Supporting Documentation

Hornsby RSL Planning Proposal and Draft DCP PP/1/2016

February 2018

HORNSBY SHIRE COUNCIL

Hornsby RSL Club
Public Exhibition

3. Supporting Documentation

The enclosed documents comprise:

- *Hornsby RSL Club - Hotel Feasibility Study – Preliminary Feasibility Study* Prepared by ALTIS Architecture Pty Ltd, REV A dated 5 May 2016
- *Hornsby RSL Club Planning Proposal - Design Statement* Prepared by ALTIS Architecture Pty Ltd REV 2 May 2016
- *Hornsby RSL Masterplan Traffic Impact Assessment for Altis Architecture* Prepared by Bitzios Consulting 14 October 2016
- *Hornsby RSL Planning Proposal – Hornsby RSL Master Plan* Prepared by Altis Architecture, 26 September 2016
- *Urban Design Assessment- Amended additional commentary for Planning Proposal for Hornsby RSL Club sites* Prepared by GMU (GM Urban Design and Architecture Pty Ltd) 20 December 2016

These documents are the technical studies and design concepts referred to in *Group Manager's Report PL7/17 Planning Proposal – Hornsby RSL Club*, ITEM 7 of Council's meeting held 8 February 2017, which were subsequently included with the Planning Proposal forwarded to the *Department of Environment and Planning* with a request for a Gateway Determination pursuant to Council's resolution of 8 February 2017.

NOTE: These documents are provided as background and supporting information only for an understanding of the development concepts proposed as background to the changes proposed to Council's planning controls. The key documents on exhibition are the Planning Proposal and the Draft amendments to Hornsby DCP 2013. Where there is any inconsistency between the above technical studies and concept plan, and the key Planning Proposal and Draft DCP documents, the information provided in the Planning Proposal and Draft DCP documents prevail.

The development concept is indicative only. While a variation to planning controls may be pursued to secure a particular development outcome for the sites, should the changes to planning controls proceed, any future development application would not be limited to the initial design concept. The land use and built form outcomes will be the subject of a separate assessment against the relevant planning controls via the Development Application process.

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Hornsby RSL Club

Hotel Feasibility Study – Preliminary Feasibility Study

REVA | 5 May 2016

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Contents

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Introduction

The following report is to provide a statistical, research and evidence based framework to support the viability of the proposed hotel development by the Hornsby RSL Club as an addition to the existing Hornsby RSL club complex.
According to the position paper, *Creating A Long Term Future For the Sydney Hotel Industry* by Tourism Accommodation Australia (TAA - NSW, 2012), the Sydney hotel market is the largest in the country and has performed well in recent years, occupancy rates in the Sydney hotel market have been particularly high (above 80%), which represent the highest occupancy rates achieved in the market for more than two decades.

Despite a strong performance, there has been very limited hotel room supply growth in Sydney as the development of new, stand-alone, greenfield hotel properties in Sydney is difficult and there are numerous barriers to development of hotels in Sydney which effect the viability of such projects. The more significant barriers include:

- **Increasingly High Land Costs**, given the characteristics required for a successful hotel site and the ever present competition with other land use types which exacerbates the situation. From the end product point of view, the development and capital cost presents a compelling factor driving renewed interest in the 3-star space is the substantially lower development and ongoing maintenance costs. The land cost component is typically much cheaper than 4 and 5-star locations, due to the ability to operate 3-star properties in secondary, suburban/metropolitan locations.

  However in this instance, the land has the attributes of a 4 or 5-star site as it is situated in a prominent and well serviced location within the Hornsby Town Centre catchment. Furthermore, the land is owned and supplied by the club and the associated capital investment cost will only be partially factored into the overall development cost.

- **Access to Financing**, it is often more difficult to secure financing for hotel developments compared with other property development projects (such as residential or office). Unlike residential, financing is not possible through pre-sales or lease pre-commitments as is the case for commercial/retail projects. For the proposed Hotel at the Hornsby RSL Club complex, the club will be financing the project, through a staged development process on other adjoining sites, owned by the club, avoiding this added layer of complexity and typical barrier to the successful delivery of the project. Refer to the planning proposal document for the proposed developments on the clubs sites.

- **High and Increasing Construction Costs**, which is the result of strong demand for construction materials and skilled construction labourers across Sydney in general. Furthermore, Hotels (as Class 3 buildings) generally cost more to build (on a sq.m basis) as they require additional amenity and safety features than other competing land uses such as residential (being Class 2, buildings). The cost of construction is substantially lower, with smaller room sizes (typically 20-24 sq.m, compared to 30 sq.m plus in 4 & 5-star), less back of house area, less food and beverage and conferencing space and substantially less room fitout costs.

The existing club facilities have significant synergies with that of a hotel and it is crucial to identify and acknowledge these synergies as they will contribute to the support of the future hotel. The existing facilities and infrastructures (e.g. parking, administration, operational and servicing, food and beverage premises) have the capacity to accommodate and support the future hotel and the cost associated will be proportionally allocated to the club, the current venues and the proposed new hotel.

The pre-existing back of house area, food and beverage (F&B) offerings and conferencing space within the club complex provides the proposed

future hotel with the ability to be of a higher standards with greater star rating without the need for a significant upfront expenditures.

The document is structured in two parts. Part one focuses on the feasibility analysis for the proposed hotel addition and provides statistical data in support of the viability of the projects and part two is to outline the hotel business plan which supplements the feasibility with a road map in combining strategy, operations and financial forecasts for the Client/Owners to support the viability of the project.

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Feasibility Framework

The study is intended to ascertain the viability of the proposed hotel addition to the Hornsby RSL Club complex. The methodology for this feasibility study is based on the comparison of statistical data available for this Sub-Region, North Sydney, and on similar offering in the respective catchment.

A case study giving supporting data from similar successful precedents (i.e. precedents of hotel additions to existing club complex) will also demonstrate how the proposed model can stack up, operate and perform successfully.

1.1 Supply/Demand Dynamics

The North Sydney Sub-Region comprises the local government areas of Lane Cove, Manly, North Sydney, Ryde, Hornsby and Willoughby.

Statistics pertaining to the supply, demand and performance of North Sydney's accommodation market have been sourced from Report by Jones Lang LaSalle (JLL), Visitor Accommodation Supply Study for NSW Trade and Investment November 2014. (See appendix A for full detail report) underpinned by the *Survey of Tourist Accommodation, The National and International visitor surveys* and *STR Global.*

In brief, analysis of the *purpose of visit* highlights that growth is being underpinned by the domestic business and leisure segments with growth in visitor nights in Hotels, Motels, Guesthouses and Serviced Apartments (HMGSA) averaging 8.1% and 4.9% per annum respectively over the eight year period.

The leisure segment dominates overall accounting for 43.0% of visitor nights in 2013 which is above the eight-year average of 41.5%.[1]

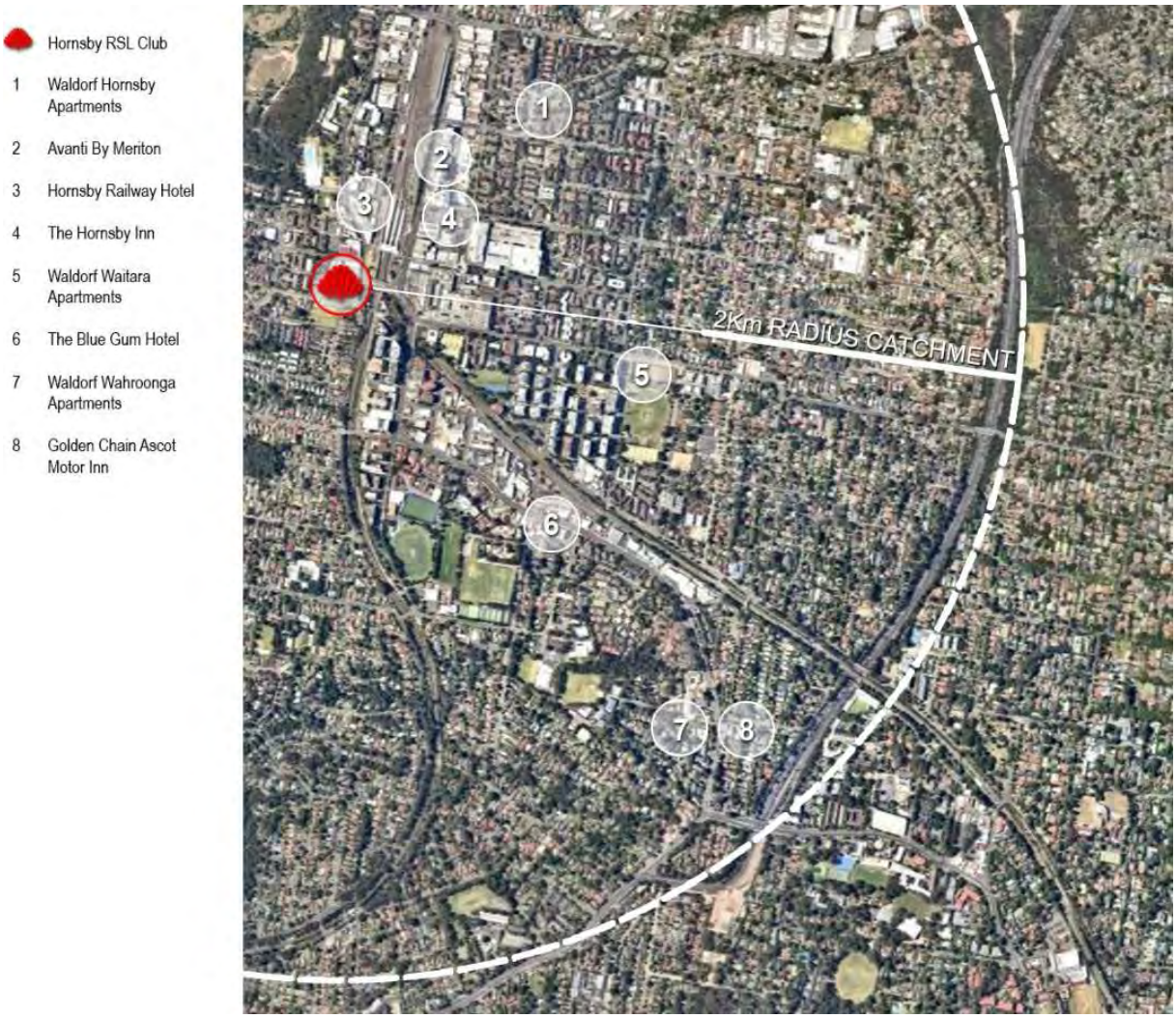
Hotels are the most common accommodation type in North Sydney (2,265 rooms or 53.3% of total room supply) with a fairly diverse spread across all grades. However for Hornsby, serviced accommodation provides for a significant portion of the local market room inventory.

[1] Page 71, JLL, Visitor Accommodation Supply Study for NSW Trade and Investment November, 2014

1.2 COMPARING COMPETITIVENESS

The immediate catchment area is illustrated in the diagram below. For the purpose of a comparative competitiveness, the review should quantify existing hotels, accommodation facilities, quality segments, rooms and total supply within the catchment and compare available criteria's such as star rating, capacity, rates, services, venues etc. across number of quantifiable attributes for accuracy.

This study relies on the available data for the Sub-Region as detailed local statistical data is not available for the identified accommodation options within the immediate catchment. However, a cursory review of the accommodation has provided the comparative information as noted in the Accommodation Comparison Table 01 on the following page.



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ACCOMMODATION COMPARISON TABLE 01

		★ RATING	CAPACITY	RATES ($) PER NIGHT	SERVICES / VENUES
	HORNSBY RSL CLUB HOTEL	★★★★ INTENDED	114 INTENDED	200	F&B, CONFERENCING, FUNCTION SPACES, PARKING,
1	WALDORF HORNSBY APARTMENTS	★★ FROM VISITOR REVIEW	VARIED	185-215 ESTIMATED	ON-SITE CARETAKER, INTERNET, OFF SITE PARKING
2	AVANTI BY MERRITON	NO INFORMATION AVAILABLE & AVAILABILITY FOR SERVICED APARTMENTS IS TO BE CONFIRMED			
3	HORNSBY RAILWAY HOTEL	PUB STYLE BUDGET	UNKNOWN	170 PER WEEK	FUNCTION SPACE
4	THE HORNSBY INN	★★★ FROM VISITOR REVIEW	10 ROOMS	109-145	PARKING
5	WALDORF WAITARA APARTMENTS	★★★★	18 APARTMENTS	185-220 MIN. STAY REQ.	OUTDOOR POOL
6	THE BLUE GUM HOTEL	NOT RATED	11 ROOMS	120-220	FUNCTION (UP TO 120), F&B
7	WALDORF WAHROONGA APARTMENTS	★★★	13 APARTMENTS	165	PARKING
8	GOLDEN CHAIN ASCOT MOTOR INN	★★★ FROM VISITOR REVIEW	37 MOTEL ROOMS	110-220	CONFERENCE IN THE 100 SEAT RESTAURANT, OUTDOOR POOL, INTERNET, PARKING (INCLUDING BOATS AND TRAILERS)
	ibis Hotel Thornleigh	★★★★	105	125-165	RESTAURANT, BAR, PARKING, LAUNDRY AND DRY CLEANING, 24HR FRONT DESK, WI-FI BAGGAGE SERVICE, BUSINESS CENTRE, FACILITIES FOR DISABLED GUESTS.

The general and cursory review of the available accommodation reveals that:

- There are very limited availability in the Upscale Segment (4-star and above) in the local market;
- Accommodation market and the available capacity is dominated by serviced accommodation options where guest services and facilities are limited or not offered;

- Accommodation options take little advantage of synergies with complimentary uses such conferencing and function venues;
- There are limited availability of hotel rooms within the Hornsby's core centre.

These early indicators suggest that the market has the capacity, within the up-scale segment, for a hotel type offering within the close proximity of the civic and transport core of Hornsby.

1.3 Occupancy & Average Rates

The information provided here have been extrapolated from the available data for the North Sydney Sub-Region and based on the data from the Australian Bureau of Statistics (ABS) of 2013.

According to ABS, there were 46 establishments with 3,616 rooms at the end of June 2013 which represents 26.9% of Sydney Metropolitan's total accommodation supply. Over the ten years to 2012, North Sydney's accommodation market has recorded slight Revenue per Available Room (RevPAR) increasing on average by 2.5% per annum which represents a considerably lower rate than that which has been achieved across the broader metropolitan area. Growth has been underpinned by gains in both occupancy and Average Daily Rate (ADR)[2].

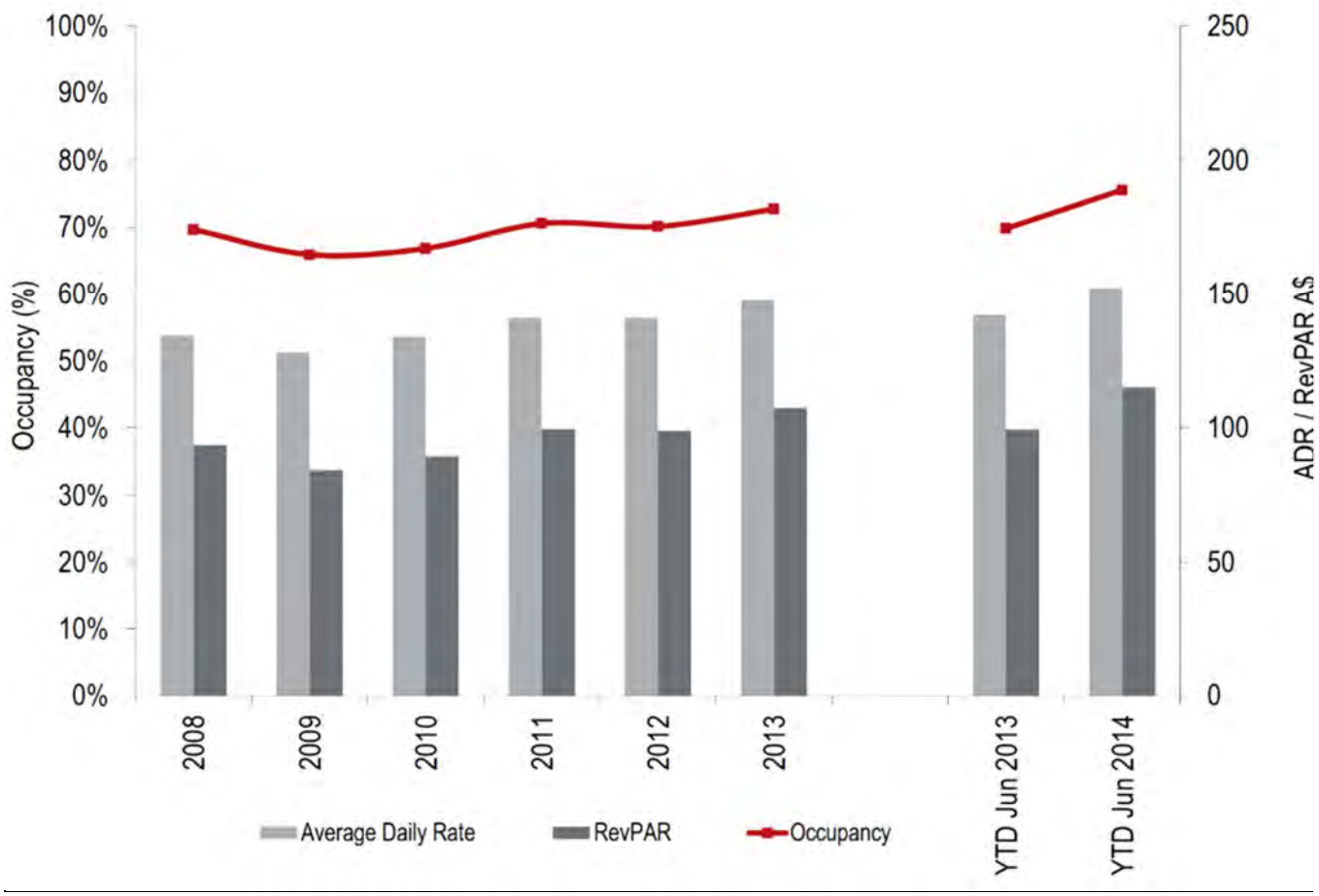
Over the five years to 2013, North Sydney has recorded RevPAR growth increasing on average by 2.8% per annum and with only two years of decline in 2009 and 2012. RevPAR was at the highest level ever recorded in 2013 at $131. Growth has moderated over the first six months of 2014, up 2.8% year-on-year.

Occupancy levels have recorded growth over the five year period, increasing at an average rate of 1.5% per annum. Occupancy levels were at their highest level ever achieved in 2013 at 76.8% and have recorded a slight uptick during the first six months of 2014 to average 75.2% (+0.9%). ADR growth over the five year period has been modest, increasing on average by 1.3% per annum. Room rates were also at the highest level ever recorded in 2013 at $171. Growth has

[2] Australian Bureau of Statistics 2013

continued during the first six months of 2013, increasing 1.8% year-on-year to $172[3]. Available data on performance to June 2014 has been illustrated in Table-02 on the following page.

TABLE 02
NORTH SYDNEY | RECENT PERFORMANCE 2008 TO YTD JUNE 2014 [4]



[3] NSW Accommodation Supply Study – Part One November 2014

[4] Sourced from JLL, Visitor Accommodation Supply Study for NSW Trade and Investment

1.4 HOTEL REVENUE PROJECTIONS

The additional revenue the club will generate by building a hotel will be both direct and indirect.

The direct revenue will be generated from the total amount of revenue generated from renting out hotel rooms in a single year. This is explained further below under:

- Total Hotel Nights.

The indirect revenue will be generated from additional profits in existing club venues. These can be broken up as follows:

- Increased Conferencing Profits
- Increased Food and Beverage Profits

Direct Revenue

Total Hotel Nights

The total hotel nights is based on the proposed hotel rooms multiplied by the number of nights the hotel will be operational per year.

Hotel Room 114 x Hotel Nights 365 = Total Hotel Room Nights 41,610

Occupancy Rate

We are basing the occupancy rate on the existing occupancy rate of the North Sydney region which is 75% as outlined in above. To allow for some sensitivity in the market we are also going to apply a rate of 70% and 80% to allow for various scenarios

Average Daily Rate.

Based on the current market an average daily rate of $180 per room will be used.

Hotel Revenue

The hotel revenue is based on the total number of hotel nights multiplies by the occupancy rate, multiplied by the average daily rate.

The following is an example of the hotel revenue based on an occupancy rate of 75%.

Hotel Room Nights 41,610 x Occupancy rate 0.75 x Average Daily Rate $180 = Hotel Revenue $5,617,350.00 per annum.

For the three scenarios mentioned above, the hotel will generate revenue as per the table below.

	80.00% occupancy	75.00% occupancy	70.00% occupancy
Hotel revenue (average of $180 per room)	**$5,991,840**	**$5,617,350**	**$5,242,860**

Indirect Revenue

Increased Conferencing Profits

Hornsby RSL currently has a showroom and three recently renovated function rooms. The rooms have various capacities as per the table below.

Room/ Configuration	Theatre	Classroom	Banquet	Cocktail	Days Booked	Occupancy
Showroom	1000	250	640	800	223/365	61.10%
Acacia Room	70	30	70	80	214/365	58.63%
Waratah Room	50	20	30	60	190/365	52.05%
Boronia Room	70	30	70	80	229/365	62.74%

The showroom and functions currently run at an occupancy rate of 58.63%. Based on past enquiries, this could be increased if the club had a hotel as some larger conferences have decided to use other venues in the past due to the lack of accommodation. The conferencing facility currently runs at a profit of $343,038.00. It is estimated that functions and conferencing would increase by 20% based on a similar 20% increase in functions bookings experienced by Rooty Hill RSL when they built their hotel. The increase is also based on the number of inquiries the club have had to hold functions/ conferences at the club and have also requested accommodation. The following is a sample of conference type functions the club had (or have had enquiries about) that have requested accommodation.

- Retirement Village Expo run over 2 days the week before Easter, exhibitors from all over the country, some of them had to stay as far away as Castle Hill.

- RSL Association Conference, want us to complete a tender for their conference over 3 days with 500+ delegates from all over the country, but we offer no accommodation, so that will be a big problem.
- Department of Education
- Department of Defence – Investment
- Clubs International Women's Day, state wide event
- Bruttour International, 3 day conference in May
- Heia NSW division Professional Teachers Council conference
- Electrical Trade Union
- Wrigleys
- Family & Community Services
- SAN Hospital
- Sydney Church of Christ (1,000 delegates from all over the world

An increase of 20% would result in a direct additional profit of **$68,607.60** based on the inclusion of a hotel.

Increased Food and Beverage Profits

The club currently has a number of food and beverage outlets including:

- Level 1 lounge
- The Courtyard
- Palms Café
- Frank Gill Lounge
- Sports Bar

As well as the above mentioned venues, the club also has development application for a new restaurant on level 2 which will be completed by the time the hotel would be constructed.

We are basing the increase in food and beverage sales on 50% of hotel guests having breakfast at the club and 30% of guests having an evening meal. The following table shows the number of meals associated with the hotel for the various occupancy rates. We have assumed there are 2 people per room.

	80% Occupancy	75% Occupancy	70% Occupancy
Hotel Room Nights	33,288	31,207	29,127
Guests	66,576	62,414	58,254
Breakfast Meals	33,288	31,207	29,127
Breakfast selling price	$16	$16	$16
Gross Profit Margin*	$9.60	$9.60	$9.60
Total breakfast profit	$319,564.80	$299,587.20	$279,616.20
Evening Meals	19,973	18,724	17,476
Evening meal selling price	$32	$32	$32
Gross Profit Margin*	$19.20	$19.20	$19.20
Total evening meal profit	$383,481.60	$359,500.80	$335,539.20
Total additional Food & Beverage profit	**$703,046.40**	**$659,088.00**	**$615,155.40**

*The gross profit margin is based on Hornsby RSL's current profit per meal

Total indirect profit

	80% Occupancy	75% Occupancy	70% Occupancy
Conferencing	**$68,607.60**	**$68,607.60**	**$68,607.60**
Food and Beverage	**$703,046.40**	**$659,088.00**	**$615,155.40**
Total	**$771,654.00**	**$727,695.60**	**$683,763.00**

1.5 HOTEL EXPENSE PROJECTIONS

The hotel expenses can be broken down into the following categories.

- General admin including staff costs
- Electricity, water, maintenance and miscellaneous utilities
- Franchise/management fees.
- Sales and Marketing
- Construction Cost and Depreciation

General Admin including staff costs

This will include staff costs excluding hotel manager which is covered as part of the franchise fees outlined below.

	80% Occupancy	75% Occupancy	70% Occupancy
Wages (Reception)	$544,000.00	$544,000.00	$544,000.00
Wages (Cleaning/ Room Service)	$497,687.00	$497,687.00	$497,687.00
Superannuation	$108,755.00	$108,755.00	$108,755.00
Insurance	$60,000.00	$60,000.00	$60,000.00
Workers Comp	$90,000.00	$90,000.00	$90,000.00
Total	**$1,300,442.00**	**$1,300,442.00**	**$1,300,442.00**

Utilities

The following table has been compiled based on the current utility rates for the club.

	80% Occupancy	75% Occupancy	70% Occupancy
Electricity	$230,000.00	$230,000.00	$230,000.00
Linen/Replacements ($7 per room x occupancy rate)	$230,016.00	$218,453.00	$203,889.00
Repairs & Maintenance General	$130,000.00	$130,000.00	$130,000.00

Repairs & Maintenance Air Conditioning	$45,000.00	$45,000.00	$45,000.00
Repairs & Maintenance Electrical	$35,000.00	$35,000.00	$35,000.00
Depreciation	$1,000,000.00	$1,000,000.00	$1,000,000.00
Total	**$1,670,016.00**	**$1,658,453.00**	**$1,643,889.00**

Franchise/Management Fees

The Franchise/Management Fees differ based on the model chosen by the club. For the purposes of the feasibility study a franchise model will be used.

Based on a Franchise Agreement with a Hotel Operator the following fees would be payable.

Fees Type	80% Occupancy	75% Occupancy	70% Occupancy
Base Management Fee (3.5% of room revenue)	$209,714.00	$196,607.00	$183,500.00
Secondment of Manager. (0.25% of room revenue plus employment costs of $120,000.00)	$134,980.00	$134,043.00	$133,107.00
Reservation Fees. Average of 6% of room revenue	$359,510.00	$337,041.00	$314,572.00
Technical Services Fee ($1000 per room)	$114,000.00	$114,000.00	$114,000.00
Total Fees	**$818,204.00**	**$781,691.00**	**$745,179.00**

Sales and marketing

Marketing budget of 2% of room revenue will be applied. This will give a total marketing cost of $127,626.19 per year

	80% Occupancy	75% Occupancy	70% Occupancy
Marketing budget of 2% of room revenue will be applied	**$149,796.00**	**$140,434.00**	**$131,072.00**

Total Annual Hotel Expense Projections

	80% Occupancy	75% Occupancy	70% Occupancy
General Admin including staff costs	$1,300,442.00	$1,300,442.00	$1,300,442.00
Utilities	$1,670,016.00	$1,658,453.00	$1,643,889.00
Franchise/Management Fees	$818,204.00	$781,691.00	$745,179.00
Sales and marketing	$149,796.00	$140,434.00	$131,072.00
Total	**$3,938,438.00**	**$3,881,000.00**	**$3,820,562.00**

1.6 Net Operating Income Model

The net operating income model is based on the annual hotel revenue offset against the annual hotel expense.

Direct Hotel Profit

	80.00% occupancy	75.00% occupancy	70.00% occupancy
Hotel Revenue	**$5,991,840.00**	**$5,617,350.00**	**$5,242,860.00**
Hotel Expenses	**$3,938,438.00**	**$3,881,000.00**	**$3,820,562.00**
Total Profit	**$2,053,402.00**	**$1,736,350.00**	**$1,422,298.00**

Direct and Indirect Hotel Profit

	80.00% occupancy	75.00% occupancy	70.00% occupancy
Hotel Profit	**$2,053,402.00**	**$1,736,350.00**	**$1,422,298.00**
Indirect Profit	**$771,654.00**	**$727,695.60**	**$683,763.00**
Net Profit	**$2,825,056.00**	**$2,464,045.60**	**$2,106,061.00**

Construction Cost and Depreciation

The projected build cost for the hotel rooms, foyer and back of house dedicated to hotel is $20,000,000.00 based on a cost plan prepared by Aquenta Consulting. An additional $5,000,000.00 will be spent on furniture, fixtures and equipment. It is anticipated that the club will self-finance approximately $12,500,000.00 of the build cost with the remaining $12,500,000.00 being financed through a loan. Basing an average interest rate of 7%, interest repayments would be $875,000 with an additional $416,666.00 of principal repayments. This gives a total repayment of $1,291,666.00 per year.

Profit after loan repayments

	80.00% occupancy	75.00% occupancy	70.00% occupancy
Hotel net profit	**$2,825,056.00**	**$2,464,045.60**	**$2,106,061.00**
Repayments	**$1,291,666.00**	**$1,291,666.00**	**$1,291,666.00**
Profit after repayments	**$1,533,390.00**	**$1,172,379.60**	**$814,395.00**

1.7 CONCLUSION

Based on the above information, it is feasible to run a successful at Hornsby RSL.

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Hornsby RSL Club Planning Proposal

Design Statement

REV.2 | May 2016

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Contents

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Design Statement

Following a rigorous process of site & urban design analysis, explorative concept design and consultation with Council, Altis propose a fitting amendment to the Hornsby Local Environmental Plan approved in December 2014

Introduction

The planning proposal addresses the land owned by Hornsby RSL club highlighted as sites 1, 2 and 3 in the accompanying drawings prepared by Altis Architecture. Sites 1 and 2 fall within the Hornsby West Side precinct that has been adopted into the amended Hornsby Local and Environmental Plan 2014. Site 3 is directly to the south of this precinct.

The proposal embraces the intent, visions and principals of the amended Hornsby Local Environmental Plan approved in December 2014 and offers a mix of expanded club and complimentary uses and built forms which redefines the characteristics of the 3 sites, both in the architectural characteristics of the context and the activation and programme overlay for the site.

The attached Design Package provides information the concept development proposal as well as the studies and analysis that underpins this proposal.

Context

Site 1 currently contains a 4 level car park and has primary frontage onto William street on the North with a secondary frontage onto Ashley Lane to the south. The western boundary is shared with a residential building while the eastern boundary is shared with commercial premises. There is currently a right of way between the two sites which could be formalised to activate both the site 1 and the site to the East.

Site 2 currently houses Hornsby RSL club. The club consists of a 3 level building with primary frontage onto High street to the East and Ashley street to the south with secondary frontage onto Ashley street to the North. The western boundary is shared with a residential flat building.

Site 3 is currently a vacant site. The site has primary frontage onto Ashley Street to the north, Forbes Street to the east and Webb Avenue to the south. The western boundary is shared with low density residential houses.

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Design Philosophy

The design intent, as a place making proposal, is to create a “Place for People” with layers of both public and private uses. This is achieved through a Mixed Use Development Proposal, conceived to activate the site by providing a rich and varied mix of complimentary built forms and uses.

- New residential building on site 1 over the existing car park
- The proposal would like to consider a public access laneway to the East of site 1 where the existing right of way exists to provide lave activation between William street and Ashley Lane
- Additions to the existing Hornsby RSL club building on site 2 to provide additional amenities to the Hornsby Community which will expand on the clubs existing food and beverage, functioning and sub clubs offers.
- New hotel on site 2 to provide for both the Hornsby area as well as the clubs demand for accommodation based on their existing conferencing facilities.
- Retiree living on site 3 to help cater for the increased demand of retiree living in the greater Sydney area
- The development is also supported by increasing the existing car park on site 1 by 1 level, the proposed multi-storey car park on the western end of site 2 and the underground parking associated with the retiree living development on site 3.

The proposed concept for the development has been conceived to recognise the parameters by which design excellence can be achieved. This has been through the realisation of high standard of architectural and public realm design, materials and detailing, appropriate to the building type and location and implementation of sustainable design initiatives as well as contextual, urban design considerations.

Urban Design Considerations

Extent of West Side Precinct

The Westside precinct as adopted into the Hornsby LEP has its southern boundary along Ashley street which is to the North of site 3. The proposal seeks to include site 3 in this precinct as the site does not currently have residential dwellings and is of a suitable scale to have a more substantial development. Refer to the Hornsby RSL Masterplan document for the proposed addition to the west side precinct.

Height

The December 2014 amendment to the Hornsby LEP shows a clear hierarchy of building heights with 20 storey gateway sites with adjacent sites stepping down to 15 storeys. The sites adjacent to these 15 storeys buildings reduce in height to 10-12 storeys. The sites at the periphery of the precinct vary in height from 2 to 5 storeys on the northern side, generally 10-12 on the western side and 5 on

the southern side. We have applied a similar principals to this planning proposal.

Site 1 is to the west of the 20 storey gateway site at the corner of Pacific Highway and William. The site to the north of this gateway site is 15 storeys, the same number of stories has been applied to site 1 to give balance to the height of the gateway site.

Site 2 was previously at the south-west of the Westside precinct. With the proposed inclusion of site 3 within the west side precinct, the southern boundary will move from Ashley Street to Webb Avenue. This being the case, the proposal is for the heights limit on site 2 be increased from 5 storeys on the south and west to 10 storeys and from 8 storeys on the north east to 12 storeys this is more in line with the 10-12 storey height limits that sit adjacent to 15 storey buildings in the west side precinct.

Site 3 was not originally considered as part of the Westside precinct, based on this planning proposal, the boundary with Webb Avenue would become the southern boundary of the West side precinct. The proposal is to have a height limit of 6 storeys across the site. This is generally in keeping with the heights of the existing Hornsby LEP which is between 5 and 8 storeys on the southern side of the Westside precinct. Refer to Hornsby RSL masterplan document.

Set Backs

The planning proposal intends on adopting the majority of the setbacks noted in the current LEP with the following exceptions:

Site 1, if the existing right of way is formalised into a lane we would suggest a 0m set back to activate the lane.

Site 2, to allow for vehicle access at the western end of the site to a new car park we would suggest a 0m setback for the first level to allow acoustic separation between the cars entering the car park and the adjacent residential building. The current 6m setback would then be adopted above the entry. On the south-western side of site 2 we would suggest having a 0-3m set-back to align with the existing built form of Hornsby RSL Club.

Site 3, A 3m set-back is being allowed on the north, east and south sides of the site to tie in with the 0-3m setbacks shown between the street boundaries and buildings in other sites in the west side precinct. On the eastern side a 6m set back is included to form buffer between the site and the adjacent residential properties.

Floor Space Ratio

The 3:1 ratio included in the LEP will be adopted.

ALTIS architecture

Streetscape

Site 1: The proposal envisages new retail being included in the ground level of the existing car park on site 1 to help activate the building on William street. A new lane between William Street and Ashley Lane also provides an opportunity activate both site 1 on the west and also the gateway site to the east. The laneway would also act as a natural pedestrian path to the RSL club which is currently reached through the informal lane that exists between site 1 and the gateway site.

Site 2: The club currently has 2 entries, one off High Street to the west and the second off Ashley Lane to the North. These sides are the primary entries and frontages to the club. A third entry to the site could be included to the west of the southern boundary along Ashley Street depending on what the use was for the club expansion in this area. E.g. a separate entry to a space that may have an external operator and may need access outside of club hours. This could be a gym or a medical centre for example.

Site 3 will be a residential building and will have one primary entry point. The remainder of the boundaries will not be street activated.

Summary

The proposal intends to add to the locality's strong 'sense of place' by providing a new benchmark for urban development consistent with the intent and vision of Hornsby LEP.

As well as providing new residential buildings, the proposed multi-layered and mixed use development, provides the Hornsby West Precinct with an enhanced space for the community.

HORNSBY RSL MASTERPLAN
TRAFFIC IMPACT ASSESSMENT

FOR

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P2269 002R Hornsby RSL Masterplan TIA.dox	C Wills F Lau	S. Brooke	F Lau	14/10/2016	Derek Carroll DerekO@altisarchitecture.com

CONTENTS

Tables

Figures

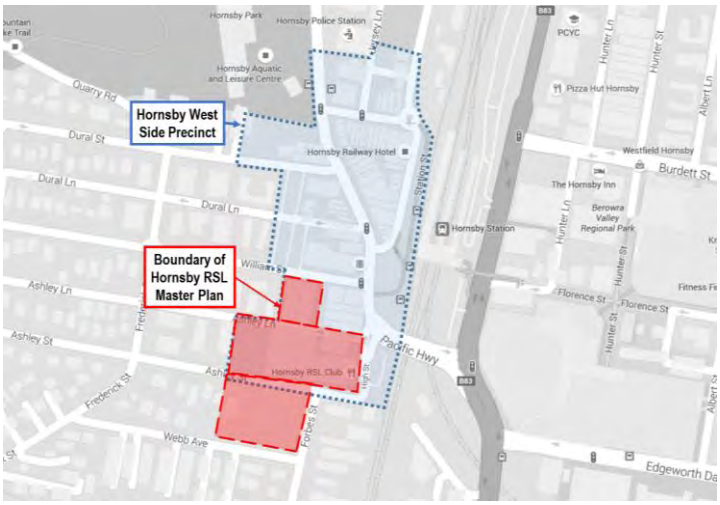
Appendices

1. INTRODUCTION

1.1 BACKGROUND

The Hornsby Returned and Services League (RSL) has proposed a precinct masterplan to facilitate the urban renewal of the Hornsby Central Business District (CBD) precinct. The masterplan proposes a new residential development (building 1) above the existing car park between Ashley Lane and William Street, an extension to the existing RSL club with mixed residential and hotel development (building 2) above the existing RSL development, and a new seniors living development (building 3) at Forbes Street.

The redevelopment of the Hornsby West Side Precinct is currently underway with the objective understood to be to regenerate buildings and infrastructure under new planning controls in Hornsby Shire Council's (HSC) Hornsby Local Environmental Plan (HLEP) and Hornsby Development Control Plan (HDCP). The Hornsby RSL Masterplan locality in the context of the Hornsby West Side Precinct is presented in Figure 1.1.



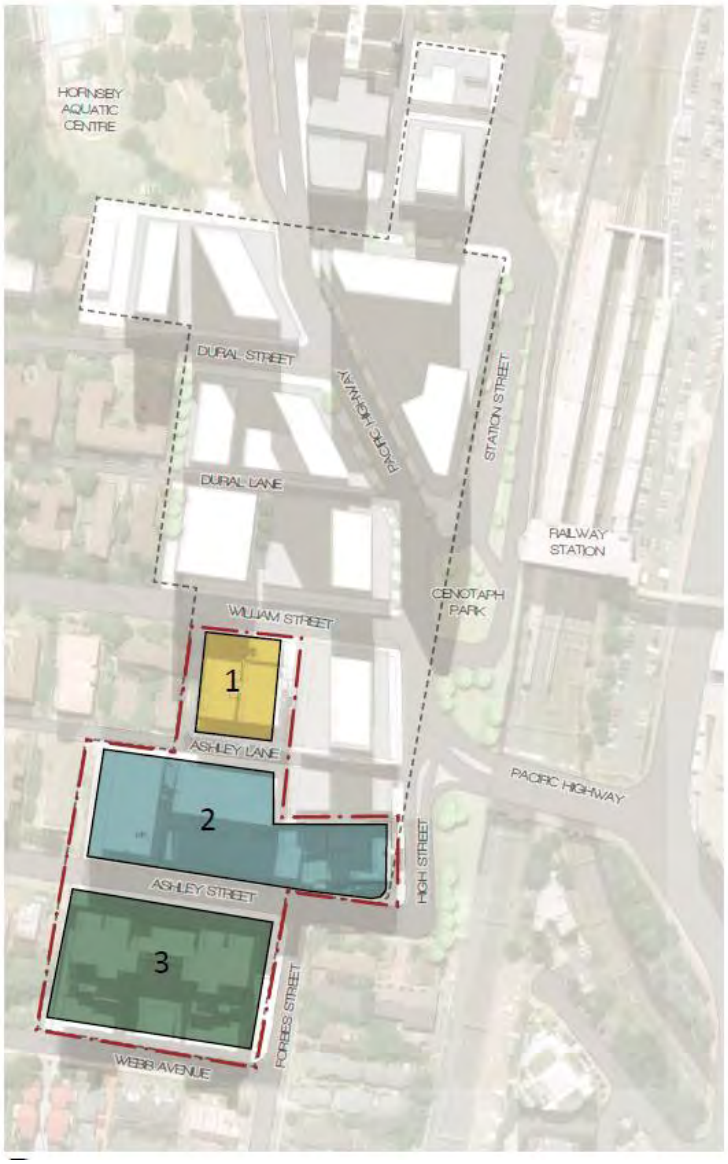
SOURCE: Google Maps, Australia

Figure 1.1: Hornsby RSL Masterplan Locality

1.2 HORNSBY RSL MASTERPLAN

The Hornsby RSL Masterplan (included in Appendix A) comprises three (3) developments (see Figure 1.2). The types of development included are:

- Building 1 – proposed residential apartment to be developed above the existing car park with:
  - 60 new residential car parking spaces; and
  - 81 new residential units.
- Building 2 – proposed mixed development type to be developed above the existing RSL club with:
  - RSL club extension (approximately 1,200m^2);
  - 253 new club car parking spaces;
  - a new 108 room hotel development; and
  - 56 new residential units.
- Building 3 – proposed new senior living apartment:
  - 108 new residential car park spaces; and
  - 106 new senior living units.



Source: Hornsby RSL Masterplan Planning Proposal

Figure 1.2: Hornsby RSL Masterplan Proposed Development

1.3 SCOPE OF WORKS

This Traffic Impact Assessment has been prepared based on the following Scope of Works:

- estimating traffic generation of the proposed development in accordance with the Roads and Maritime Services traffic generation rates;
- using the existing *Hornsby Strategic (VISUM) Transport* model to assess the broad impacts of the development-generated traffic;
- converting the VISUM model into a VISSIM microsimulation model to enable a detailed visual and analytical assessment of the impacts of the additional development traffic on the road network including effects on pedestrians and public transport; and
- concluding what the effects of the development are on traffic and transport conditions and what upgrades might be warranted.

2. EXISTING CONDITIONS

2.1 EXISTING ROAD NETWORK

The road network surrounding the masterplan site is shown in Figure 2.1. A summary of the key roads within the Hornsby West Side Precinct that would be expected to be directly impacted by the proposed masterplan is presented in Table 2.1.

**Pacific Highway between George Street and Bridge Road is now known as Peats Ferry Road*

Figure 2.1: Road Network

Table 2.1: Surrounding Road Hierarchy and Details

Road Name	Jurisdiction	No. of Lanes	Hierarchy	Posted Speed[1]	Additional Details
William Street	HSC	Two (two-way)	Local Road	50 km/h	Provides access to the Building 1 existing car park. A signalised intersection exists at Peats Ferry Road.
Ashley Lane	HSC	One (one-way)	Local Road	50 km/h	One-way exit to Ashley Lane from Building 2 car park and one-way drop off area to Building 2. Separate entry / exit accesses to Building 1 existing car park. A non-signalised intersection is at Peats Ferry Road.
Ashley Street	HSC	Two (two-way)	Local Road	50 km/h	Provides access to one-way internal circulating roadway to drop-off zone to building 3 entrance lobby. A one-way entrance to building 2 car park is provided from Ashley Street. Forms non-signalised intersection with Forbes Street and High Street.
Webb Avenue	HSC	Two (two-way)	Local Road	50 km/h	Provides southern entry to building 3 level 1 car park and to car park 2. Forms un-signalised intersection with Forbes Street.
Forbes Street	HSC	Two (two-way)	Local Road	50 km/h	Forms east boundary of Building 3.
High Street	HSC	Two (two-way)	Local Road	50 km/h	Provides pedestrian access to Hornsby RSL. Forms non-signalised intersection with Peats Ferry Road.
Peats Ferry Road	HSC	Four (two-way)	Arterial Road	40km/h	Connects to the Pacific Highway which travels between North Sydney and Hornsby.
Coronation Street	HSC	Two (two-way)	Local Road	50km/h	Provides access to Hornsby Station and forms a signalised intersection with Peats Ferry Road.

Road Name	Jurisdiction	No. of Lanes	Hierarchy	Posted Speed[1]	Additional Details
George Street	State	Four (two-way)	Highway	60km/h	Pacific Highway (South) becomes George Street for section of road parallel to train line prior to becoming Bridge Road. Forms signalised intersections with Bridge Road, Linda Street, Burdett Street and Pacific Highway/Peats Ferry Road. Is part of the Roads and Maritime Services (RMS) Highway Road 10.
Burdett Street	HSC	Four (in study area) (two-way)	Collector Road	50km/h	Provides access to northern entrance to Westfield Hornsby, Hornsby Ku-Ring-Gai Hospital and residential areas. Forms signalised intersection with George Street.
Linda Street	HSC	Two (two-way)	Collector Road	50km/h	Provides access to residential areas of Hornsby. Forms signalised intersection with George Street.
Edgeworth David Avenue	HSC	Four (two-way)	Collector Road	50km/h	Provides access to high density residential area of Hornsby. Forms signalised intersection with Pacific Highway.
Pacific Highway (South)	State	Four (two-way)	Highway	60km/h	Pacific Highway (South) connects Hornsby with Chatswood and North Sydney. Is part of the Roads and Maritime Services (RMS) Highway Road 10.
Pacific Highway (North)	State	Four (time restricted parking in left hand lanes((two-way)	Main Road (Arterial)	60km/h	Pacific Highway (North) connects Hornsby with the northern extents of Sydney and the Central Coast. Is part of the Roads and Maritime Services (RMS) Main Road 161.
Bridge Road (between George St and Jersey St North)	State	Four (two-way)	Highway	60km/h	A short section of Roads and Maritime Services (RMS) Highway Road 10 providing connection between George Street and Jersey Street North. Forms a signalised intersection with George Street and Jersey Street North.
Bridge Road (between Jersey St North and Pacific Hway)	State	Four (two-way)	Main Road (Arterial)	60km/h	A short section of Roads and Maritime Services (RMS) Main Road 161 providing connection between Pacific Highway and Jersey Street North.
Jersey Street	HSC	Two (two-way)	Local Road	50km/h	Provides access to businesses between Bridge Road and Hornsby Station. Could form a rat run if Peats Ferry Road and George Street are congested. Is a left in and left out only non-signalised intersection with Bridge Road in the north and a roundabout with Coronation Street in the south.

[1]Where no posted speed limit has been provided, the default urban speed of 50 km/h is enforced.

2.2 EXISTING DEVELOPMENT

The Hornsby RSL Masterplan development site comprises of

- Building 1, which is currently a community car park for Hornsby RSL patrons located between William Street and Ashley Lane,
- Building 2, which is currently the Hornsby RSL Club; and
- a vacant block bounded by Forbes Street, Ashley Street and Webb Avenue (proposed Building 3 location).

2.3 EXISTING TRAFFIC DISTRIBUTION

The existing traffic flows were extracted from the calibrated and validated 2014 VISUM model. These show a distribution of traffic entering and leaving the Hornsby RSL precinct. As expected a high proportion of traffic accesses Hornsby RSL from Peats Ferry Road (formerly Pacific Highway), with reduced volumes accessing Hornsby RSL from the residential areas via Ashley Street and Frederick Road. The distribution of traffic is shown in Figure 2.2.

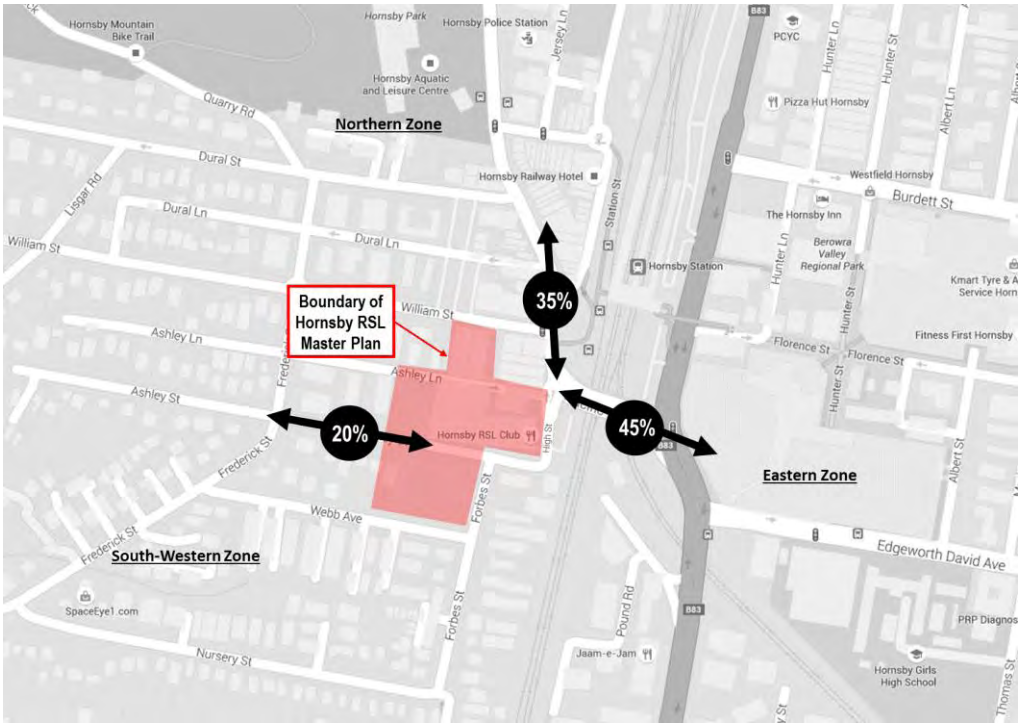


Figure 2.2: Hornsby RSL Precinct Traffic Distribution

For the purposes of this assessment the traffic was considered to be split into three zones. The zones include a northern, eastern and south-western zone, each with a different access route, as follows:

- Eastern Zone (45% Traffic Distribution): traffic accessing Hornsby RSL from areas to the east of Hornsby is assumed to access Hornsby via the Pacific Highway from the south, Edgeworth David Avenue from the east and George Street from the north. All vehicles travelling on these roads are assumed to use Peats Ferry Road before turning onto High Street and Ashley Street to access the RSL;
- Northern Zone (35% Traffic Distribution): traffic coming to the RSL from the north is assumed to use Peats Ferry Road, which continues on from the Pacific Highway to the north. Vehicles are then assumed to turn onto High Street and Ashley Street to access the RSL; and
- South-Western Zone (20% Traffic Distribution): the south-western zone represents largely residential properties serviced by local and connector roads which is in contrast to the eastern and northern zones which are serviced by the Pacific Highway. As a result, the traffic volumes are reduced from this zone, with access assumed along Frederick Street before turning onto Ashley Street.

3. HORNSBY RSL MASTERPLAN TRAFFIC

3.1 TRAFFIC GENERATION RATES

Traffic generation rates were taken from the *Roads and Maritime Services Guide to Traffic Generation Developments – Technical Direction* (2013) for high density residential flat dwellings, office blocks, and housing for senior peak hour vehicle trips. The *Guide to Traffic Generating Developments* (2002) rates were extracted for motel and club type developments as these are not available in the 2013 Technical Direction. The rates applicable to the proposed development components and the resulting traffic generation are shown in Table 3.1. This table shows the additional traffic generated by the site which is in addition to the current traffic generation of the site.

Table 3.1: Hornsby RSL Masterplan Traffic Generation

Development Type	Quantity	AM Peak		PM Peak	
		Rates	Generated Trips	Rates	Generated Trips
Building 1					
High Density Residential	81 units	0.19 trips per unit	15	0.15 trips per unit	12
Building 2					
Hotel[1]	108 rooms	0.4 trips per unit	35[2]	0.4 trips per unit	35[2]
High Density Residential	56 units	0.19 trips per unit	11	0.15 trips per unit	8
Club[3]	1,220m^2 GFA	Not applicable[5]	-	10 trips per 100m^2 GFA	61[3]
Building 3					
Senior Living[4]	106 dwellings	Not applicable[5]	-	0.4 trips per dwelling	34
TOTAL			61	TOTAL	150

[1] Roads and Maritime Services 'motel' rates were adopted

[2] A 20% reduction was applied to the RMS 'motel' rates as the hotel is assume to be 80% occupancy on average

[3] A 50% reduction was applied to the RMS 'club' rates due to proximity to public transport and residential precincts and findings of Hornsby RSL Parking Study (2014)

[4] A 20% reduction was applied to the RMS 'senior living' rates due to proximity to amenities

[5] The RMS surveys show that the club and senior living AM peak does not coincide with the commuter's morning peak and hence were excluded

From the table above, it is estimated that the Hornsby RSL Masterplan is expected to generate 61 vehicles/hour in the AM peak and 150 vehicles/hour in the PM peak.

3.2 DIRECTIONAL SPLIT

The AM and PM peak IN/OUT splits used for each development component were taken from those assumed for the *Hornsby Strategic (VISUM) Transport Model*. This is presented in Table 3.2.

Table 3.2: Hornsby RSL Masterplan Origin/Destination Traffic Split

Development Type	AM Peak Period			PM Peak Period		
	Trips	% IN/OUT	Vehicles IN/OUT	Trips	% IN/OUT	Vehicles IN/OUT
Building 1						
Residential	15	20% / 80%	3 / 12	11	80% / 20%	10 / 2
Building 2						
Hotel	35	50% / 50%	17 / 18	37	50% / 50%	18 / 17
Residential	11	20% / 80%	2 / 9	8	80% / 20%	6 / 2
Club	-	-	-	61	80% / 20%	49 / 12
Building 3						
Senior Housing	-	-	-	34	80% / 20%	27 / 7
TOTAL			22 / 39	TOTAL		110 / 40

3.3 DISTRIBUTION SPLIT

The traffic access distribution for the masterplan is expected to be similar to the existing distribution split as no new access roads are proposed. Changes to the layout of Peats Ferry Road are proposed by Hornsby Shire Council and outlined in Business section on pages 4-96 to 4-98 of the 2013 Hornsby Development Control Plan. After consultation with the Hornsby Shire Council Traffic Engineer, who raised the likelihood of a rat-run for vehicles accessing the site from the Pacific Highway to the south east, a redistribution of the traffic shown in Figure 2.2 is assumed for 2021 conditions due to the altered layout of Peats Ferry Road. A small proportion of vehicles accessing Hornsby RSL from the east, along the Pacific Highway, are assumed to use Pretoria Parade to access Frederick Street and then Ashley Street to avoid traffic congestion on the Pacific Highway and Pears Ferry Road. The revised distribution split is shown in Figure 3.1.

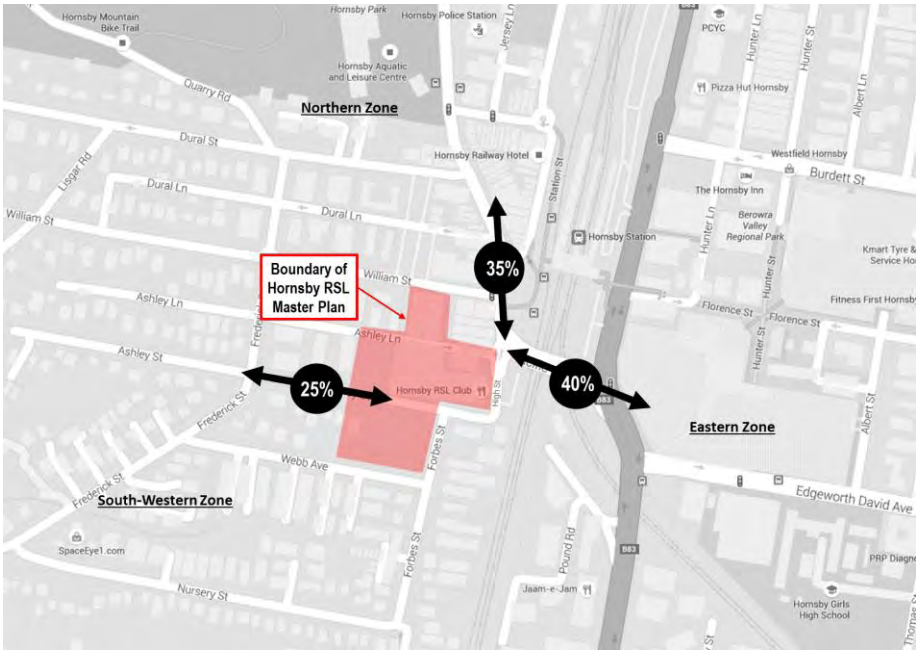


Figure 3.1: Future Hornsby RSL Precinct Traffic Distribution

4. MODELLING METHODOLOGY

4.1 MODEL SCOPE

Bitzios Consulting had previously updated the Hornsby Shire VISUM model for the entire LGA to be reflective of the 2021 network and development/traffic demands. With approval from Hornsby Shire Council, this existing model has been updated to include the Hornsby RSL Masterplan.

For the purpose of this assessment, a sub-network of the existing 2021 Hornsby Shire VISUM Network was then cut to represent the required study area for this Traffic Impact Assessment. The cut section was run again in VISUM before being exported to a VISSIM micro-simulation model for better representation of the network performance. Once in VISSIM new traffic zones and 2021 masterplan traffic volumes were input to create a 2021 base model, which provided the results for the base case. Hornsby RSL Masterplan traffic was added to the base model to assess the impacts of generated and attracted traffic in the AM and PM peaks for 2021. The assessed sub-network was cut-out for the Hornsby RSL Masterplan and is shown in Figure 4.1.

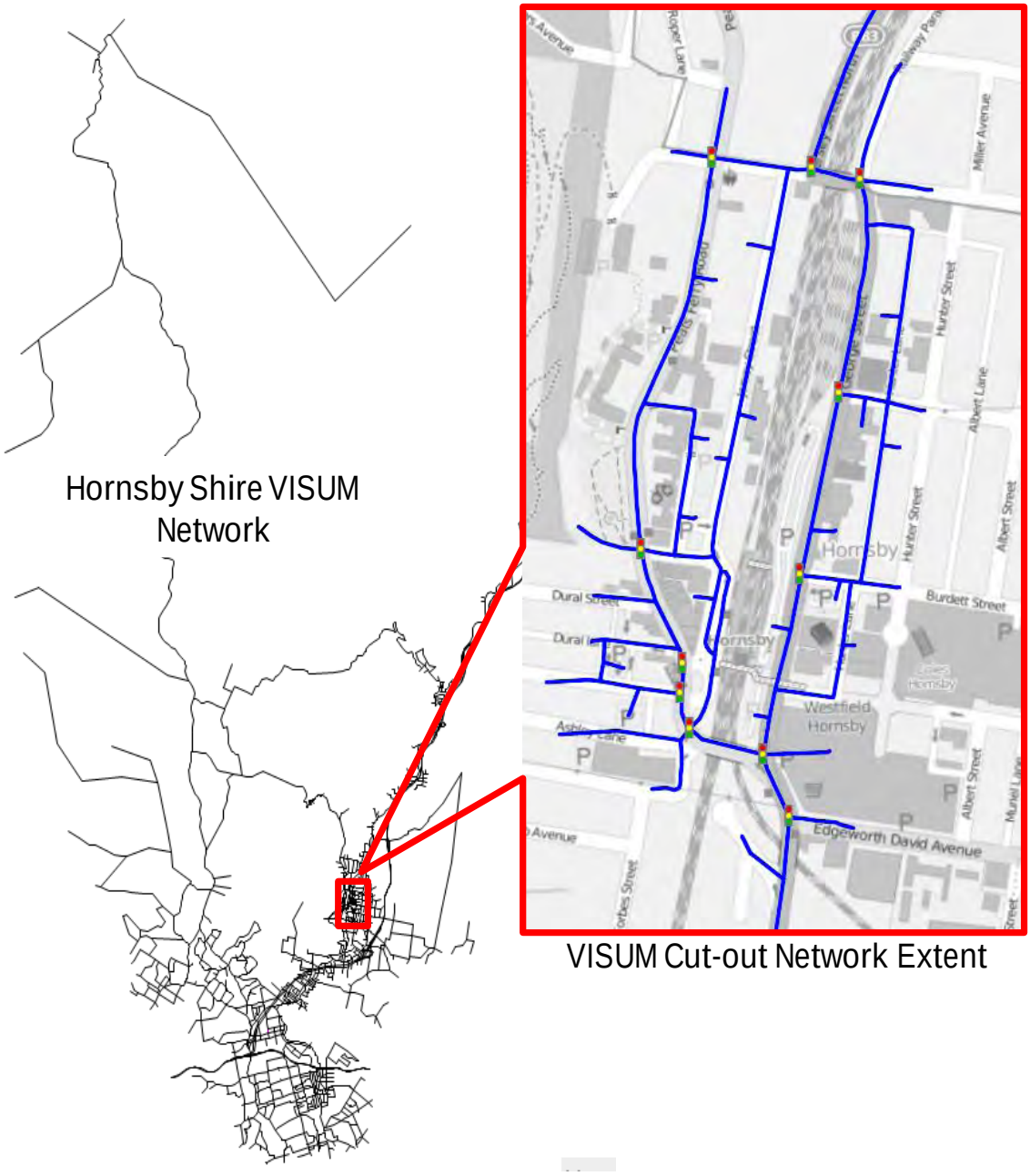


Figure 4.1: Hornsby RSL Masterplan Network Extent

The pre-existing VISUM model used for this project only included 'Cars' and 'Heavy Vehicles'. Public transport in the form of bus stops and bus routes was added to the VISSIM model to sensitively assess the network performance during peak hours.

The existing signal phasing and timing were adopted from traffic signal plans, and minor modifications were made to the signal phase timing to provide optimised signal coordination and optimisation in VISSIM.

The VISSIM network model developed for assessment of the proposed Hornsby RSL precinct development is shown in Figure 4.2.

Figure 4.2: VISSIM Network Extent

The model is based on 2021 projected traffic volumes and is modelled for the following peak periods:

- AM Peak: 8:00 a.m. to 9:00 a.m.; and
- PM Peak: 5:00 p.m. to 6:00 p.m.

4.2 Proposed 50% Completion Development Yields in Hornsby West Side Precinct

Hornsby Shire Council (HSC) revised planning controls for the Hornsby West Side Precinct to facilitate development corresponding to housing and employment targets under the NSW Government's Metropolitan Plan for Sydney 2036. The Plan's targets for Hornsby Shire include an additional 11,000 new dwellings and 9,000 new jobs by 2031, of which 3,000 are expected to be located within the Hornsby Town Centre. The 2013 Planning Proposal defines the Hornsby West Side Precinct as the commercial area adjacent to Peats Ferry Road (previously the Pacific Highway) in the immediate vicinity of Hornsby Railway Station.

The *Hornsby West Side Planning Proposal* objective is to increase the residential and employment opportunities within the Hornsby West Precinct, which is separate from the Hornsby RSL masterplan proposal. This will contribute to the achievement of the revised housing and employment targets identified under the Metropolitan Plan for Sydney 2036 while also reinforcing the role of the Hornsby Town Centre as a Major Centre with adequate employment opportunities.

The Planning controls were reviewed and an indicative development yield was generated, with approximately of 1,000 additional apartments and 18,000m^2 of non-residential floor space for retail and commercial uses for the Hornsby West Precinct. This was included in the 2021 VISUM models.

Figure 4.3 and Table 4.1 both show the proposed development yields in the 2021. A 50% completion of the proposed development was assumed to project traffic trips generated by and attracted to Hornsby West Side Precinct for the 2021 base scenario.

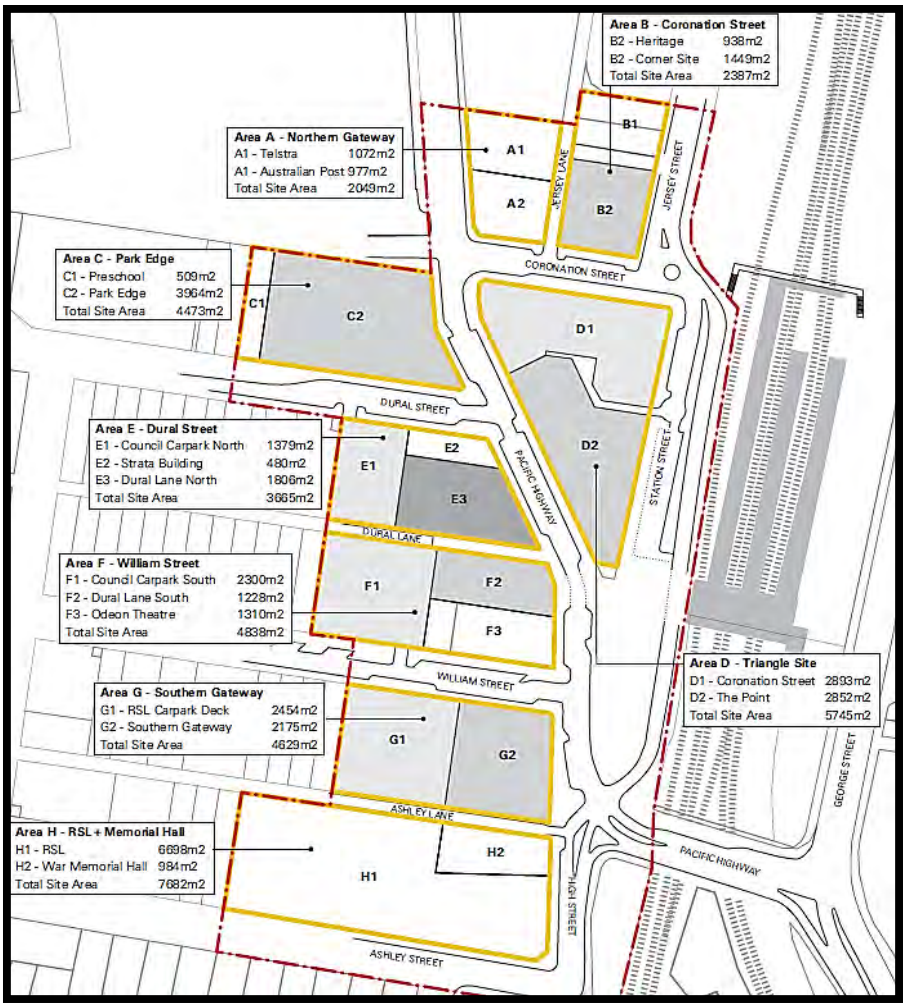


Figure 4.3: Proposed Development Yields Hornsby West Side Precinct

Table 4.1: Proposed 50% Development Completion Base Traffic Generation in Hornsby West Side 2021 (Excluding Hornsby RSL Masterplan Traffic)

				2021 Scenario (50% Completion)			
Area	Type	Dwellings	GFA	AM IN	AM OUT	PM IN	PM OUT
A1	-						
A2	-						
B1	-						
B2	Mixed Use	69	1449	2	11	11	5
C1	-						
C2	Mixed Use	212	3964	11	36	36	19
D1	Mixed Use	151	2893	2	23	22	7
D2	Mixed Use	219	2852	7	36	34	15
E1	Mixed Use	45	179	2	8	7	4
E2	-						
E3	Mixed Use	84	1806	2	13	13	5
F1	-			0	0	0	0
F2	Mixed Use	65	1228	2	10	10	4
F3	-						
G1	-						
G2	Mixed Use	127	2175	3	20	19	8
H1	-						
H2	-						
I1	-						

5. MODEL MODIFICATION

The VISSIM models include a range of updates to the existing 2016 road network, representative of the proposed road network in 2021. These changes include:

- the proposed signalising of the Linda Street intersection at George Street (see Figure 5.1);
- the reduced speed management on Peats Ferry Road to 40 km/h;
- the closure of Dural Lane access to Peats Ferry Road (see Figure 5.2);
- closure of Station Street access and egress points on Peats Ferry Road (see Figure 5.2);
- reconfiguration of the High Street / Peats Ferry Road intersection and road layout with the addition of a northern leg providing egress for all movements from Station Street (see Figure 5.2);
- upgrade of Peats Ferry Road / High Street intersection from give-way priority to signalised intersection (see Figure 5.2);
- conversion of existing Station Street access and egress to pedestrian friendly zone;
- alter Railway Parade at the Bridge Road/Railway Parade/George Street signalised intersection to a left-in left-out only (see Figure 5.1); and
- change southbound kerbside lane on Pacific Highway north approach to the Pacific Highway/ Peats Ferry Road / Bridge Road intersection to allow left turn movements only (see Figure 5.1).

The pedestrian crossing on Bridge Road east was modelled as a pedestrian priority crossing because analysis of the traffic signals peak hour Intersection Diagnostic Monitors obtained from RMS showed that the crossing was not demanded most of the time. The minimal volume of pedestrians cause minor delays representative of the low volume of pedestrian crossing phases. The cycle times for signalised intersections were based on optimised signal phasing.

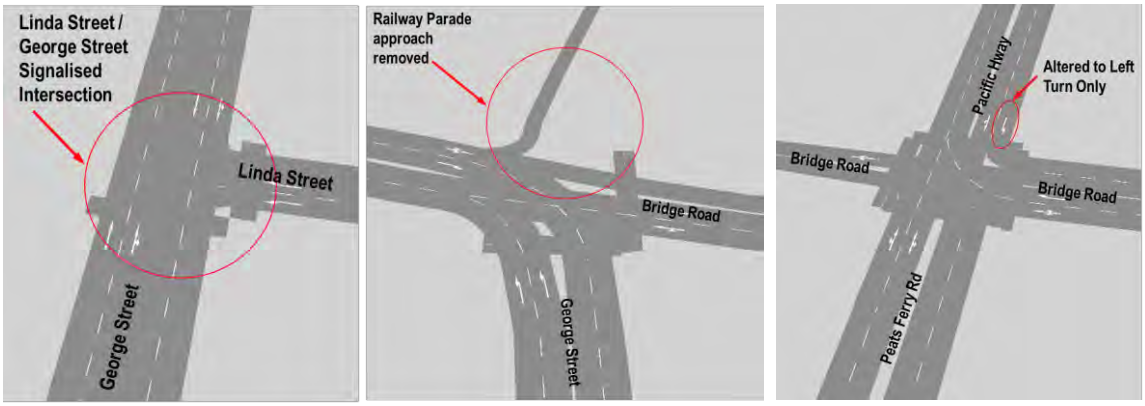


Figure 5.1: Proposed Alterations to Existing Road Network

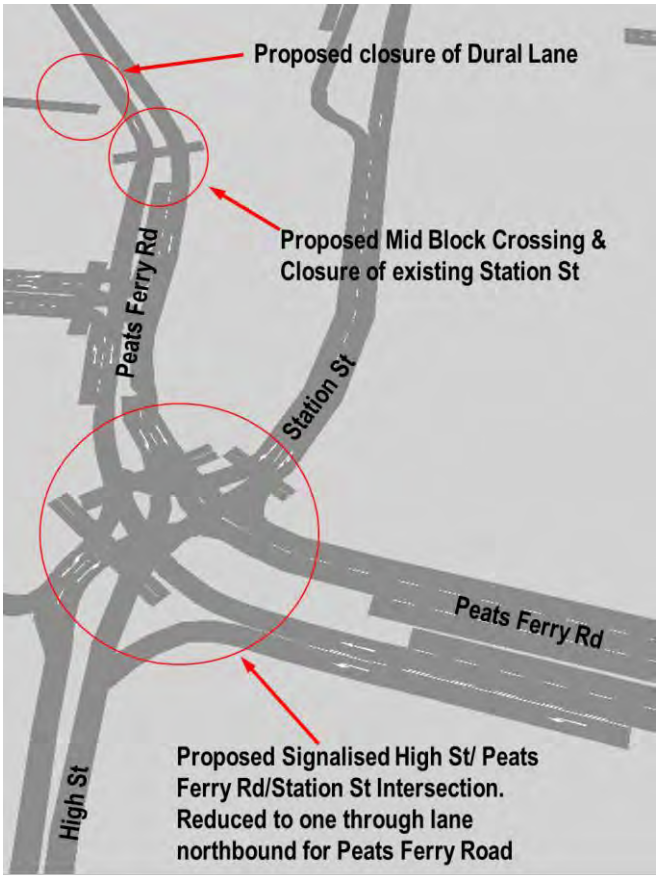


Figure 5.2: Peats Ferry Road Alterations and Reconfiguration

The VISUM model only includes 'Cars' and 'Heavy Vehicles'. In the VISSIM model, pedestrians crossing at signalised intersections are included as well as at the two mid-block crossings on Peats Ferry Road. The mid-block crossing relocation is beneficial in providing gap opportunities for northbound vehicles turning right onto the access way from Peats Ferry Road. Buses were also coded in the option models, with existing bus routes and timing extracted from the Transport for New South Wales website.

6. NETWORK PERFORMANCE

6.1 PERFORMANCE CRITERIA

The Level of Service (LoS) for key intersections was assessed based on average delay in accordance with the Roads and Maritime Services criteria as shown in Table 6.1.

Table 6.1: Level of Service Criteria

Level of Service (LoS)	Average Delay per vehicle (sec/veh)	Description
A	≤14	Good operation
B	15 to 28	Good with acceptable delays and space capacity
C	29 to 42	Satisfactory
D	43 to 56	Operating near capacity
E	57 to 70	At capacity
F	> 70	Unsatisfactory

For signalised intersections, the average delay for all movement has been used. For roundabouts and priority controlled intersections, the critical criteria for assessment is the movement with the highest delay per vehicle.

6.2 INTERSECTION PERFORMANCE

Eleven (11) key intersections were assessed in the model. These included:

- Peats Ferry Road/ Coronation Street signalised intersection;
- Peats Ferry Road/ Station Street/ High Street signalised intersection;
- Peats Ferry Road/ William Street signalised intersection;
- Peats Ferry Road/ Pacific Highway/ Bridge Street signalised intersection;
- Bridge Road/ Railway Parade signalised intersection;
- Bridge Road/ Jersey Street North signalised intersection;
- Pacific Highway/ Edgeworth David Avenue signalised intersection;
- Pacific Highway/ Peats Ferry Road/ George Street signalised intersection;
- Ashley Street/ Forbes Street priority intersection;
- George Street/ Burdett Street signalised intersection; and
- George Street/ Linda Street signalised intersection.

The base network performance for these intersections as analysed in VISSIM is shown in Figure 6.3. Figure 6.4 shows the intersection performance with the masterplan traffic included in the network. A detailed intersection summary is also shown in Table 6.2.

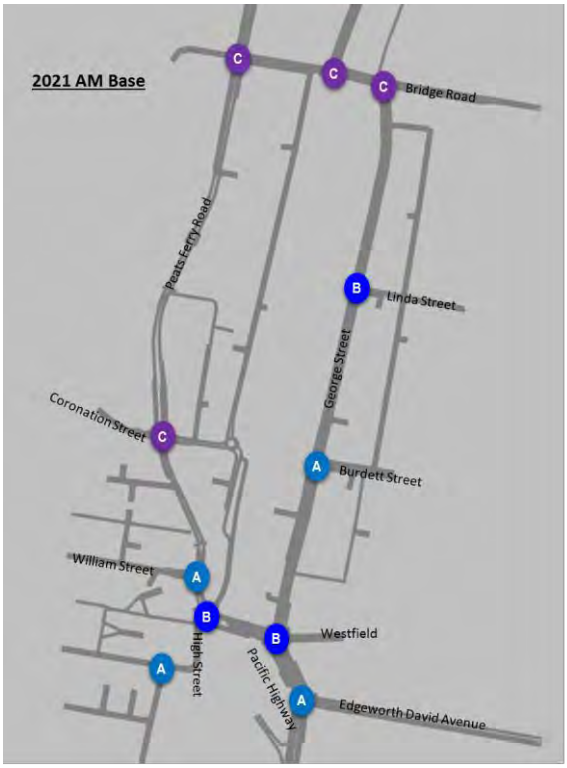
From the VISSIM model, it was calculated that the additional 61 vehicles per hour in the network in the AM peak is expected to have minimal impact on the performance of intersections. The level of service and performance of key intersections are shown to be similar to base conditions. The queueing in the AM Peak is experienced predominantly in the northern areas of Pacific Highway, Jersey Street North, Peats Ferry Road and Bridge Road, as shown in Figure 6.1.

Figure 6.1: Typical 2021 AM Base Case Queueing

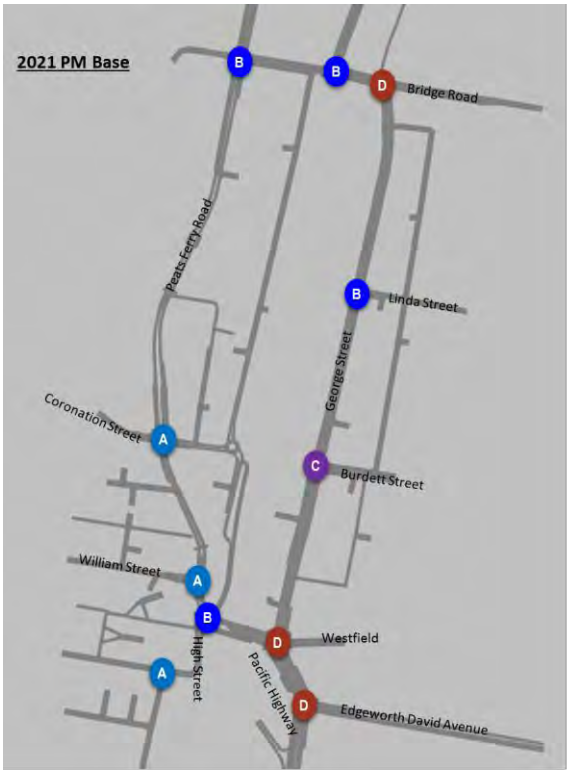
The PM peak is shown to be the critical peak, with an estimated additional 150 vehicles per hour generated by the proposed Hornsby RSL Masterplan. The calculated performance of the surrounding intersections shows the masterplan would have a minimal impact on delays and Levels of Service. Part of the reason for this is the base model shows extensive queues on the edges of the local network (for example intersections along Pacific Highway and George Street), but the performance of intersections are still within acceptable limits. The queuing in the PM Peak for the network is shown in Figure 6.2.

Figure 6.2: Typical 2021 PM Base Case Queueing

The high average delays at the signalised intersection were due to the short green times for the minor approaches, combined with a long cycle time and the pedestrian phase being called every cycle (which is simply a limitation of the modelling). In reality, during operation of the traffic signals, some pedestrian phases may not be called, and additional green time would be given to the required side street phases. With proper signal phasing and timing coordination in SCATS, the extensive queuing and high average delay on minor approaches as shown in Table 6.2 may be reduced.

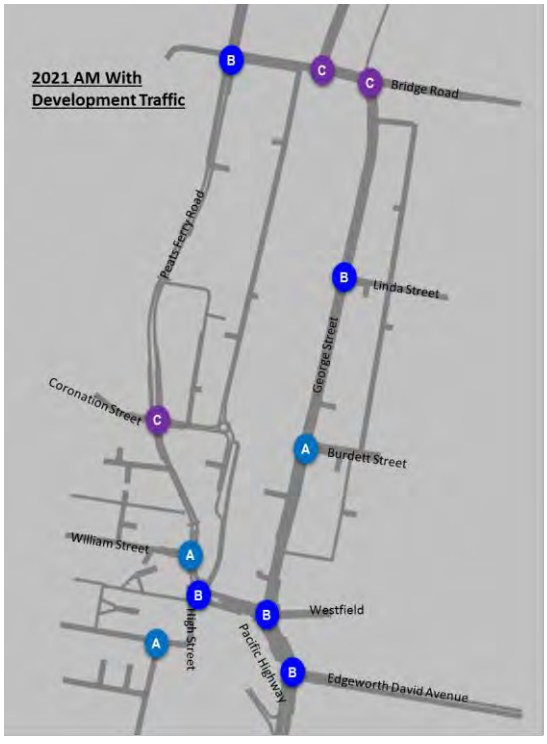


AM Peak

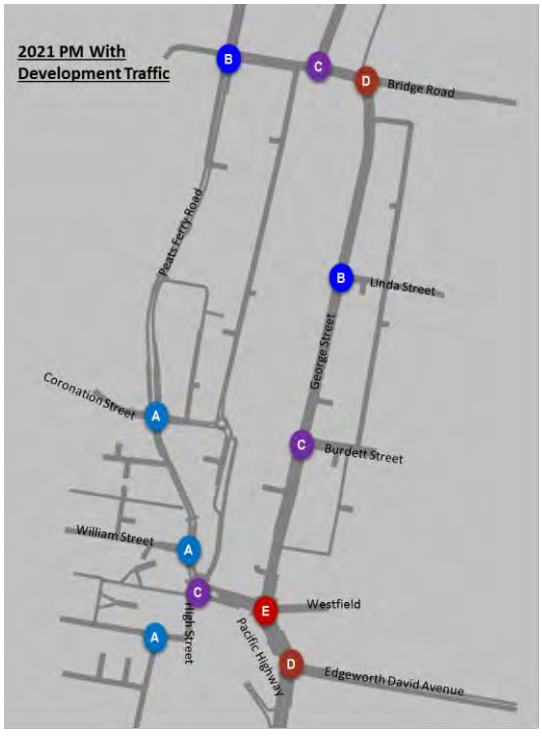


PM Peak

Figure 6.3: Base Model Intersection Performance (AM and PM Peak)



AM Peak



PM Peak

Figure 6.4: With Proposed Development Traffic Intersection Performance (AM and PM Peak)

The results shown in Figure 6.3 and Figure 6.4 show slightly reduced levels of service in both peak periods when Hornsby RSL Masterplan traffic is added to the network. These reductions occur at the intersection of High Street and Peats Ferry Road, which is the major access to Hornsby RSL, in the PM Peak along with the intersection of George Street and the Pacific Highway and the intersection of Bridge Street and Jersey Street North. The AM Peak sees a reduction in the level of service from A to B at the intersection of Pacific Highway and Edgeworth David Avenue. However, the reduced levels of service equate to overall increases in delays of only a few seconds in general, which is negligible, and the levels of service are within acceptable limits as indicated in the Roads and Maritime Services guidelines where LoS D is typically the acceptable lower limit in urban conditions. The breakdown of the projected increases to vehicle delays are shown as follows:

- Peats Ferry Road/ High Street
  - AM Peak: 3 second
  - PM Peak: 14 seconds
- Peats Ferry Road/ Pacific Highway/ George Street
  - AM Peak: 0 seconds
  - PM Peak: 2 seconds
- Pacific Highway/ Edgeworth David Avenue
  - AM Peak: 2 seconds
  - PM Peak: 7 seconds

Reductions in levels of service were also incurred at the intersection of Bridge Road and Jersey Street North in the PM Peak (3 seconds). One intersection showed minor improvement in levels of service with the additional masterplan traffic in the network, Peats Ferry Road / Bridge Road / Pacific Highway in the AM Peak. It is likely increased congestion at previous intersections allows fewer vehicles through to the intersections in question which in turn produces results with slightly fewer vehicles and reduced delays. Overall the performance of the intersections as a whole remains very similar.

The base models showed vehicles unable to enter in the given evaluation period (1 hour peak in the AM and PM) which show the network is experiencing high levels of congestion prior to any additional traffic from the Hornsby RSL Masterplan. Entrances to the model from the north such as Pacific Highway (north), Jersey Street North and Bridge Street (east) all experience vehicles unable to enter the model in the AM Peak. Pacific Highway (south) has vehicles unable to enter the model in the PM Peak. These trends are not alarming however and follow theoretical traffic patterns from northern Sydney with a majority of traffic heading towards the city in the AM and out of the city in the PM.

The minor increases in delay in combination with the evidence of a congested base network in both peak periods show the reduction in level of service is not as severe as it could be interpreted and traffic from the Hornsby RSL Masterplan will have a negligible impact on the traffic network.

Table 6.2: Intersection Approaches Performance Comparison Table

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
Peats Ferry Road / Coronation Street Intersection											
AM	Coronation Street (W)	2	19	LOS B	0	5	2	20	LOS B	0	5
	Peats Ferry Road (S)	656	16	LOS B	15	76	656	18	LOS B	15	73
	Peats Ferry Road (N)	654	57	LOS D	15	205	699	51	LOS D	25	212
	Coronation Street (E)	139	45	LOS D	15	66	99	43	LOS C	5	42
	Total Intersection	1451	37	LOS C	28	205	1456	36	LOS C	37	212
PM	Coronation Street (W)	52	33	LOS C	2	14	52	34	LOS C	2	14
	Peats Ferry Road (S)	992	4	LOS A	6	74	986	4	LOS A	5	39
	Peats Ferry Road (N)	376	16	LOS B	10	76	332	21	LOS B	6	89
	Coronation Street (E)	203	25	LOS B	6	42	203	26	LOS B	6	49
	Total Intersection	1623	11	LOS A	6	76	1631	11	LOS A	6	89
Peats Ferry Road / High Street/ Station Street											
AM	Peats Ferry Road (NW)	664	12	LOS A	9	43	666	9	LOS A	7	54
	High Street (S)	205	35	LOS C	8	75	212	43	LOS C	11	83
	Station Street (N)	36	38	LOS C	2	21	75	29	LOS C	3	27
	Peats Ferry Road (E)	537	12	LOS A	10	99	538	13	LOS A	11	99
	Total Approach	1442	16	LOS B	6	99	1491	17	LOS B	6	99
PM	Peats Ferry Road (NW)	444	4	LOS A	3	53	453	7	LOS A	5	53
	High Street (S)	193	83	LOS F	23	79	216	147	LOS F	55	126

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
	Station Street (N)	69	31	LOS C	3	26	69	30	LOS C	3	26
	Peats Ferry Road (E)	839	42	LOS C	40	102	833	26	LOS B	40	95
	Total Intersection	1564	24	LOS B	9	102	1593	38	LOS C	20	126
Peats Ferry Road / William Street											
AM	Peats Ferry Road (N)	744	11	LOS A	14	44	752	10	LOS A	12	43
	William Street	128	33	LOS C	5	26	131	32	LOS C	6	27
	Peats Ferry Road (S)	556	6	LOS A	7	59	563	6	LOS A	7	67
	Total Intersection	1428	11	LOS A	7	59	1446	11	LOS A	6	67
PM	Peats Ferry Road (N)	492	9	LOS A	5	44	501	8	LOS A	5	44
	William Street	141	36	LOS C	6	37	142	35	LOS C	6	43
	Peats Ferry Road (S)	668	8	LOS A	15	70	669	7	LOS A	14	67
	Total Intersection	1541	11	LOS A	8	70	1544	12	LOS A	8	67
Peats Ferry Road /Pacific Highway/ Bridge Street Intersection											
AM	Bridge Road (E)	376	47	LOS D	18	63	378	50	LOS D	19	72
	Peats Ferry Road	482	33	LOS C	23	79	480	40	LOS C	34	132
	Bridge Road (W)	143	71	LOS F	42	99	149	72	LOS F	18	66
	Pacific Highway	1234	3	LOS A	52	299	1273	2	LOS A	132	299
	Total Intersection	2235	31	LOS C	78	299	2280	26	LOS B	69	299
PM	Bridge Road (E)	557	31	LOS C	17	120	556	33	LOS C	18	85
	Peats Ferry Road	987	20	LOS B	23	123	987	23	LOS B	26	89
	Bridge Road (W)	128	40	LOS C	9	46	99	55	LOS D	52	40
	Pacific Highway	771	NA	NA	61	251	800	NA	NA	52	185

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
	Total Intersection	2443	22	LOS B	35	251	2471	23	LOS B	33	213
Peats Ferry Road / George Street / Pacific Highway Intersection											
AM	George Street	1383	16	LOS B	14	85	1391	16	LOS B	17	200
	Westfield	33	84	LOS F	3	20	33	84	LOS F	3	20
	Pacific Highway	1477	13	LOS A	11	85	1474	13	LOS A	25	101
	Peats Ferry Road	701	61	LOS E	42	106	728	61	LOS E	38	106
	Total Intersection	3594	25	LOS B	19	106	3626	24	LOS B	18	200
PM	George Street	1112	74	LOS F	127	254	1069	77	LOS F	124	258
	Westfield	518	108	LOS F	67	81	515	112	LOS F	68	81
	Pacific Highway	1055	28	LOS B	28	126	1,051	30	LOS C	29	106
	Peats Ferry Road	999	30	LOS C	35	57	991	33	LOS C	37	76
	Total Intersection	3684	54	LOS D	58	254	3626	56	LOS E	58	258
Bridge Road / Jersey Street North Intersection											
AM	Bridge Road (E)	787	7	LOS A	7	70	792	7	LOS A	8	70
	Bridge Road (W)	709	38	LOS C	31	116	695	35	LOS C	28	111
	Jersey Street North	1239	59	LOS E	231	373	1250	57	LOS E	207	373
	Total Intersection	2735	38	LOS C	93	373	2737	37	LOS C	83	373
PM	Bridge Road (E)	1965	11	LOS A	29	120	1962	10	LOS A	28	82
	Bridge Road (W)	662	53	LOS D	42	123	674	68	LOS E	55	136
	Jersey Street North	961	34	LOS C	35	46	961	37	LOS C	37	160
	Total Intersection	3588	25	LOS B	41	123	3597	28	LOS C	47	160

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
Bridge Road / George Street/ Railway Parade											
AM	Bridge Road (W)	1897	4	LOS A	5	66	1892	4	LOS A	5	65
	George Street	481	45	LOS D	22	89	483	46	LOS D	23	90
	Bridge Road (E)	361	212	LOS F	146	216	361	221	LOS F	146	218
	Total Approach	2739	39	LOS C	55	216	2736	40	LOS D	55	218
PM	Bridge Road (W)	1497	4	LOS A	7	74	1,501	4	LOS A	5	74
	George Street	1193	62	LOS E	141	302	1,196	63	LOS E	131	301
	Bridge Road (E)	820	94	LOS F	132	216	820	84	LOS F	103	216
	Total Intersection	3510	45	LOS D	54	302	3517	43	LOS D	59	301
Pacific Highway/ Edgeworth David Avenue											
AM	Pacific Highway (N)	1826	7	LOS A	10	83	1848	8	LOS A	14	103
	Pacific Highway (S)	1357	18	LOS B	26	135	1345	23	LOS B	42	349
	David Edgeworth Avenue	651	44	LOS D	30	150	656	45	LOS D	31	112
	Total Intersection	3834	14	LOS A	21	150	3849	19	LOS B	25	349
PM	Pacific Highway (N)	1539	15	LOS B	19	104	1,509	16	LOS B	26	105
	Pacific Highway (S)	1391	57	LOS E	318	455	1,364	65	LOS E	339	458
	David Edgeworth Avenue	732	74	LOS F	70	134	729	28	LOS B	88	134
	Total Intersection	3662	43	LOS D	107	455	3602	50	LOS D	120	458
Ashley Street / Forbes Street Intersection											
AM	Ashley Street (E)	181	0	LOS A	0	0	197	0	LOS A	0	0

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
	Forbes Street (S)	37	1	LOS A	0	9	15	2	LOS A	0	10
	Ashley Street (W)	171	0	LOS A	0	0	166	0	LOS A	0	0
	Total Intersection	389	1	LOS A	0	9	378	1	LOS A	0	
PM	Ashley Street (E)	214	0	LOS A	0	0	249	1	LOS A	0	0
	Forbes Street (S)	164	2	LOS A	0	14	167	18	LOS B	4	58
	Ashley Street (W)	26	0	LOS A	0	0	49	0	LOS A	0	0
	Total Intersection	404	1	LOS A	0	14	465	8	LOS A	2	58
George Street / Linda Street Intersection											
AM	Linda Street	30	38	LOS C	2	15	29	39	LOS C	2	33
	George Street (N)	1276	15	LOS B	16	147	1278	16	LOS B	17	144
	George Street (S)	859	27	LOS B	30	138	855	27	LOS B	30	164
	Total Intersection	2165	20	LOS B	16	147	2162	21	LOS B	16	164
PM	Linda Street	180	50	LOS D	15	116	172	52	LOS D	17	104
	George Street (N)	876	3	LOS A	2	91	871	4	LOS A	3	88
	George Street (S)	1512	37	LOS C	123	257	1521	26	LOS B	74	262
	Total Intersection	2568	26	LOS B	56	257	2564	20	LOS B	37	262
George Street / Burdett Street Intersection											
AM	George Street (S)	818	4	LOS A	2	27	814	4	LOS A	3	31
	George Street (N)	1257	6	LOS A	5	75	1262	6	LOS A	8	83
	Burdett Street (E)	424	41	LOS C	25	91	424	41	LOS C	26	91
	Total Intersection	2499	11	LOS A	11	91	2500	11	LOS A	12	91

Approach		2021 Base					2021 With Hornsby RSL Masterplan Traffic				
		Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)	Volume (veh)	Average Delay (s)	Level of Service (LOS)	Average Queue Length (m)	Maximum Queue Length (m)
PM	George Street (S)	1229	16	LOS B	14	134	1216	20	LOS B	26	224
	George Street (N)	842	50	LOS D	65	202	807	58	LOS E	93	263
	Burdett Street (E)	875	45	LOS D	69	140	875	23	LOS B	70	162
	Total Intersection	2946	34	LOS C	50	202	2898	38	LOS C	63	263

6.3 TRAVEL TIME COMPARISON

Travel time markers were set up in the VISSIM Model to quantify the impact the proposed Hornsby RSL Masterplan will have on travel time on Peats Ferry Road. The travel time markers were strategically selected to provide an indication of the travel time between intersections for through traffic. Markers were set up as shown in Figure 6.5.

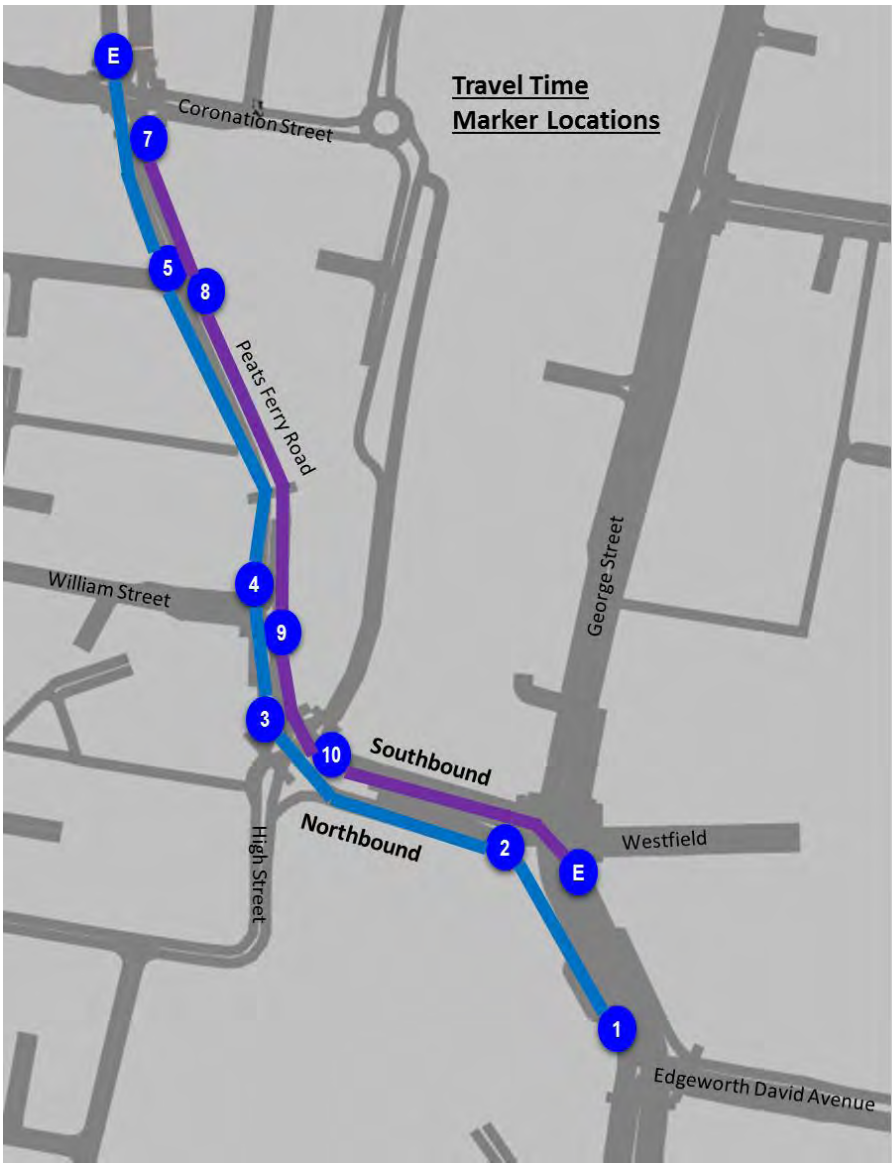


Figure 6.5: Travel Time Marker Locations

The time for each section and the overall time for the northbound and southbound routes are shown in Table 6.3.

Table 6.3: Travel Time Comparison

Direction	Intercept	Distance (m)	Section	Travel Time			
				AM Base	AM RSL	PM Base	PM RSL
Northbound	Pacific Hwy	87	1	0:00:12	0:00:12	0:00:28	0:00:30
	High St	195	2	0:00:20	0:00:22	0:00:35	0:00:37
	William St	247	3	0:00:12	0:00:12	0:00:11	0:00:11
	Dural St	377	4	0:00:20	0:00:20	0:00:16	0:00:16
	Coronation St	468	5	0:00:22	0:00:23	0:00:13	0:00:13
Total				0:01:26	0:01:29	0:01:43	0:01:47
Southbound	Dural St	61	7	0:00:11	0:00:15	0:00:06	0:00:06
	William St	204	8	0:00:48	0:00:48	0:00:26	0:00:28
	High St	259	9	0:00:14	0:00:14	0:00:10	0:00:09
	George St	363	10	0:01:05	0:01:05	0:00:53	0:01:58
Total				0:02:18	0:02:22	0:01:36	0:01:41

The results in Table 6.3 show marginal increases in travel time for each peak period with a maximum change of 3-5 seconds. The results are within acceptable limits and demonstrate additional traffic generated by and attracted to the newly developed Hornsby RSL would not cause significant delays within the network. The change in travel time between the base and masterplan traffic scenarios for northbound travel on Peats Ferry Road is shown in Figure 6.6 with southbound travel shown in Figure 6.7.

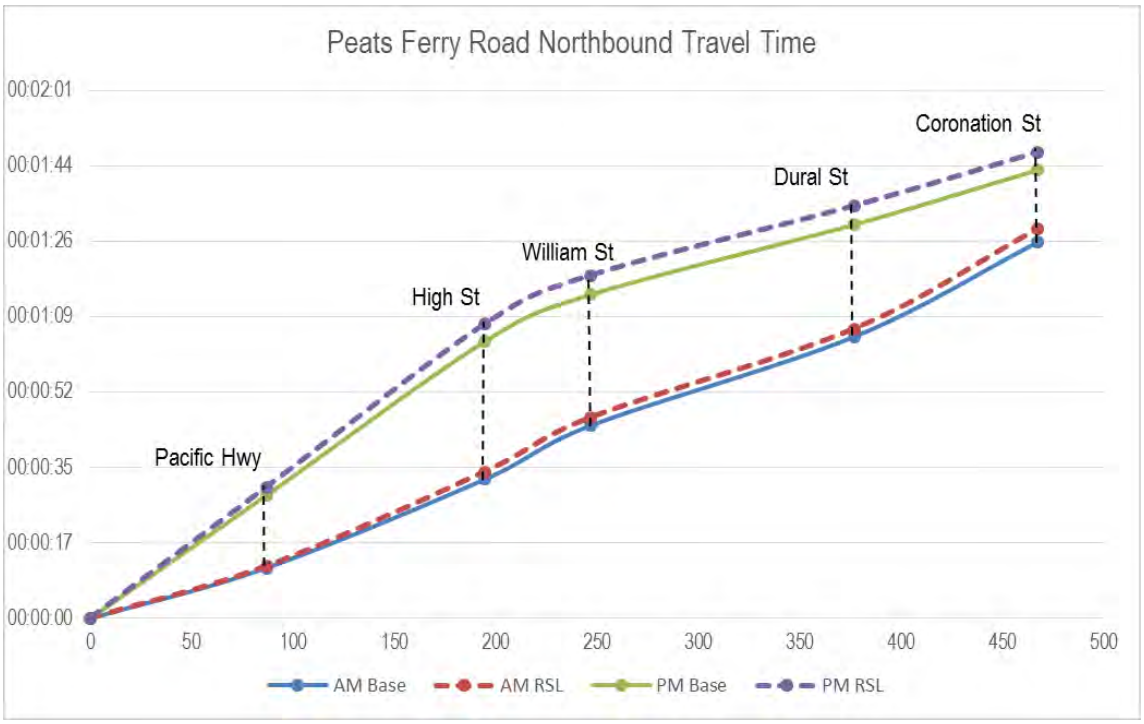


Figure 6.6: Base Case vs Masterplan Traffic Northbound Travel Time Comparison

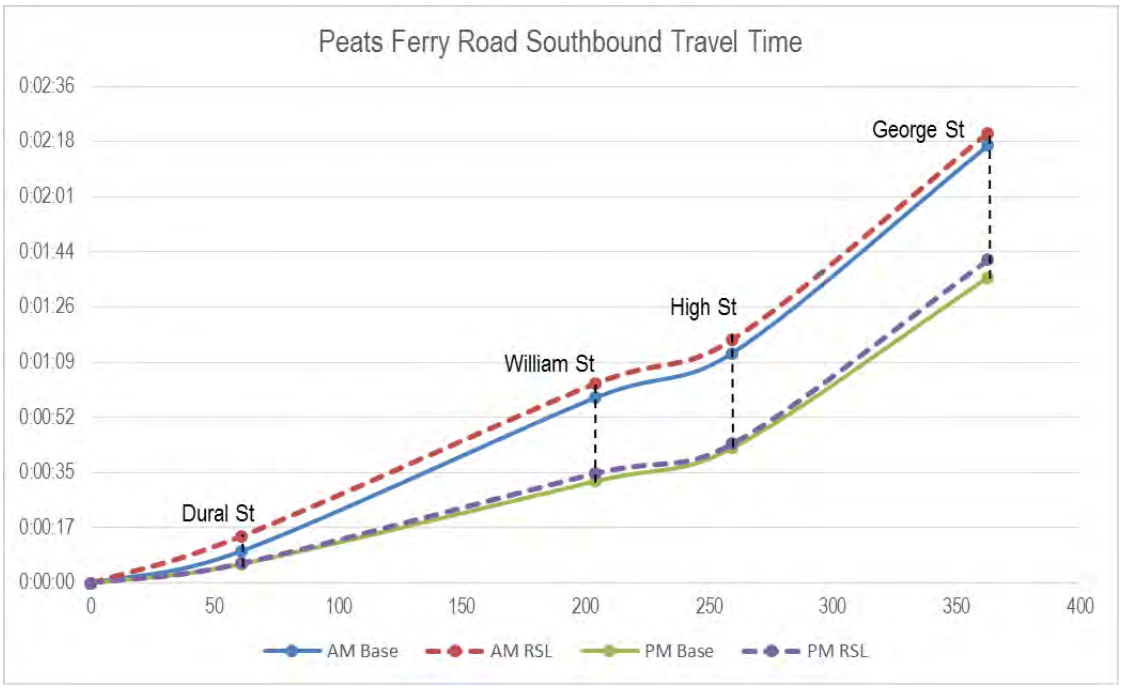


Figure 6.7: Base Case vs Masterplan Southbound Traffic Travel Time Comparison

7. CONCLUSION

The proposed Hornsby RSL Masterplan was assessed using a VISSIM microsimulation traffic model. The key findings were:

- An addition of 61 vehicles per hour in the AM peak and 150 vehicles per hour in the PM Peak would be expected spread across the adjacent road network;
- The proposed Hornsby RSL Masterplan is not expected to significantly affect the AM or PM Peak network performance;
- The performance of Peats Ferry Road/High Street intersection is expected to slightly reduce but maintain a LoS B in in the AM Peak and reduce from LoS B to LoS C in the PM Peak with the masterplan-generated traffic, which is within acceptable limits;
- The performance of Peats Ferry Road/ George Street/ Pacific Highway is expected to reduce from LoS D to LoS E in the PM peak with the masterplan-generated traffic, although the increased delay is 2 seconds only;
- The performance of Pacific Highway/ Edgeworth David Avenue intersection is expected to reduce from LoS A to LoS B in the AM Peak with the masterplan-generated traffic, which is within acceptable limits;
- The 2021 AM and PM Peak base models are at capacity, as shown by queueing in Figure 6.2; and
- Both the AM and PM peak models show that masterplan-generated traffic would not be expected to have a significant impact on the base road network. With sensitive signal phasing and timing coordination in SCATS, the queuing and high average delay on minor approaches that is currently experienced and may be exacerbated to some extent with the masterplan could be reduced.

Overall, the Hornsby RSL Masterplan is in an area that already has some congestion issues in the afternoon peak period. The development traffic dissipates across the road network and beyond its immediate intersections has little effect. At local access intersections, there may be some reductions of Levels of Service, however; these are within limits ordinarily accepted in urban environments in Sydney. Furthermore, the masterplan components introduce more mixed use into the area which is aligned with the needs of a town centre and capitalises on its proximity to the rail station, the potential for multi-purpose trip-making and the ability to attract more pedestrian trips rather than vehicle trips.

HORNSBY RSL PLANNING PROPOSAL

PROJECT 815E.14
26 September 2016





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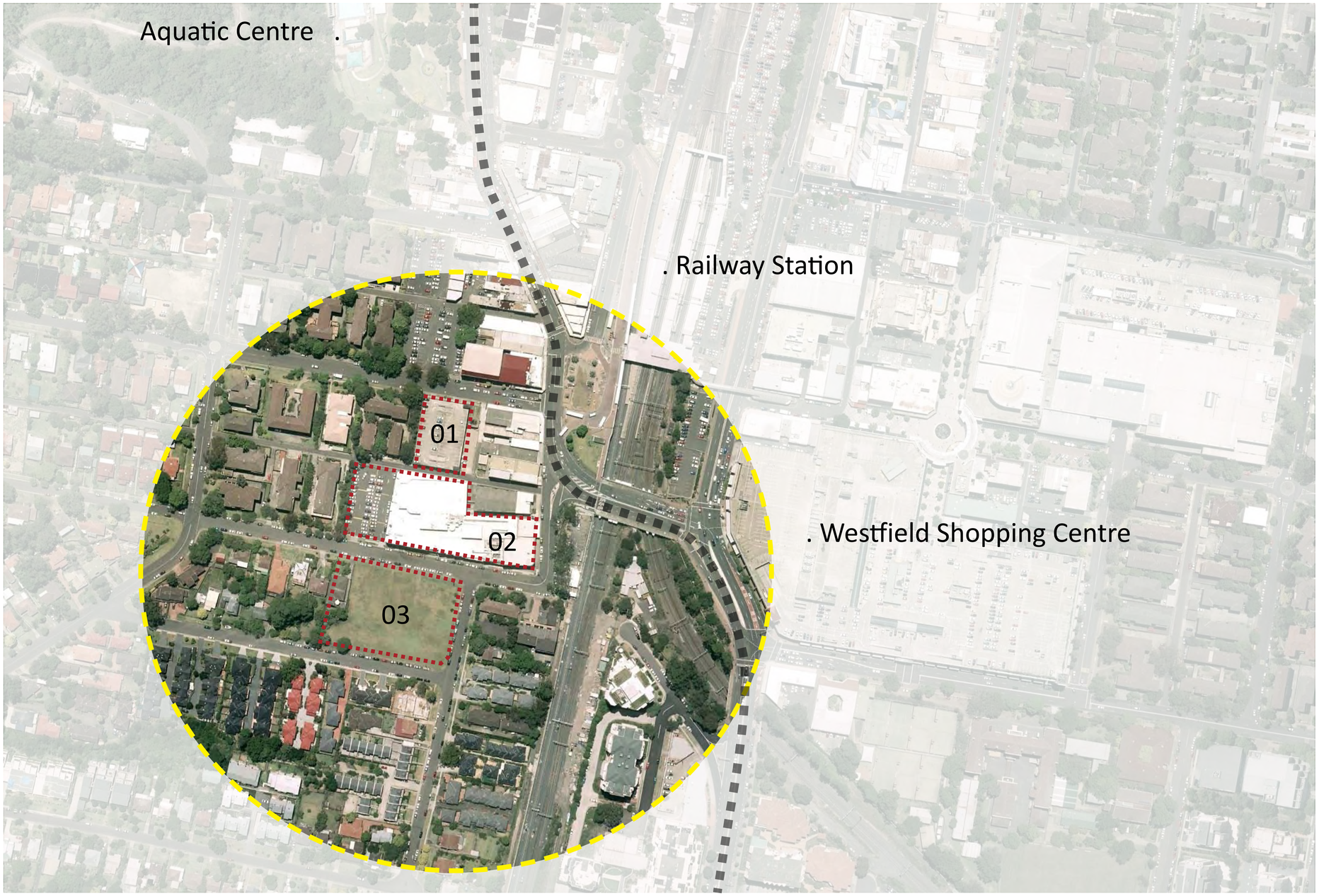

Site 01. Existing RSL Carpark
Site 02. Existing RSL Club
Site 03. Existing Undeveloped Site

Princess Highway

Study Area

HORNSBY RSL MASTER PLAN

PROJECT 815E.14

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LOCATION PLAN

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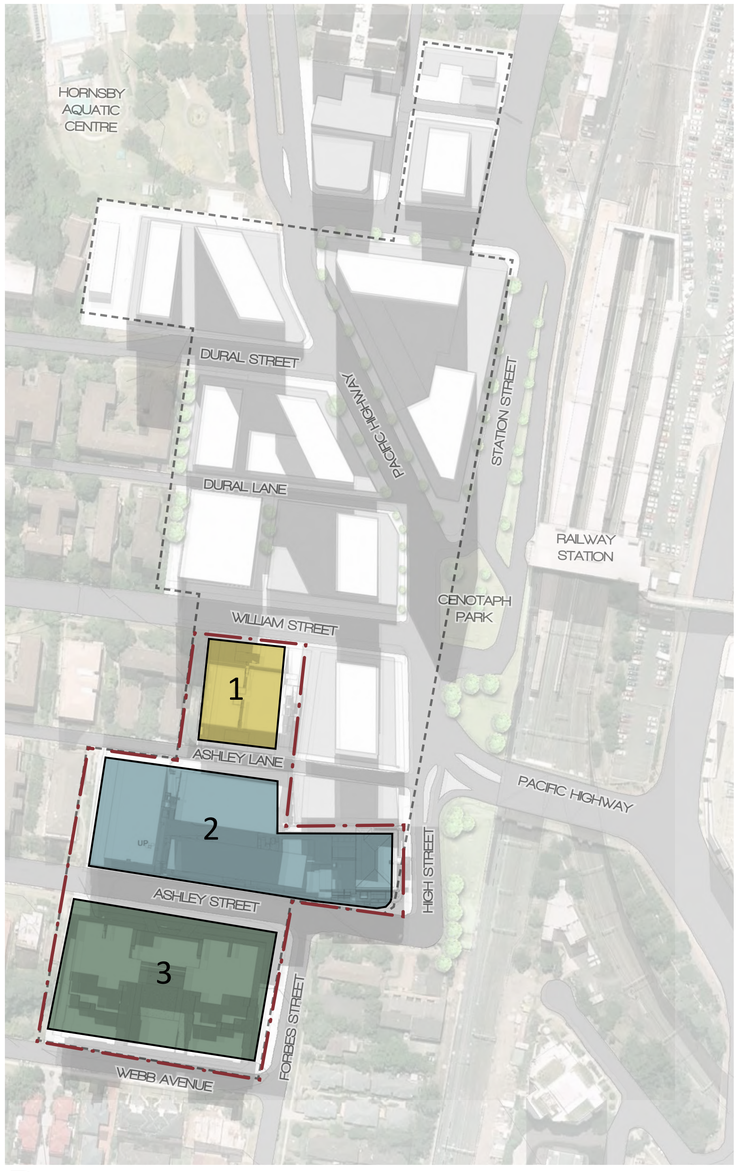

B

A Hornsby West Side Precinct

B Hornsby RSL Planning Proposal
Proposed Site in context with Hornsby West Side Precinct

HORNSBY RSL (CURRENT LAND OWNERSHIP):

- SITE AREA (LAND IN CLUB OWNERSHIP)
- SITE 1
- SITE 2
- SITE 3

HORNSBY RSL MASTER PLAN

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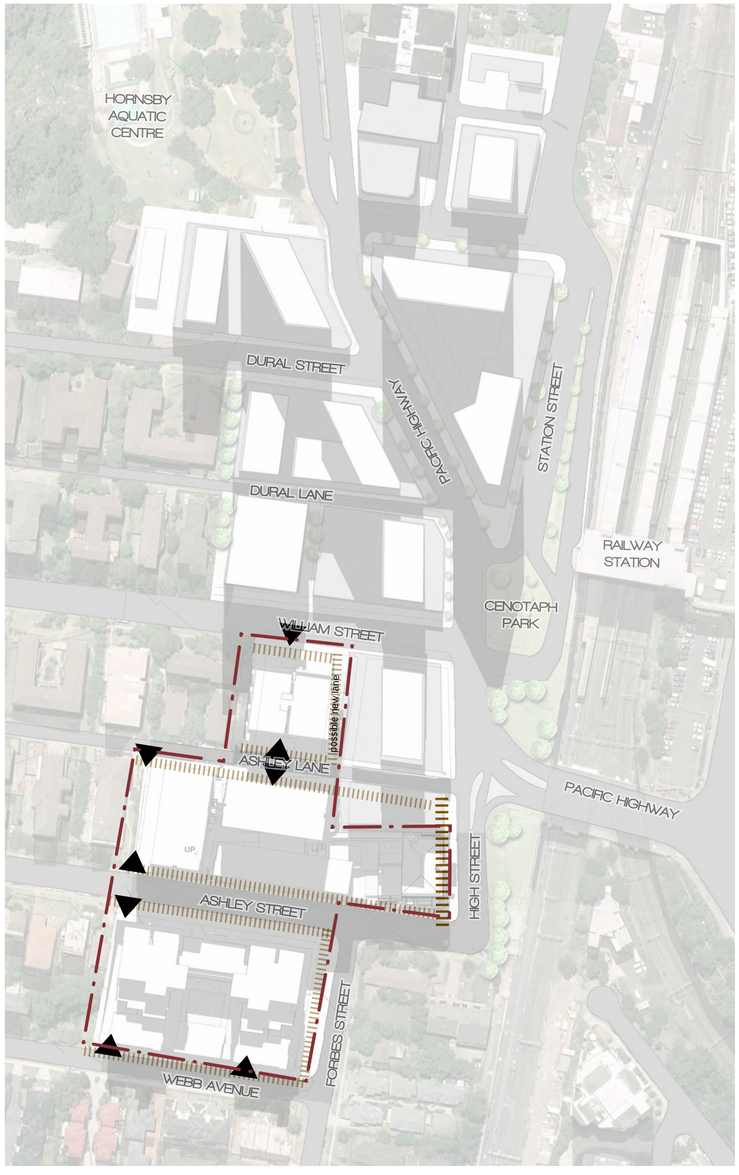
Figure 7 – Active Frontages & Awning Locations

Hornsby West Side Precinct_New Planning Controls
1.1 Active Frontages & Awnings

Legend

- The Study Area
- Active frontage
- Semi active frontage
- Mandatory awning provision
- Preferred awning provision
- Preferred vehicular access point



Hornsby RSL & Memorial Club Planning Proposal
1.1 Active Frontages & Awnings

- HORNSBY RSL & HORNSBY MEMORIAL CLUB SITES
- ACTIVE FRONTAGE
- SEMI ACTIVE FRONTAGE
- PREFERRED VEHICULAR ACCESS POINT

HORNSBY RSL MASTER PLAN

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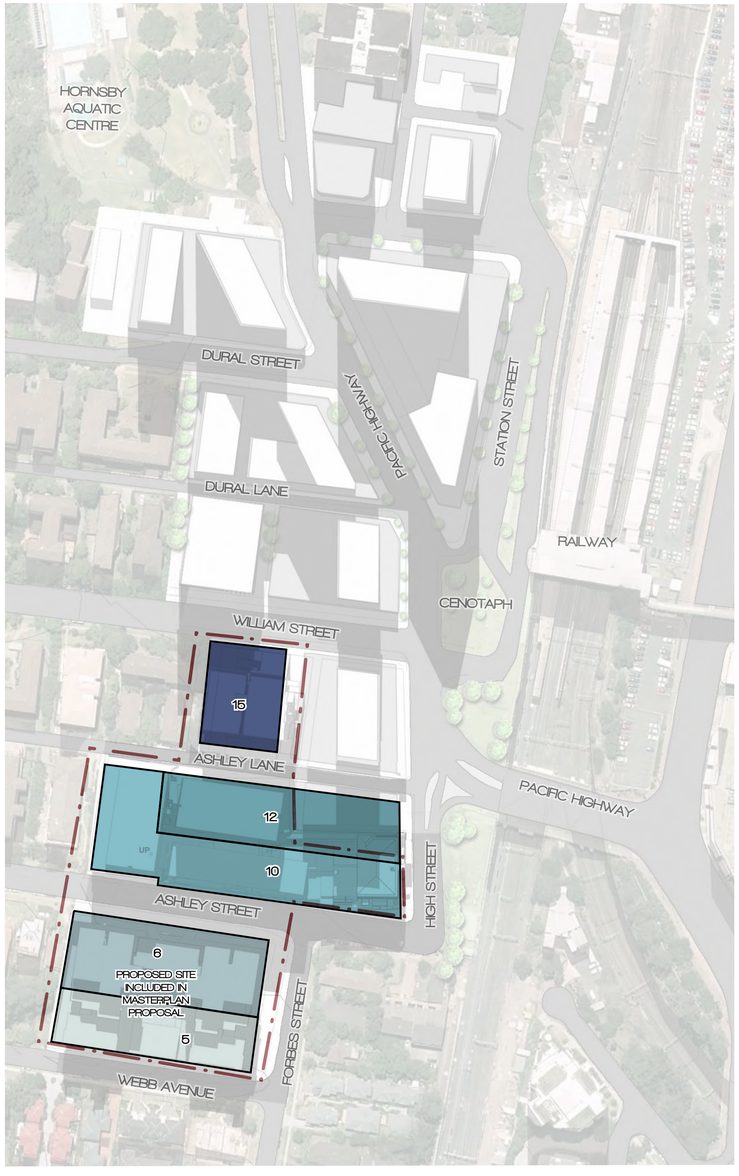
Figure 3 – Indicative building heights



Hornsby West Side Precinct_New Planning Controls
1.2 Built Form

- The Study Area
- 25 storeys *77.5m approx*
- 20 storeys *62.5m approx*
- 15 storeys *47.5m approx*
- 10-12 storeys *38.5m approx*
- 8 storeys *26.5m approx*
- 2-5 storeys *17.5m approx*

Hornsby RSL & Memorial Club Planning Proposal
1.2 Built Form

- HORNSBY RSL SITE
- 25 STOREYS 77.5m approx.
- 20 STOREYS 62.5m approx.
- 15 STOREYS 47.5m approx.
- 12 STOREYS 38.5m approx.
- 10 STOREYS 32.5m approx.
- 6 STOREYS 20.5m approx.
- 5 STOREYS 17.5m approx.

HORNSBY RSL MASTER PLAN
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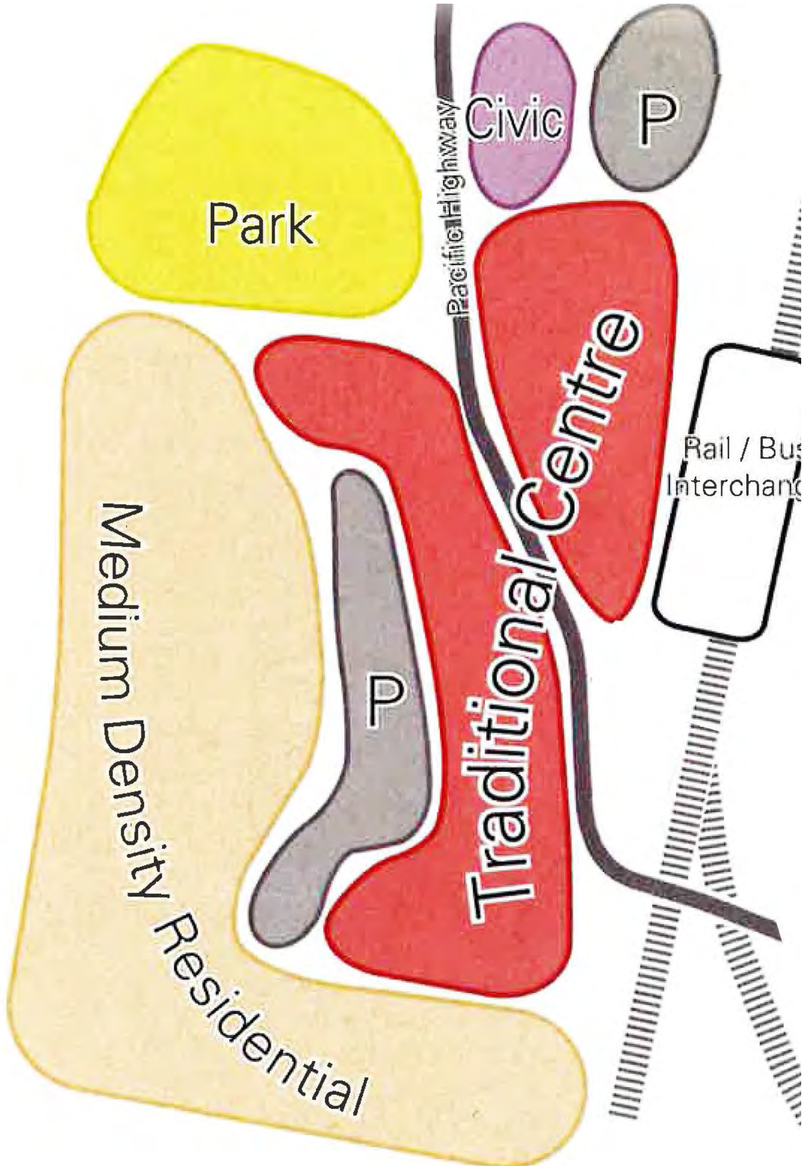
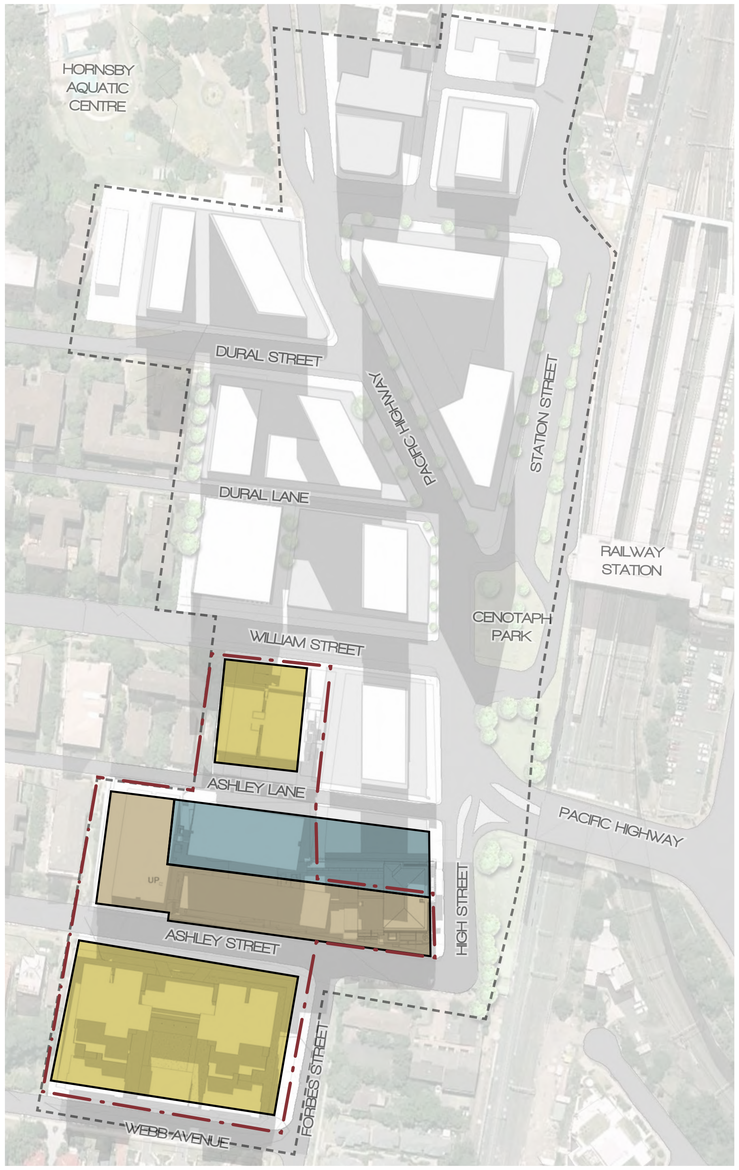


Hornsby West Side Precinct_New Planning Controls
1.3 Uses



Hornsby RSL & Memorial Club Planning Proposal
1.3 Uses

MIXED USE (HIGH RISE)

MIXED USE (MEDIUM RISE)

RESIDENTIAL

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PLANNING PRINCIPLES
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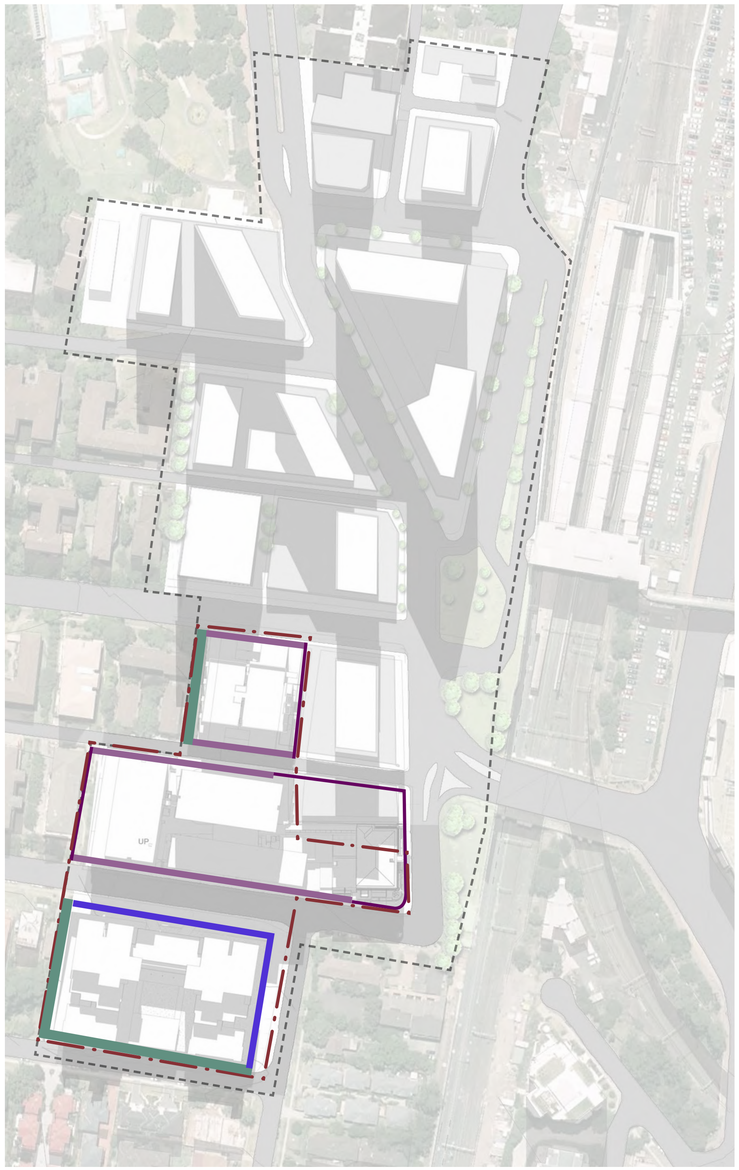
1:500 @ A1

Figure 4 – Setbacks

Hornsby West Side Precinct_New Planning Controls
1.4 Built to and Setbacks

Legend

- The Study Area
- 0m setback / build to line
- 0-3m setback
- 3m setback
- 4m setback
- 6m setback



Hornsby RSL & Memorial Club Planning Proposal
1.4 Built to and Setbacks

Legend

- The Study Area
- 0m setback / build to line
- 0-3m setback
- 3m setback
- 4m setback
- 6m setback

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PLANNING PRINCIPLES

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1:500 @ A1

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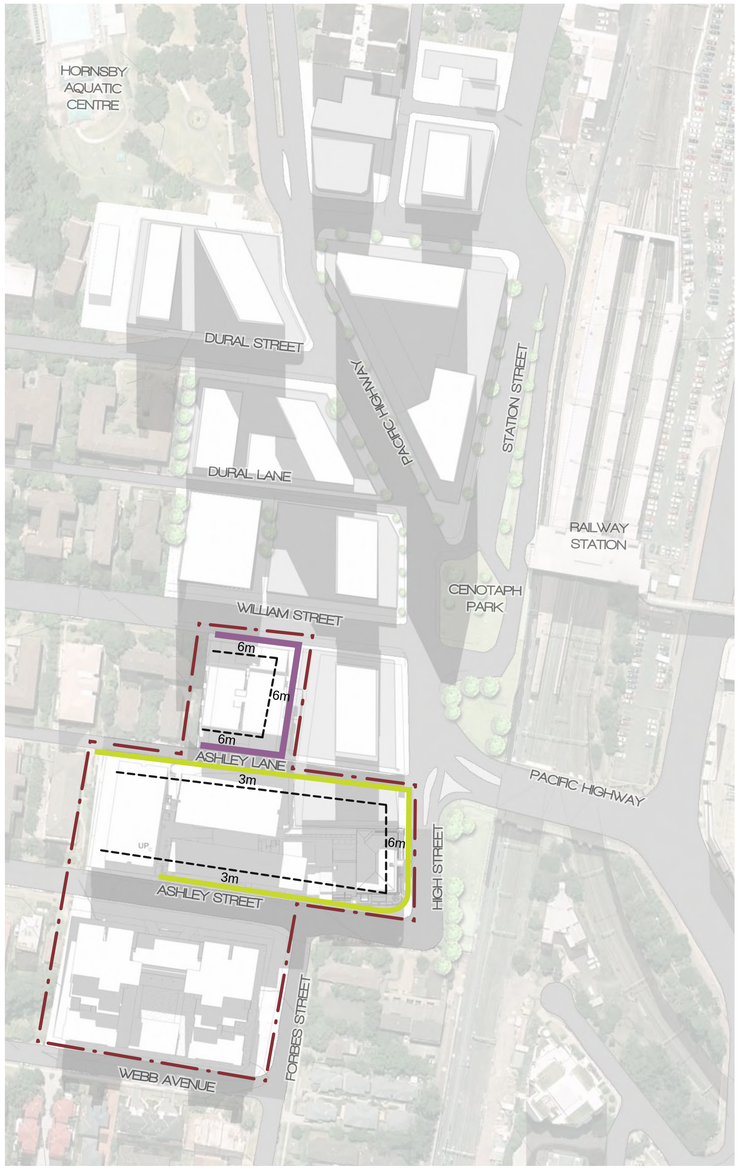
Hornsby West Side Precinct_New Planning Controls
1.5 Wall Height

- The Study Area
- 2 storeys
- 3 storeys
- 5 storeys
- Setback line for tower element



Hornsby RSL & Memorial Club Planning Proposal
1.5 Wall Height

- The Study Area
- 1 storey
- 2 storeys
- 3 storeys
- 4 storeys
- 5 storeys
- 6 storeys
- Setback line for tower element

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PLANNING PRINCIPLES

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1:500 @ A1

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WILLIAM STREET

DASHED LINE INDICATES
PROPOSED AWNING OVER

1
A-A'

RESIDENTIAL ACCESS THROUGH
EXISTING LANEWAY

1
B-B'

ENTRY

A-A'

RETAIL

NEW RAMP

EXISTING CARPARK

EXISTING CARPARK

SYDNEY WATER
PUMP STATION

CORE

RESIDENTIAL LOBBY 65 sqm

ENTRY

STAIR

RETAIL / BICYCLE STORE
100 sqm

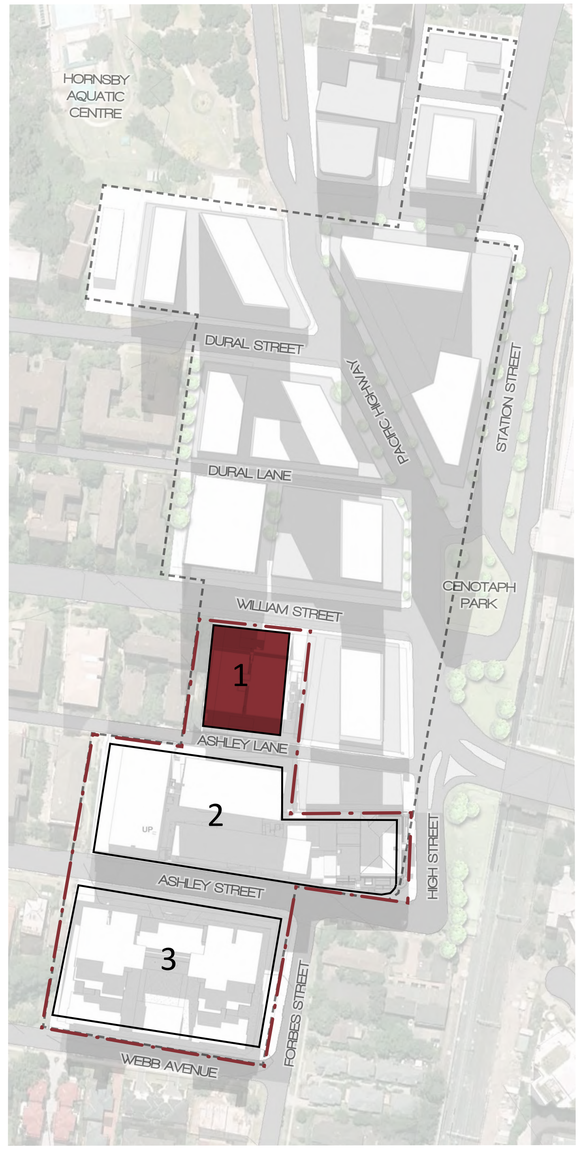
NEW CAR PARK LIFT

ENTRY

EXIT

ASHLEY LANE

HORSNBY RSL CLUB



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GROUND FLOOR

SITE 1

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RESIDENTIAL LEVEL 6

UNIT MIX	#	TOTAL
3 BED + STUDY	1	1
2 BED + STUDY	5	5
1 BED + STUDY	2	2
TOTAL		8

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RESIDENTIAL LEVEL 6

SITE 1

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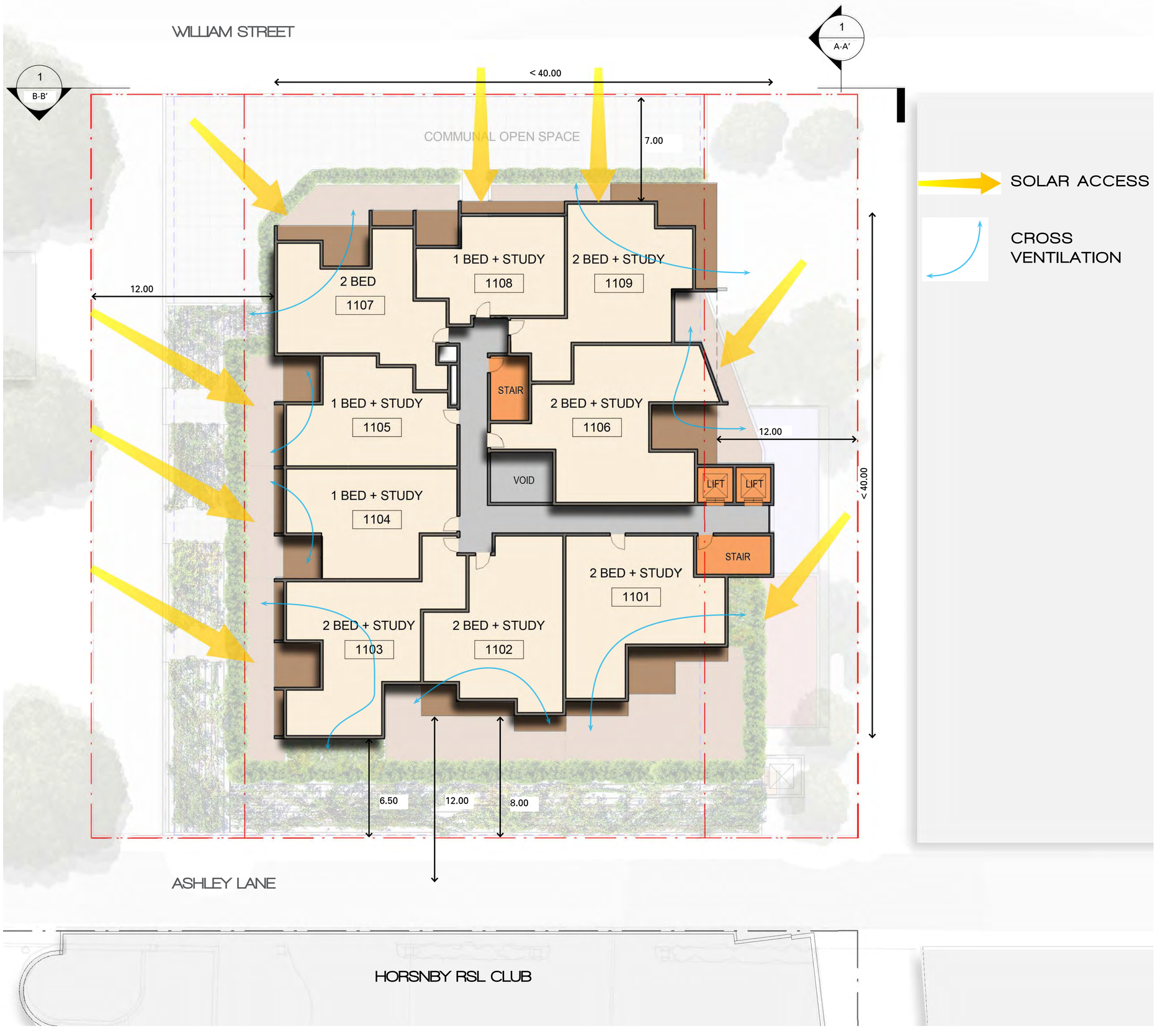

RESIDENTIAL LEVEL 6

UNIT MIX	#	TOTAL
3 BED + STUDY	1	1
2 BED + STUDY	5	5
1 BED + STUDY	2	2
TOTAL LEVEL 6		8

RESIDENTIAL LEVEL 7-13

UNIT MIX	#	TOTAL
2 BED + STUDY	5	35
2 BED	1	7
1 BED + STUDY	3	21
TOTAL LEVEL 7-13		63
TOTAL UNITS		71

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RESIDENTIAL LEVEL 7-13

SITE 1

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RESIDENTIAL LEVEL 6

UNIT MIX	#	TOTAL
3 BED + STUDY	1	1
2 BED + STUDY	5	5
1 BED + STUDY	2	2
TOTAL LEVEL 6		8

RESIDENTIAL LEVEL 7-13

UNIT MIX	#	TOTAL
2 BED + STUDY	5	35
2 BED	1	7
1 BED + STUDY	3	21
TOTAL LEVEL 7-13		63

RESIDENTIAL LEVEL 14-15

UNIT MIX	#	TOTAL
3 BED + STUDY	3	6
2 BED	2	4
TOTAL LEVEL 14-15		10

TOTAL UNITS 81

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RESIDENTIAL LEVEL 14

SITE 1

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RESIDENTIAL LEVEL 6

UNIT MIX	#	TOTAL
3 BED + STUDY	1	1
2 BED + STUDY	5	5
1 BED + STUDY	2	2
TOTAL LEVEL 6		8

RESIDENTIAL LEVEL 7-13

UNIT MIX	#	TOTAL
2 BED + STUDY	5	35
2 BED	1	7
1 BED + STUDY	3	21
TOTAL LEVEL 7-13		63

RESIDENTIAL LEVEL 14-15

UNIT MIX	#	TOTAL
3 BED + STUDY	3	6
2 BED	2	4
TOTAL LEVEL 14-15		10

TOTAL UNITS 81

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RESIDENTIAL LEVEL 15

SITE 1

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SETBACK APARTMETS

RESIDENTIAL

NEW RESIDENTIAL CARPARK

NEW CARPARK SCREEN

EXISTING 4 LEVEL CARPARK

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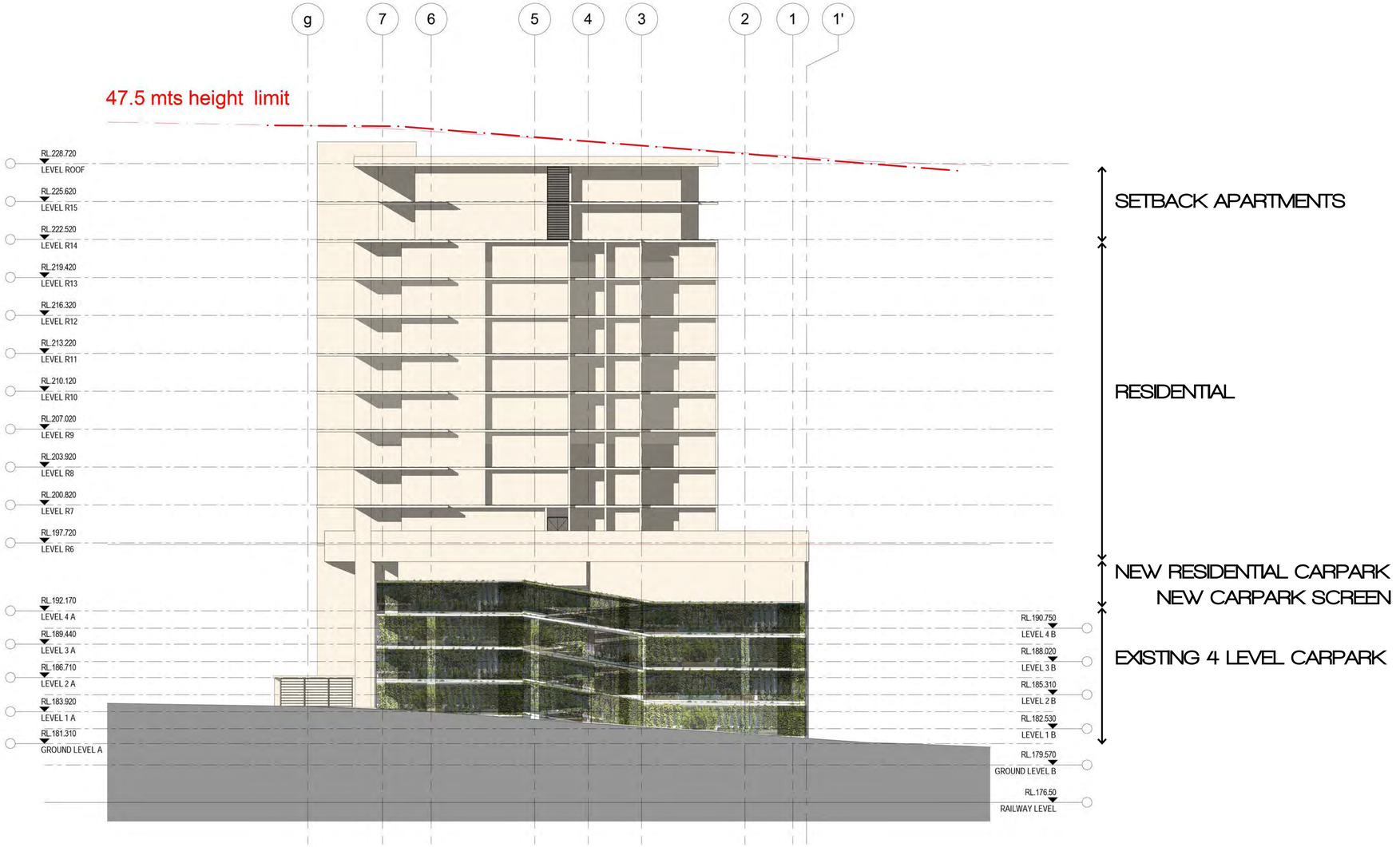
SECTION A-A'

SITE 1

1:200 @ A1



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SECTION B-B'

SITE 1

1:200 @ A1

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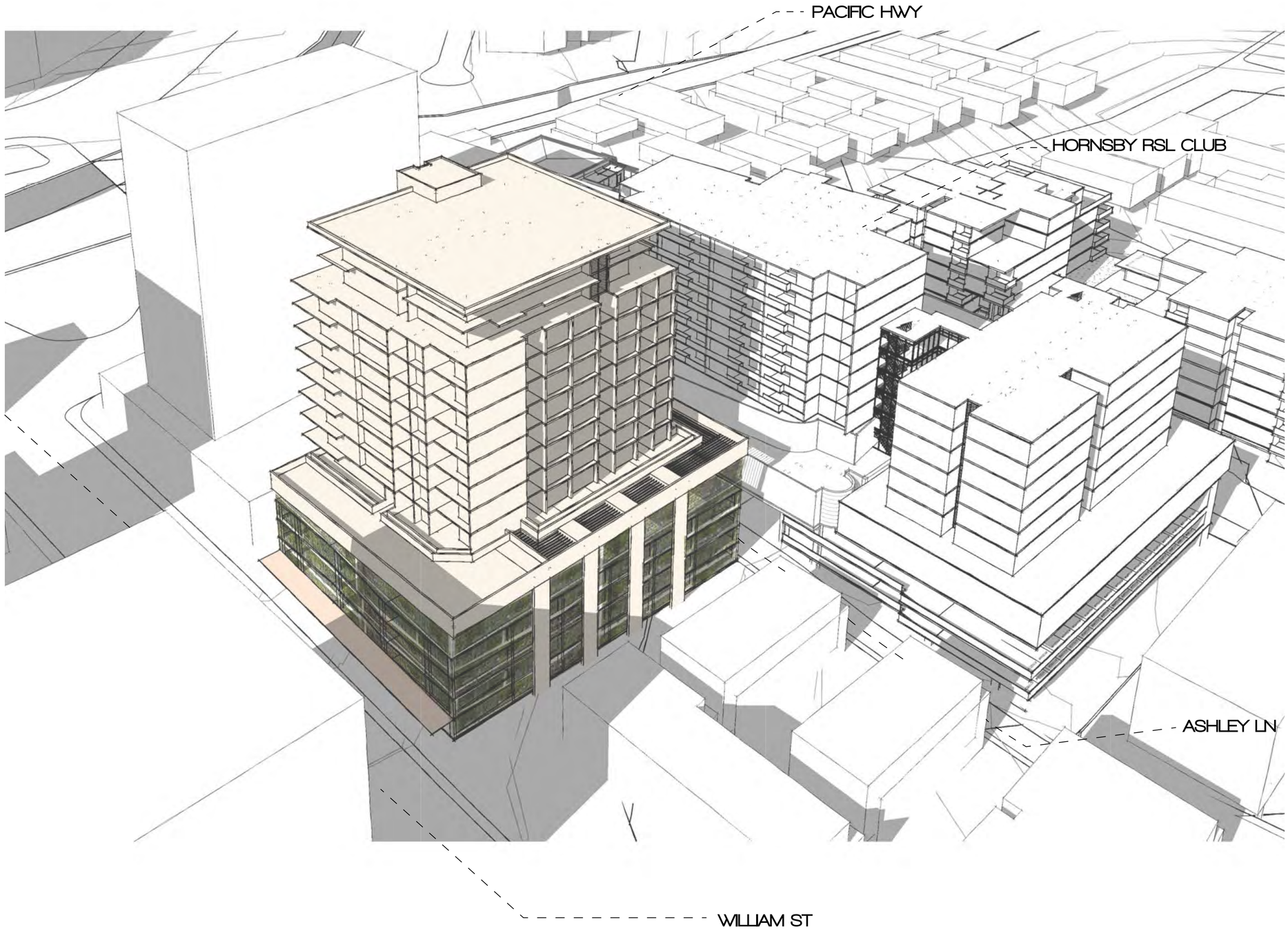

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MASSING DIAGRAM

SITE 1

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3D VIEW WILLIAM STREET

SITE 1

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EXISTING CAR PARK

LEVEL	SPACES
LEVEL 1	60
LEVEL 2	60
LEVEL 3	60
LEVEL 4	60
TOTAL	**240**

NEW RESIDENTIAL CAR PARK

LEVEL	SPACES
LEVEL 5	60
TOTAL	**60**
TOTAL	**300**

RESIDENTIAL LEVEL 6

UNIT PER LEVEL	#	TOTAL
3 BED + STUDY	1	1
2 BED + STUDY	5	5
1 BED + STUDY	2	2
TOTAL		**8**

RESIDENTIAL LEVEL 7-13

UNIT PER LEVEL	#	TOTAL
2 BED + STUDY	5	35
2 BED	1	7
1 BED + STUDY	3	21
TOTAL		**63**

RESIDENTIAL LEVEL 14-15

UNIT PER LEVEL	#	TOTAL
3 BED + STUDY	3	6
2 BED	2	4
TOTAL		**10**
TOTAL UNITS		**81**

ALLOWABLE FSR	3:1
SITE AREA	2,451m²
ALLOWABLE GFA	7,353m²
PROPOSED FSR	2.99:1
PROPOSED GFA	7335 m²

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SITE 1

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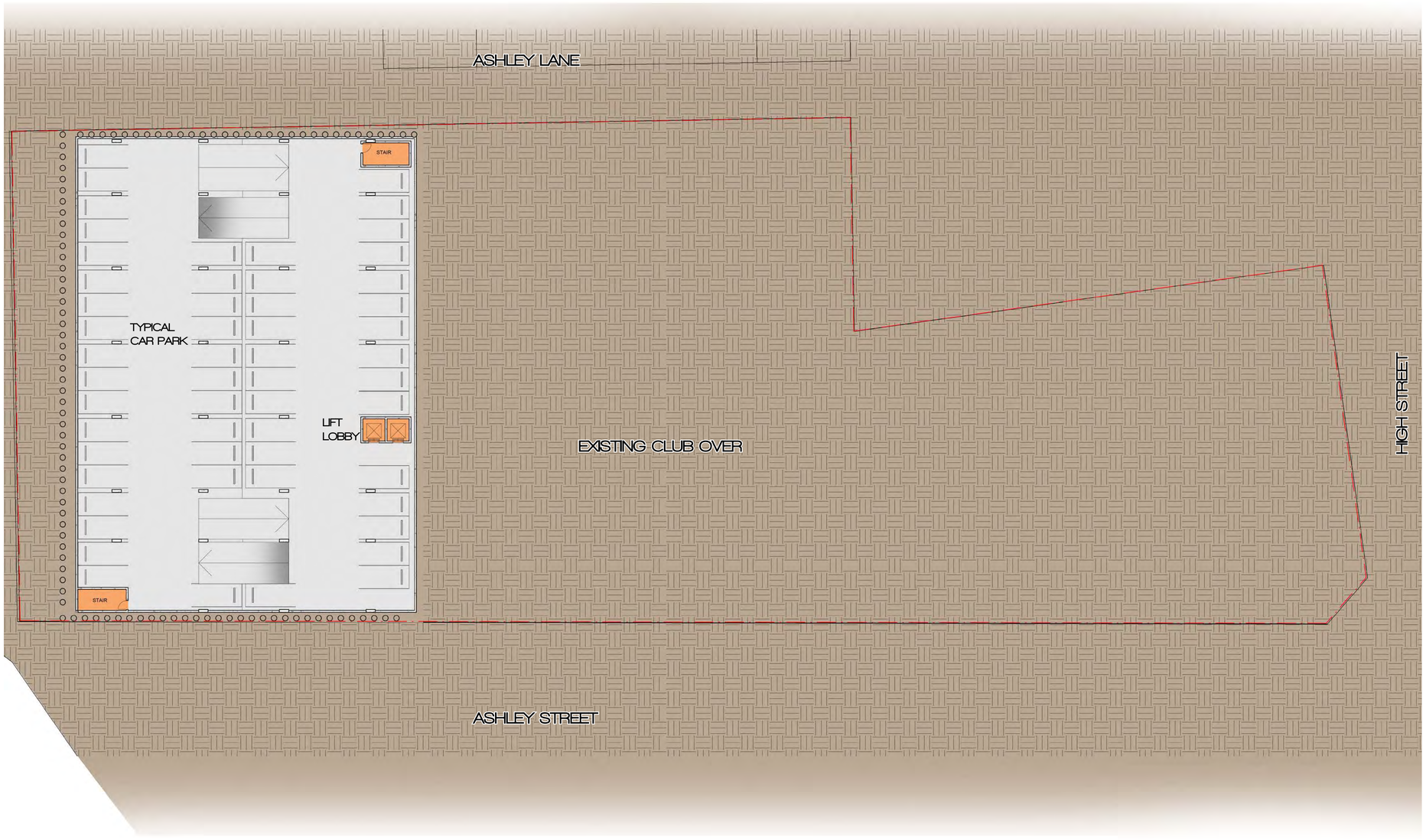

TYPICAL PARKING LAYOUT
LEVELS -1 TO -3

CAR PARK

LEVEL	SPACES
LEVEL -3	57
LEVEL -2	55
LEVEL -1	55
LEVEL G	50
LEVEL 1	53
LEVEL 2	57
TOTAL	**327**

HORNSBY RSL MASTER PLAN

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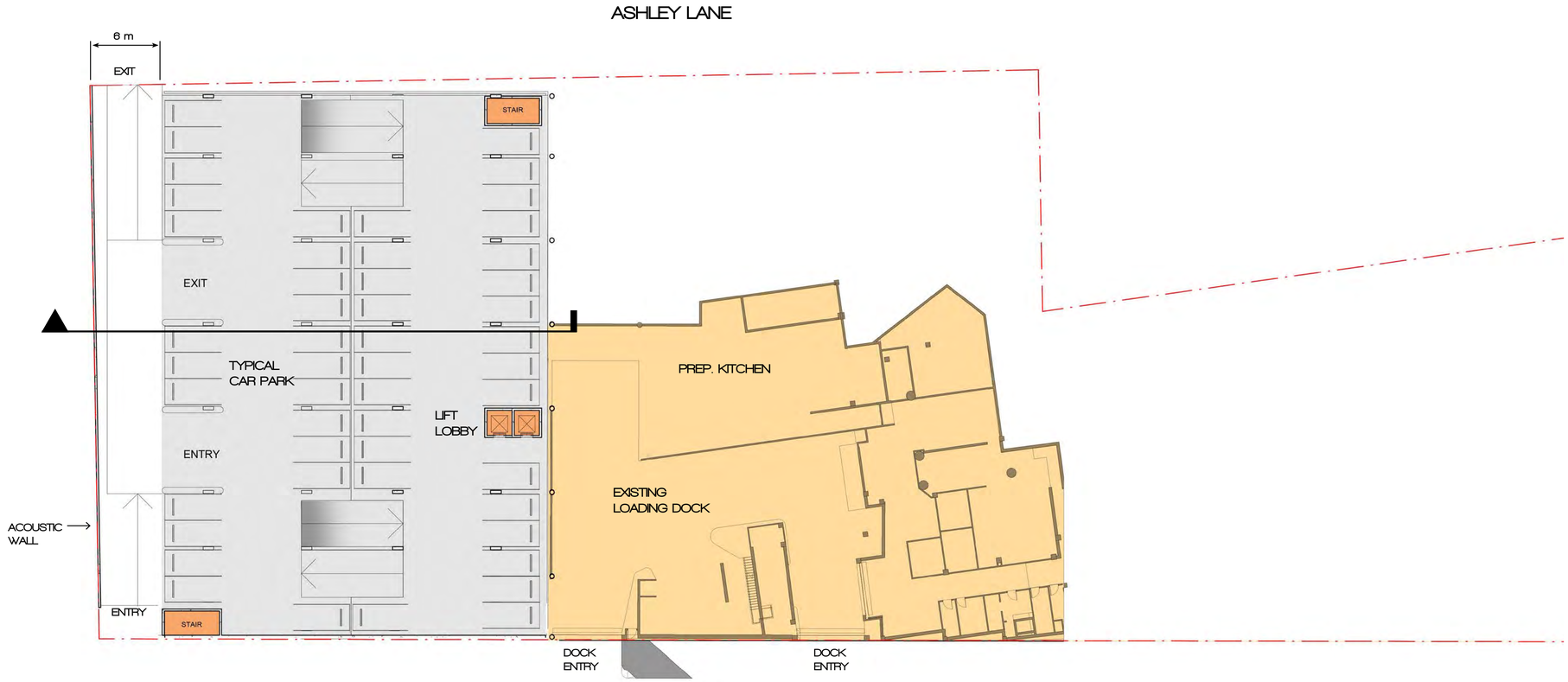
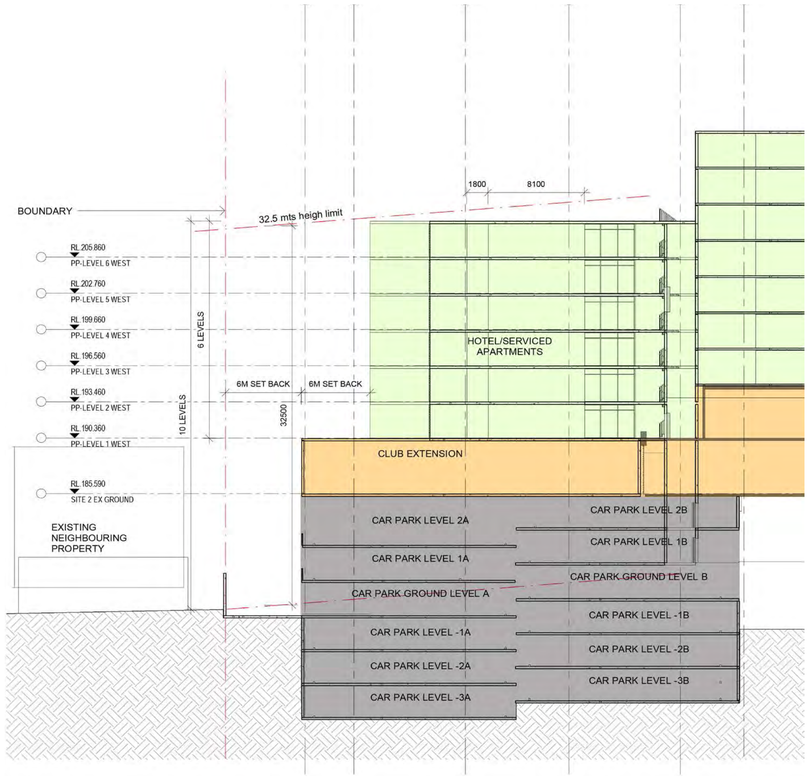
BASEMENT PLAN

SITE 2





CAR PARK ENTRY LEVEL

CAR PARK

LEVEL	SPACES
LEVEL G	50

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CAR PARK ENTRY LEVEL

SITE 2

CAR PARK

LEVEL	SPACES
2 LEVEL	57

NEW RESIDENTIAL LOBBY	95sqm
NEW CLUB LOBBY	45sqm
NEW HOTEL/CAR PARK LOBBY	330sqm

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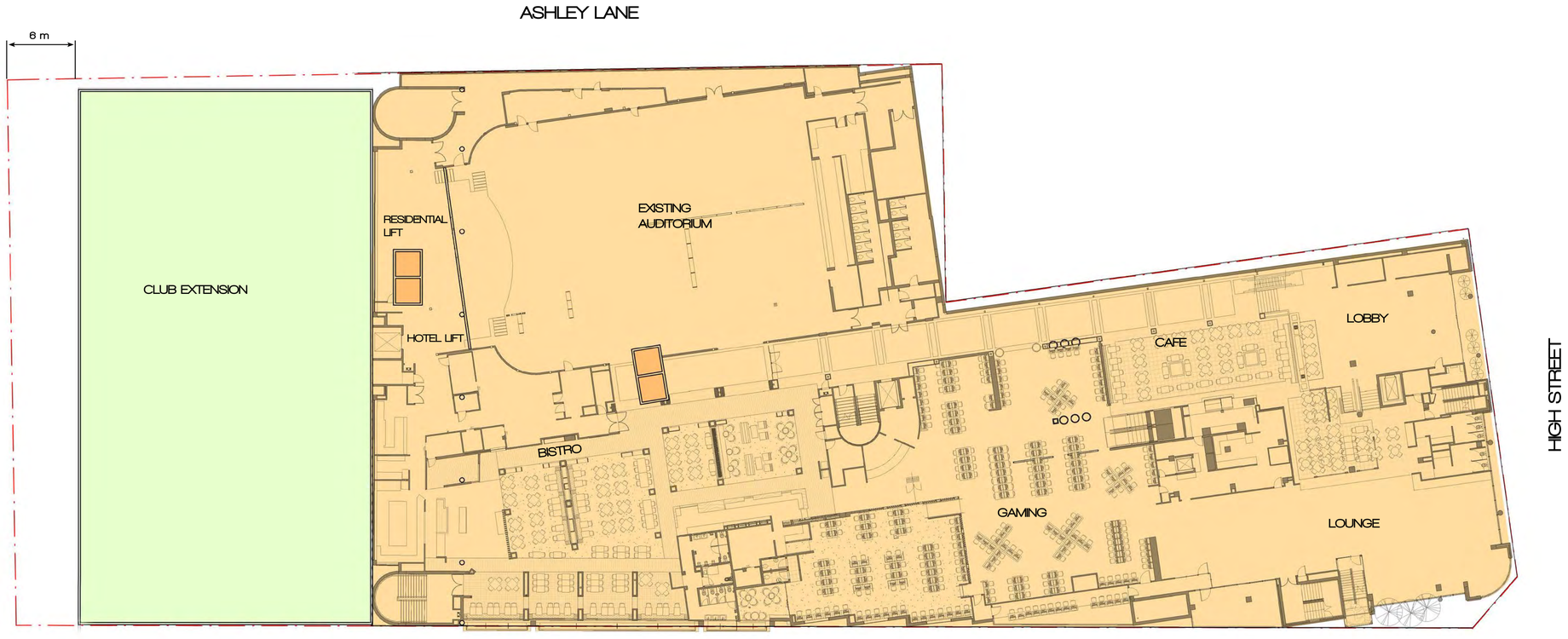
LOWER GROUND

SITE 2

CLUB EXTENSION
1440sqm



CLUB EXTENSION

EXISTING CLUB

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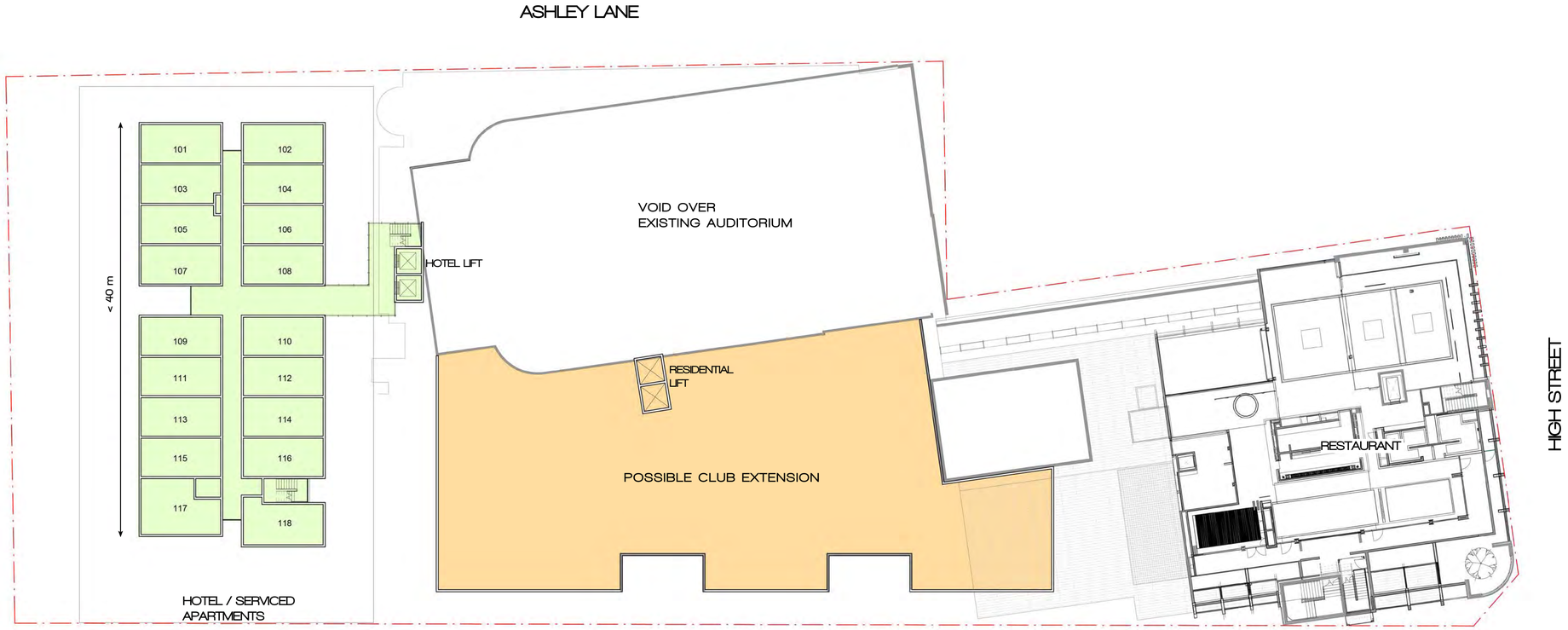
GROUND LEVEL
SITE 2



CLUB EXTENSION
1220sqm

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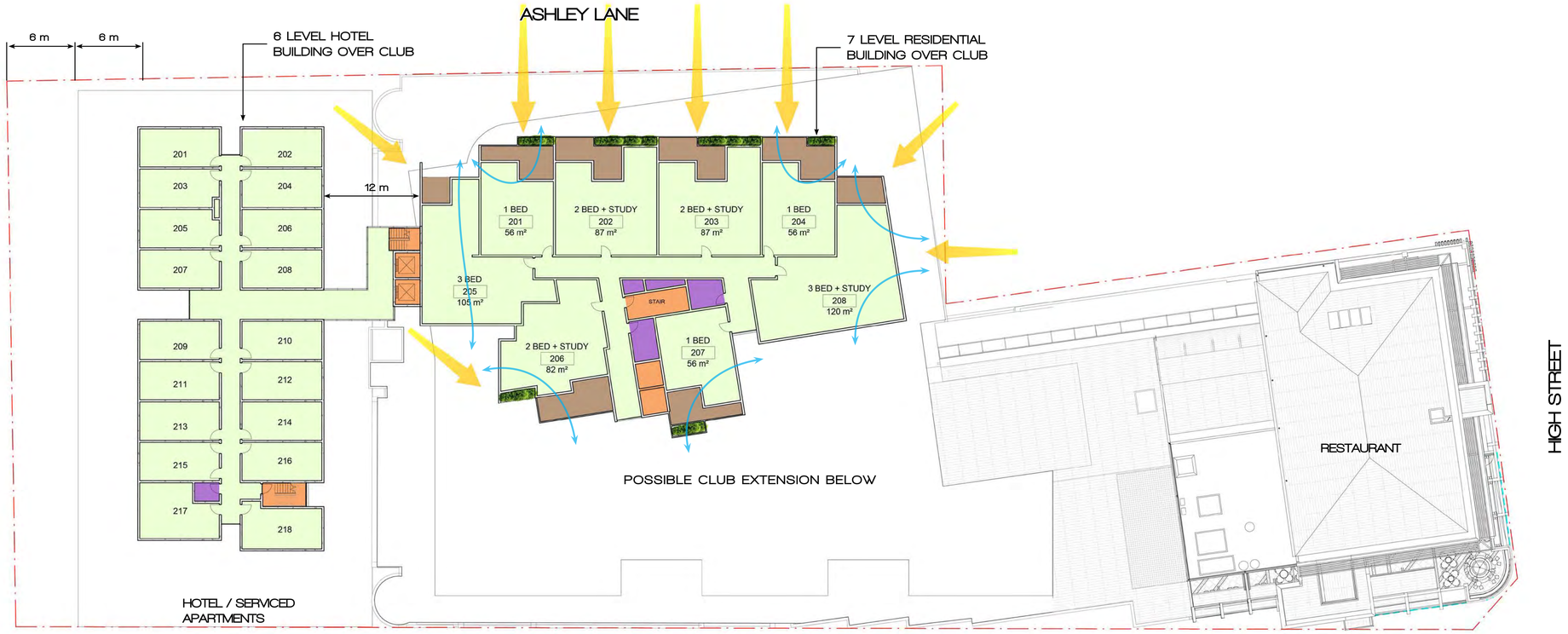
GROUND LEVEL
SITE 2



RESIDENTIAL LEVEL 1-7

UNIT PER LEVEL	#	TOTAL
3 BED + STUDY	2	14
2 BED + STUDY	3	21
1 BED	3	21
TOTAL		**56**

NEW HOTEL / SERVICED APARTMENTS

UNIT PER LEVEL	#
28m² ROOM	16
31m² ROOM	1
36m² ROOM/SUITE	1
TOTAL	**18**
TOTAL ROOMS	**108**

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TYPICAL HOTEL & RESIDENTIAL LEVEL LEVEL 1-7

SITE 2

EXISTING CAR PARK

ON GRADE	**74**

NEW CLUB CAR PARK

LEVEL	SPACES
LEVEL -3	57
LEVEL -2	55
LEVEL -1	55
LEVEL G	50
LEVEL 1	53
LEVEL 2	57
TOTAL	**327**

TOTAL ADDITIONAL SPACES
253

LOWER GROUND
NEW CLUB LOBBY
NEW HOTEL LOBBY
NEW RESIDENTIAL LOBBY

GROUND LEVEL
NEW CLUB EXTENSION 1440sqm

LEVEL 1
NEW CLUB EXTENSION 1220sqm

NEW WESTERN HOTEL

LEVELS	6
ROOMS PER LEVEL	18
TOTAL ROOMS	**108**

NORTHERN RESIDENTIAL

LEVELS	7
1 BED	21
2 BED + STUDY	21
3 BED	14
TOTAL	**56**

ALLOWABLE FSR SHOP TOP	3:1 + RESIDENTIAL
SITE AREA	6,697m²
ALLOWABLE GFA	20,094m²
EXISTING FSR	1.76:1
EXISTING GFA	11,787m²
PROPOSED FSR SHOP TOP	3:1 + RESIDENTIAL
PROPOSED GFA EXISTING CLUB	11,787m²
PROPOSED CLUB EXTENSION GROUND LEVEL	1,442m²
PROPOSED CLUB EXTENSION LEVEL 1	1,220m²
PROPOSED HOTEL LEVEL 1 TO LEVEL 7	4,200m²
TOTAL PROPOSED GFA	**18,589m²**

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SITE 2

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ASHLEY STREET

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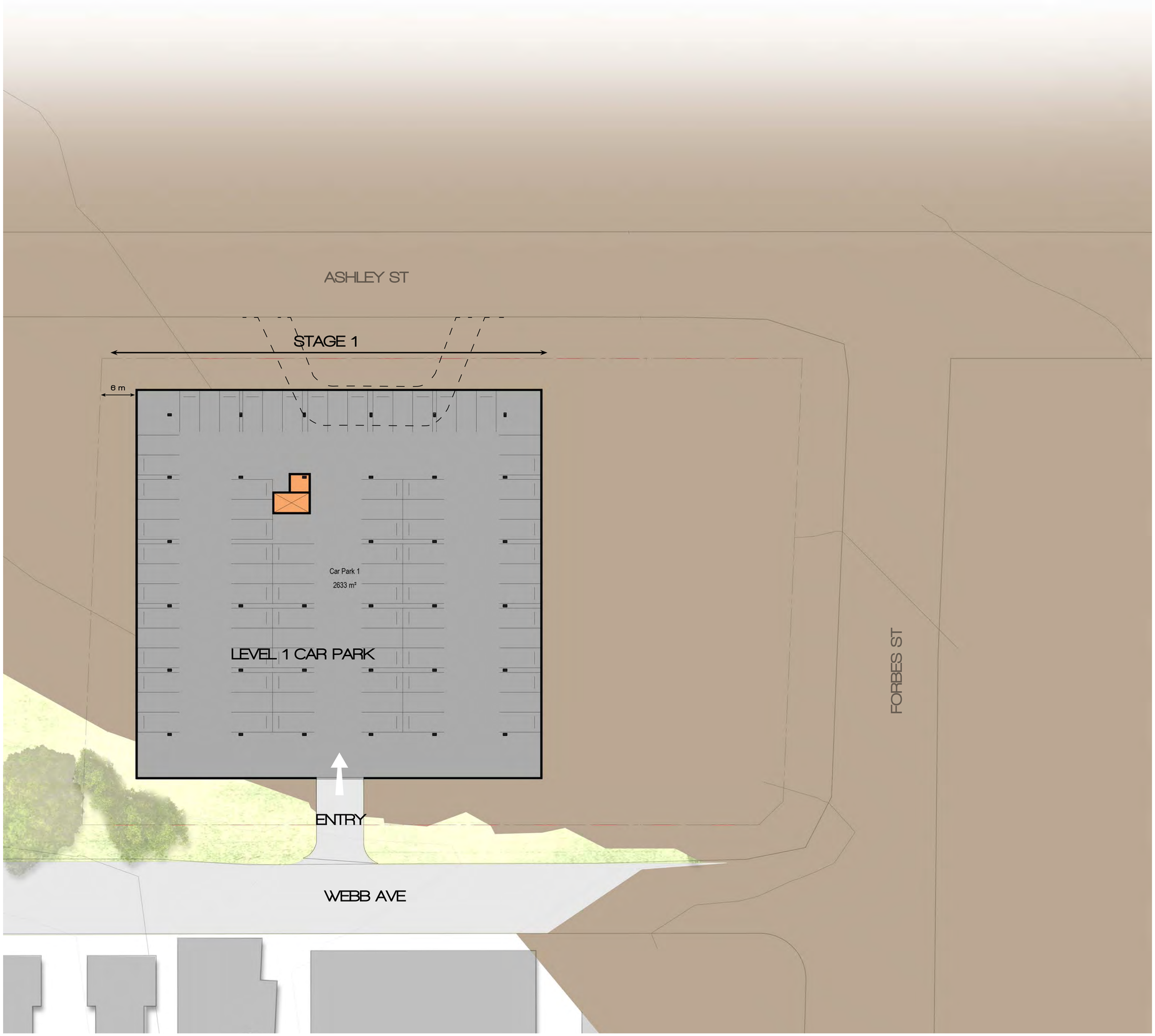
3D VIEW ASHLEY STREET

SITE 2



STAGE 1 CAR PARK

SPACES	58

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WEBB AVENUE LEVEL 1

SITE 3

1:250 @ A1

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RESIDENTIAL LEVEL 2

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	3	6
TOTAL	**6**	**15**

CAR PARK

STAGE1	
SPACES	21
STAGE 2	
SPACES	29
TOTAL	**50**

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WEBB AVENUE LEVEL 2

SITE 3

1:250 @ A1

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RESIDENTIAL LEVEL 3

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	6	18
2 BED	12	24
1 BED	2	4
TOTAL	**20**	**46**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	6	12
1 BED	1	2

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	6	12
1 BED	1	2

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WEBB AVENUE LEVEL 3 + COURTYARD

SITE 3

1:250 @ A1

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RESIDENTIAL LEVEL 4

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	6	18
2 BED	10	20
TOTAL	**16**	**38**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	5	10

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	5	10

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ASHLEY STREET LEVEL 1
WEBB AVENUE LEVEL 4

SITE 3

1:250 @ A1

ALTIS architecture

RESIDENTIAL LEVEL 5

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	6	18
2 BED	10	20
TOTAL	**16**	**38**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	5	10

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	5	10

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ASHLEY STREET LEVEL 2
WEBB AVENUE LEVEL 5

SITE 3

1:250 @ A1

ALTIS architecture

RESIDENTIAL LEVEL 6

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	4	12
2 BED	12	24
TOTAL	**16**	**36**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	6	12

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	3	9
2 BED	6	12

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ASHLEY STREET LEVEL 3
WEBB AVENUE LEVEL 6

SITE 3

1:250 @ A1

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RESIDENTIAL LEVEL 7

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	2	6
2 BED	12	24
TOTAL	**14**	**30**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	6	12

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	6	12

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ASHLEY STREET LEVEL 4

SITE 3

1:250 @ A1

ALTIS architecture

RESIDENTIAL LEVEL 8

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	2	6
2 BED	6	12
1 BED	2	2
TOTAL	**10**	**20**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	1	2
1 BED	2	2

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	5	10

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ASHLEY STREET LEVEL 5

SITE 3

1:250 @ A1

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RESIDENTIAL LEVEL 9

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	2	6
2 BED	4	8
1 BED	2	2
TOTAL	**8**	**16**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	1	2
1 BED	2	2

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	1	3
2 BED	3	6

HORNSBY RSL MASTER PLAN

PROJECT 815E.14

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ASHLY STREET LEVEL 6

SITE 3

1:250 @ A1

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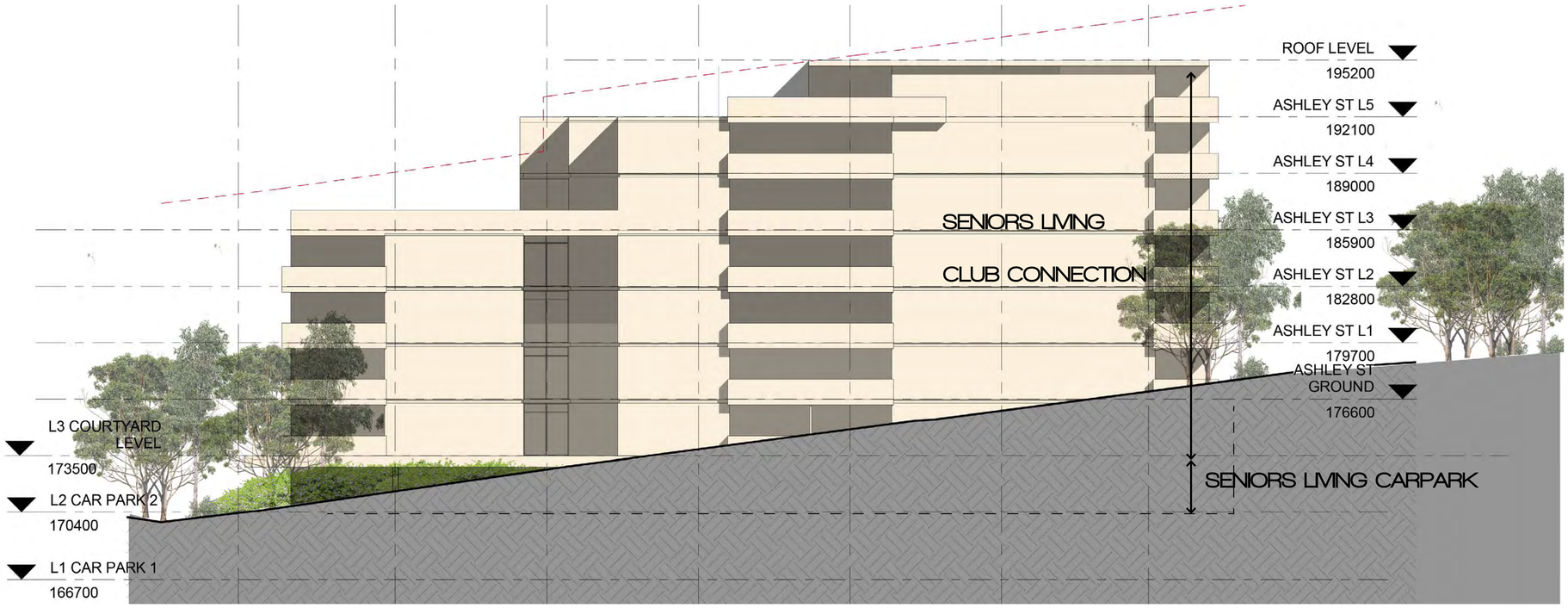
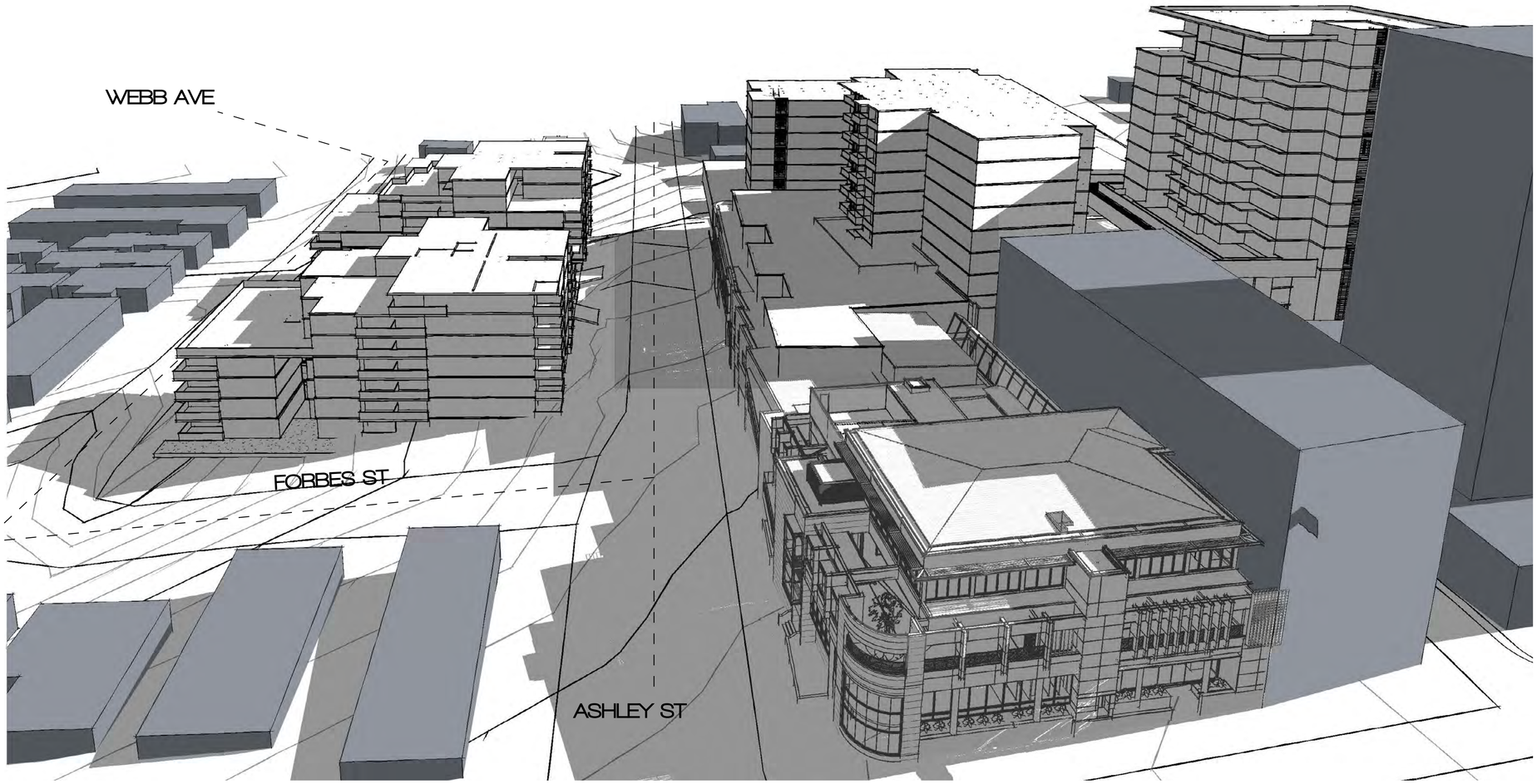


FORBES STREET ELEVATION



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FORBES STREET ELEVATION + MASS DIAGRAM

SITE 3

1:250 @ A1

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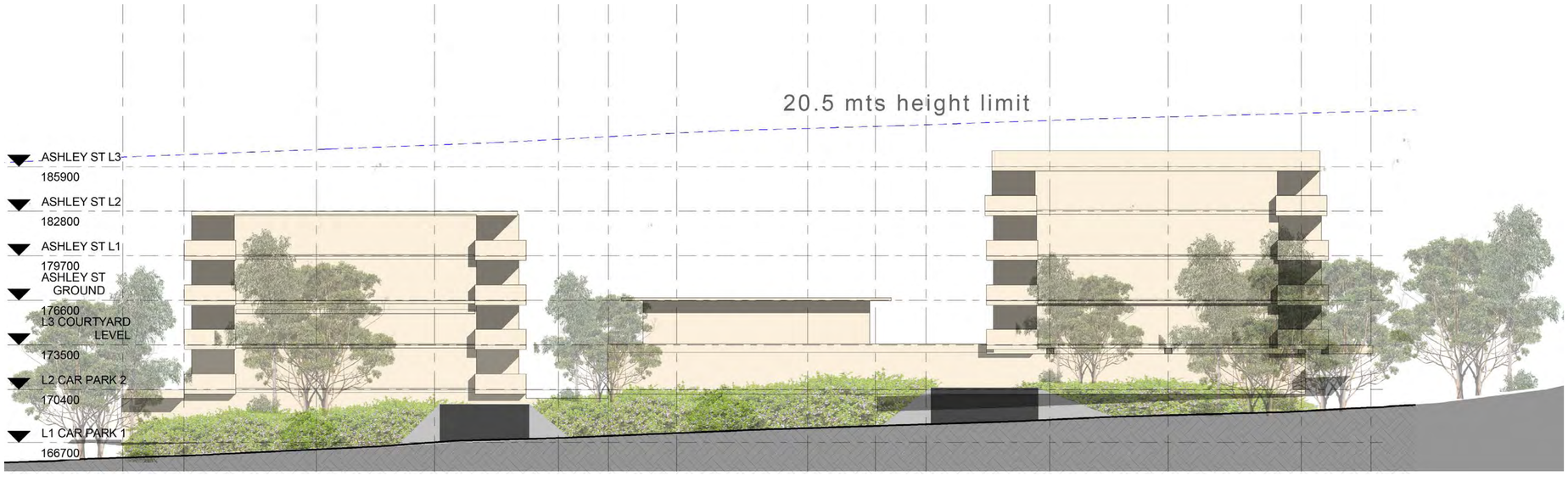
ASHLEY STREET ELEVATION



WEBB AVENUE ELEVATION

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ASHLEY STREET AND WEBB AVENUE ELEVATIONS

SITE 3

1:250 @ A1

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CAR PARK

STAGE1

SPACES	79

STAGE 2

SPACES	29

TOTAL	**108**

RESIDENTIAL

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	31	93
2 BED	69	138
1 BED	6	6
TOTAL	**106**	**237**

STAGE 1

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	16	48
2 BED	33	66
1 BED	5	5
TOTAL	**54**	**119**

STAGE 2

UNIT MIX	TOTAL UNITS	TOTAL BEDROOMS
3 BED	15	45
2 BED	36	72
1 BED	1	1
TOTAL	**52**	**118**

ALLOWABLE FSR	3:1
SITE AREA	5,565m²
ALLOWABLE GFA	16,695m²
PROPOSED FSR	2.6:1
PROPOSED GFA	14,338m²

HORNSBY RSL MASTER PLAN

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SITE 3

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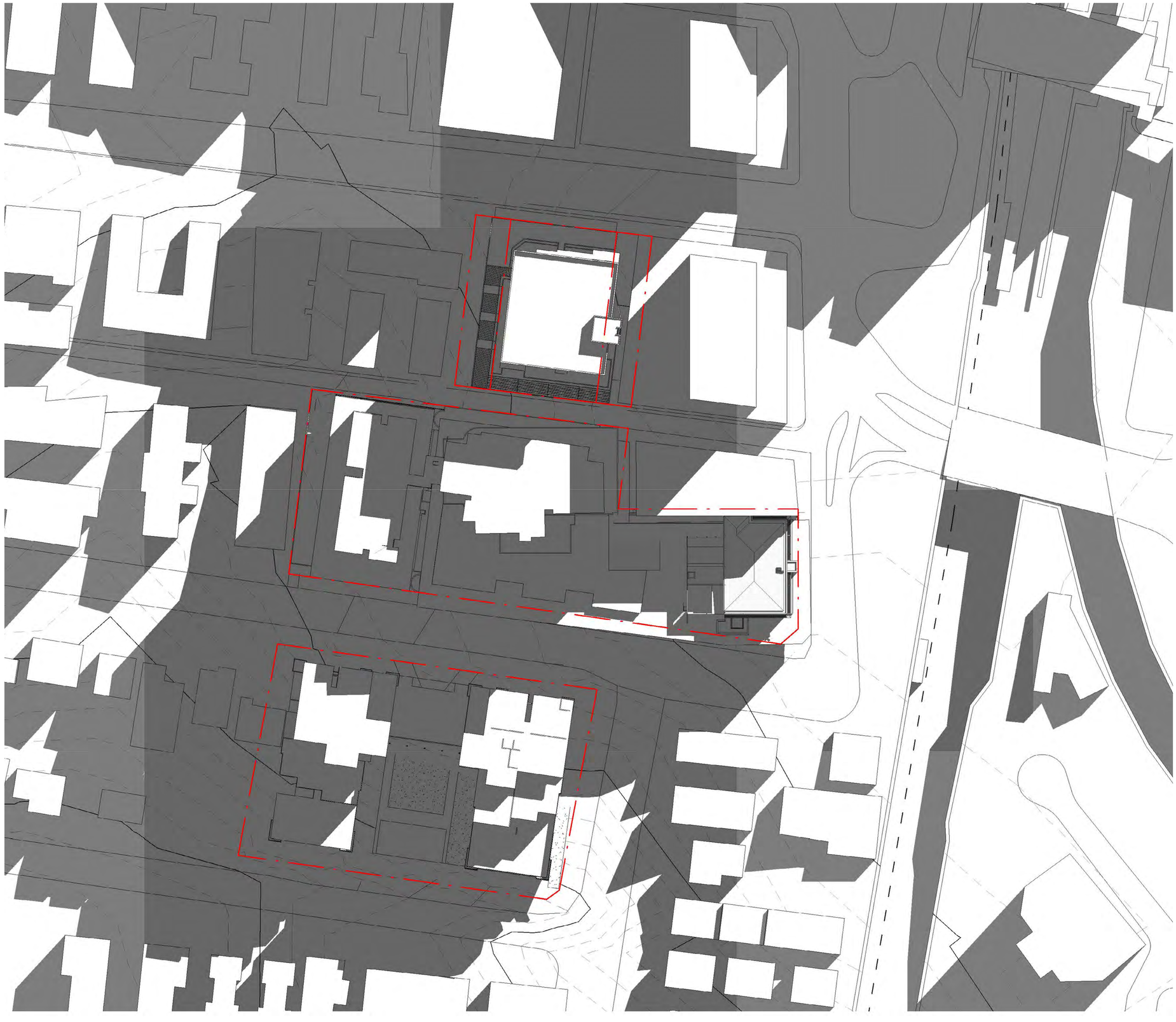

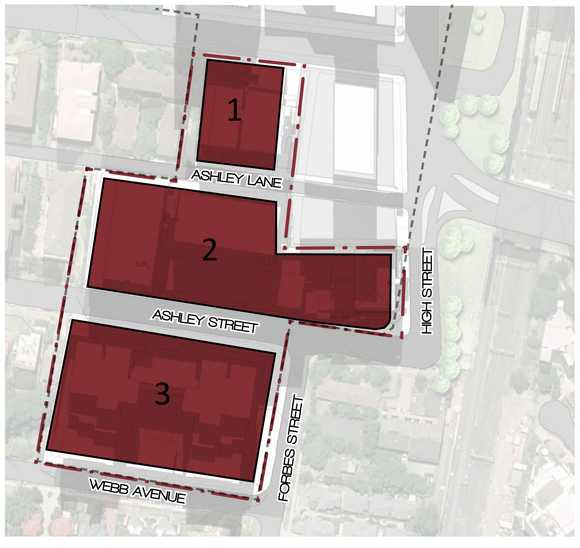

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SHADOW DIAGRAM

WINTER 9am

SITE 1, 2 and 3

1:500 @ A1

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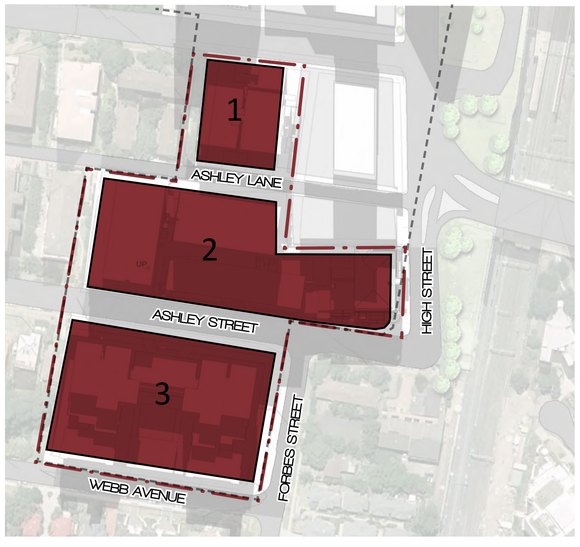

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SHADOW DIAGRAM

WINTER 11am

SITE 1, 2 and 3

1:500 @ A1

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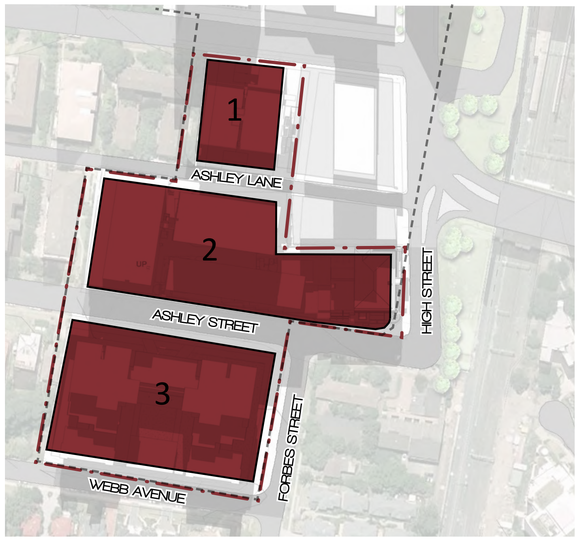

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SHADOW DIAGRAM

WINTER 12pm

SITE 1, 2 and 3

1:500 @ A1

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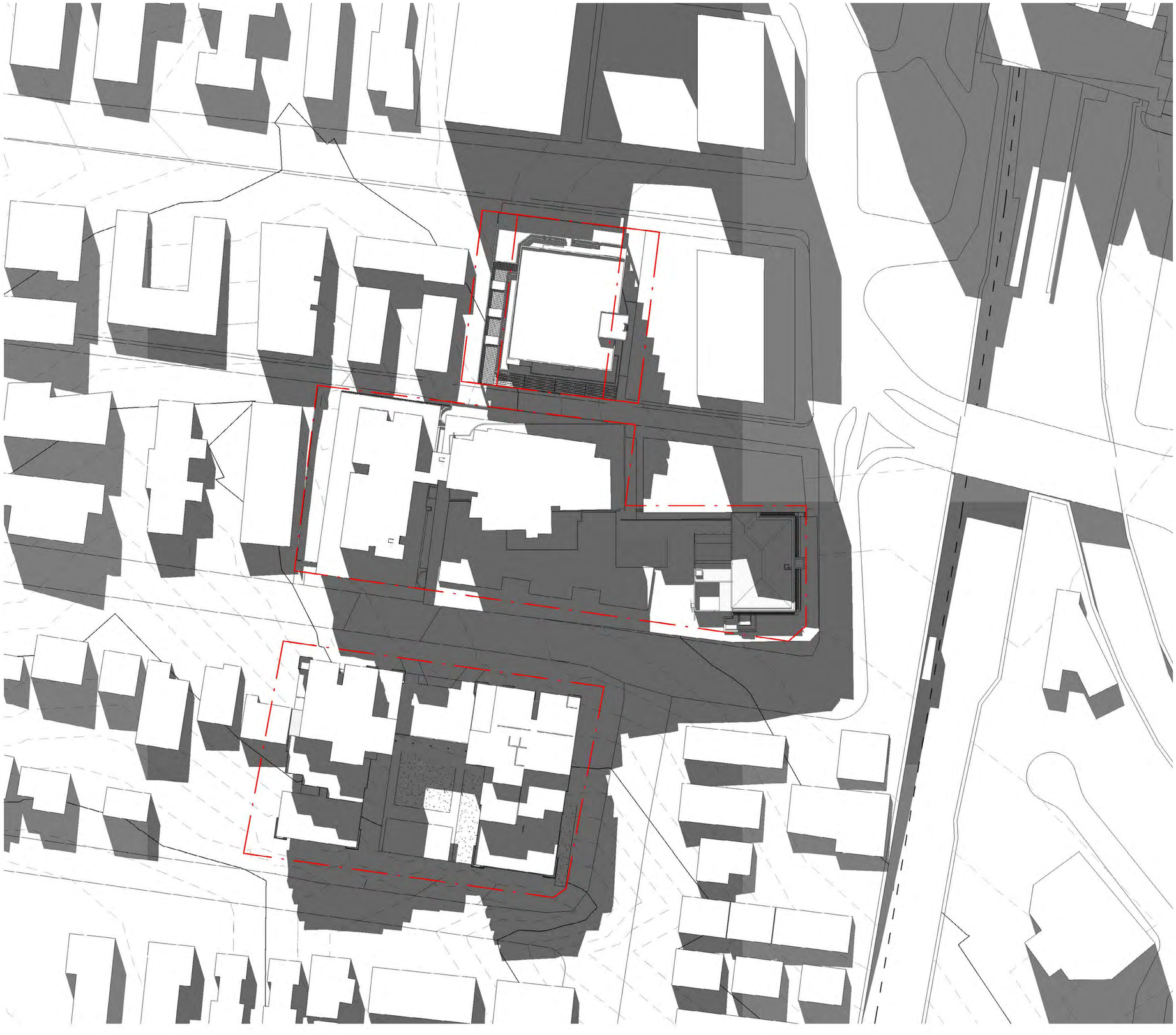

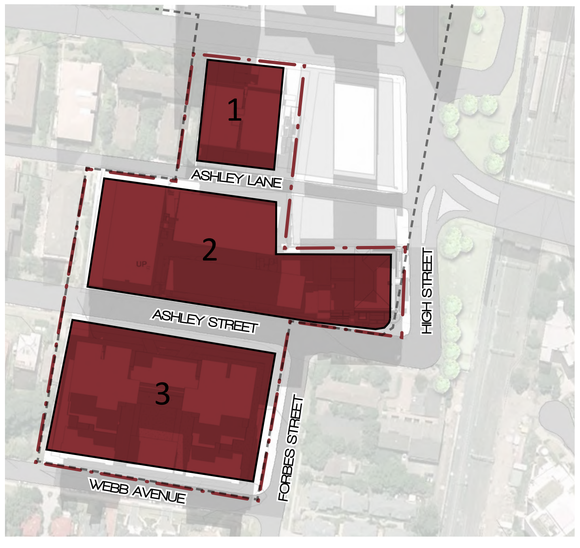

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SHADOW DIAGRAM

WINTER 1pm

SITE 1, 2 and 3

1:500 @ A1

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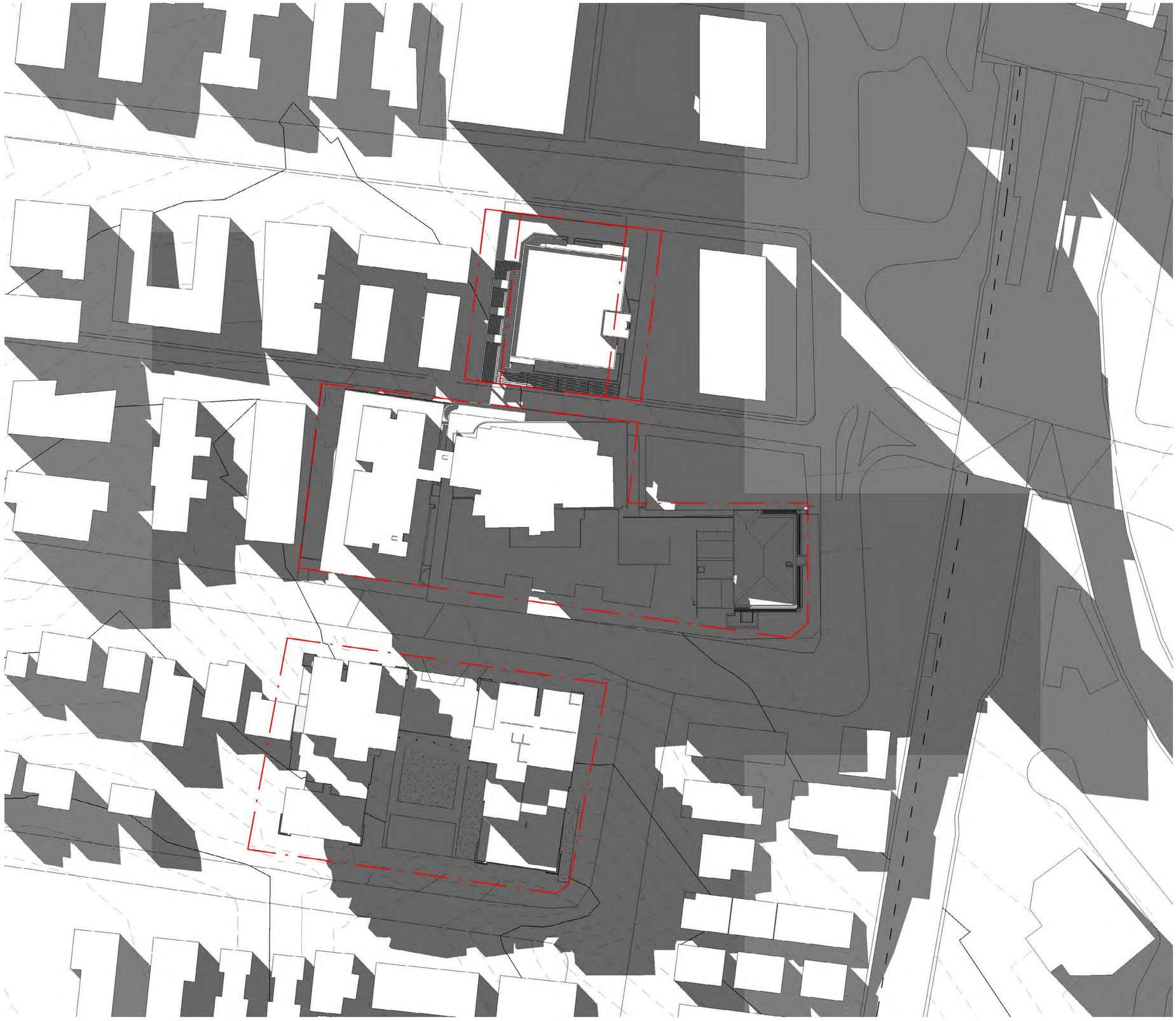

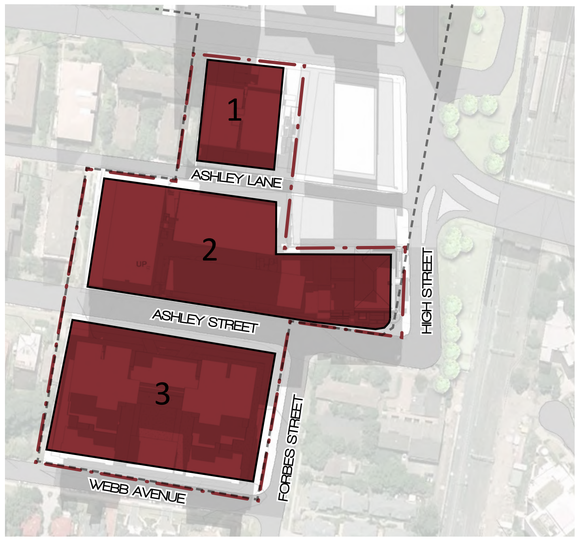

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SHADOW DIAGRAM

WINTER 3pm

SITE 1, 2 and 3

1:500 @ A1

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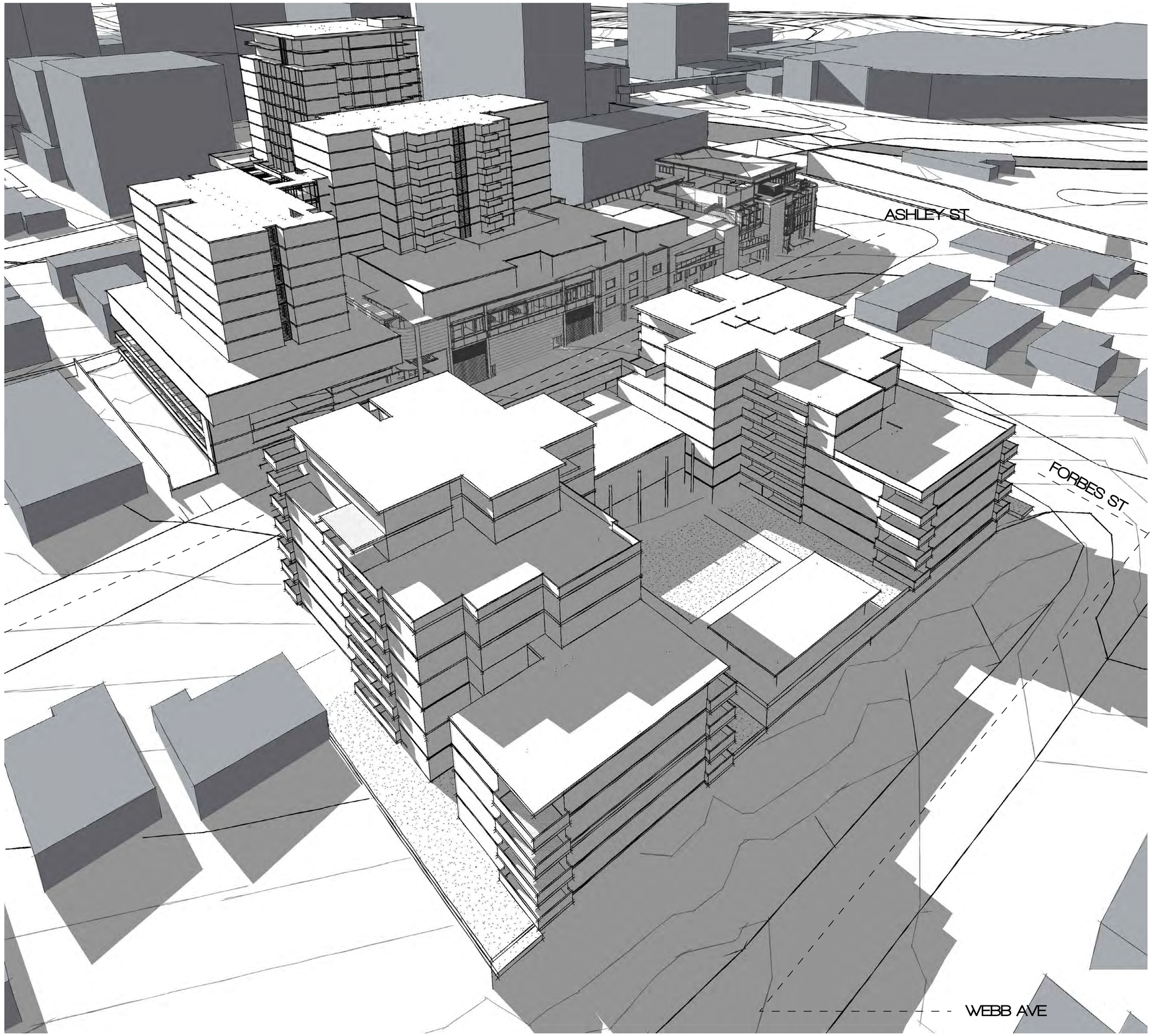

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PROJECT 815E.14

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MASS DIAGRAM

SITE 3

1:250 @ A1

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Urban Design Assessment

Amended additional commentary for

Planning Proposal for Hornsby RSL Club sites at:

1A & 3-7 William Street & 2 Ashley Lane (Hornsby RSL Club & Community Car Park),
4 High Street (Hornsby RSL Club), and
7-19 Ashley Street & 2-4 Webb Avenue, Hornsby

Date: 20 December 2016

GMU Ref: 16156

Issue	Date	Status	Prepared by
A	09/11/2016	Final	Karla Castellanos
B	21/11/2016	Revised Final	Karla Castellanos
C	20/12/2016	Revised Final	Karla Castellanos

Contents

Introduction

GM Urban Design & Architecture (GMU) has been appointed by Hornsby Shire Council to undertake a SEPP 65 assessment and urban design review for the amended Planning Proposal Application for the Hornsby RSL redevelopment located at 1A & 3-7 William Street and 2 Ashley Lane (Hornsby RSL Club & Community Car Park), 4 High Street (Hornsby RSL Club), 7-19 Ashley Street & 2-4 Webb Avenue, Hornsby (the subject site).

GMU undertook an initial review of the application in August 2016. The purpose of this report is to provide additional assessment on the proposed development against the previous advice provided by GMU for the subject site. When reviewing the Planning Proposal application, GMU has referred to the following relevant planning policies or design guidelines:

- Hornsby LEP 2013
- Hornsby DCP 2013, particularly the West Side Precinct
- Exhibited Hornsby DCP Draft Housekeeping Amendments with Additional Changes
- SEPP65 and the Apartment Design Guide (ADG)
- SEPP2004 Housing for Seniors or People with a Disability

The proposal contains three development sites as shown in Figure 1. Accordingly, this report has been structured into three sections. Each section discusses issues related to each development site.

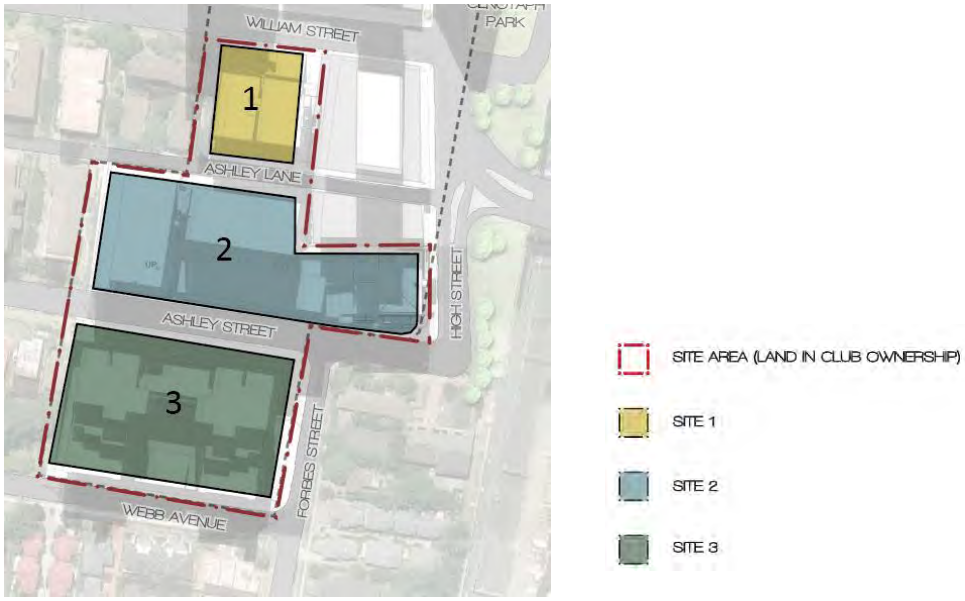


Figure 1 – Development sites included in the subject Planning Proposal (courtesy of Altis Architecture)

1. Site 1 - Community Car Park Redevelopment

Detailed commentary for Site 1 development is as follows:

Built form

Side setbacks

The proposal has increased the setback to the common boundaries with No.11 William Street which improves the outcome, but the setback distance to the common boundary with 141-151 Pacific Highway is inadequate and does not comply with ADG's separation requirements. The separation, which has been labelled as 12m on the floor plans in this location, is actually 9m only. The minimum separation distance required is 12m.

Floorplate sizes

It is noted that the gross floor area (GFA) of Levels 7-13 exceeds the maximum residential floorplate size of 700m^2 as required by Clause 4.5.4 (d) of the Draft HDCP 2013. The current floorplate of Levels 7-13 each has a GFA of approximately 750m^2; they should be further reduced to comply with the DCP control. The oversized floorplates contribute to the inappropriate bulk of the proposal and would increase shadow impacts on adjacent properties.

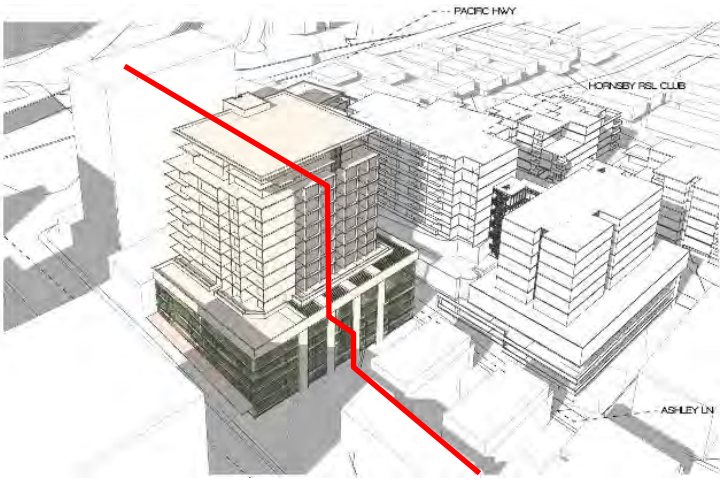
Street wall

The proposal does not comply with the DCP to create a consistent street wall height as per the West Side Precinct – Key Principles Diagram (Figure 4.5g).The proposal claims that the existing car park structure needs to be retained to be financially viable for the project, resulting in an inconsistent character with the DCP's desired future street wall height.

If the car park has to be retained as it is, it is important that the proposal investigates façade treatment options to create the visual transition from 2 storeys to 5 storeys in order to maintain the desired streetscape relationship.

Building height

The applicant has provided a 3D view as per the request in GMU's previous commentary. The 3D view clearly shows that the proposal presents a rather abrupt relationship with the 4-storey development to the west and also presents an oversized bulk in context with the surrounding built form.



Source of image: Altis Architecture

Building depth

The building depths of the proposed tower range from 20m to 29m, measured from glass line to glass line. The building depths significantly exceed the maximum dimension of 18m recommended by the ADG.

The applicant claims that the apartments are able to maintain the maximum 8m depth from glazing to the edge of open plan living/kitchen areas. However, the excessive building depths will contribute to the bulky appearance and increase the shadow impacts of the proposal.

Siting the development

Public domain interface

In the previous commentary, GMU emphasised that, as a minimum, the car park structure should be sleeved by commercial or residential uses along the William Street frontage as well as the laneway to the east. While the proposal has extended the active edges along William Street, the William Street and eastern laneway frontages are still not able to provide the expected level of activation. There are opportunities to maximise street activation with retail uses at the north eastern and south eastern corners of the site.

It is GMU's opinion that the proposal should mitigate the impact of the Sydney Water Pump Station on the public domain of William Street and the laneway as a 'value-add' of the project in order to justify the proposed uplift on the site.

It is recommended that the applicant provides perspective views from the street level to demonstrate the quality and potential future character of the frontage along William Street and the eastern laneway. The current scheme does not demonstrate a convincing outcome.

The façade treatment of the car park structure is paramount to the quality of the public domain and the outcome of the redevelopment and therefore should be carefully considered at the early stage of the project. The practicality of such extensive use of 'green wall' treatment on the façades of the existing car park structure is questionable. Especially on the south facing façades where direct sunlight is not available, green walls might not be a suitable solution for all aspects. Failing green walls would only lead to a poor visual quality for the development and escalate the maintenance costs in the long term.

GMU recommends to investigate other design treatments in combination with green walls such as artistically design panels to achieve a good balance. A single kind of treatments might lead to a monotonous outcome.

Vehicle access

It is preferred that the vehicle access from William Street is removed or relocated to the laneway along the eastern boundary. The applicant claims that the William Street access has to be retained due to the narrow width of the road reserve and traffic rates. GMU recommends Council's traffic engineering officers to review and assess this issue.

Designing the building

Natural ventilation

Based on the typical floor plan for the residential levels, there are only 4 apartments (50.0%) per floor that are dual aspect (corner) apartments which can achieve cross-ventilation. The other 4 apartments on the typical floors are single aspect apartments. Therefore, the proposal is unlikely to meet the ADG's requirement to ensure that a minimum of 60% apartments are cross-ventilated.

Common circulation and spaces

The residential tower has 9 apartments per floor up to Level 13. This exacerbates the bulky appearance of the proposal and exceeds the maximum number (8) of apartments off a single circulation core per floor recommended by the ADG. The ADG may accept greater number of apartment per floor in certain circumstance, but not in this case when the proposal presents such an inappropriate bulk and contains a large number of non-compliances.

Solar access

Apartments 601 and 1101 are labelled on the drawings showing that they are able to receive direct daylight. However, in reality the daylight to these apartments would be obstructed by the lift core.

According to the shadow diagrams and the typical floor plans, Apartments 602, 601, 1102, 1101, 1401 and 1501 are not able to receive any direct sunlight between 9 am and 3 pm at mid-winter. This means that in the entire development 18 out of 81 apartments (or 22.2%) would not receive any direct sunlight between 9 am and 3 pm at mid-winter. This exceeds the maximum of 15% allowed in the ADG.

It is noted that the north arrows throughout the drawing package are inaccurate.

2. Site 2 – RSL Club Redevelopment

Detailed commentary for Site 2 development is as follows:

Built form

Street setback

The following issue from GMU's previous commentary has not been addressed. It is important that the proposal provides a sensitive character transition from business to residential uses within the site, which is the intention of the DCP setback control as stated in GMU's previous commentary. Matching the existing zero setback of the RSL Club is not considered to be a sensitive approach.

> *"The proposed 0m carpark setback to Ashley Street does not comply with the DCP's requirement to provide a minimum 3m street setback (Figure 4.5n). This setback is important as it will provide the character transition to the existing residential development further to the west."*

Side setbacks

The proposal has increased the side setback distance to the adjoining properties at No. 14-18 Ashley Street from the car park's ground level. However, it is GMU's opinion that the side setback zone should be provided with mature tree planting to screen the carpark structure as the car park has a direct interface with the habitable rooms of No.14-18 Ashley Street. The proposal uses the entire setback zone for vehicle circulation which is an unacceptable outcome and would significantly compromise the amenity of the neighbouring properties.

Building length

The building length of the residential tower is still considered excessive, particularly with the lift core of the hotel/serviced apartment building attached to the western side, further contributing to the perception of length. The two buildings will be seen as one continuous mass and present as a 'wall' of development. A minimum of 12m separation should be provided from non-habitable rooms to the hotel, or a minimum of 18m separation should be provided from habitable rooms to the hotel.

On the drawings, the separation distance is labelled as 12m between the hotel/serviced apartment building and the residential tower. However, the separation is in fact 8m only. The applicant has not provided accurate information

Siting the development

Public domain interface

The proposal retains the primary club entry via Ashley Lane and retains the undercroft drop-off area as the arrival point which is not a good outcome. It is GMU's opinion that the lobbies of the club and hotel should each have an identifiable street address on Ashely Street.

The residential lobby should also have an identifiable street address and this can be provided near the corner of Ashley Lane and the eastern laneway of Site 1 so that its visibility is maximised. This would separate the residential entry from the club and hotel entries to maintain the privacy of the future residents.

The current lobby location is completely internalised and over 10m deep from the Ashley Lane boundary. It is also very convoluted for the future residents to access to the residential lobby. Access to lobbies should be as direct and visible as possible.

The proposal currently has a 65m-long and continuous inactive edge along Ashely Street which is a very poor outcome. It is recommended that the Ashley Street be activated with club and hotel lobbies or other active uses to reduce the length and break up the continuity of the inactive edge.

The applicant claims that the entry to the loading dock cannot be relocated to Ashley Lane in a practical way because only the current access location can accommodate the range of vehicles which need to access the docks. GMU recommends Council's traffic engineering officers to review and assess this issue. Should the vehicle entry to the loading dock is retained on Ashely Street, its dimensions must be minimised to reduce the impacts on the public domain.

Solar access

Apartment 206 is labelled on the drawings showing that they are able to receive direct daylight. However, in reality the daylight to the apartment would be obstructed by the lift core.

According to the shadow diagrams and the typical floor plans, Apartments 206 and 207 are not able receive any direct sunlight between 9 am and 3 pm at mid-winter. This means that, in the entire development, 16 out of 64 apartments (25%) would not receive any direct sunlight between 9 am and 3 pm during mid-winter. This exceeds the maximum of 15% allowed in this ADG.

3. Site 3 – Seniors Housing Development

Detailed commentary for Site 3 development is as follows:

Built form

Street Setback

The proposed setback of 4m to Ashley Street is inadequate considering that the prevailing setback distances along Ashley Street to the west range from 7 to 8m. The proposed residential development should not refer to the RSL Club building (which is a commercial premises) for setback requirements.

Building separation

The following issue from GMU's previous commentary has not been addressed:

> *"A residential flat building over 4 storeys with habitable rooms/balconies facing the adjoining properties to the west should provide a 9m side setback to the common boundary as per the ADG. Levels 4, 5 and 6 of the proposal should also have an additional setback of 3m from the common boundary."*

The applicant claims that the reduced separation distance will not lead to privacy impacts; however, the proposal did not consider its increased shadow impact onto the neighbouring private open space. The reduced separation distance also causes a rather abrupt relationship between the proposed 7-storey building and the adjacent single-storey dwelling house.

To achieve an ADG-compliant building separation, a total of 9m separation (i.e. the minimum of 6m plus additional 3m for zonal transition) is required from the proposed built form to the common boundary for building up to 4 storeys, or 12m is required if the building has 5 to 8 storeys.

Building height & secondary setback

GMU understands that Council is agreeable to an uplift for the site if the proposal is for the purpose of senior housing up to 5 storeys. Having considered the future development scale to the north of the site, it is GMU's opinion that a streetwall up to 4 storeys would be appropraite along Ashley Street; the streetwall along Webb Avenue should be no more than 3 storeys, so that it is able to maintain a sensitive scale to the 2-storey dwellings to the south; the transition of street wall height from 4 to 3 storeys should be provided from the north to south along Forbes Street.

The upper levels above the street wall should be sufficiently setback to reduce their perceivable bulk from the street. GMU recommneds that:

- a minimum of 3m secodary setback should be provided to Ashely Street and Forbes Street.
- a minimum of 6m secodary setback should be provided to Webb Avenue.

GMU has attached sketches to illustrate the above recommendations at the end of this report.

Siting the development

Public domain interface

The proposal attempts to address the blank wall façade on the street level with landscaping. This approach, however, still provides no activation to the public domain interface. Using landscape treatment alone to mask the issues does not help activate the street edges and is considered to be a lesser outcome.

In GMU's previous commentary, it was recommended that the public domain interface should be activated by private front gardens with direct street access to each ground floor apartment. The gardens (or protrusion of basement car park) can be raised by up to 1m above the ground level if required to overcome the topographical constraints.

The following issue from GMU's previous commentary has not been addressed.

> *"The proposal cuts into the northern portion of the site and sinks the development by more than one storey (approximately 4m) lower than the existing ground level, in order to achieve level access and parking while lacking sensitive response to the sloping nature of the site's topography. As the units at the site's edges are sunken, they would have a poor outlook and also visual privacy impacts from the public footpath. A better design solution is to set the datum level with ground floor units and adjust basement parking and site access accordingly."*

The applicant's claim to use landscape treatment to maintain privacy is a highly compromised solution and does not promote a good design outcome. Such an approach is not supported.

The following issue from GMU's previous commentary has not been addressed:

> *"The drop-off area and dual vehicle entry ramps on Ashley Street would occupy about 40% of the street frontage, resulting in a poor public domain interface. The approach prioritises vehicles rather than pedestrians to create a poor arrival experience."*

GMU is not convinced that the 'shared environment' approach by the applicant is an appropriate solution to the issue. Shared zones are usually design at a compact and intimate scale to promote priority for pedestrians. The proposed drop-off area is nearly 28m wide with two 4m-wide vehicular entry points. This is not considered to have a human-scale and would cause significant impacts onto the public domain.

The following issue from GMU's previous commentary has not been addressed:

> *"The cutting of the site and sinking of the development lead to the inability to provide direct street access into ground floor apartments, exacerbating the poorly treated public domain interface."*

It is an important principle that the public domain interface is activated by residential entries, private open spaces and habitable rooms. The trench along the boundaries physically disconnects the street-level apartments from the public domain. The sinking of the apartments creates more than just privacy and access issues but a poor public domain interface and lesser amenity from the subterranean units.

The following issue from GMU's previous commentary has not been addressed:

> *"The proposal does not provide any information in relation to deep soil planting. The ADG requires 7% of the site area to be provided as deep soil zone. Considering that the site has a generous area of 5,463m^2, the proposal should endeavour to provide a minimum 15% of the site area as deep soil zone, as recommended by the ADG. The basement parking of the proposal should also provide 7m setback from front and rear boundaries and 6m from side boundaries to allow for deep soil landscaping as per Table 3.5.7(a) of the DCP."*

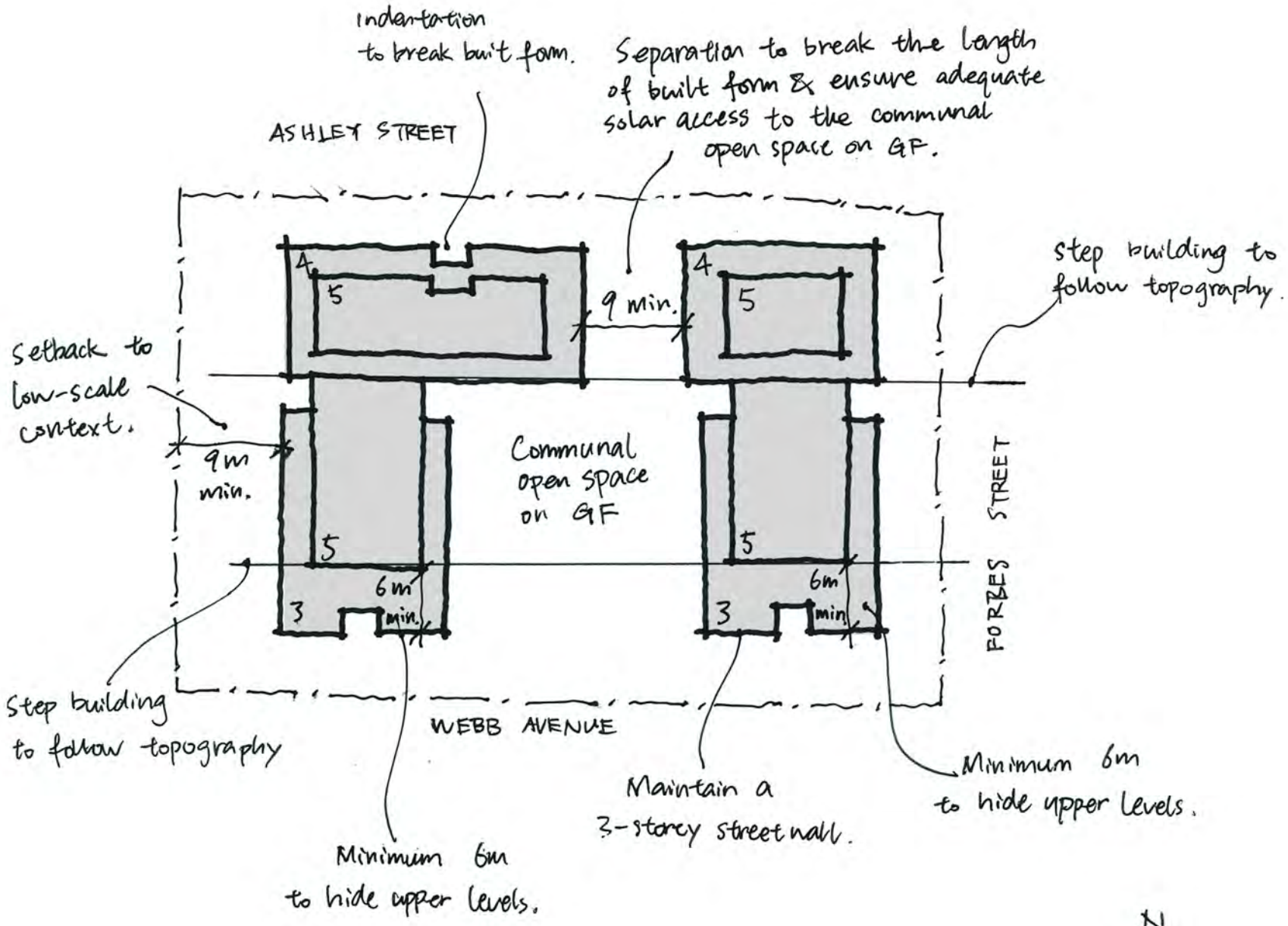
The above comments relate to Section 3E 'Deep Soil Zone' on page 61 of the ADG and Table 3.5.7(a) of the DCP. The revised proposal has not provided any information, such as calculation of the deep soil areas to demonstrate how the above requirements can be met.

Conclusions and Recommendations

GMU considers that the revised Planning Proposal scheme has not resolved the majority of the issues raised. In general, the proposal's design approach aims to maximise the development yield and has failed to properly address the issues raised, which would lead to over-development at the expense of the quality of the public domain, amenity of neighbouring properties and the quality of the apartment units within the sites.

In addition, the applicant has provided inaccurate information including setback and separation distances, north arrows and solar access to apartments. This leads to a general concern on the overall quality of the documentation.

It is GMU's opinion that the revised proposal still fails to demonstrate how the amended LEP controls would deliver a positive outcome and provide the expected public benefits to the community to justify the proposed level of uplift. The applicant must reconsider the current design approach and follow 'best practice' principles to be able to achieve a satisfactory outcome.



NOT TO SCALE
INDICATIVE HEIGHT DISTRIBUTION
GMU SKETCH
16/12/2016