CBD Strategy

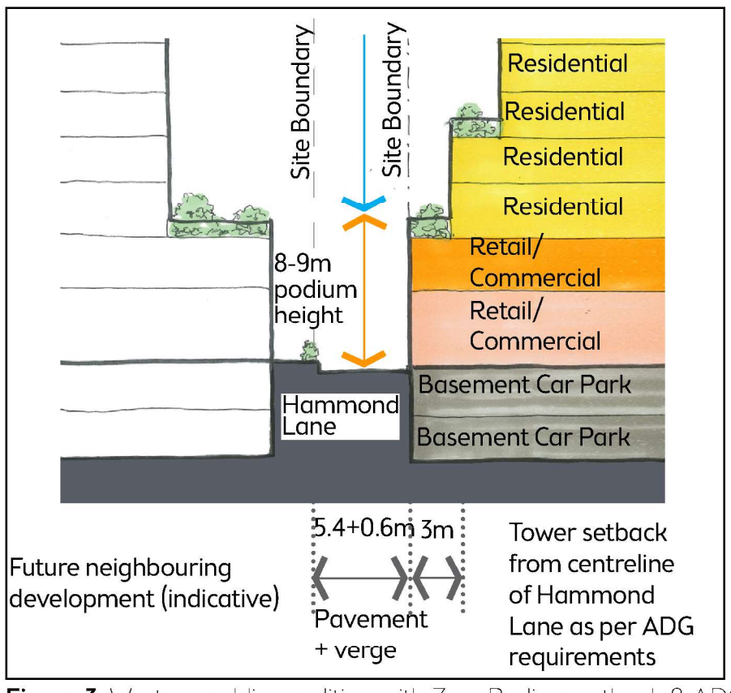


Figure 3. Western public condition with Zero Podium setback & ADG Compliance setbacks to the tower, compliant with CBD Strategy

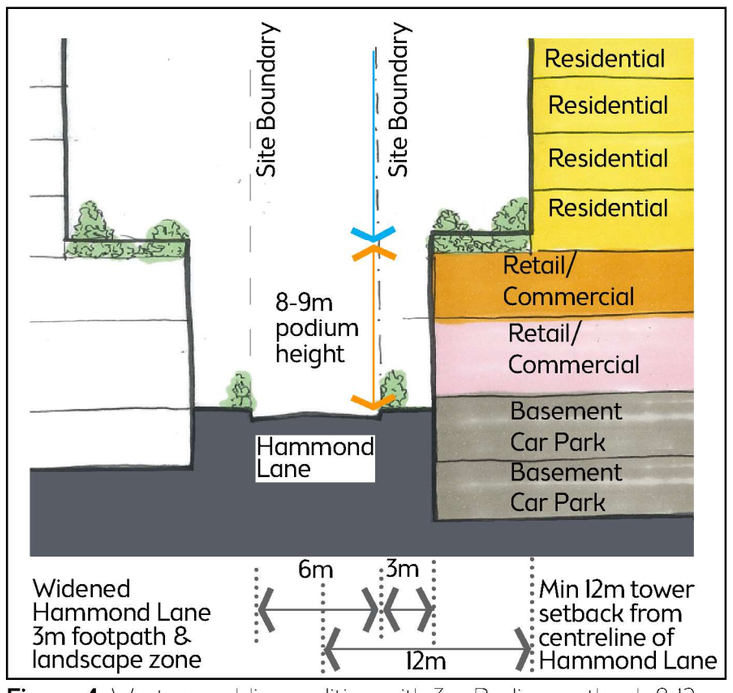


Figure 4. Western public condition with 3m Podium setback & 12m setback from C/L of Hammond Lane to the tower. Better outcome to CBD Strategy

Figure 1

- Limited opportunity to widen footpath
- No provision for outdoor dining
- Awning restricted by street trees

Figure 2

- Proposed minimum 5m building setback from kerb
- Maintain existing street tree planting
- Increase footpath width to 1.8m clear
- Setback within site boundary provides for covered outdoor seating
- Activated street frontage with Retail / Commercial
- Awning location allows full maturity of street trees
- Two storey height podium
- Tower setback min. 3m from podium
- Landscaping to top of podium

Figure 3

- No provision for separate pedestrian access
- Limited visibility at northern end
- Lack of overlooking potential

Figure 4

- Proposed widening of Hammond Lane to 6m for two way traffic and service vehicle access
- Proposed 3m podium setback allows for 1.5m landscape buffer and 1.5m covered pedestrian pavement
- Provision of awning clear of vehicles
- Two storey height podium
- Passive surveillance from L1 commercial
- 12m tower setback to comply with ADG with simple form and allow for future development to 641-653 Pacific Highway

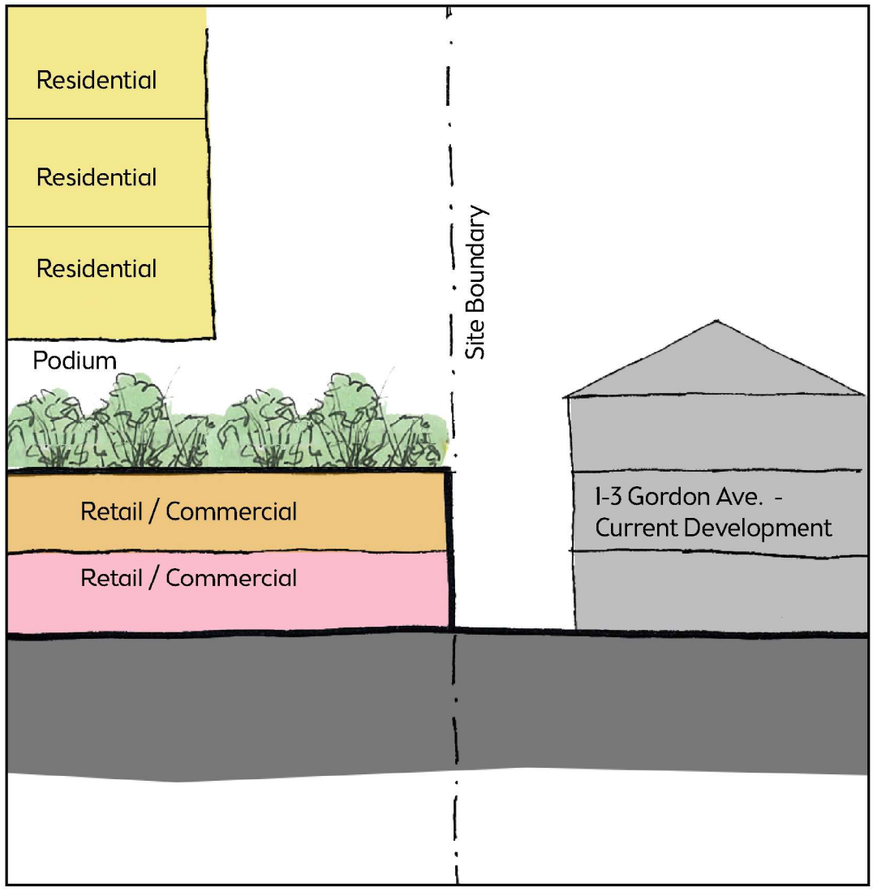


Figure 1. Eastern boundary condition with zero podium setback, and existing development at 1-3 Gordon Ave.

This arrangement results in a blank fire rated wall interface with existing residential units, but may allow for a "joined" podium if 1-3 Gordon Ave. was developed in future in line with the amalgamation pattern identified in the CBD Strategy.

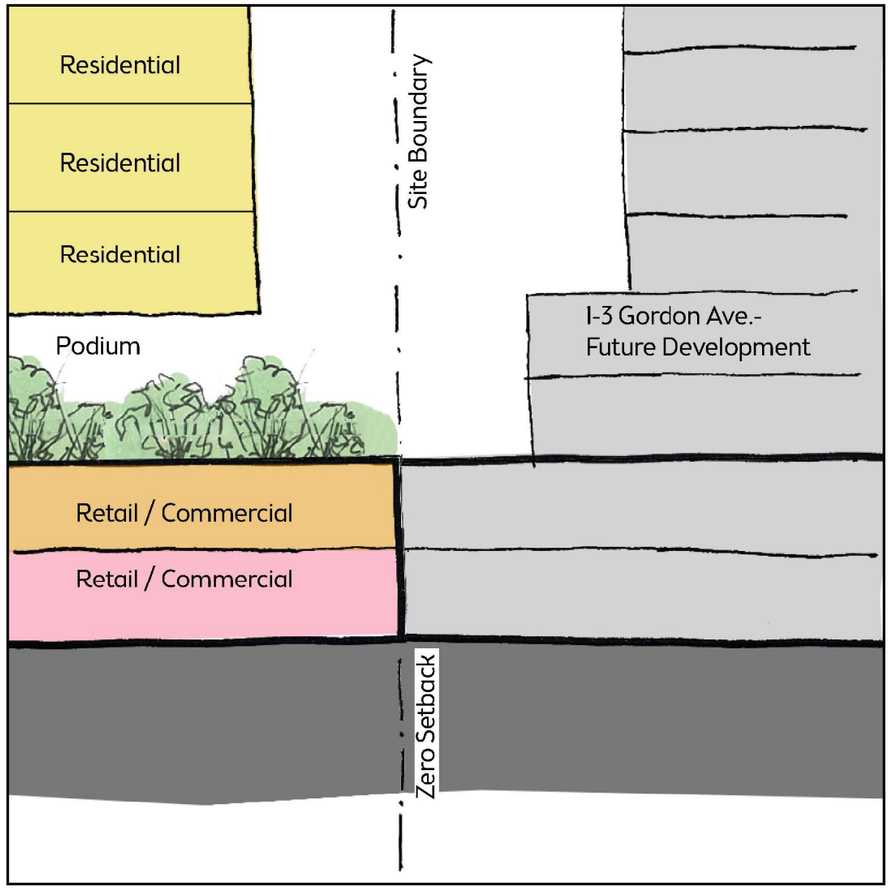
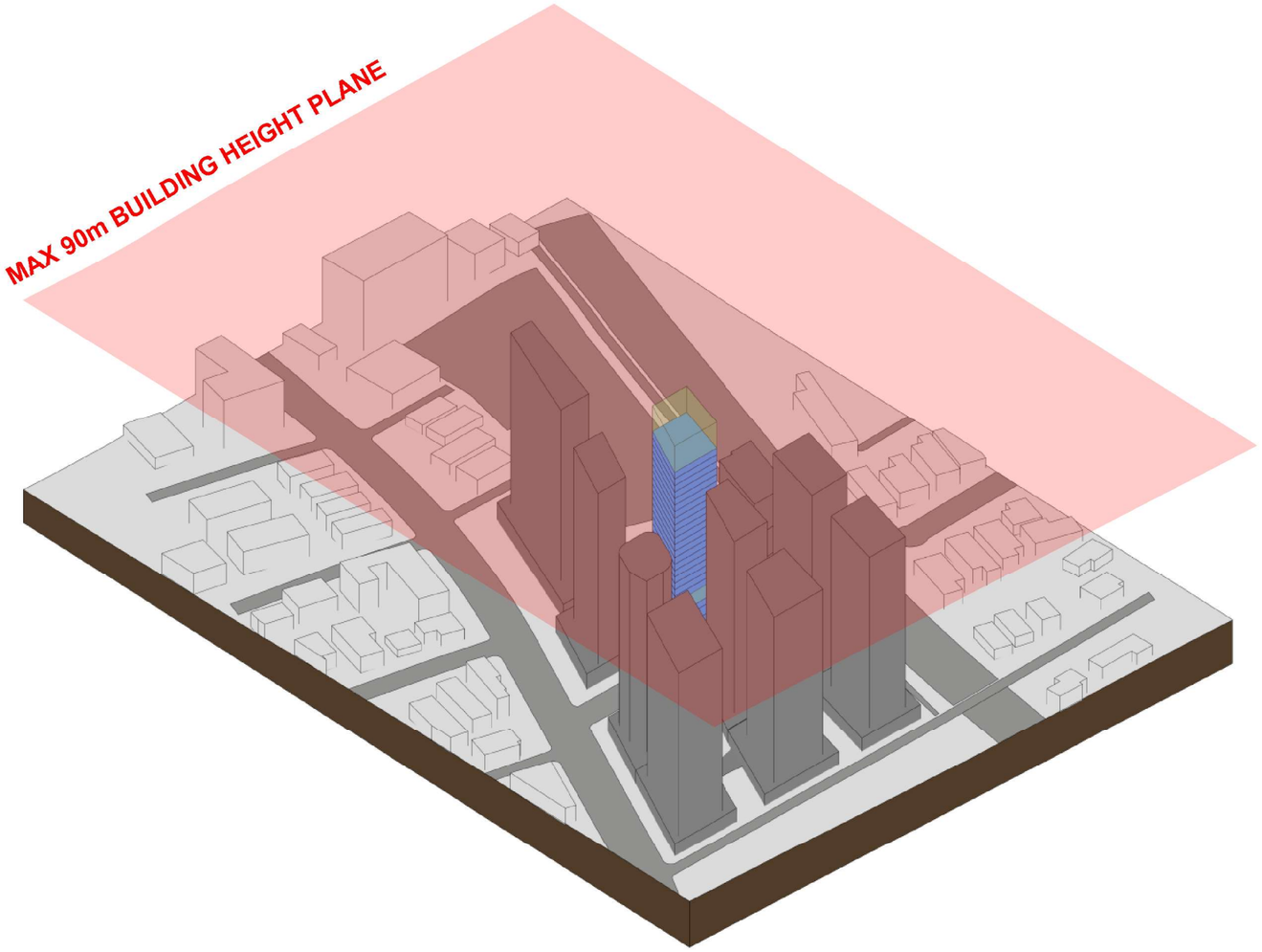


Figure 2. Eastern boundary condition with 3m podium setback, and proposed development at 1-3 Gordon Ave., including planting as buffer.

1-3 Gordon Ave. can develop to its Western boundary, maximising development potential and facilitating shared vehicular access across 5-9 Gordon Ave.



90m Building Height Limit under the Chatswood CBD Strategy

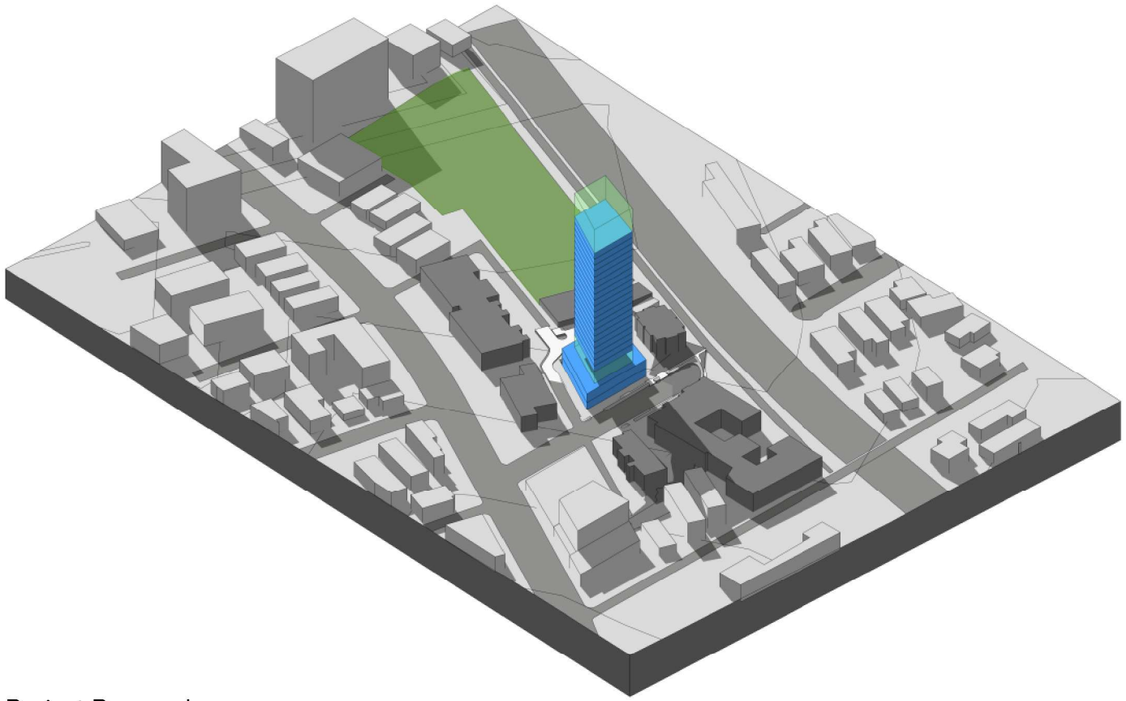
The Chatswood CBD Planning and Urban Design Strategy recommends the subject site and surrounding sites be subject to the following controls

- Maximum FSR of 6:1
- Building height limit of 90m
- Mixed use frontage with commercial ground floor. 6-14m street wall, min 3m setback above street wall

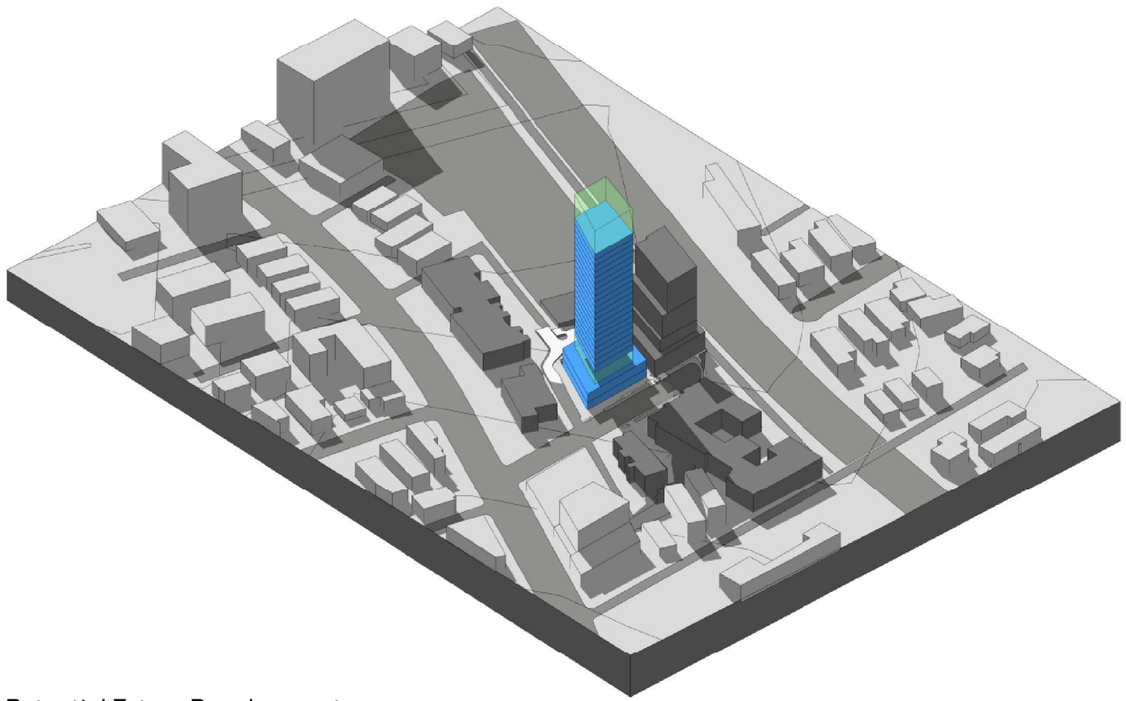
The proposed massing for the site is consistent with the recommended controls under the Chatswood CBD strategy and will contribute to the planning outcomes for the region.

When fully realised, this development pattern will result in a cluster of tall, slender buildings strongly defining the proposed CBD edge at the Southern entrance of Chatswood.

The angular geometry of property boundaries in the precinct will result in a variety of built form outcomes, enhancing the skyline potential.



Project Proposal



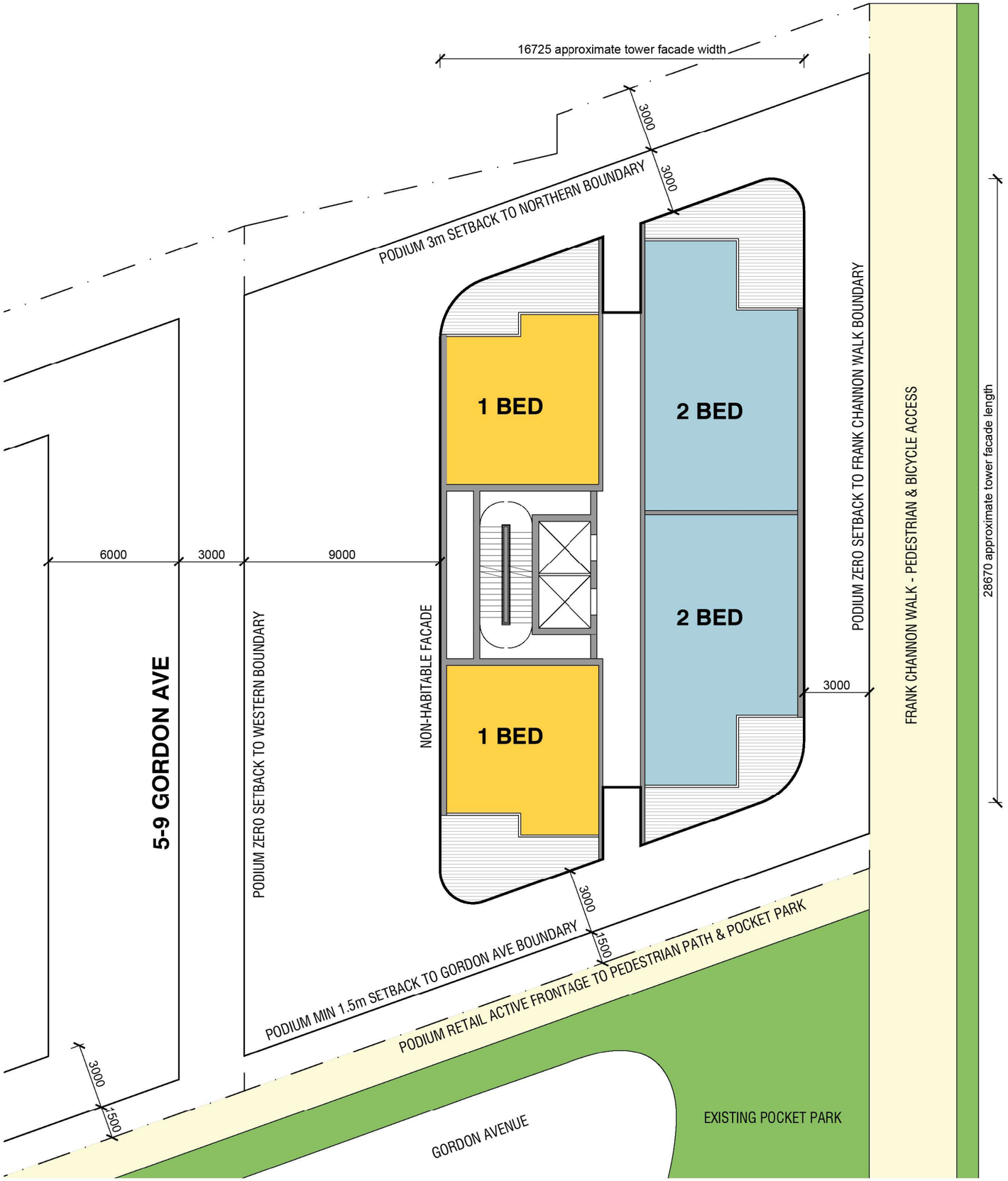
Potential Future Development

Project Development

- A tall 90m slender tower overlooking significant open space to the North with view opportunities to Chatswood, the CBD, and the Blue Mountains
- An active ground plane with retail frontage to Gordon Ave.
- Traffic and carpark access from Hammond Lane
- A planted, raised podium providing abundant planting and resident amenity
- The site located in a highly pedestrianized area with walking connections to Chatswood and the public transport
- ADG Compliant Setbacks:
  - Podium Setbacks: 3m front, 3m rear, 3m side setbacks
  - Level 3-27 Setbacks: 4.5m front, 6m rear, 12m west setback from C/L of Hammond Lane, 9 m east setback

Neighbouring Site Development

- Location: 1-3 Gordon Ave. Chatswood NSW 2067
- Typical Podium floor plate: 1,128 sqm GF
- Tower Floor plates: 696 sqm GBA (levels 3-4); 647 sqm GBA (levels 5-8); 550 sqm GBA (level 9 and above)
- GFA: 6,744 sqm
- FSR: 6:1
- Site Area: 1,128 sqm approx.
- ADG Compliant Setbacks:
  - Podium Setbacks: 0m front, 0m rear, 0m side setback
  - Level 3-4 Setbacks: 3m front, 3m rear, 4.5m west, 3m east setbacks
  - Level 5-8 Setbacks: 3m front, 3m rear, 6m west, 3m east setbacks
  - Level 9+ Setbacks: 3m front, 3m rear, 9m west, 3m east setbacks



1-3 Gordon Avenue

Site Area:	1128m²
FSR:	6:1
Max GFA:	6768m²

Area Schedule

Level	GFA	GBA
Ground	300m²	1004m² (30% GFA efficiency)
Level 1	800m²	1004m² (80% GFA efficiency)
Typical Resi	358m²	478m² (75% GFA efficiency)

6768 - 1100 = 5668 (approx 1:1 commercial FSR)
5668/358 = 16 floors

16 floors x 4 units = 64 units

Total yield = 64 units + 1100m² Retail over 18 storeys

- Tower footprint slightly larger than 629-639 Pacific Highway Planning Proposal
- All units achieve cross ventilation
- min. 75% of units achieve 2 hours solar access
- Reduction of podium size possible to improve public domain and add height to tower
- Zero podium setback to western boundary
- Potential 'right of way' basement access with 5-9 Gordon Ave
- ADG Compliant tower separation to 5-9 Gordon Ave
- Dual retail frontage to Frank Channon Walk & Gordon Ave
- Large north facing podium landscape potential

Additional opportunities

- If shared driveway access is provided through 5-9 Gordon Avenue, the pocket park at the end of Gordon Ave could be made larger

Disclaimer:

This scheme is for information purposes only to demonstrate a potential development at 1-3 Gordon Ave.

This Planning Proposal application does not seek to alter planning controls on 1-3 Gordon Ave.

Built Form Concept

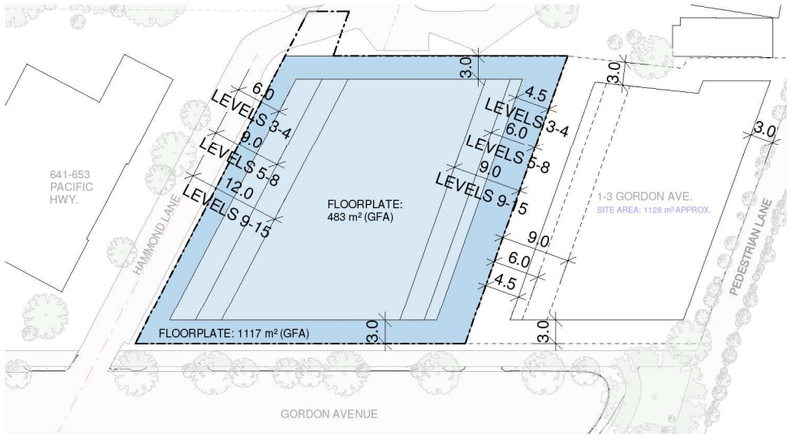
OPTION 1

FSR 6:1
Number of Storeys: 15

Option 1 maximises floor plate area within the minimum setback controls specified by the CBD Strategy and ADG.

Building height is a result of utilising allowable FSR for the site.

The resulting form has an undesirable bulky ziggurat appearance.



Typical Podium & Tower Envelope

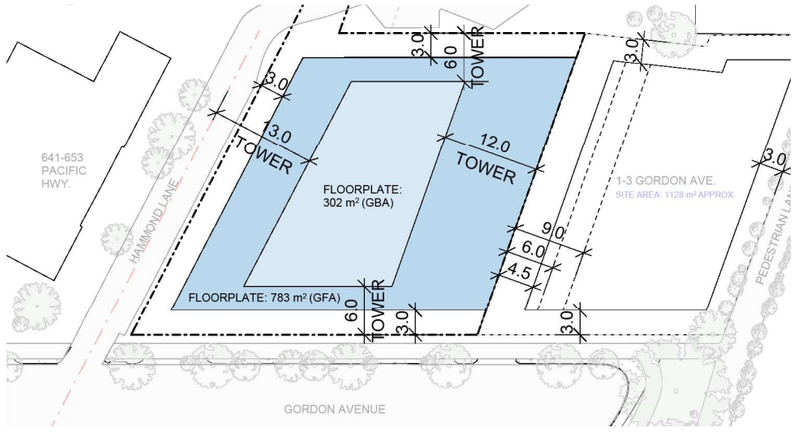
OPTION 2

FSR 6:1
Number of Storeys: 29

Option 2 maximises allowable building height and slenderness with FSR balanced over the total number of allowable storeys.

The typical floor plate is highly constrained due to the sites angular geometry, and is smaller than 400m2 GBA.

These constraints result in unworkable floor plates, with too much area lost to core and services.



Typical Podium & Tower Envelope

OPTION 3 (PREFERRED)

FSR 6:1
Number of Storeys: 27 with Roof Feature

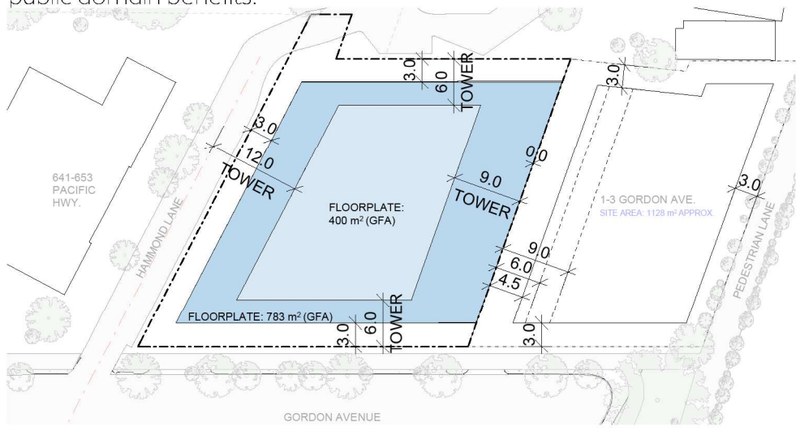
Option 3 seeks to balance height and FSR controls resulting in efficient apartment layouts and adequate space for core services.

Fewer residential floors provides an opportunity for roof articulation and a higher podium level while staying within the 90m height limit.

The podium level could be landscaped to create a unique local landmark with northern aspect over the bowling club.

Additional podium setbacks maximise the potential amenity of the public domain and contribute to strategic pedestrian connections.

The result is a slender building with a clearly defined base, middle and top that complies with CBD Strategy and ADG controls and maximises the public domain benefits.



Typical Podium & Tower Envelope

Planning Controls

- FSR 6:1
- Building Height: 15 storeys (under 90m)
- Mixed use:
  - GF: Retail/Commercial
  - L01: Residential/Commercial
  - L02-15: Residential
- Communal open space at L02
- Site setbacks: refer to indicative floor plans

Design Principles

- Building envelope based on utilising maximised floor plate area within site setbacks
- Maximised number of storeys based on FSR 6:1
- Activated Gordon Ave. and part of Hammond Lane frontage with retail/commercial use at the podium level, residential tower above
- Basement car park/deliveries/waste collection off Hammond Lane
- Hammond Lane proposed to be widened to accommodate two way traffic
- Improvement to Public Domain in Gordon Ave. and Hammond Lane

Pros

- Efficient floor plate higher yield
- Adequate urban response to public domain and human scale by creating two storey-high podium and recessed tower form above
- Excellent view opportunities in current urban context

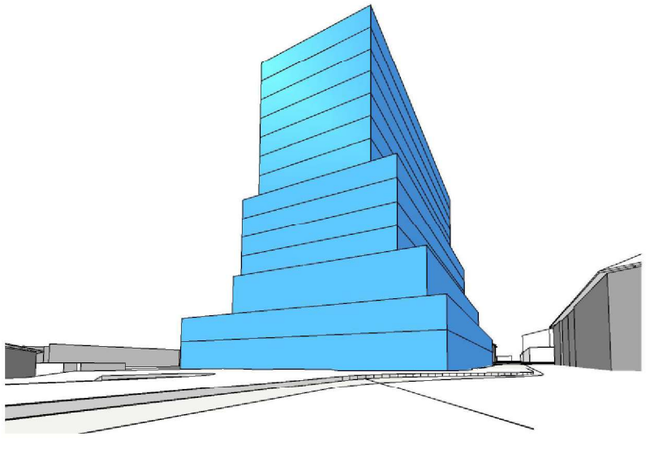
Cons

- Bulky form lacking in slender appearance preferred in the council planning strategy*
- Further tower setback from Gordon Ave. would improve building presence in current low rise context, however not required when future high rise context is considered
- View opportunities would be reduced when all neighbouring sites get developed with high-rise density
- Limited potential for outdoor seating in Gordon Ave.
- Inadequate pedestrian access in Hammond Lane
- Stepping form complicates apartment layout planning resulting in balconies over habitable areas
- Strategic pedestrian connections and public domain improvements not achieved
- Commercial vehicle access restricted from Hammond Lane, may require access from Gordon Ave.

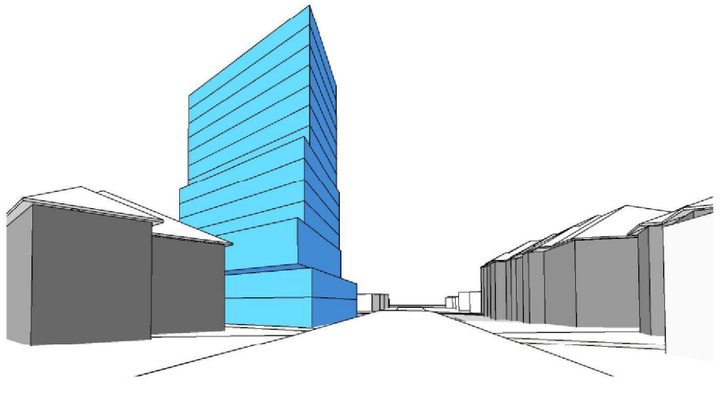
Summary

Option 1 maximises floor plate area with overall building height being a result of utilising permissible FSR for the site. Building form appears bulky in comparison with all other options. Tower setbacks appear adequate when future context is considered, however, it does not suit the slender tower principle.

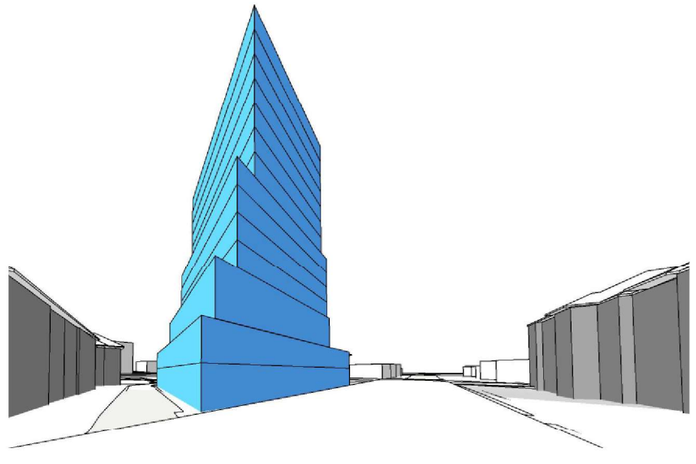
This proposed form does not maximise the urban design potential for the site as envisioned in the CBD Strategy.



Hammond Lane towards Gordon Ave.



Gordon Ave. towards Train Line



Corner of Gordon Ave. & Hammond Lane

Planning Controls

- FSR 6:1
- Building Height: 29 storeys (under 90m)
- Mixed use:
  - GF: Retail/Commercial
  - L01: Residential/Commercial
  - L02-29: Residential
- Communal open space at L02
- Site setbacks: refer to indicative floor plans

Design Principles

- Building envelope based on utilizing maximised building height of 90m *
- Floor plate size based on max FSR 6:1 *
- Activated Gordon Ave. and part of Hammond Lane frontage with retail/commercial use at the podium level, residential tower above
- Basement car park/deliveries/waste collection off Hammond Lane
- Hammond Lane proposed to be widened to accommodate two way traffic
- Improvement to Public Domain in Gordon Ave. and Hammond Lane

Pros

- Elegant tower form of slender proportion
- Adequate urban response to public domain and human scale by creating two storey-high podium and recessed tower form above
- Excellent view opportunities in current urban context maximised due to full utilisation of permissible* height limit
- Additional podium setback to Gordon Ave. enables outdoor seating and better activation.
- Additional podium setback to Hammond Lane delivers strategic pedestrian connection, vehicular access and improved activation of corner.
- Reduces vehicular crossings on Gordon Ave.

Cons

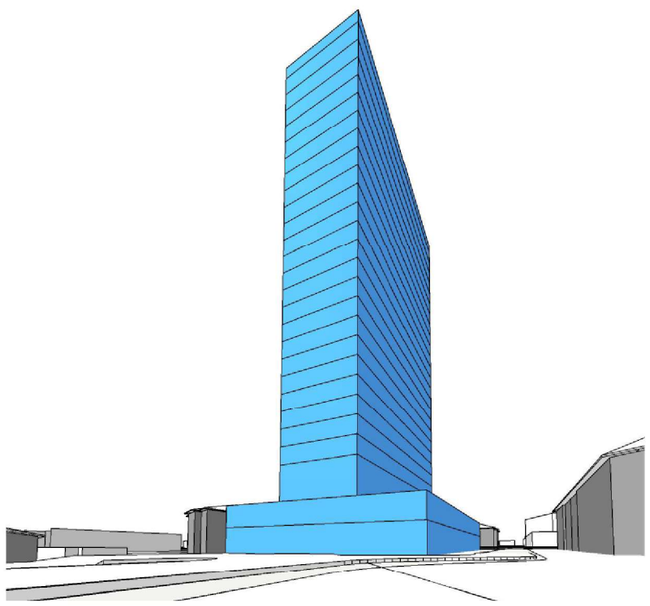
- Inefficient floor plate allowing only for 2-3 units per floor
- Taller tower casting longer shadows, however not compromising ADG compliance to existing units
- View opportunities would be reduced when all neighbouring sites are developed with high rise density
- Angular floor plate is not practical for high quality apartment layouts
- Small floor plate results in proportionally higher area dedicated to core & services

Summary

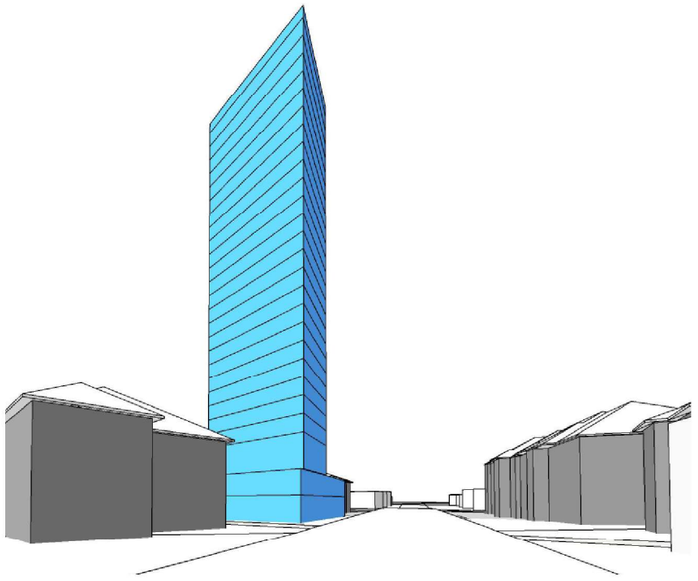
Option 2 maximises building height achieving permissible limit of 90m. Distribution of allowable GFA across all floors would not be economical resulting only in 2-3 units per floor.

Building form appears elegantly slender with attractive overall proportions. Generous tower setbacks create sufficient space that could be utilised as communal open space, landscaped area on top of the podium.

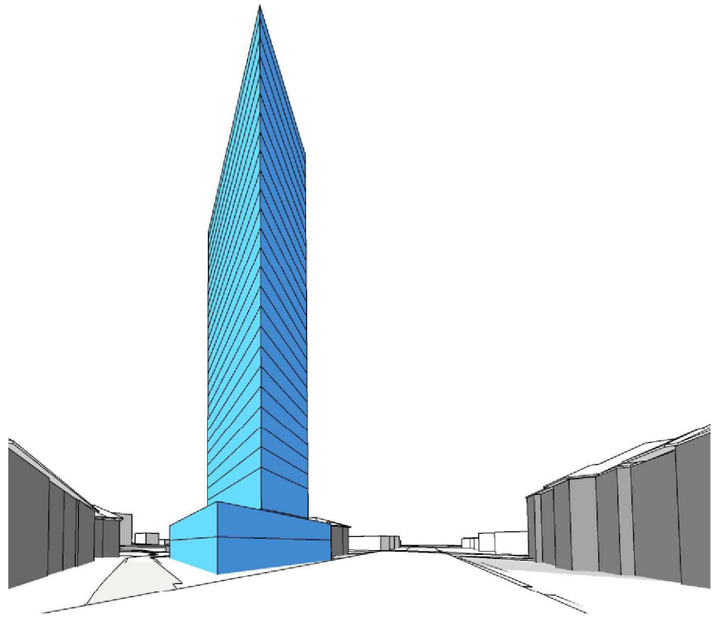
While the form is visually very slender, this proposal is not viable due to the angular geometry of the site and resulting small floor plate.



Hammond Lane towards Gordon Ave.



Gordon Ave. towards Train Line



Corner of Gordon Ave. & Hammond Lane

Planning Controls

- FSR 6:1
- Building Height: 27 storeys (under 90m)
- Mixed use:
  - GF: Retail/Commercial
  - L01: Retail/Commercial
  - L03-27: Residential
- Communal open space at L02
- Site setbacks: refer to indicative floor plans

Design Principles

- Further refinement of Option 2 envelope with more significant 7m Gordon Ave. setback to all levels of the tower resulting in more elegant built form with reduced yet still reasonable floor plate area
- Additional floors increase Northern aspect to units as well as unobstructed Chatswood CBD view opportunities
- Maximised number of storeys based on FSR 6:1
- Activated frontage with retail/commercial use at the podium level, residential tower above
- Basement car park/deliveries/waste collection off Hammond Lane
- Hammond Lane proposed to be widened to accommodate two way traffic
- Improvement to Public Domain in Gordon Ave. and Hammond Lane

Pros

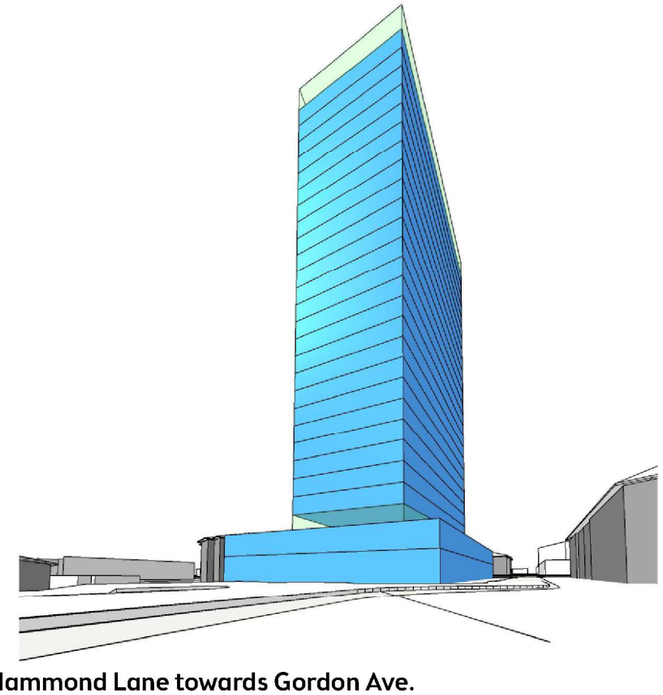
- Maximises strategic pedestrian connections and public domain improvements.
- Reduces vehicular crossings on Gordon Ave. Attractive Landscaped communal open space giving proposed envelope unique building form
- Efficient and practical floor plates with increased Gordon Ave. setbacks improving urban form
- Clear definition of base, middle and top resulting in improved tower silhouette
- High quality urban response to public domain and human scale compatible with existing and future context
- Excellent view opportunities in current urban context

Cons

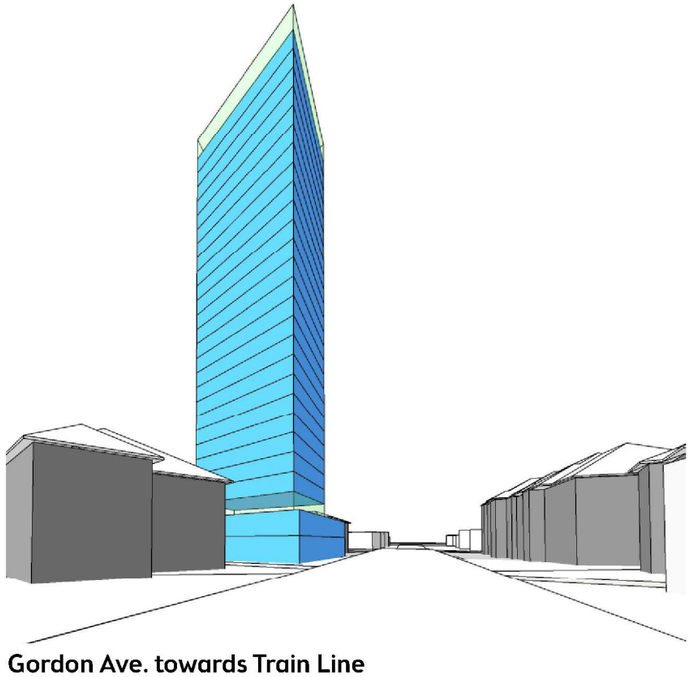
- Overall tower form more slender than Option 1 but slightly more bulky than Option 2
- View opportunities would be reduced when all neighbouring sites are developed with high-rise density

Summary

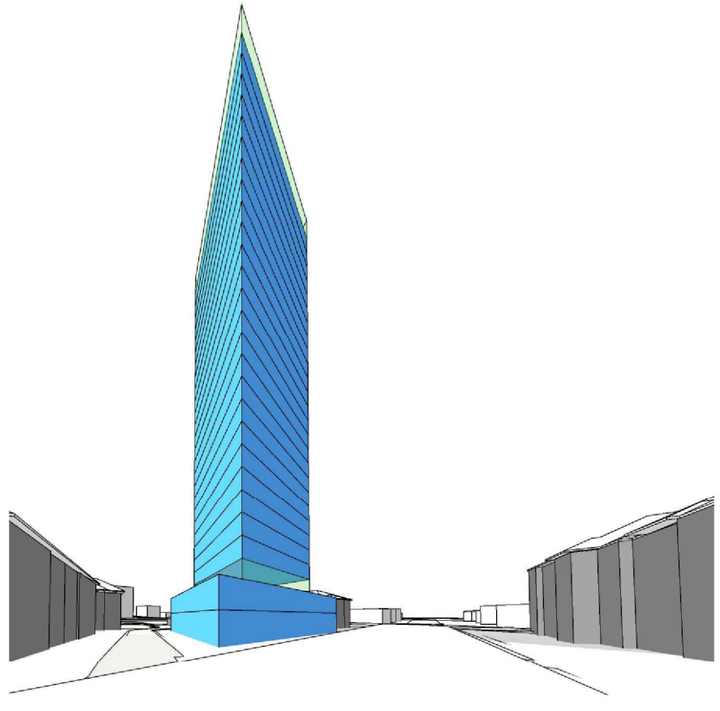
Option 3 further improves slenderness of tower form maintaining economically efficient floor plates. Unique L02 landscaped area creates a local landmark. Omitting additional top floor setbacks results in more legible urban form with very clear definition of podium and human scale interface with the public domain



Hammond Lane towards Gordon Ave.



Gordon Ave. towards Train Line



Corner of Gordon Ave. & Hammond Lane

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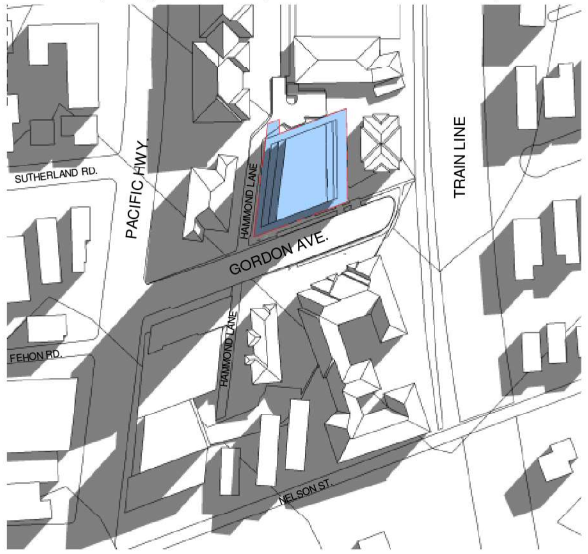
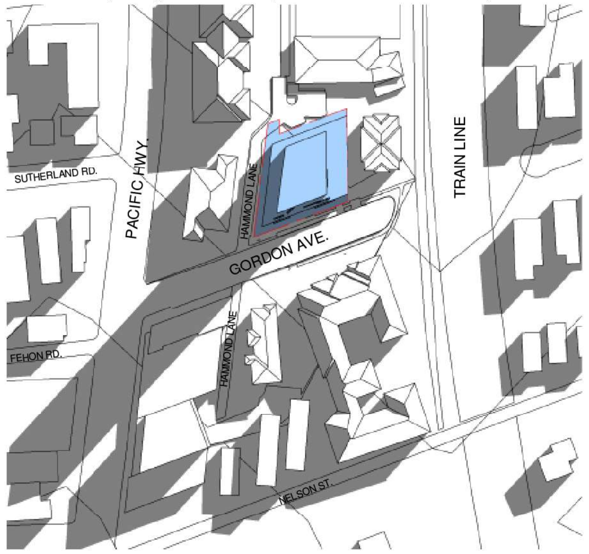
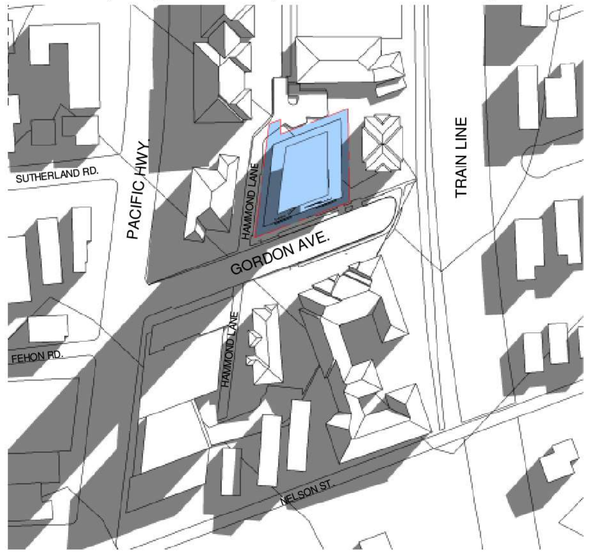
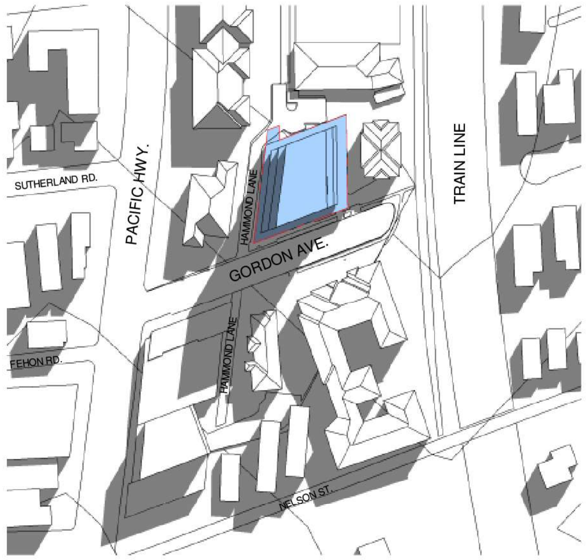
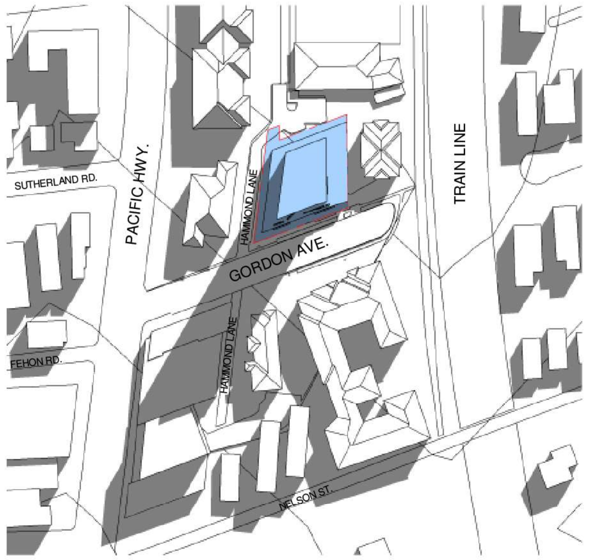
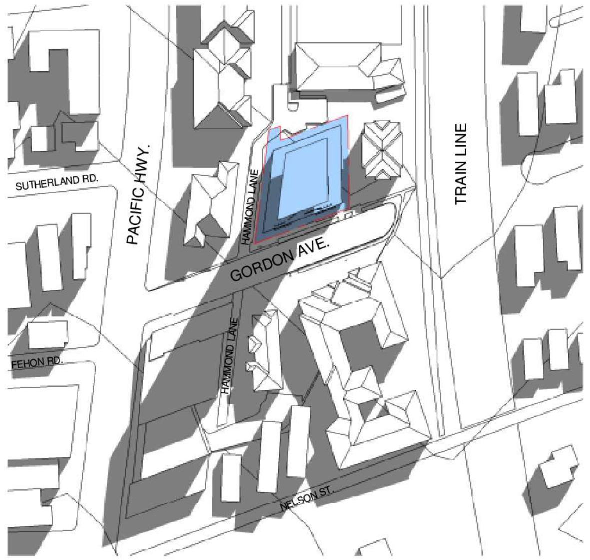
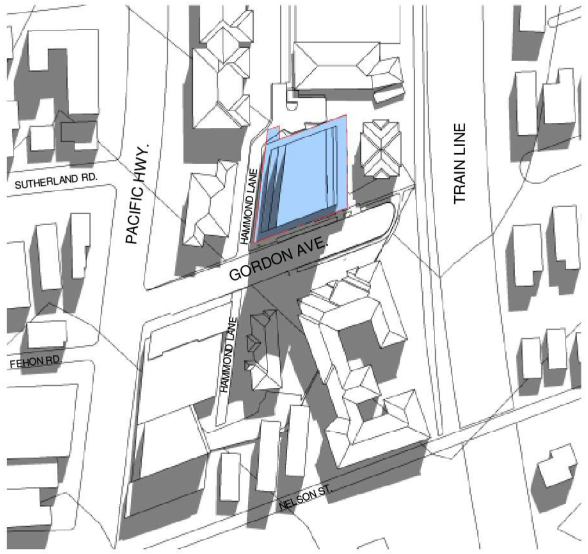
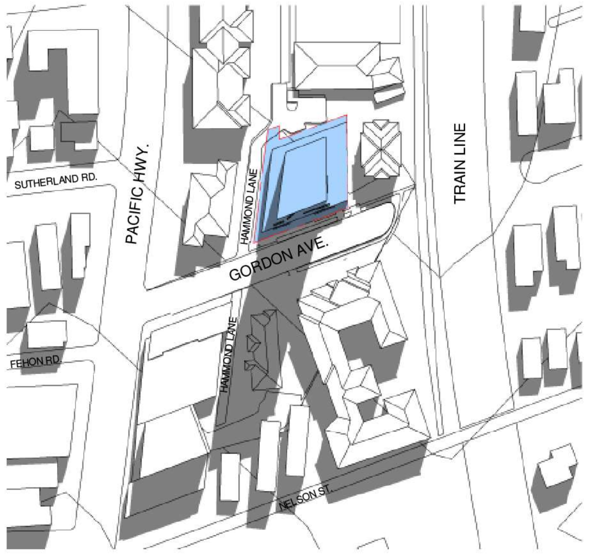
9am			
10am			
11am			

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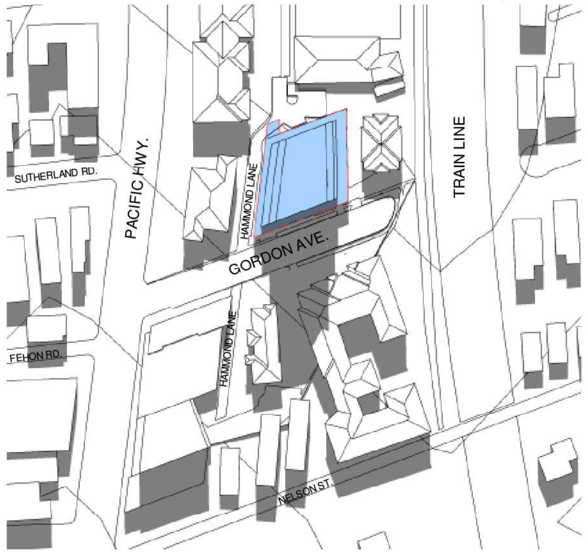
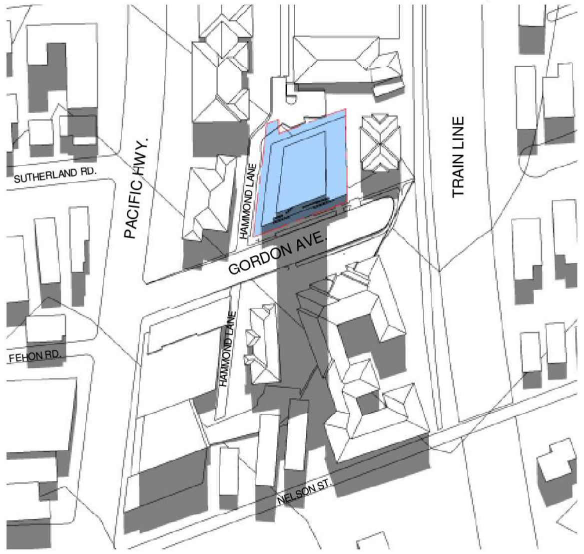
15 Storey High Envelope **Option 1**

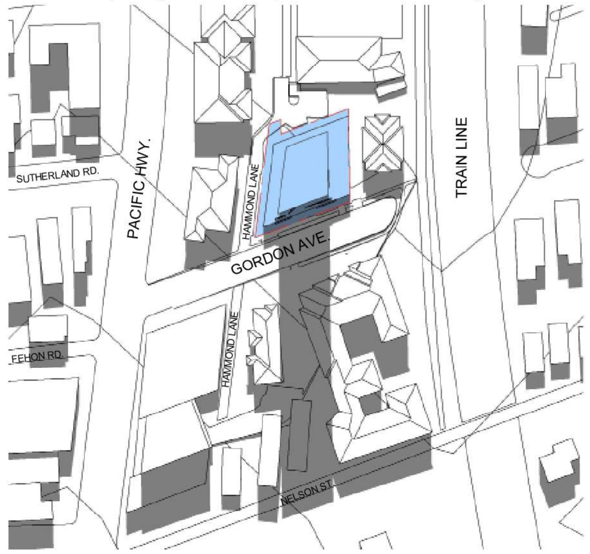
29 Storey High Envelope **Option 2**

27 Storey High Envelope **Option 3**

12pm







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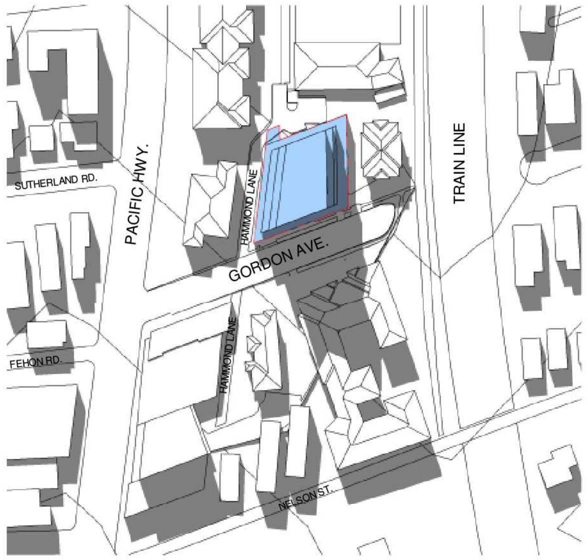

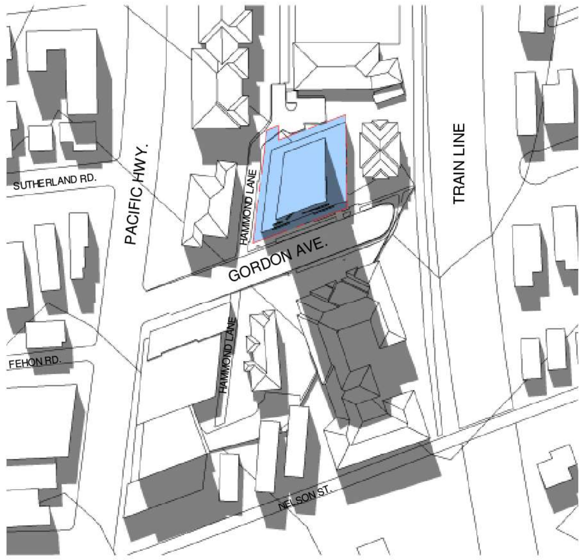

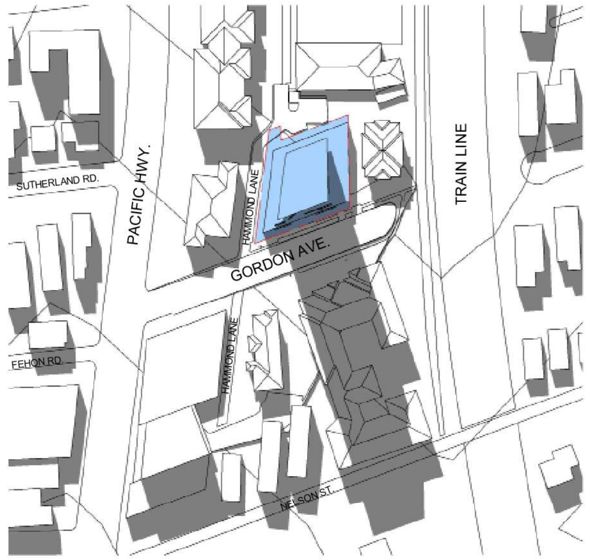

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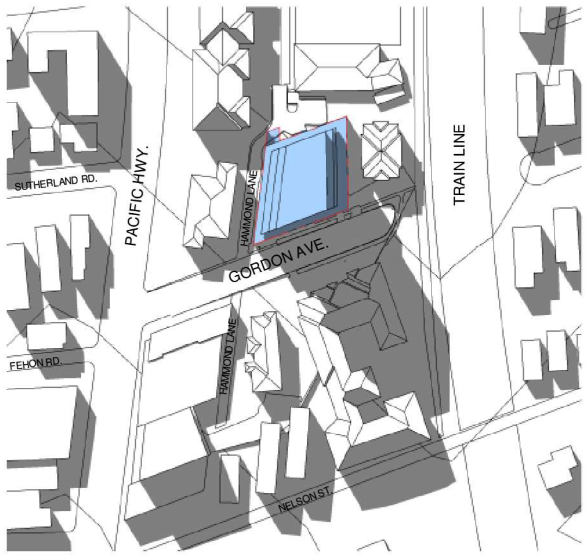
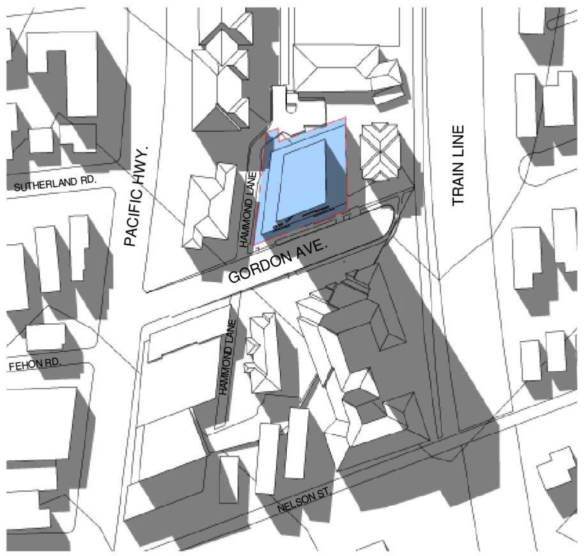
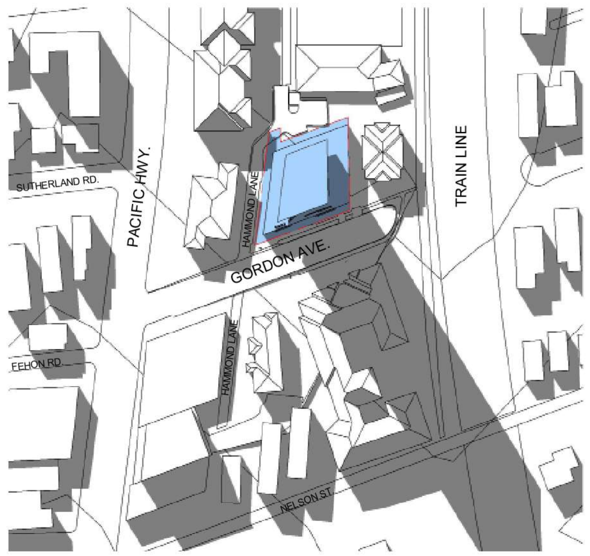
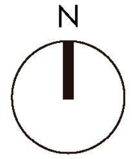


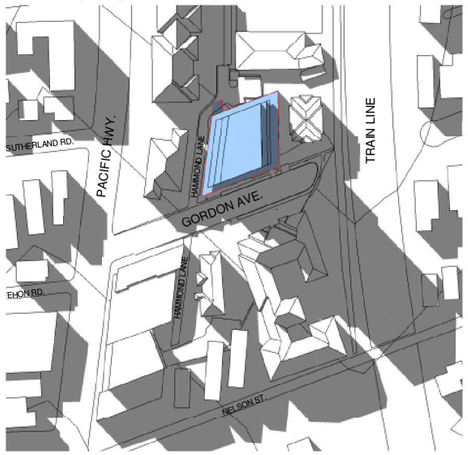






3pm

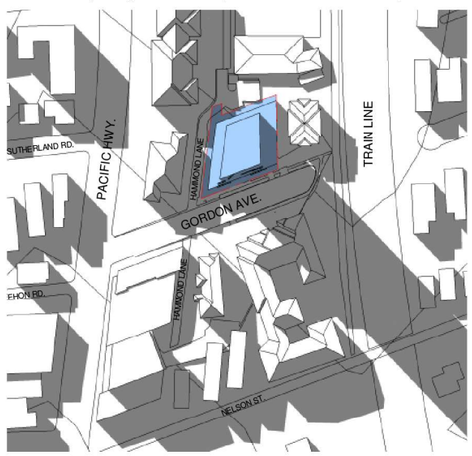
15 Storey High Envelope **Option 1**



Option 1 Overshadowing summary

Option 1 casts the shortest shadow, but maximising the floor plates at lower levels results in a wider shadow in the immediate vicinity representing a greater impact on neighbouring properties than option 1 & 2

29 Storey High Envelope **Option 2**

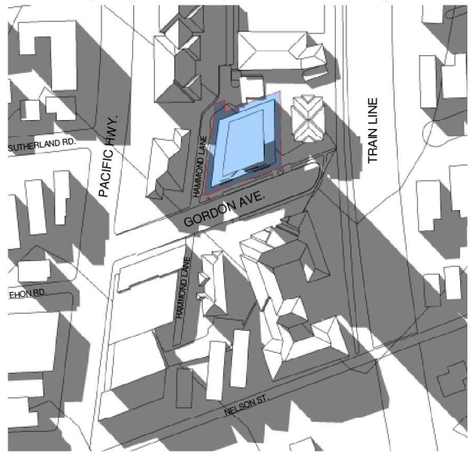


Option 2 Overshadowing summary

Option 2 casts a long, fast moving shadow, moving away from impacted properties in approximately one hour.

This represents a minor impact and is compliant with the requirements of the ADG.

27 Storey High Envelope **Option 3**



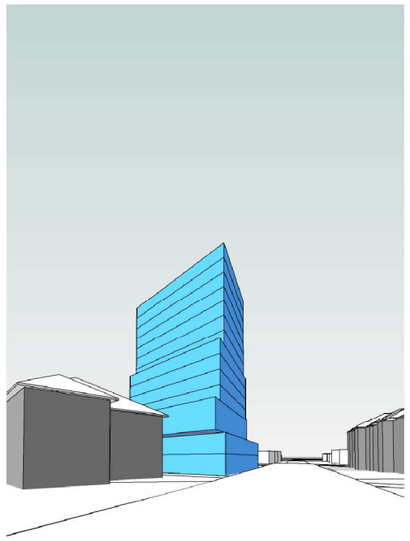
Option 3 Overshadowing summary

Option 3 casts a long, fast moving shadow, moving away from impacted properties in approximately one hour.

The impact is marginally larger than option 1 but is still acceptable according to the requirements of the ADG.

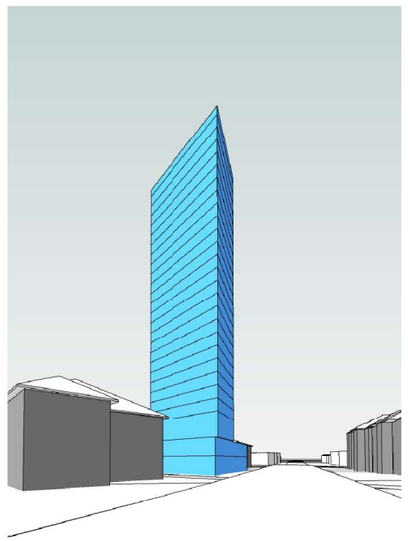
Existing Built Form

Option 1



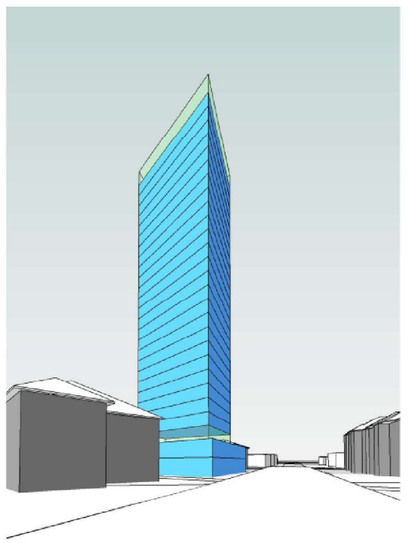
15 Storey High Envelope

Option 2



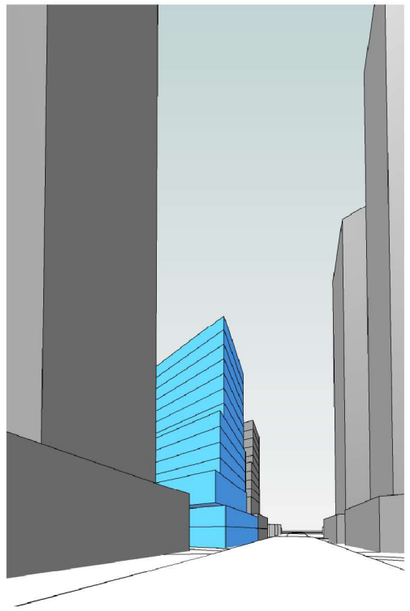
29 Storey High Envelope

Option 3

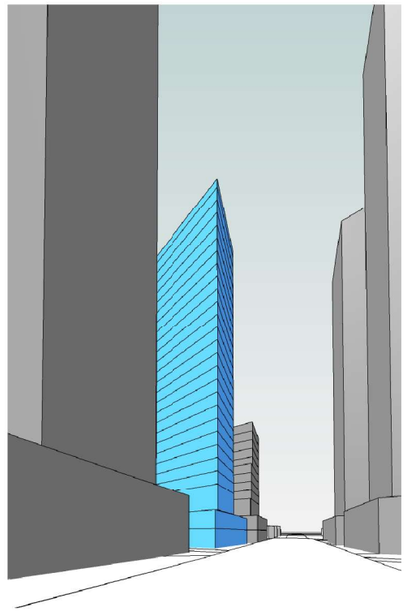


27 Storey High Envelope

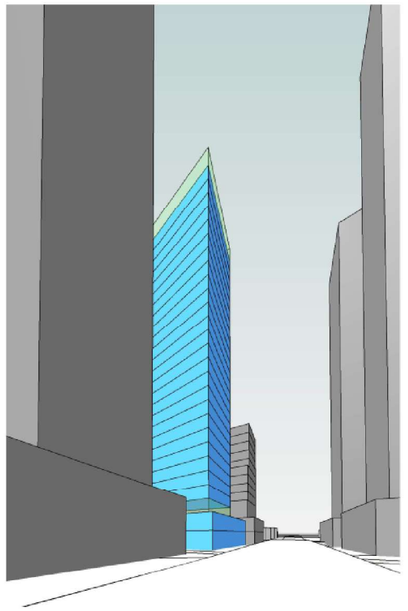
Future Built Form



15 Storey High Envelope



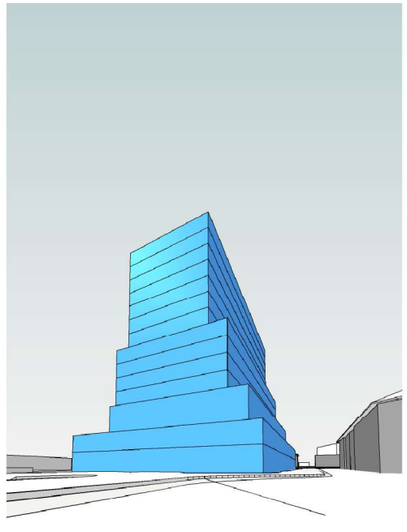
29 Storey High Envelope



27 Storey High Envelope

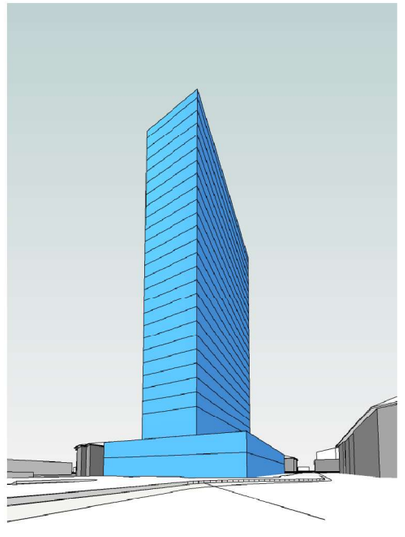
Existing Built Form

Option 1



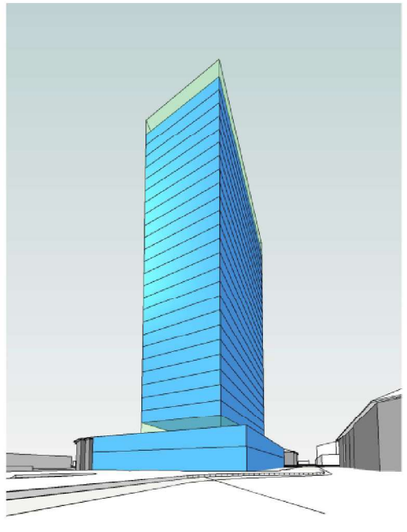
15 Storey High Envelope

Option 2



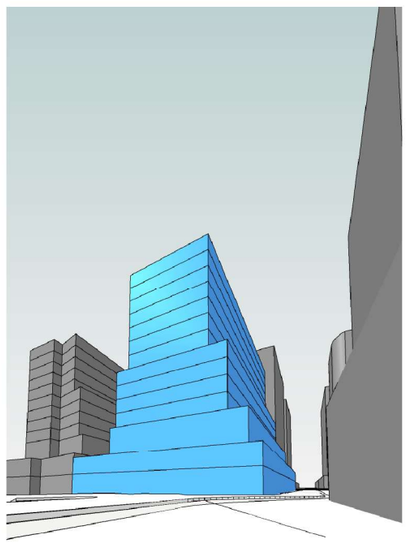
29 Storey High Envelope

Option 3

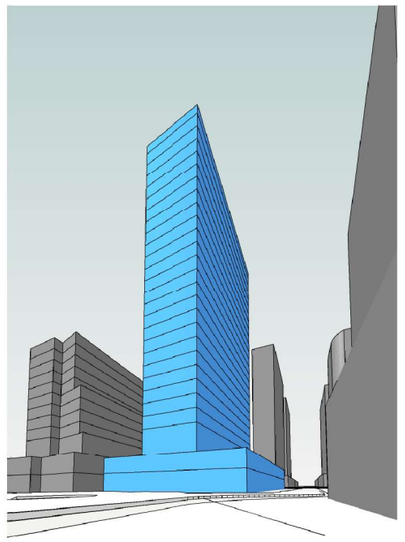


27 Storey High Envelope

Future Built Form



15 Storey High Envelope

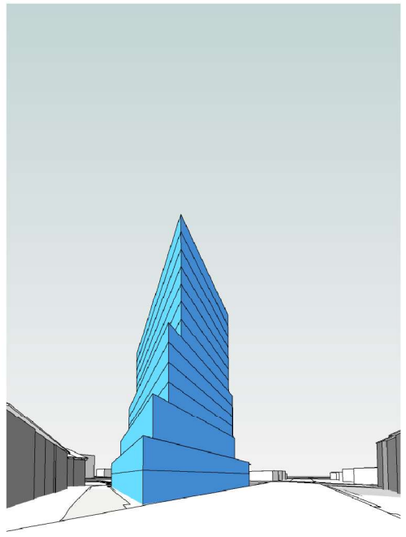


29 Storey High Envelope

27 Storey High Envelope

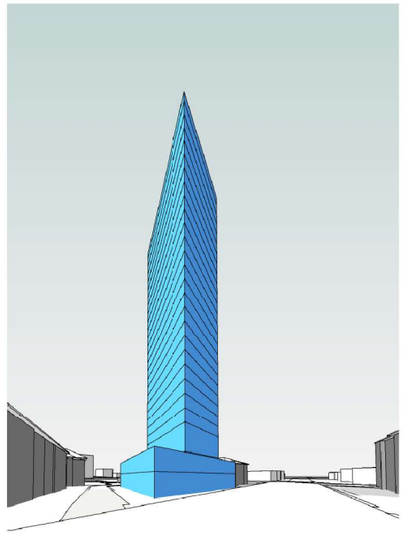
Existing Built Form

Option 1



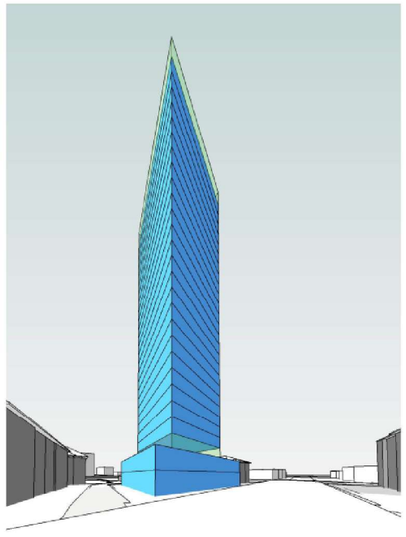
15 Storey High Envelope

Option 2



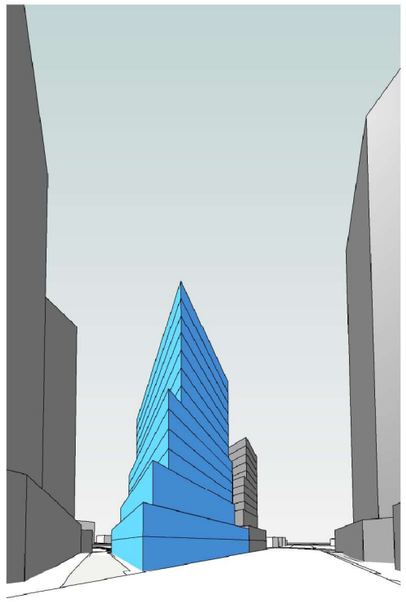
29 Storey High Envelope

Option 3

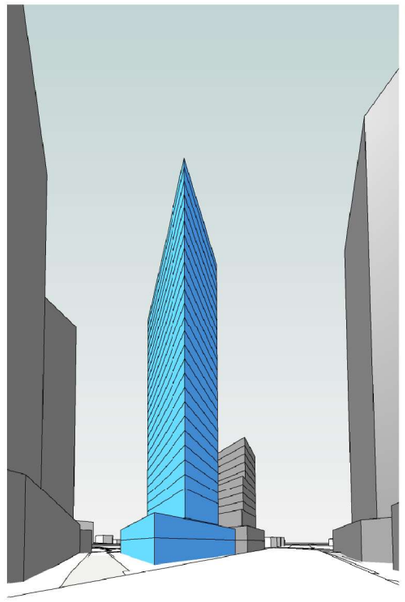


27 Storey High Envelope

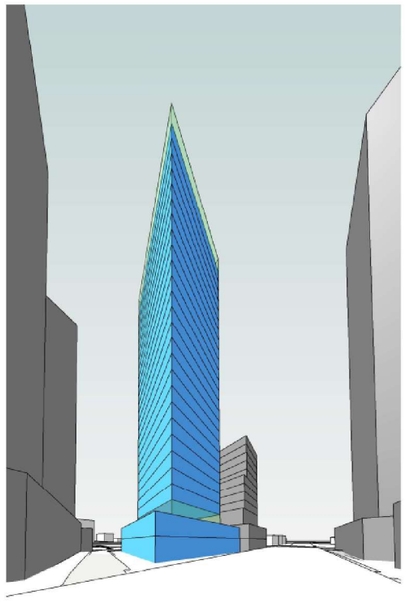
Future Built Form



15 Storey High Envelope

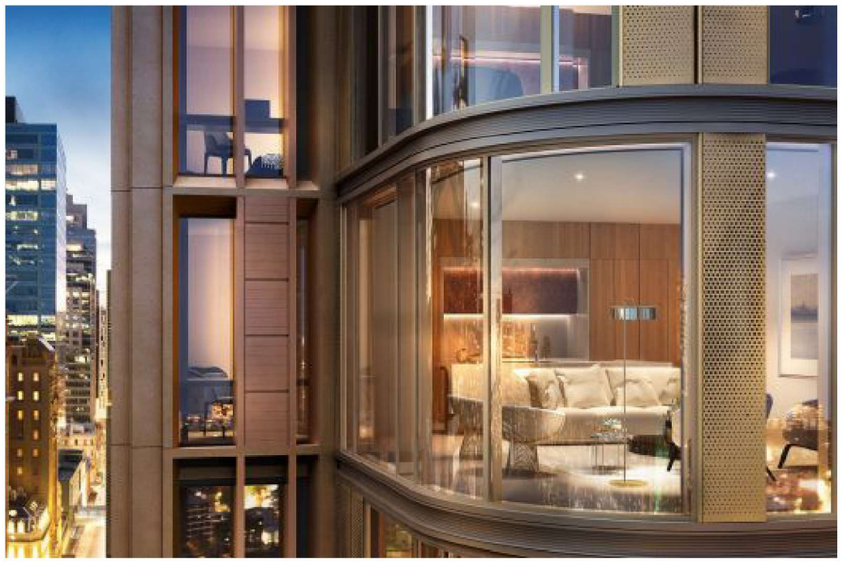


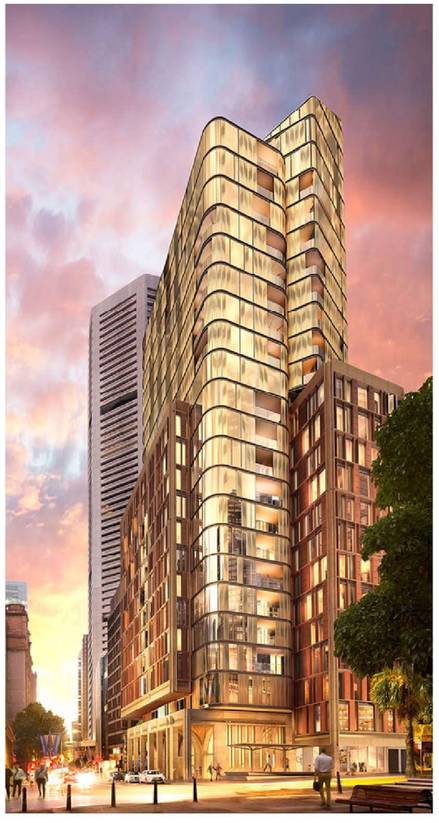
29 Storey High Envelope

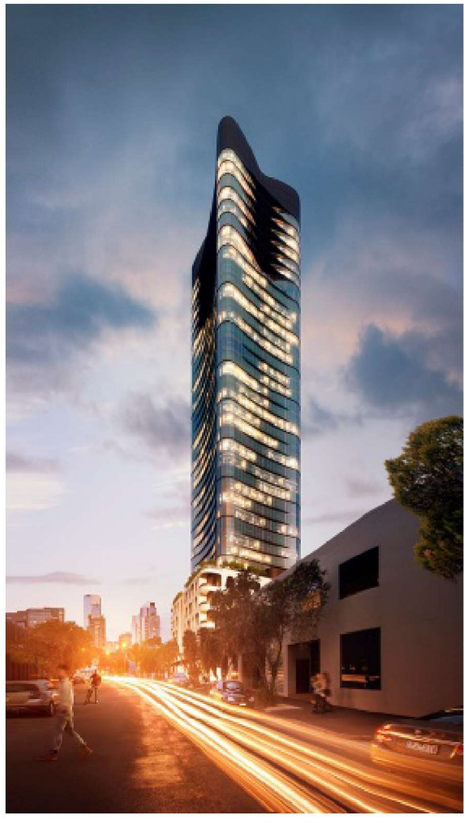


27 Storey High Envelope

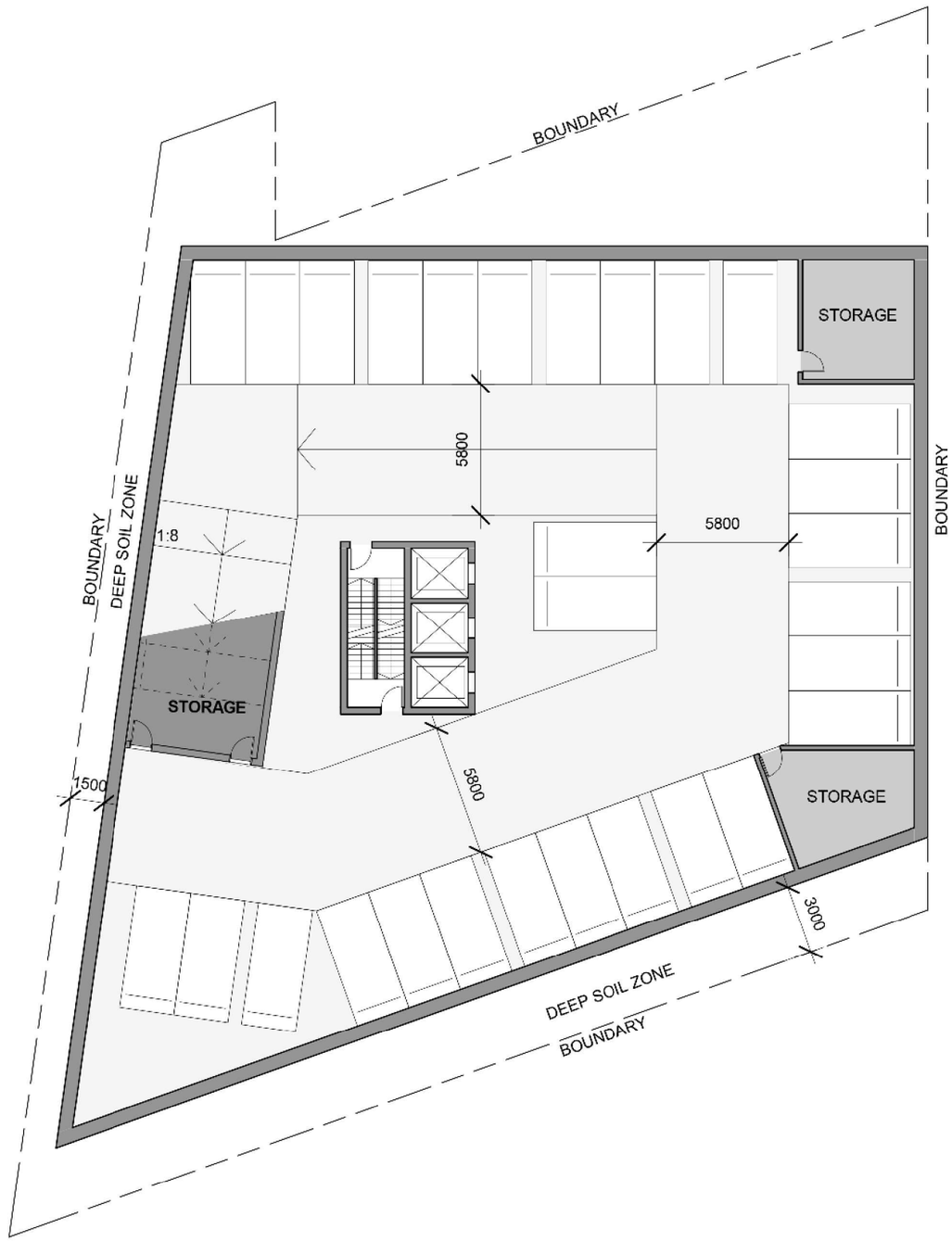
Building Precedent Imagery



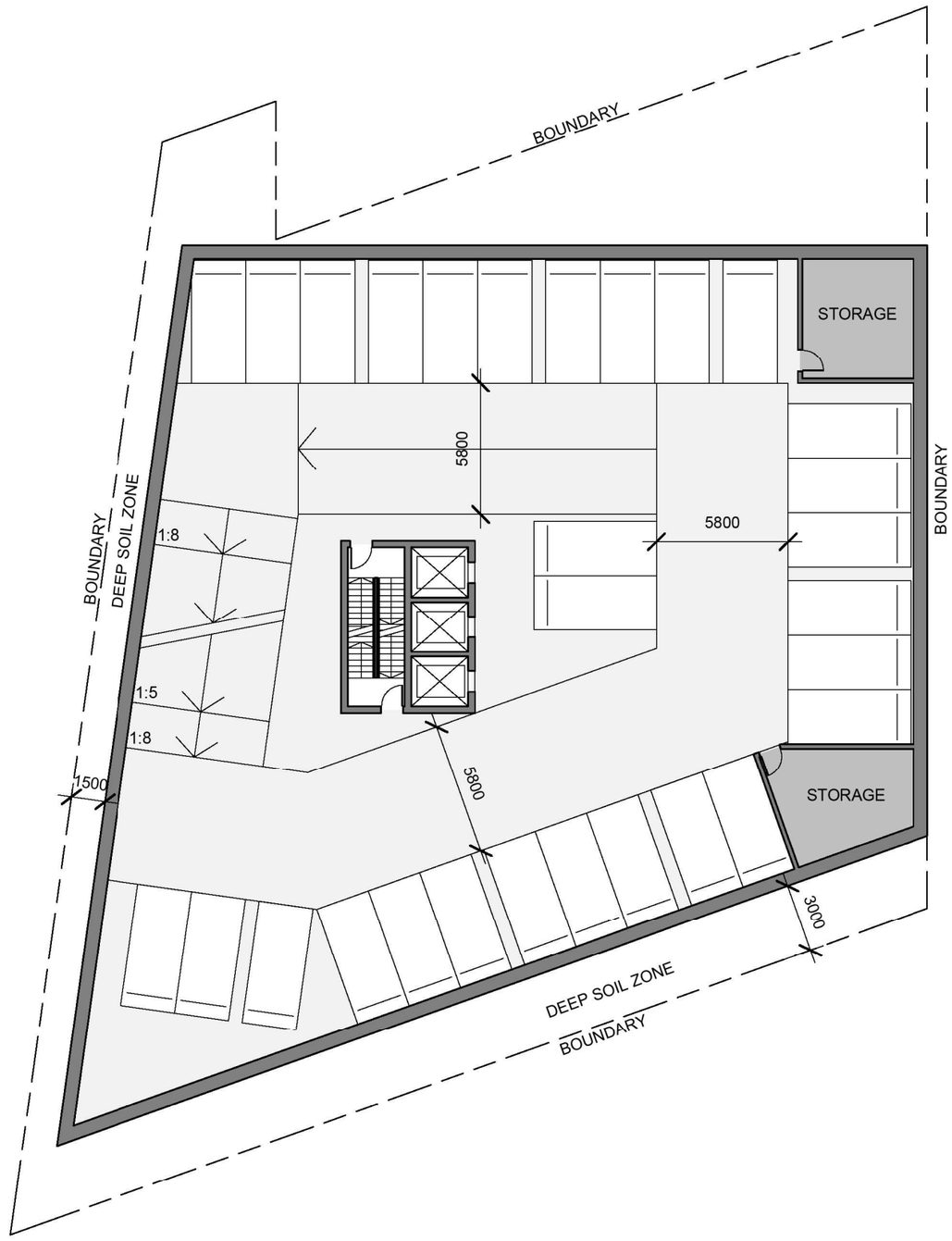




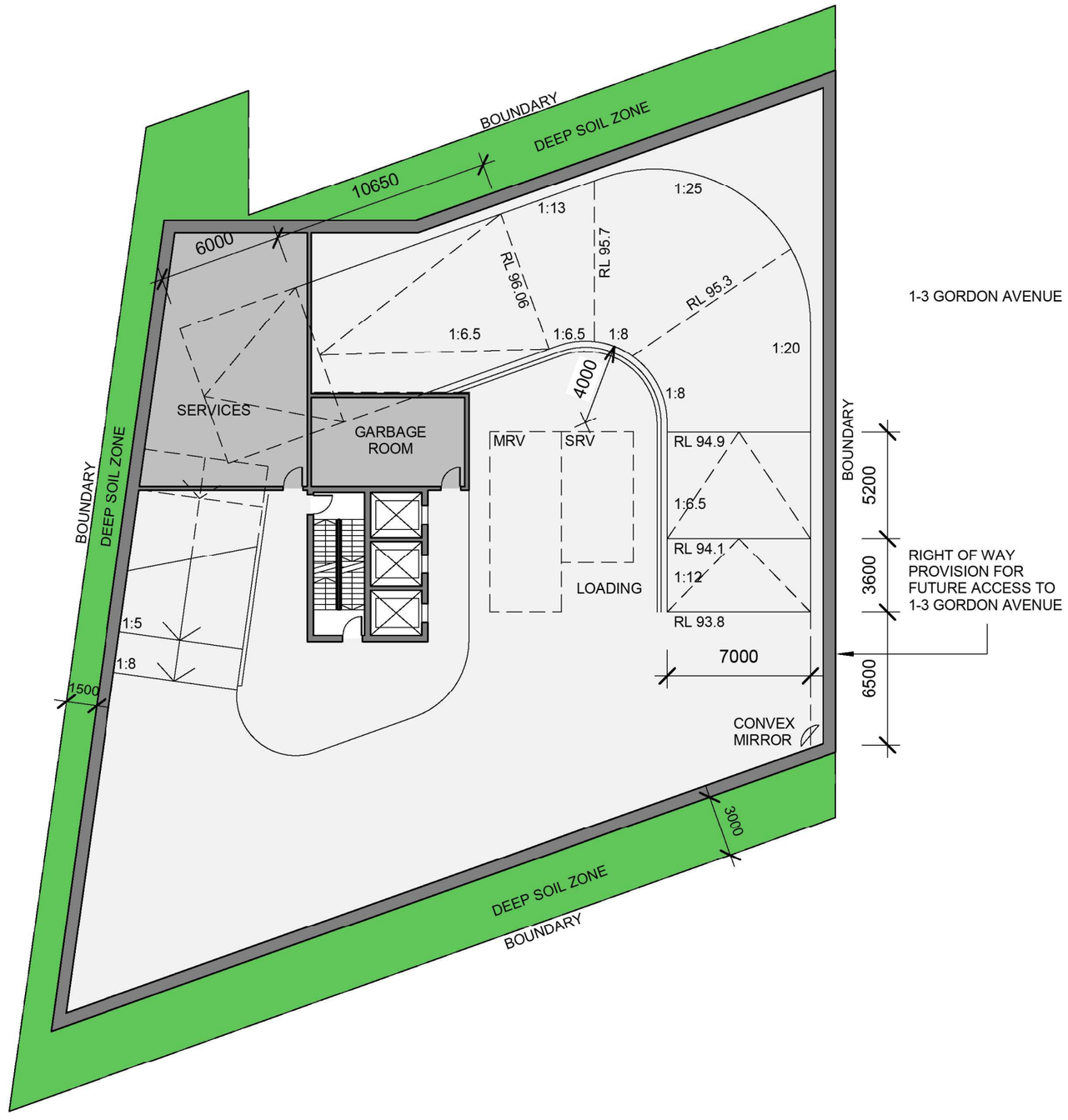
Indicative Floor plans



Bottom Basement Floor plan @ 1:250



Typical Basement Floor plan @ 1:250

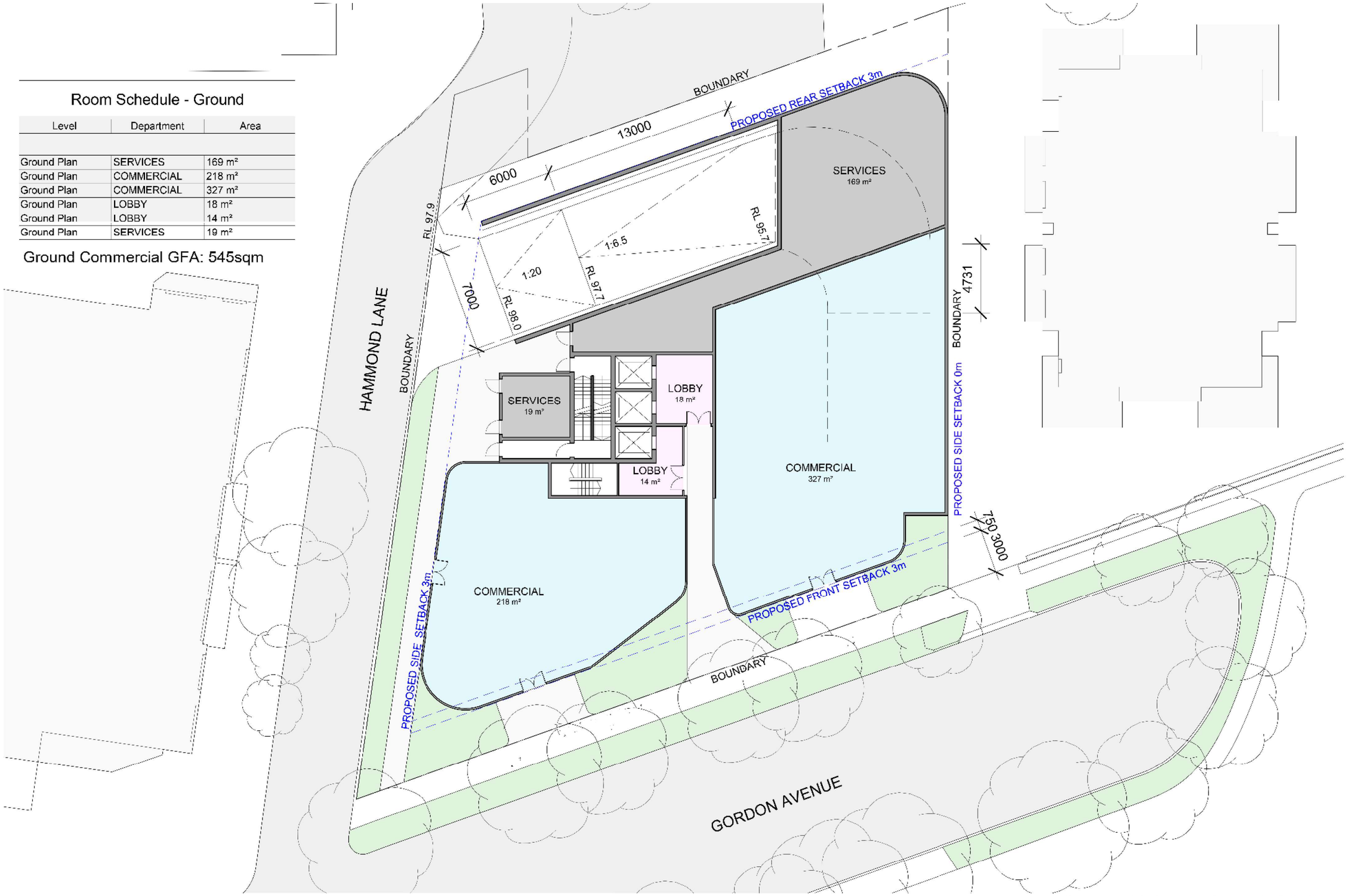


Basement 01 Floor plan @ 1:250

Room Schedule - Ground

Level	Department	Area
Ground Plan	SERVICES	169 m²
Ground Plan	COMMERCIAL	218 m²
Ground Plan	COMMERCIAL	327 m²
Ground Plan	LOBBY	18 m²
Ground Plan	LOBBY	14 m²
Ground Plan	SERVICES	19 m²

Ground Commercial GFA: 545sqm

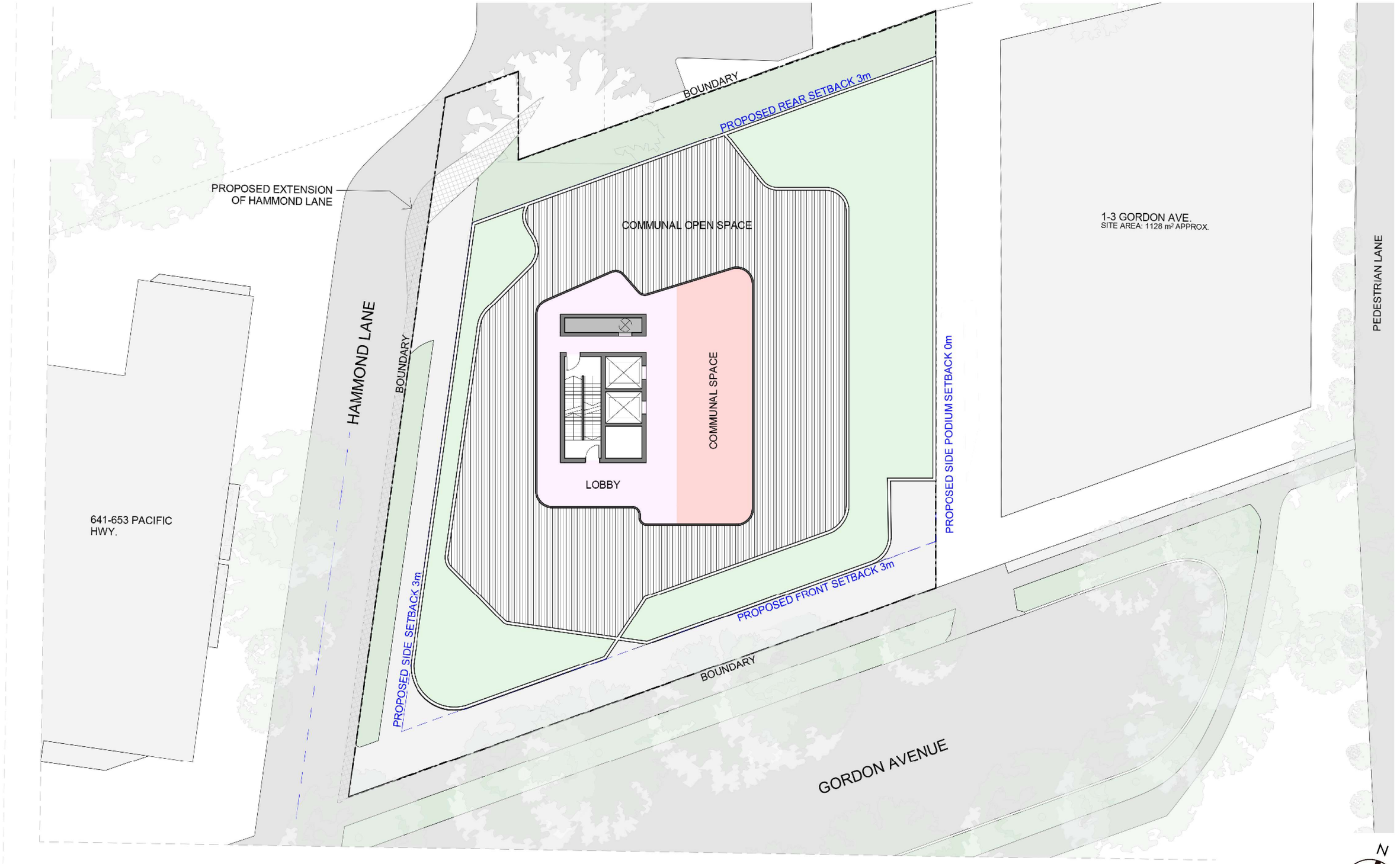


Ground Floor plan @ 1:250

Room Schedule - Level 1		
Level	Department	Area
Level 1 Plan	COMMERCIAL	231 m²
Level 1 Plan	COMMERCIAL	236 m²
Level 1 Plan	COMMERCIAL	479 m²
Level 1 Plan	LOBBY	31 m²
Level 1 Plan	SERVICES	8 m²

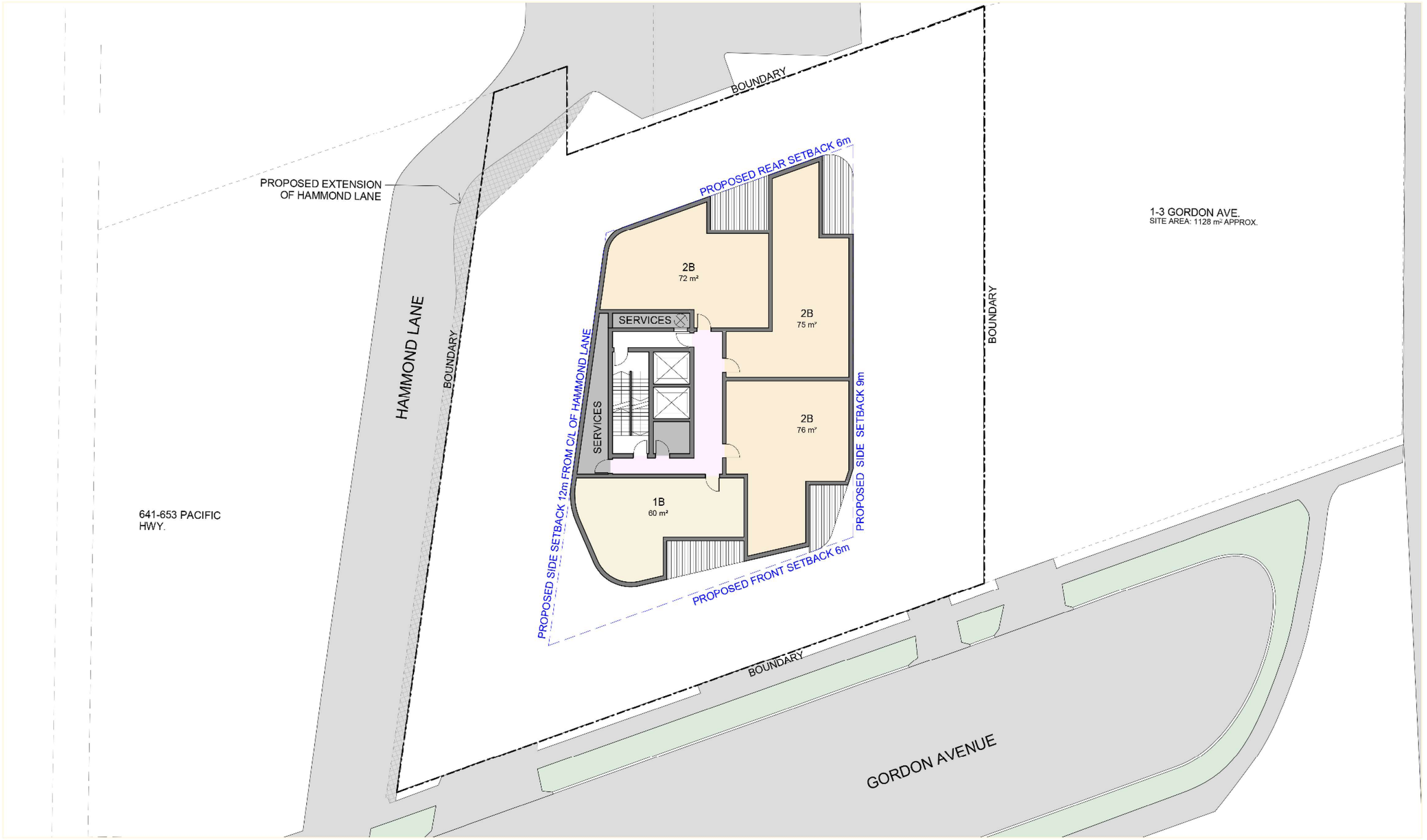
L1 Commercial GFA: 977sqm

Level 01 Floor plan @ 1:250



Level 02 Floor plan @ 1:250

Level 03-13 (Typical Floor plan) @ 1:250

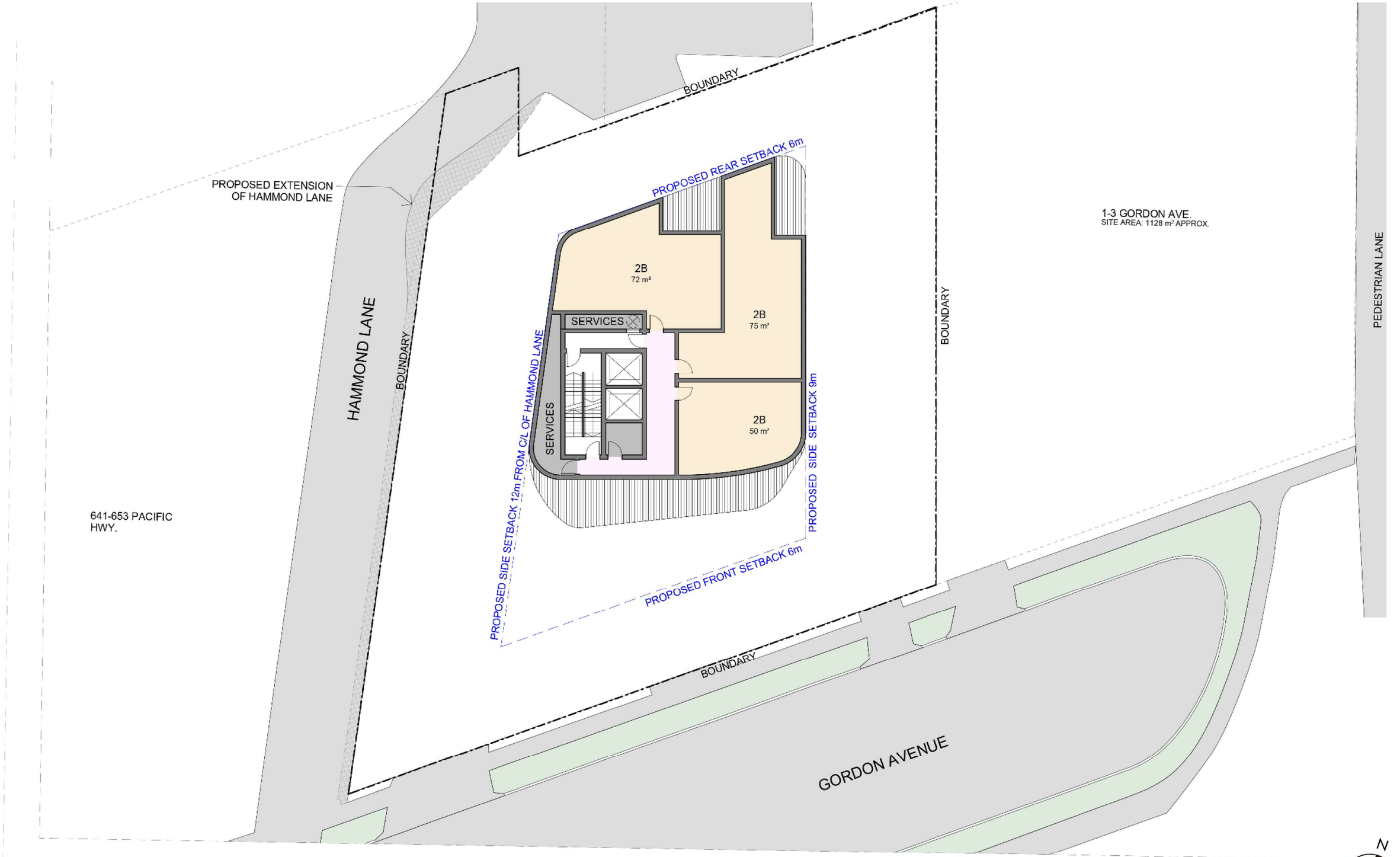


UNIT MIX DEPENDING ON VARIABLE SETBACK

Level 14-21 (Typical Floor plan) @ 1:250

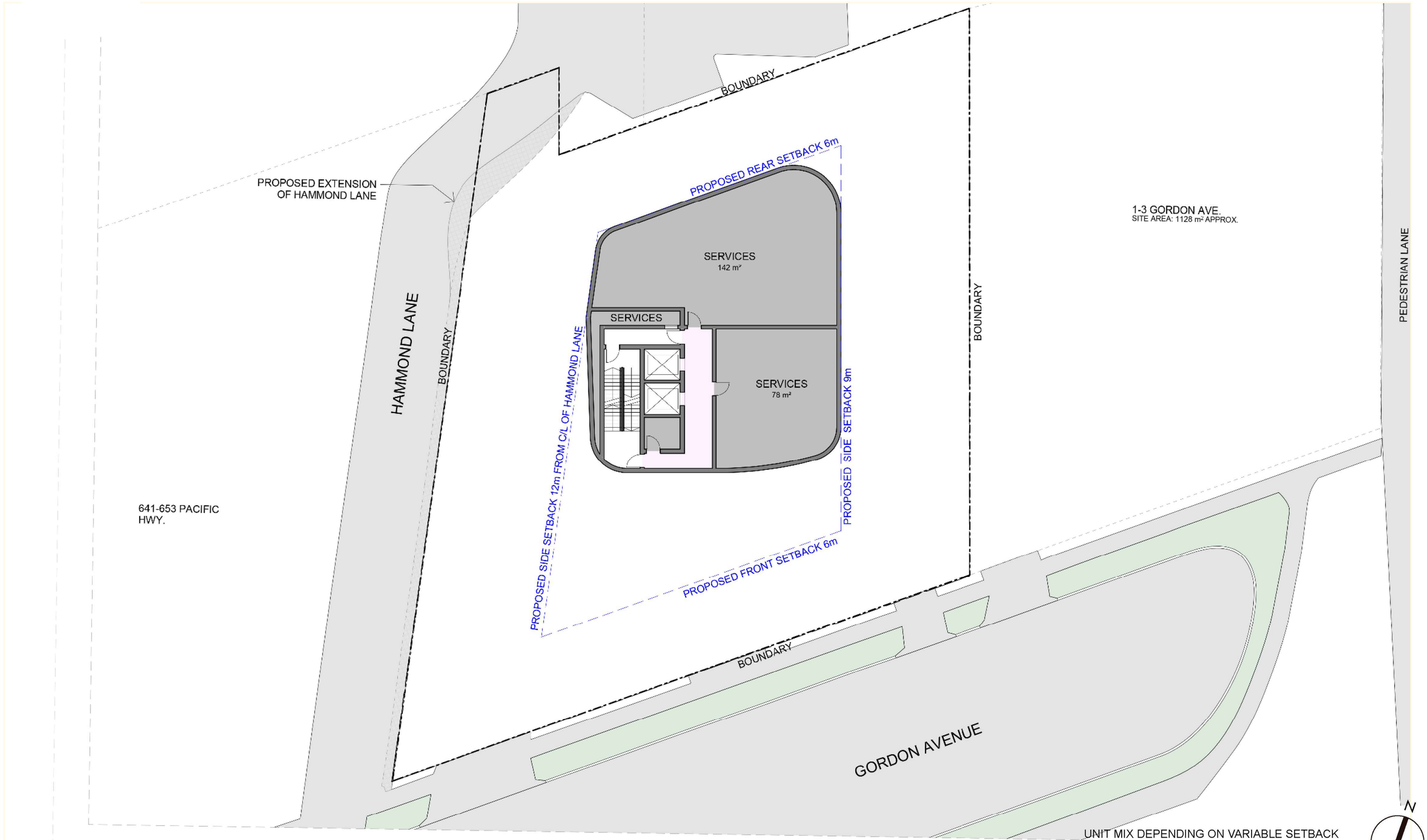
UNIT MIX DEPENDING ON VARIABLE SETBACK

Level 22 - 23 (Typical Floor plan) @ 1:250



UNIT MIX DEPENDING ON VARIABLE SETBACK

Level 24-25 (Typical Floor plan) @ 1:250



UNIT MIX DEPENDING ON VARIABLE SETBACK

Level 27 Floor plan @ 1:250

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Gound Floor plan @ 1:250

Level 02 Floor plan @ 1:250

N

View towards Chatswood CBD

Public Domain

Appendix Documents

SEPP 65 - Apartment Design Guide Schedule of Compliance

Objective	Design Criteria	Complies	Comments
Part 3 - Sitting Development			
3A - Site Analysis			
3A - 1 Site analysis illustrates that design decisions have been based on opportunities and constraints of the site conditions and their relationship to the surrounding context		YES	Refer to Urban Design Report
3B - Orientation			
3B - 1 Building types and layouts respond to the streetscape and site while optimising solar access within the development		YES	The subject site has 2 primary street frontages: one on the Gordon Avenue and the other one on the Hammond Lane (secondary). All pedestrian access to the residential and commercial tenancies is via main entry and lift lobby off Gordon Avenue. All retail tenancies have direct access off Hammond Lane. All vehicle access to the development is located in Hammond Lane behind the retail tenancy so that primary Gordon Avenue street frontage wrapped around the corner on Hammond Lane remains uninterrupted and directly activates the public domain providing a vibrant street edge.. The residential portion of the development will be SEPP65 ADG compliant maximising amenity such as: solar access, natural cross ventilation, increased site setbacks, building separation and unit orientation and layouts.
3B - 2 Overshadowing of neighbouring properties is minimised during mid winter		YES	The proposed built form is a direct response to Chatswood CBD Planning and Urban Strategy and is designed in line with the envisaged future character, scale and planning objectives described in the document. Overshadowing of the neighbouring properties has been tested and analysed taking into account future character and planning controls for the neighbouring sites. Increased site setbacks improve amenity and minimized overshadowing of neighbouring properties. The scheme should be considered in relation to the future context characterized by the Council's CBD strategy allowing for revised zoning and building height provisions.

3C - Public Domain Interface			
3C - 1 Transition between private and public domain is achieved without compromising safety and security		YES	The interface between private and public domain is clearly defined with a provision of dedicated building zones with monitored security gates where required. Provision of public open space is allocated at the ground floor level with direct public domain interface. This is separate to communal open space located at the top of the podium with access control via lift lobby shared by residents. Both areas have been designed applying general principles of passive surveillance and public safety.
3C - 2 Amenity of the public domain is retained and enhanced		YES	The proposed development is enhancing quality of public domain through introduction of fully activated street frontages and retail tenancies with direct public access from the footpath both at Gordon Avenue and Hammond Lane. The proposed scale of the podium street wall and massing is in line with Council's strategy for the future character of the area. It provides street activation and improves passive surveillance of Gordon Avenue (link to the train station and future metro line) and Hammond Lane (pedestrian North-South link with Chatswood CBD).
3D - Communal & Public Open Space			
3D - 1 An adequate area of communal open space is provided to enhance residential amenity and to provide opportunities for landscaping	1. Communal open space has a minimum area equal to 25% of the site. 2.Developments achieve a minimum of 50% direct sunlight to the principal usable part of the communal open space for a minimum of 2 hours between 9 am and 3 pm on 21 June (mid winter)	YES	The communal open space has been created at the podium level to provide a buffer landscaped zone between the retail/commercial podium levels and the residential tower component. Increased site setbacks and floor to floor height improve direct solar access and amenity of that area. Site Area = 1522 sqm (min 25% communal open space required = 380.5 sqm) Podium courtyard = 475 sqm (31.1% of Total Site Area) More than 50% of the principle communal open space receives a minimum of 2 hours direct sun light between 9am and 3m in mid winter.
3D - 2 Communal open space is designed to allow for a range of activities, respond to site conditions and be attractive and inviting		YES	The communal open space at the podium level provides excellent amenity for the residents and high quality landscaping, seating and gathering areas as well as some quiet spaces for meditation.
3D - 3 Communal open space is designed to maximise safety		YES	Communal open space is designed to be a safe zone fully accessible from lift lobbies with increased public surveillance to reinforce the safety factor of the development.
3D - 4 Public open space, where provided, is responsive to the existing pattern and uses of the neighbourhood		YES	Public open space provided at ground floor level within the additional 3m site setback addresses the public domain by activating street frontages and allowing for more opportunities regarding landscaping and podium interface.

<table>
<tr><td colspan="4">3E - Deep Soil Zones</td></tr>
<tr><td>3E -1
Deep soil zones provide areas on the site that allow for and support healthy plant and tree growth. They improve residential amenity and promote management of water and air quality</td><td><table><tr><th>Site area</th><th>Minimum dimensions</th><th>Depe soil zone (% of site area)</th></tr><tr><td>Less than 650m²</td><td>-</td><td rowspan="4">7%</td></tr><tr><td>650m² - 1500m²</td><td>3m</td></tr><tr><td>Greater than 1500m²</td><td>6m</td></tr><tr><td>Greater than 1500m² with significant existing tree cover</td><td>6m</td></tr></table></td><td>YES</td><td>The design objectives for the podium level in the Chatswood CBD Strategy imply zero setback at the perimeter of the site. In order to increase deep soil areas and provide better amenity and landscape zones the proposed scheme allows for an increased podium level site setback of 3m around the site perimeter. This results in better surface water management and a more environmentally friendly proposal.

Total Deep Soil Area: 157sqm (10.3% of Total Site Area)</td></tr>
<tr><td colspan="4">3F - Visual Privacy</td></tr>
<tr><td>3F -1
Adequate building separation distances are shared equitably between neighbouring sites, to achieve reasonable levels of external and internal visual privacy</td><td><table><tr><th>Building height</th><th>Separation distance</th></tr><tr><td>9 storeys and above</td><td>12-24m</td></tr><tr><td>Up to 8 storyes</td><td>9-18m</td></tr><tr><td>Up to 4 storeys</td><td>6-12m</td></tr></table></td><td>YES</td><td>Refer to Urban Design Report for details.
Preferred Built Form Option / Reference Concept Design:

Podium setback - LI(G) – L2
3m side setback from Eastern site boundary
3m rear setback from Northern site boundary
3m side setback from Western site boundary
3m front setback from Southern site boundary

Building setback - L3 – L27
9m side setback from Eastern site boundary
6m rear setback from Northern site boundary
12m side from C/L of Hammond Lane Western setback
4.5m front setback from Southern site boundary</td></tr>
<tr><td>3F -2
Site and building design elements increase privacy without compromising access to light and air and balance outlook and views from habitable rooms and private open space</td><td></td><td>YES</td><td>The proposed built form addresses privacy through generous setbacks to the tower component exceeding minimum ADG compliant requirements.

Communal Open Space at the landscaped podium area creates buffer zone between the residential and retail/commercial use of the building. Additional void space enhances COS direct solar access and significantly improves provided amenity.

The slender footprint of the tower with increased site setbacks results in a smaller building floorplate and more natural cross ventilation opportunities.

Part of the rooftop area could be potentially used by the residents as an addition to the podium Communal Open Space.</td></tr>
</table>

3G - Pedestrian Access & Entries			
3G-1 Building entries and pedestrian access connects to and addresses the public domain 3G-2 Access, entries and pathways are accessible and easy to identify 3G-3 Large sites provide pedestrian links for access to streets and connection to destinations		YES	The proposed design has all main pedestrian access points located off Gordon Avenue and Hammond Lane addressing public domain and creating easily identifiable entries either via a shared lobby (residential and L01 commercial use) or direct from the footpath to the ground floor level retail tenancies. Retail entry point from Hammond Lane should reinforce that route as an additional North-South pedestrian link. All pedestrian routes should help activate the new public domain and are designed for passive surveillance for safety.
3H - Vehicle Access			
3H-1 Vehicle access points are designed and located to achieve safety, minimise conflicts between pedestrians and vehicles and create high quality streetscapes		YES	The proposed car parking design has main access point off Hammond Lane with adjacent loading dock and waste collection areas. This location provides minimal disruption to primary street frontages as well as minimizing conflicts between pedestrians and vehicles and enhancing public domain amenity and quality of the streetscape. Uninterrupted Gordon Avenue street frontage creates retail opportunities and activates the streetscape with provision of passive surveillance.

3J - Bicycle & Car Parking			
3J-1 Car parking is provided based on proximity to public transport in Metropolitan Sydney and centres in regional areas 3J-2 Parking and facilities are provided for other modes of transport 3J-3 Car park design and access is safe and secure 3J-4 Visual and environmental impacts of underground car parking are minimised. 3J-5 Visual and environmental impacts of on-grade car parking are minimised. 3J-6 Visual and environmental impacts of above ground enclosed car parking are minimised	For development in the following locations: - on sites that are within 800 metres of a railway station or light rail stop in the Sydney Metropolitan Area; or - on land zoned, and sites within 400 metres of land zoned, B3 Commercial Core, B4 Mixed Use or equivalent in a nominated regional centre The minimum car parking requirement for residents and visitors is set out in the Guide to Traffic Generating Developments, or the car parking requirement prescribed by the relevant council, whichever is less. The car parking needs for a development must be provided off street.	YES, capable to comply subject to detail design at DA stage	The subject site is proposed to be rezoned under Chatswood CBD Planning and Urban Design Strategy 2016. The minimum car parking requirement in Metro Sub-Regional Centres for residents and visitors is set out in the Guide to Traffic Generating Developments (GTGD) is as follow: 0.6 spaces per 1 bedroom unit 0.9 spaces per 2 bedroom unit 1.4 spaces per 3 bedroom unit 1 space per 5 units for visitor parking Willoughby Development Control Plan Part C.4 Car Parking Requirements as follow, Studio: 0.5 spaces per dwelling Other than studios: 1 space per dwelling Visitors: 1 space per 4 dwellings Shop: 1 space per 25m2 Office/Business Premises located on Major Public Transport Corridors: 1 space per 110m2 There is 5 levels of basement car parking anticipated in the final design, which can accommodate approximately 126 car spaces, subject to further design development at the DA stage.

Part 4 - Designing The Building			
4A - Solar & Daylight Access			
4A-1 To optimise the number of apartments receiving sunlight to habitable rooms, primary windows and private open space	1. Living rooms and private open spaces of at least 70% of apartments in a building receive a minimum of 2 hours direct sunlight between 9 am and 3 pm at mid winter in the Sydney Metropolitan Area and in the Newcastle and Wollongong local government areas. 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.	YES	The siting of the building and the floor plate design have been analysed and assessed in order to maximize direct solar access to habitable rooms and provide an optimised living environment with excellent amenity as well as outstanding view opportunities and natural and cross ventilation qualities. The proposed design achieves more than the required minimum of 70% of the total number of units receiving 2h of direct solar cccess to living rooms and private open space between 9AM and 3PM on 21st June. No more than 15% of units will not receive any direct sun light to living rooms and private open space between 9AM and 3PM on 21st June. **Solar Access** No. of Units: 92 — 89% Complies Total No. of Units: 103 — 100%
4A-2 Daylight access is maximised where sunlight is limited		YES	The proposed façade is to a great extent transparent and constructed of glass optimizing views opportunities and direct solar access where required.
4A-3 Design incorporates shading and glare control, particularly for warmer months		YES	Shading devices will be proposed to control heat gain so that facade design provides a sustainable environment with increased energy efficiency while at the same time allowing for uncompromised views where available.
4B - Natural Ventilation			
4B-1 All habitable rooms are naturally ventilated		YES	The proposed design provides natural ventilation to all habitable rooms through window openings of a minimum size of 5% of the floor area that they serve.
4B-2 The layout and design of single aspect apartments maximises natural ventilation		YES	Most of the proposed units are designed as corner apartments to utilise natural cross ventilation at lower levels. The number of single aspect units with no natural cross ventilation opportunities has been minimised.
4B-3 The number of apartments with natural cross ventilation is maximised to create a comfortable indoor environment for residents	1. At least 60% of apartments are naturally cross ventilated in the first nine storeys of the building. Apartments at ten storeys or greater are deemed to be cross ventilated only if any enclosure of the balconies at these levels allows adequate natural ventilation and cannot be fully enclosed 2. Overall depth of a cross-over or cross through apartment does not exceed 18m, measured glass line to glass line	YES	The proposed floor plate design provides well over 60% of units with natural cross ventilation with a majority of apartments designed as corner units to maximize amenity. **Cross Ventilation** No. of Units: 97 — 94% Complies Total No. of Units: 103 — 100%

<table>
<tr><th colspan="4">4C - Ceiling Height</th></tr>
<tr>
<td>4C-I
Ceiling height achieves sufficient natural ventilation and daylight access
4C-2
Ceiling height increases the sense of space in apartments and provides for
well proportioned rooms
4C-3
Ceiling heights contribute to the flexibility of building use over the life of the building</td>
<td>Measured from finished floor level to finished ceiling level, minimum ceiling heights are:

<table>
<tr><th colspan="2">Minimum ceiling height for apartment and mixed use buildings</th></tr>
<tr><td>Habitable rooms</td><td>2.7m</td></tr>
<tr><td>Non-habitable</td><td>2.4m</td></tr>
<tr><td>For 2 storey apartments</td><td>2.7m for main living area floor, where its area does not exceed 50% of the apartment area</td></tr>
<tr><td>Attic spaces</td><td>1.8m at edge of room with a 30 degree minimum ceiling slope</td></tr>
<tr><td>If located in mixed use areas</td><td>3.3m for ground and first floor to promote future flexibility of use</td></tr>
</table>
</td>
<td>YES</td>
<td>All units will achieve a minimum 2.7m clear floor to ceiling height to habitable rooms and 2.4m height to non-habitable rooms respectively.

Rooms will be well proportioned with adequate natural ventilation and daylight access.</td>
</tr>
</table>

<table>
<tr><th colspan="4">4D - Apartment Size & Layout</th></tr>
<tr>
<td>4D-1
The layout of rooms within an apartment is functional, well organised and provides a high standard of amenity</td>
<td>1. Apartments are required to have the following minimum internal areas:
<table><tr><th>Apartment type</th><th>Minimum internal area</th></tr><tr><td>Studio</td><td>35m²</td></tr><tr><td>1 bedroom</td><td>50m²</td></tr><tr><td>2 bedroom</td><td>70m²</td></tr><tr><td>3 bedroom</td><td>90m²</td></tr></table>The minimum internal areas include only one bathroom. Additional bathrooms increase the minimum internal area by 5m2 each. A fourth bedroom and further additional bedrooms increcse the minimum internal area by 12m2 each
2. Every habitable room must have a window in an external wall with a total minimum glass area of not less than 10% of the floor area of the room. Daylight and air may not be borrowed from other rooms.</td>
<td>YES</td>
<td>The proposed design comprises 103 units with the following unit type distribution:
<table><tr><th>Apartment Type</th><th>Area (m2)</th></tr><tr><td>1 Bedroom</td><td>50-60</td></tr><tr><td>2 Bedroom</td><td>72-76</td></tr><tr><td>3 Bedroom</td><td>90-100</td></tr></table>All habitable rooms will have a window in an external wall with minimum glass area of 10% of the floor area of the room served.</td>
</tr>
<tr>
<td>4D-2
Environmental performance of the apartment is maximised</td>
<td>1. Habitable room depths are limited to a maximum of 2.5 x the ceiling height
2. In open plan layouts (where the living, dining and kitchen are combined) the maximum habitable room depth is 8m</td>
<td>YES</td>
<td>All single aspect units will have a maximum habitable room depth of 8m from a window and an open space plan. Floor to ceiling height will be 2.7m minimum.</td>
</tr>
<tr>
<td>4D-3
Apartment layouts are designed to accommodate a variety of household activities and needs</td>
<td>1. Master bedrooms have a minimum area of 10m2 and other bedrooms 9m2 (excluding wardrobe space)
2. Bedrooms have a minimum dimension of 3m (excluding wardrobe space)
3. Living rooms or combined living/dining rooms have a minimum width of:
- 3.6m for studio and 1 bedroom apartments
- 4m for 2 and 3 bedroom apartments
- The width of cross-over or cross through apartments are at least 4m internally to avoid deep narrow apartment layouts</td>
<td>YES</td>
<td>All units will have efficient layouts with suitable room dimensions and area sizes.

All bedrooms will have a minimum dimension of 3m excluding the wardrobe and master bedrooms will have an area of at least 10m2.

All living and living/dining areas will have a minimum dimension of 3.6m & 4m to 1- bedroom and 2&3-bedroom apartments respectively.</td>
</tr>
</table>

<table>
<tr><td colspan="4">4E - Private Open Space & Balcony</td></tr>
<tr><td>4E-1
Apartments provide appropriately sized private open space and balconies to enhance residential amenity
4E-2
Primary private open space and balconies are appropriately located to enhance liveability for residents
4E-3
Private open space and balcony design is integrated into and contributes to the overall architectural form and detail of the building
4E-4
Private open space and balcony design maximises safety</td><td>1. All apartments are required to have primary balconies as
<table><tr><th>Apartment type</th><th>Minimum area</th><th>Minimum depth</th></tr><tr><td>Studio apartments</td><td>4m²</td><td>-</td></tr><tr><td>1 bedroom apartments</td><td>8m²</td><td>2m</td></tr><tr><td>2 bedroom apartments</td><td>10m²</td><td>2m</td></tr><tr><td>3 bedroom apartments</td><td>12m²</td><td>2.4m</td></tr></table>The minimum balcony depth to be counted as contributing to the balcony area is 1m
2. For apartments at ground level or on a podium or similar structure, a private open space is provided instead of a balcony. It must have a minimum area of 15m2 and a minimum depth of 3m</td><td>YES</td><td>The proposed design allows for balconies to all units with minimum balcony sizes of 8, 10 and 12m2 for 1-bedroom, 2-bedroom and 3 bedroom units respectively.

A majority of balconies will be oriented towards most prominent views with maximised direct sun light access.

Passive surveillance of the immediate vicinity will be accommodated whilst maintaining privacy and unit amenity.

All balconies will be designed in accordance with the principles of safety in design.</td></tr>
<tr><td colspan="4">4F - Common Circulation & Spaces</td></tr>
<tr><td>4F-1
Common circulation spaces achieve good amenity and properly service the number of apartments
4F-2
Common circulation spaces promote safety and provide for social interaction between residents</td><td>The maximum number of apartments off a circulation core on a single level is eight
For buildings of 10 storeys and over, the maximum number of apartments sharing a single lift is 40</td><td>YES</td><td>Common circulation spaces have been designed to provide excellent amenity. A maximum number of units per core will not exceed 5.

Podium level communal open space can be accessed directly from the lift lobby providing social interaction opportunities as well as a zone with adequate passive surveillance.
.</td></tr>
<tr><td colspan="4">4G - Storage</td></tr>
<tr><td>4G-1
Adequate, well designed storage is provided in each apartment
4G-2
Additional storage is conveniently located, accessible and nominated for individual apartments</td><td>In addition to storage in kitchens, bathrooms and bedrooms,
<table><tr><th>Apartment type</th><th>Storage size volume</th></tr><tr><td>Studio apartments</td><td>4m²</td></tr><tr><td>1 bedroom apartments</td><td>6m²</td></tr><tr><td>2 bedroom apartments</td><td>8m²</td></tr><tr><td>3 bedroom apartments</td><td>10m²</td></tr></table>At least 50% of the required storage is to be located within the apartment.</td><td>YES</td><td>All units will be provided with adequate storage space within the unit. Some units will have additional storage space in the basement car park common storage area. Such additional storage would not exceeded 50% of the overall storage space allocated to each of the units respectively.</td></tr>
</table>

Appendix A: Preliminary SEPP65 Compliance Check

4H - Acoustic Privacy			
4H-1 Noise transfer is minimised through the siting of buildings and building layout 4H-2 Noise impacts are mitigated within apartments through layout and acoustic treatments		YES, capable to comply subject to detail design at DA stage	The proposed design will provide adequate acoustic privacy to maximise unit's amenity. The design principle used in floor plate planning was to accommodate bedroom areas adjacent to other bedroom areas, and living rooms adjacent to living rooms wherever feasible to mitigate noise transfer between apartments. Services are to be grouped and acoustically separated from the habitable areas as required. Discontinuous construction to party walls to be provided where required.
4J - Noise & Pollution			
4J-1 In noisy or hostile environments the impacts of external noise and pollution are minimised through the careful siting and layout of buildings 4J-2 Appropriate noise shielding or attenuation techniques for the building design, construction and choice of materials are used to mitigate noise transmission		YES, capable to comply subject to detail design at DA stage	The subject site is located in close proximity to the Pacific Highway, one of Sydney's busiest arterial roads, and a rail corridor. In order to mitigate noise pollution some of the balconies will be designed as winter gardens to reduce noise levels and increase residents amenity. A qualified acoustic Engineer will prepare an acoustic report defining acceptable and code compliant acoustic levels of the facade system so that noise levels can be controlled and will not have a detrimental effect on quality of living for future residents.
4K - Apartment Mix			
4K-1 A range of apartment types and sizes is provided to cater for different household types now and into the future 4K-2 The apartment mix is distributed to suitable locations within the building		YES	There are a total of 103 apartments proposed in the indicative scheme. Proposed unit mix as follows: **Yielding Mix Proposed** 1B — 36 — 35% 2B — 64 — 62% 3B — 3 — 3% TOTAL — 103 — 100%
4L - Ground Floor Apartments			
4L-1 Street frontage activity is maximised where ground floor apartments are located 4L-2 Design of ground floor apartments delivers amenity and safety for residents		N/A	There is no Ground Floor level apartments proposed. All street frontages are designed to be activated and facilitate extensive retail use.

Appendix A: Preliminary SEPP65 Compliance Check

4M - Facades			
4M-1 Building facades provide visual interest along the street while respecting the character of the local area 4M-2 Building functions are expressed by the façade		YES, capable to comply subject to detail design at DA stage	The proposed facade design provides an elegant and fully integrated response to the future context of the Chatswood CBD and its character. The built form is clearly defined by an articulated podium level with extensive landscaping and a fully activated frontage. Fine grain detail at the pedestrian level transitions into a simplified form at upper levels. A buffer landscape zone has been proposed to join the retail/commercial podium levels with the residential tower component above. Differentiation of massing and architectural articulation well integrated with the landscape design will provide a high quality living environment within the architectural form that is suitably unique and contributes to the extended Chatswood CBD skyline..
4N - Roof Design			
4N-1 Roof treatments are integrated into the building design and positively respond to the street 4N-2 Opportunities to use roof space for residential accommodation and open space are maximised 4N-3 Roof design incorporates sustainability features		YES	Differentiation of massing and articulation
4O - Landscape Design			
4O-1 Landscape design is viable and sustainable 4O-2 Landscape design contributes to the streetscape and amenity		YES, capable to comply subject to detail design at DA stage	The landscape design will be sustainable and will significantly enhance public domain quality with predominantly native vegetation and drought tolerant species selection, reducing requirement for irrigation and maintenance. L02 garden will improve the amenity and create points of interest and communal activity in the area.
4P - Planting on Structures			
4P-1 Appropriate soil profiles are provided 4P-2 Plant growth is optimised with appropriate selection and maintenance 4P-3 Planting on structures contributes to the quality and amenity of communal and public open spaces		YES, capable to comply subject to detail design at DA stage	Landscaped areas will be provided at the Ground Floor level, Level 01 & level 02. The design will minimize maintenance with appropriate irrigation and drainage systems. Planting above the ground floor level will be provided on the slab with optimised soil depth and plant selection for the site. A detailed landscape plan is to be provided at the DA stage.

4Q - Universal Design			
4Q-1 Universal design features are included in apartment design to promote flexible housing for all community members 4Q-2 A variety of apartments with adaptable designs are provided 4Q-3 Apartment layouts are flexible and accommodate a range of lifestyle needs		YES, capable to comply subject to detail design at DA stage	The design of the units will incorporate universal design features in accordance with Liveable Housing Guidelines and a minimum 20% of units will achieve a silver level benchmark. Further design details will be provided at the DA stage.
4R - Adaptive Reuse			
4R-1 New additions to existing buildings are contemporary and complementary and enhance an area's identity and sense of place 4R-2 Adapted buildings provide residential amenity while not precluding future adaptive reuse		N/A	The proposed site is envisaged to form part of the extended Chatswood CBD area with much greater densities and building heights compared to current controls hence adaptive reuse would not be feasible. The existing building will be demolished to facilitate further development of the Chatswood CBD.
4S - Mixed Use			
4S-1 Mixed use developments are provided in appropriate locations and provide active street frontages that encourage pedestrian movement 4S-2 Residential levels of the building are integrated within the development, and safety and amenity is maximised for residents		YES	The proposed development is located within the extended Chatswood CBD area which is envisaged to be rezoned into a mixed use area as part of the Council's long term strategy for the redevelopment. There will be a two storey high podium with fully activated main street frontages and retail facilities opening directly onto the footpath. Well integrated with the public domain podium which will have a landscaped zone at its top, facilitating communal open space and creating a unique buffer between the commercial/retail portion of the development and the residential part. At the same time connecting the podium with the tower through a high quality landscaped zone integrating both parts of the building and providing superb amenity to residents and a safe environment. Passive surveillance have been designed to the communal open space as well as the public domain and immediate vicinity of the building

4T - Provision of street address			
4T-1 Awnings are well located and complement and integrate with the building design 4T-2 Signage responds to the context and desired streetscape character		YES, capable to comply subject to detail design at DA stage	A well integrated awning and retail signage will be provided at the ground floor level in proportion with the built form and scale of the future streetscape. All entry points to the building will be clearly visible and well defined within the public domain. Further design details will be provided at the DA stage.
4U - Energy Efficiency			
4U-1 Development incorporates passive environmental design 4U-2 Development incorporates passive solar design to optimise heat storage in winter and reduce heat transfer in summer 4U-3 Adequate natural ventilation minimises the need for mechanical ventilation		YES, capable to comply subject to detail design at DA stage	Passive environmental design principles have been incorporated into the design process such that the building through its orientation and design characteristics will achieve maximized solar access, and natural and cross ventilation. At least 70% of all units will receive a minimum of 2 hours of solar access during winter solstice between 9AM and 3PM and at least 60% of all units will be cross ventilated . A majority of units will achieve natural cross ventilation and desirable solar access. All units will meet BASIX requirements, Further details to be provided at the DA stage.
4V - Water Management & Conservation			
4V-1 Potable water use is minimised 4V-2 Urban stormwater is treated on site before being discharged to receiving waters 4V-3 Flood management systems are integrated into site design		YES, capable to comply subject to detail design at DA stage	Detailed design of flood water, storm water and potable water systems will be provided at the DA stage by a suitably qualified professional.
4W - Waste Management			
4W-1 Waste storage facilities are designed to minimise impacts on the streetscape, building entry and amenity of residents 4W-2 Domestic waste is minimised by providing safe and convenient source separation and recycling		YES, capable to comply subject to detail design at DA stage	A garbage chute will be located at each floor connecting directly to the basement communal waste and recycling room. There will be a dedicated waste collection area and a loading dock with direct access from Hammond Lane.

4X - Building Maintenance			
4X-1 Building design detail provides protection from weathering 4X-2 Systems and access enable ease of maintenance 4X-3 Material selection reduces ongoing maintenance costs		YES, capable to comply subject to detail design at DA stage	All building materials are to be robust and provide good weathering, low maintenance and longevity. Detailed selection and specification will be provided at the DA stage. Building entries will be protected with suitably designed canopies. All plant rooms and services are located in the areas with easy access from corridors, basement or roof circulation space.

Appendix B: Design Excellence Strategy

Willoughby City Council resolved 26 June 2017 to endorse the following recommendations of the Chatswood CBD Draft Planning and Urban Design Strategy:

- Design excellence is to be required for all developments exceeding the base FSR based on the following processes:
  - Competitive designs for developments over 35m high.
  - A Design Review Panel for developments up to 35m high.

- To achieve design excellence, developments must achieve higher building sustainability standards.

- The Architects for design excellence schemes should be maintained through the DA process and can only be substituted with agreement of Council.

We propose a Design Review Process with one selected award winning Architect to present multiple design options for consideration by a Design Review Panel with a focus on sustainability outcomes.
Our proposed design excellence strategy is summarised as follows:

1. Establish a Design Review Panel (DRP)

A design review panel shall be established with members to include:
- Willoughby City Council representative with urban design qualifications;
- Client representative with demonstrated design experience
- Peer review Architect / Urban Designer

2. Preparation of client brief
- Submission of brief for approval by council.
- Time frame: 2 weeks

3. Preparation of Design Concept Options

The client's nominated Architects shall prepare:
- An extensive urban design analysis and visual assessment of the site and its surrounding context building on the work in this report.
- Three different concept design options for review and feedback from the DRP
- Time frame: 6 - 8 weeks

4. Design Review - Session 1
- Presentation of material prepared in item 3 to design review panel.
- Feedback from DRP provided and a preferred concept design selected for development into a DA submission.
- Referrals to key stakeholders from council shall be completed during assessment period (traffic, waste, landscape, urban design etc.)
- Time frame: DRP to respond within 14 days after session 1

5. Development of Preferred Design Concept

The client's nominated Architects shall prepare:
- Development Application documentation up to pre-DA level of detail.
- Preliminary plans, elevations, sections, facade details and 3D models.
- Preliminary materials and finishes selections
- Preliminary Design Excellence & Sustainability Report
- Consultation with relevant experts and engineers (Traffic, Wind, Flood etc.)

6. Design Review - Session 2 (Pre-DA meeting)
- Presentation of pre-DA material prepared in item 5 to design review panel.
- Feedback from DRP provided to inform DA submission
- Referrals to key stakeholders from council shall be completed during assessment period (traffic, waste, landscape, urban design etc.)
- Time frame: DRP to respond within 14 days after session 2

7. Lodge DA with Council

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