11-17 Columbia Lane, Homebush
Proposed Residential Development
Transport Impact Assessment

Prepared for:

Columbia Lane Development Pty Ltd

13 August 2019

The Transport Planning Partnership

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Proposed Residential Development

Transport Impact Assessment

Client: Columbia Lane Development Pty Ltd

Version: V03

Date: 13 August 2019

TTPP Reference: 19112

Quality Record

Version	Date	Prepared by	Reviewed by	Approved by	Signature
V01	7/08/2019	Clinton Cheung	Oasika Faiz	Michael Lee	Michael Lee
V02	8/08/2019	Clinton Cheung	Oasika Faiz	Michael Lee	Michael Lee
V03	13/08/2019	Clinton Cheung	Oasika Faiz	Michael Lee	

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APPENDICES

1 Introduction

1.1 Background Information

This transport impact assessment report relates to a proposed residential development at 11-17 Columbia Lane, Homebush accommodating 398 apartment units with a 4- basement level car park.

A development application (DA) is to be lodged with Strathfield Municipal Council (Council) seeking approval for the proposed development. The Transport Planning Partnership (TTPP) has prepared this report on behalf of Columbia Lane Development Pty Ltd to accompany the DA. It assesses the transport, traffic and parking implications of the proposed development.

1.2 Pre-DA Feedback from Council

In preparing this report, TTPP has considered the comments provided by Strathfield Council in their Pre-DA letter dated 15 March 2019. Table 1.1 presents a summary of the transport, traffic and parking related issues together with the relevant sections of this assessment report where the issue has been addressed.

Table 1.1: Council Requirements

Requirement	Report Section
12. Transport Impact Study (TIS)	
a. The accessibility of the site by a range of transport modes including car, public transport, walking and cycling;	Sections 2.4, 2.5 and 2.6
b. The ability of the public transport network to service the site in the peak and off-peak and weekend periods;	Section 5.3
c. Mode share targets;	Section 6.2
d. Means of minimising travel demand by private car and maximising the share of travel by other modes including public transport, cycling, walking or car share;	Section 6
e. Estimates of trip generation by the development and the impacts of trips generated by the development on the road network, including impacts on existing intersections and the level of service of these intersections and road network and other movement systems;	Section 5
f. Means of accommodating and integrating trips generated by the development including necessary improvements to public transport services, pedestrian systems, bicycle routes, and the road network;	Sections 3.4 and 6
g. Means of mitigating adverse impacts of the development on movement systems;	
h. Means of improving access to the site having regard to vehicular, pedestrian, cycle and public transport access;	
i. Impacts on and means of improving pedestrian accessibility to public transport, shops, schools, open spaces, community centres and the like.	

Requirement	Report Section
j. Impacts on and means of improving pedestrian safety;	
k. Availability of on street parking and potential on street parking controls to discourage commuting and all day residential parking demand generated by the development.	Section 4.8
13. Traffic and Parking Impact Assessment	
a. Traffic generation of tenant operations of commercial suites, (ie/ should the proposed development contain childcare centres, medical centres or the like, the Report should account for the traffic generation of such centres);	Section 5
b. Rationalisation of the quantum of the vehicle parking proposed and indicated on the architectural plans.	Section 4.1
c. Sight distance and splays should be provided on the sides of the driveway to vehicles and pedestrians on the ground plan at the driveway entry/exit to the through traffic in accordance with AS 2890.1-2004.	Section 4.6
d. Driveway shall comply with the relevant Australian Standards (AS1428.1 and a maximum 1:4 gradient). The driveway ramp should have a vertical alignment and change of grades should be with transitions to prevent scouring.	Section 4.5
e. Construction of the new driveway requires that the existing driveways be closed and the kerb and gutter and footpath be reinstated and built at the applicant's cost. It is required to tie-in the sides of the driveway to the existing footway and any other adjustments to ensure a smooth pathway in achieved.	Noted. This will be undertake as a matter of course by the appointed head contractor.
f. Dimensions of the car spaces, accessible car spaces and shared area are not shown on the plans. The dimensions need to be shown on the plans and be in accordance with AS 2890.1: 2004 and AS 2890.6: 2004.	Section 4.5
14. Alternative Vehicle Parking	
The proposal is also to provide bicycle parking spaces as determined by the Parramatta Road Corridor Urban Transformation – Planning and Design Guidelines and 'Austroads Guide to Traffic Engineering Practice, Part 11: Parking". Bicycle parking is to be provided for residents and customers of commercial tenancies within the development. The proposal is to provide sufficient bicycle parking racks and identify the locations and details on the architectural plans. The bike racks are to be protected from encroachment by vehicular traffic. A minimum of 431 bicycle spaces are required.	Section 4.3
Motorcycle parking shall be accommodated within the proposal and details of the location is to be indicated on the architectural plans. The location of motorcycle parking is to be protected from encroachment by vehicular traffic.	Section 4.4

The remainder of the report is set out as follows:

- Chapter 2 discusses the existing conditions including a description of the subject site
- Chapter 3 provides a brief description of the proposed development
- Chapter 4 assesses the proposed on-site parking provision and internal layout
- Chapter 5 examines the traffic generation and its impact
- Chapter 6 provides a framework for encouraging modal shift, and
- Chapter 7 presents the conclusions of the assessment.

2 Existing Conditions

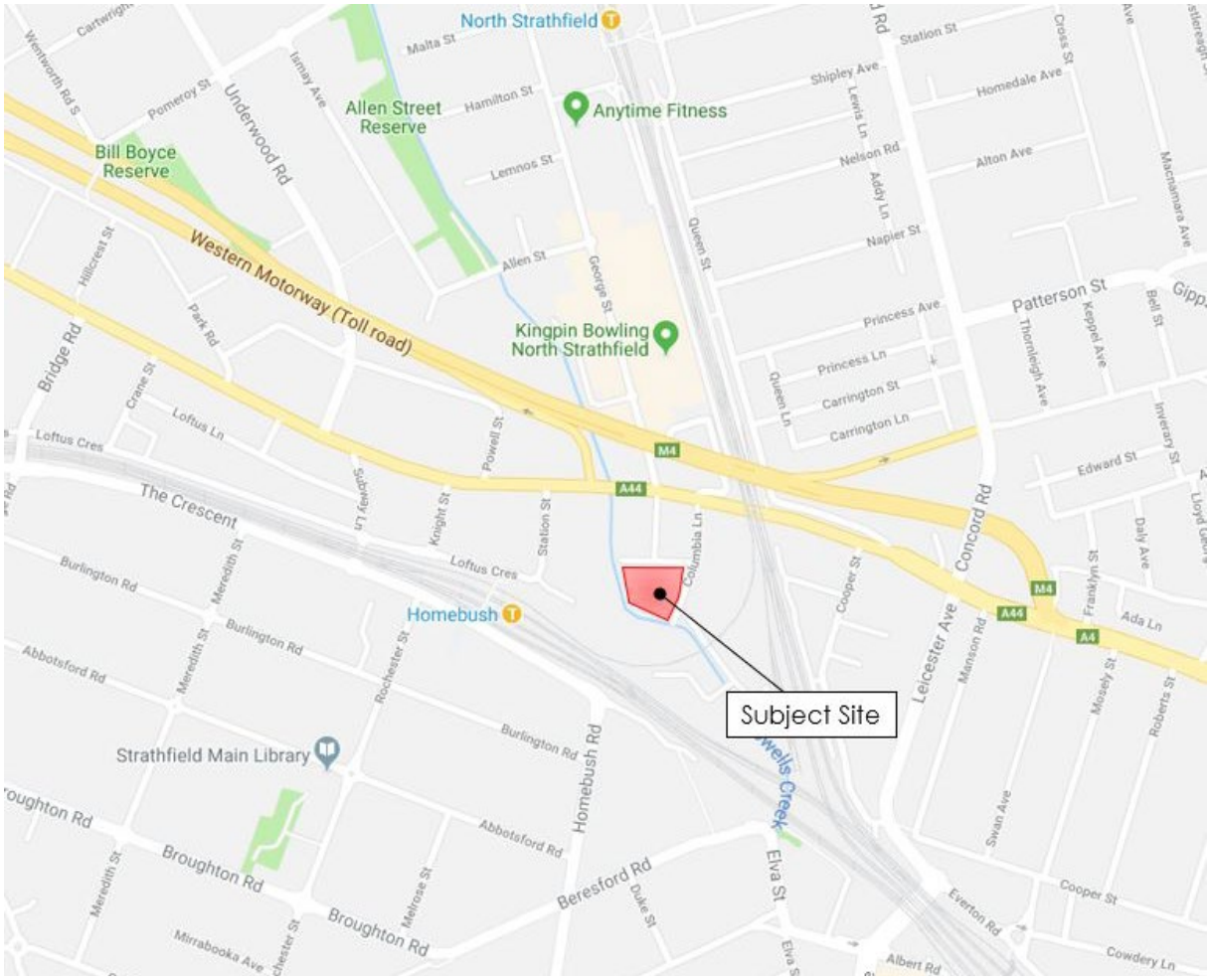
2.1 Site Description

The subject site is located at 11-17 Columbia Lane, Homebush and falls within the local government area of Strathfield Municipal Council. The site has an area of approximately 6,568m^2.

The site has frontages to Columbia Lane to the east and Gramophone Lane to north.

The site location and its surrounds are shown in Figure 2.1.

Figure 2.1: Site Locality



In addition, the subject site is also located within The Homebush Precinct as identified in the Parramatta Road Corridor Urban Transformation (PRCUT) Planning and Design Guidelines 2016 – see Figure 2.2.

Figure 2.2: Homebush Precinct

Source: Parramatta Road Corridor Urban Transformation (PRCUT) Planning and Design Guidelines 2016

Surrounding land uses include commercial and residential (generally low density) developments. Immediately adjoining the site are two apartment buildings and a Kennards self-storage facility to the north and railway land to the south. Currently, the subject site is vacant and was previously occupied by industrial buildings.

2.2 Abutting Road Network

2.2.1 Parramatta Road

Parramatta Road is a state classified road aligned in an east-west direction in the vicinity of the site. The road provides a four-lane carriageway with two lanes in each direction and auxiliary lanes at select intersections. It connects the Sydney City CBD with the Western suburbs and provides connections to the M4 Western Motorway. Clearways operate in both directions of the road during weekday peak periods. It has a posted speed limit of 60 km/h.

2.2.2 Columbia Lane

Columbia Lane is a local cul-de-sac road forming the eastern frontage of the site. It connects to Gramophone Lane at the north-eastern corner of the site and Parramatta Road further north as an unsignalized intersection. Columbia Lane is a two-way road with a carriageway width of approximately 4.5m. On-street parking is not permitted on the road. A 50 km/h speed limit applies.

2.2.3 Gramophone Lane

Gramophone Lane is a cul-de-sac road aligned along the northern boundary of the site. It intersects with both Nipper Street and Columbia Lane. It is a two-way road with a carriageway width of approximately 6.3m. Gramophone Lane does not permit on-street parking.

2.2.4 Nipper Street

Nipper Street is a two-way, three-lane, local road, with a carriageway width of approximately 9.9m. Nipper Street runs between Gramophone Lane and Parramatta Road and forms a signalised intersection with Parramatta Road. Kerbside parking is not permitted on either side of the road. It has a posted speed limit of 50 km/h.

2.3 Traffic Volumes

Traffic counts were undertaken at select intersections as part of the traffic assessment for the planning proposal submission prepared by Colston Budd Rogers & Kafes Pty Ltd. A summary of the traffic survey results are detailed in Table 2.1.

Table 2.1: Two-way Peak Hour Traffic Flows

Road	Location	AM Peak Hour	PM Peak Hour
Parramatta Road	East of George Street	2,265	2,580
	West of George Street	2,695	2,870
Columbia Lane	South of Parramatta Road	25	45
George Street	North of Parramatta Road	1,030	1,000
Nipper Street	South of Parramatta Road	80	80

Reference: Colston Budd Rogers & Kafes, March 2017, Transport Aspects of Planning Proposal for Proposed Residential Development, 11-17 Columbia Lane, Homebush

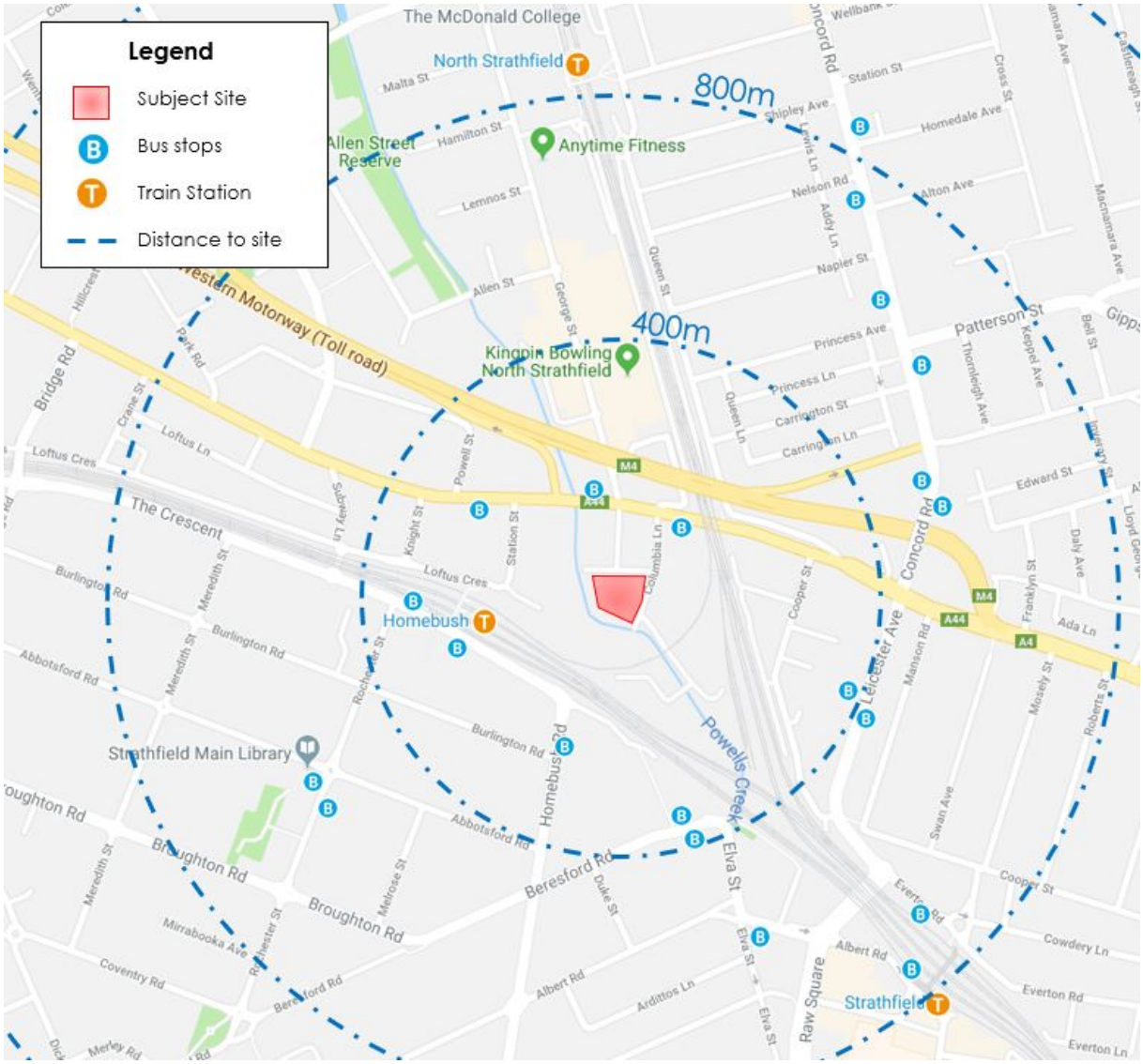
The reported surveyed traffic volumes reflect the nature and function of the respective roads.

2.4 Public Transport

The subject site is well serviced by public transport facilities including bus and rail services. The site is within walking distance to railway stations at Homebush, Strathfield and North Strathfield. Homebush Station is a 600m (8-minute) walk from the subject site while Strathfield Station and North Strathfield Station are 1.0km and 1.2km walk (or approximately a 13-15-minute walk) respectively.

Public transport facilities within a 400m radial distance to the site is shown in Figure 2.3.

Figure 2.3: Bus and Rail Service Locality Map



Base source map: Google Maps Australia

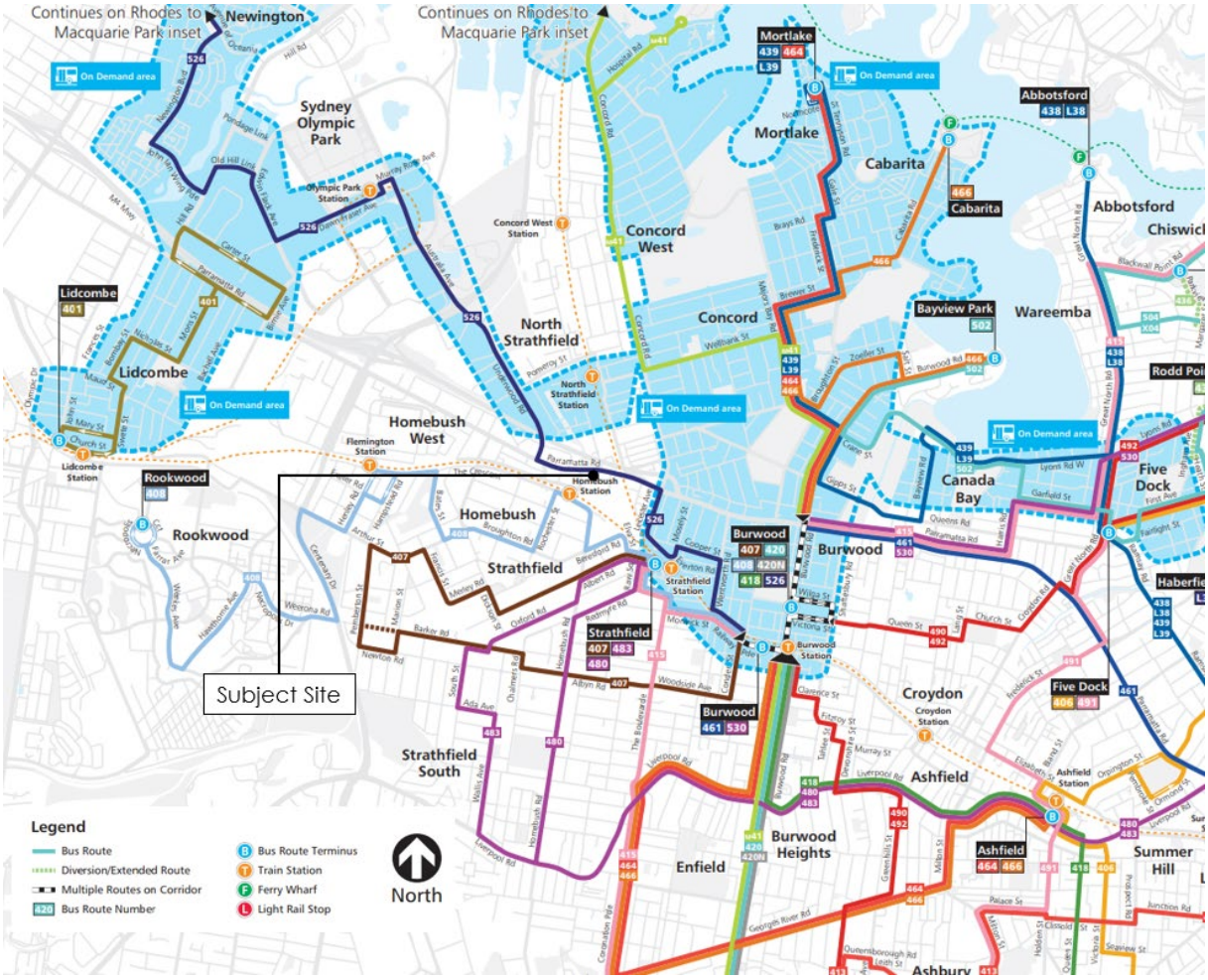
Homebush Station services the T2 Inner West & Leppington Line and T3 Bankstown Line with service frequencies every 5-16 minutes in the morning and evening peaks and 15 minutes during non-peak periods.

Strathfield Station services multiple train lines including T1 North Shore, Northern and Western Line, T2 Inner West and Leppington providing access to key business destinations such as Parramatta and Sydney CBD. Services generally operate every 5-10 minutes during morning and afternoon peak periods and every 10-15 minutes outside peak periods. Additionally, Strathfield Station provides intercity and regional train services.

In addition to this, local, regional and on-demand bus services are provided in the surrounding areas. Notably, Strathfield Railway Station provides a major transport interchange for local and regional bus services and train services.

The local bus network map route is shown in Figure 2.4.

Figure 2.4: Local Bus Network Map



Source; Transport NSW Inner West and Southern Region Network Map

2.5 Pedestrian and Cyclist Facilities

A well-connected pedestrian walking network is provided around the subject site including footpaths on Gramophone Lane and Nipper Street. Signalised pedestrian crossings on all legs of the signalised intersection of Nipper Street-Parramatta Road-George Street, provide good accessibility to retail and commercial developments north of the site. In addition, a pedestrian footbridge is provided across the railway corridor at Homebush Station connecting Loftus Crescent to The Crescent.

There are cycling routes available in the immediate vicinity of the site including several cycling links proposed as part of the PRCUT Guidelines that connect to the wider cycling network. The PCRUT cycling map is shown in Figure 2.5.

Figure 2.5: PRCUT Cycleways

Source: Parramatta Road Corridor Urban Transformation (PRCUT) Planning and Design Guidelines 2016

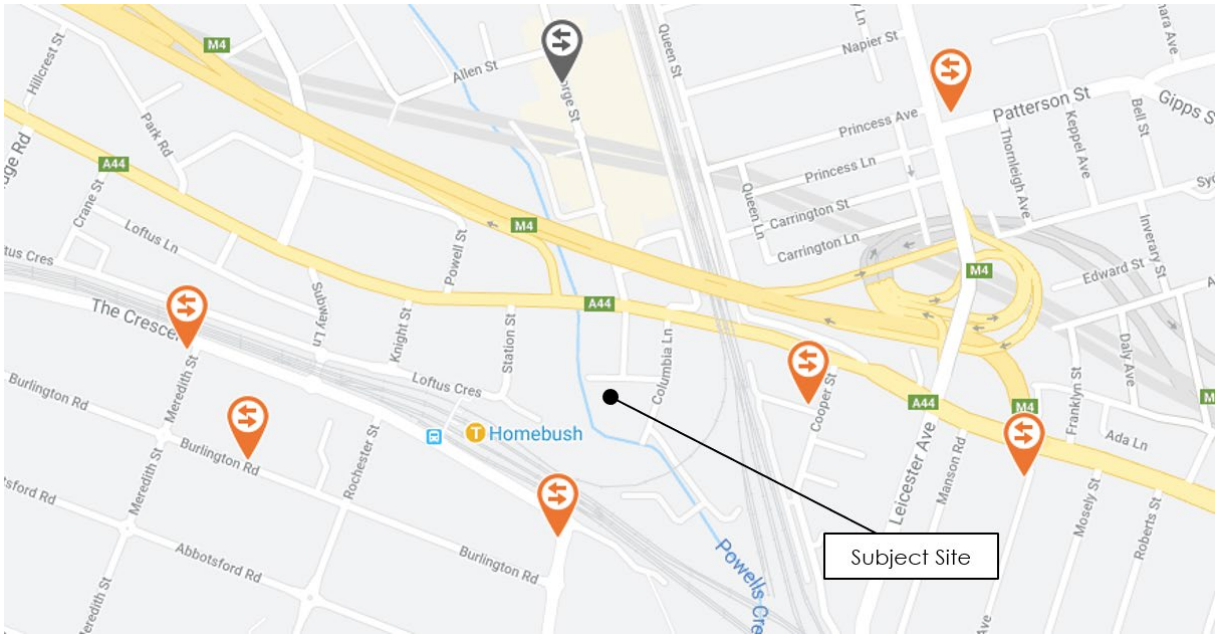
2.6 Car Share

Car sharing is a flexible, cost effective alternative to car ownership and is a convenient and reliable way for residents to use a car when they need one.

Car share is a concept by which members join a car ownership club, choose a rate plan and pay an annual fee. The fees cover fuel, insurance, maintenance, and cleaning. The vehicles are mostly sedans, but also include SUVs, station wagons and vans. Each vehicle has a home location, referred to as a "pod", either in a parking lot or on a street, typically in a highly-populated urban neighbourhood. Members reserve a car by web, telephone and use a key card to access the vehicle.

GoGet is a car share company operated in Australia with a number of vehicles positioned within the area. The locations of GoGet car sharing pods in the vicinity of the site are shown in Figure 2.6.

Figure 2.6: Car Sharing Pods



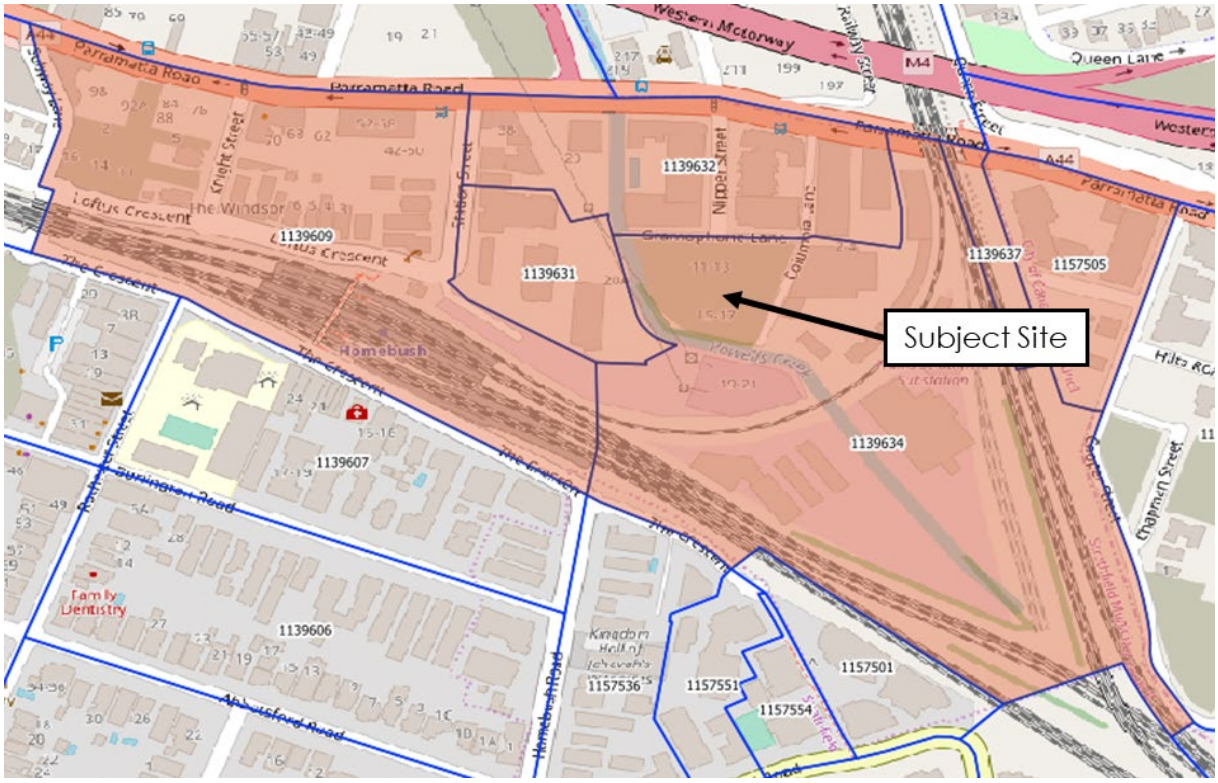
Source: GoGet Australia

2.7 Travel Behaviour

Method of Travel to Work (MTW) data from the 2016 Census has been obtained from the Australian Bureau of Statistics (ABS) in order to understand the existing travel behaviour of residents living within the vicinity of the site. Travel behaviour has been analysed using Statistical Areal Level 1 (SA1) geographic areas.

The selected SA1 areas are displayed in Figure 2.7.

Figure 2.7: Selected SA1 Areas



Source: ABS 2016 Census data, Open Street Maps.

A full breakdown of the results is provided in Table 2.2. It is noted that 'other' refers to those who selected any of taxi, truck, motorbike/scooter or 'other mode', while 'car' comprises both drivers and passengers. Furthermore, those who either worked at home or did not go to work have been removed from the analysis.

Table 2.2: Resident Transport Mode Split

Mode Type	Number of Residents Within Select SLA	Proportion of Residents (%)	Greater Sydney Region Benchmark (%)
Car	280	29%	66%
Train	588	62%	20%
Bus	40	4%	7%
Walked Only	34	4%	5%
Bicycle	0	0%	1%
Ferry/Tram	0	0%	0%
Other	12	1%	1%
Total	**954**	**100%**	**100%**

Based on the MTW data, the majority (some 64 per cent) of residents living near the subject site travel by public transport to and from work compared to a Sydney wider average of 27 per cent. The second highest mode share is travel by car – 29 per cent vs 66 per cent across Sydney.

3 Proposed Development

3.1 Approved Concept Plan

The site has previously been part of a Part 3A Concept Plan approval for a mixed use development. That approval also covered adjacent sites to the north (6-18 Parramatta Road) and east (Kennards Storage facility at 2-4 Parramatta Road).

The site at 6-18 Parramatta Road has since been built and occupied, with a mixed-use development comprising 430 residential apartments plus 1,369m^2 commercial, basement car parking and two vehicular access points along Gramophone Lane.

The Part 3A Concept Plan Approval for mixed use development included:

- 6-18 Parramatta Road (430 apartments + 1,369m^2 commercial, basement car parking and a road connection to Parramatta Road at George Street)
- 11-17 Columbia Lane (244 apartments + 787m^2 commercial + 620m^2 community land uses), and
- 2-4 Parramatta Road (existing Kennards Storage facility) (456 apartments)

Since that approval, amended planning proposals have been submitted for the subject site (11-17 Columbia Lane). The latest approval permits the subject site to be redeveloped to accommodate 382 residential apartments. The approval does not include any non-residential uses.

3.2 Proposed Development

The proposed development at 11-17 Columbia Lane, Homebush involves the construction of a residential development with a nine-storey podium and two towers at twenty-five (25) and twenty-six (26) storeys, four levels of basement parking and public open space at ground level.

The proposed development includes 398 residential apartments comprising the following mix:

- 132 x 1-bedroom dwellings
- 235 x 2-bedroom dwellings, and
- 31 x 3-bedroom dwellings.

Of the proposed 398 apartments, 59 of these are proposed as adaptable apartments.

The development will include a four levels of basement car parking accommodating 494 car parking spaces, 16 motorcycle spaces and 438 bicycle spaces.

The architectural car park plans are contained in Appendix A of this report.

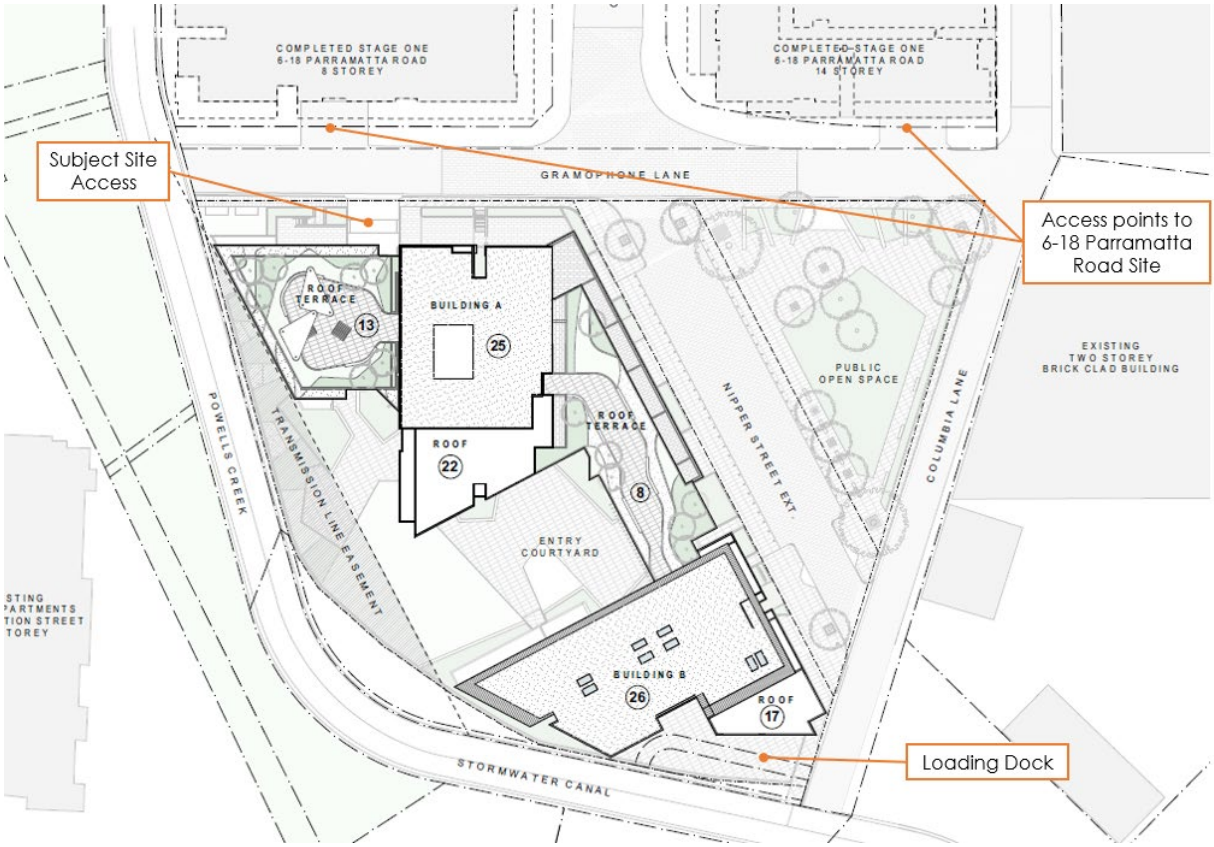
3.3 Access and Loading Arrangements

Access to the proposed basement car park is to be via a single two-way ramp off Gramophone Lane.

The loading dock is located at-grade, at the south-eastern corner of the site and is accessed off Columbia Lane.

The proposal will also include a new vehicular connection through the site that links Nipper Street to Columbia Lane. The connection is to be a shared zone with one lane entry points to enable traffic calming upon entry into the shared zone.

Figure 3.1: Site Plan



Source: Mosca Pserras Architects

3.4 Pedestrian Infrastructure

The proposed development, including the wider Part 3A Concept Plan as discussed in Section 3.1, has been designed to integrate into the existing pedestrian and cycling network and the proposed network as detailed in the PRCUT Guidelines.

This includes the following infrastructure improvements:

- provision of pedestrian footpaths on all roadsides including Columbia Lane, Gramophone Lane and Nipper Street
- new pedestrian through-links including the Nipper Street extension and shared zone
- surface treatment (brick pavers) at the intersection of Gramophone Lane and Nipper Street to create a road environment that encourages low speeds by warning drivers of a change of environment from general road conditions, and thereby improving safety for cyclists and pedestrians, and
- provision of bicycle parking racks within the public open space encouraging cycling to the site, which would also benefit from the cycling routes recommended in the PRCUT Guidelines as shown in Figure 2.5.

It is noted that the existing site includes some pedestrian infrastructure near the subject site, but the roads fronting the site do not containing any footpaths.

The pedestrian infrastructure proposed as part of the proposed development and overall Part 3A Concept Plan site would improve pedestrian connectivity between the site and nearby public transport facilities and shops and services.

It is further noted that the roads adjoining the site (Columbia Lane, Gramophone Lane and Nipper Street) will not permit on-street parking and therefore traffic to these roads would be minimal and limited to local traffic only hence improving pedestrian amenities on these roads.

4 Parking Assessment

4.1 Car Parking Requirement

Car parking for this development has been assessed against Strathfield Development Control Plan No. 20 (Parramatta Road Corridor Area) (DCP).

Table 4.1 provides a summary of the proposed car parking provision against the minimum parking requirements of the Strathfield DCP.

Table 4.1: On-Site DCP Car Parking Assessment

Land Use	Yield	DCP Parking Rate	DCP Parking Requirement	Proposed Parking Provision
1 Bedroom	132	1 space per unit	132	414
2 Bedroom	235	1 space per unit	235	
3 Bedroom	31	1.5 spaces per unit	47	
Visitor	-	1 space per 5 dwellings	80	80
Total			**494**	**494**

From Table 4.1, the proposed development has a total car parking requirement of 494 car parking spaces including 80 visitor car parking spaces.

The proposed development includes a provision of 494 spaces including 80 visitor spaces, which is compliant with the DCP's minimum requirements.

4.2 Accessible Parking

The Strathfield DCP does not have specific requirements for accessible parking. On this basis, reference is made to the Building Code of Australia (BCA). The BCA makes reference to the Australian Standard for Adaptable Housing (AS4299) which requires at least one accessible car parking space (3.8m wide) to be provided for each adaptable apartment.

In addition, accessible car parking spaces provided in accordance with the design requirements set out in AS2890.6:2009 (i.e. 2.4m wide spaces plus 2.4m wide shared area) would also meet the intent of AS4299 in this regard.

The proposed development includes 59 adaptable apartments. On this basis, it is proposed to provide 59 accessible spaces for the 59 adaptable apartments.

4.3 Bicycle Parking Requirement

While the Strathfield DCP does not specify bicycle parking rates, the Parramatta Road Corridor Urban Transformation Planning and Design Guidelines specifies that bicycle parking approach should complement the approach to vehicle parking. Section 3.8F in the Parramatta Road Corridor Urban Transformation Planning and Design Guidelines stipulates the following bicycle parking requirements for residential developments:

- residents – one bicycle parking space per dwelling, and
- visitors – one bicycle parking space per 10 dwellings.

On this basis, the proposed development will require 398 bicycle parking spaces for residents and 40 bicycle parking spaces for visitors. It is proposed to comply with this requirement.

The bicycle parking spaces are proposed to be designed in compliance with AS2890.3:2015. The bicycle parking spaces would be located in a secured but publicly accessible locations within the development site.

4.4 Motorcycle Parking Requirement

The Strathfield DCP does not specify motorcycle parking rates however, the development will provide 16 motorcycle parking spaces in the basement car park. This level of motorcycle parking is considered to be satisfactory.

4.5 Car Park Design

The car parking spaces (residents and visitors) are proposed to be designed to comply with User Class 1A car parking facilities as specified in AS2890.1:2004.

Class 1A car spaces generally have dimensions of 2.4m wide by 5.4m long with an aisle width of 5.8m. Similarly, visitor parking spaces will also have dimensions of 2.4m wide by 5.4m long.

The accessible car parking spaces will be designed to include car space and a shared area with each having dimensions of 2.4m wide by 5.4m long in accordance with AS2890.6.

In addition, the car park will require the following design elements:

- an additional width of 300mm is to be provided for car spaces adjacent to a wall and other structural elements or obstructions
- an additional width of 1,000mm is to be provided for car spaces at the end of parking aisles
- all columns are to be located outside of the parking space design envelope, and

- a minimum head clearance of 2.2m is to be provided along the travel path to all car parking spaces as well as above general car parking spaces, while a minimum of 2.5m is required above accessible car parking spaces.

In addition, AS2890.1:2004 stipulates that the maximum grade for the first 6m of the driveway behind the property boundary to be 1:20. Furthermore, a maximum vertical grade of 1:4 for ramps with appropriate transitions as required are stipulated in AS2890.1:2004.

These maximum vertical grades have been provided and therefore complies with AS2890.1:2004.

Architectural car park plans showing the car park arrangements and other associated elements are contained in Appendix A.

4.6 Vehicle Access/Driveway Sight Distance

AS2890.1:2004 requires a minimum sight distance of 45m for driveways located on roads with a 50km/hr speed limit. The design of the proposed driveway complies with this requirement.

AS2890.1:2004 also requires a sight triangle 2.5m by 2.0m adjacent to the driveway for pedestrian safety. This has also been provided.

4.7 Service Vehicles

Council's waste management guidelines require a vehicle standing area for service vehicles of 10m long by 3.6m wide.

The proposed service vehicle loading area has dimensions of 10m long by 5.6m wide and therefore is in compliant with the waste management guidelines.

The service vehicle loading area is proposed to be located on the south-eastern frontage of the site onto Columbia Lane and can accommodate vehicles up to and including an 8.8m long medium rigid vehicle (as per Council's waste management guidelines).

Therefore, the proposed service vehicle facility for the proposed development will be satisfactory.

4.8 Kerbside Parking Availability

Kerbside parking is generally not available on the nearby streets. As such, there is no potential for kerbside parking to be occupied long term parking by commuters and residential parking demand. It is not necessary to implement any parking controls to discourage long term parking.

5 Traffic Assessment

5.1 Previous Traffic Studies

The following traffic assessment reports have been prepared as part of the approved Planning Proposal which assessed the subject site accommodating 382 apartments:

- Colston Budd Rogers & Kafes, March 2017, *Transport Aspects of Planning Proposal for Proposed Residential Development, 11-17 Columbia Lane, Homebush*
- Traffix, March 2018, *Proposed Mixed-Use Development at 11-17 Columbia Lane, Homebush Intersection Modelling Assessment.*

The above assessments include a full traffic impact assessment prepared by Colston Budd Rogers & Kafes Pty Ltd (CBRK) which included survey data collection and SIDRA modelling of nearby select intersections for a weekday morning and afternoon peak period. Based on the yields used in the CBRK report, Traffix later undertook additional SIDRA modelling for a Saturday peak period. Both assessments took into consideration the future cumulative traffic generation of the subject site and the adjacent site at 2-4 Parramatta Road (i.e. at the existing Kennards Storage site).

As part of their assessment, CBRK undertook traffic surveys at the completed residential buildings at 6-18 Parramatta Road (immediately north of the site) and found a traffic generation rate of some 0.15 to 0.2 two-way vehicles per hour per apartment during the peak periods.

This rate was then adopted in CBRK's traffic modelling assessment of the weekday peak periods, however, for a higher development yield. Traffix adopted a rate of 0.29 two-way vehicles per hour per apartment for a Saturday peak period.

The traffic generation rates and estimates as presented in the above reports are summarised in Table 5.1.

Table 5.1: Approved Development Traffic Generation

Result	AM Peak	PM Peak	Saturday Peak
Trip Rates	0.15-0.2 trips per hour per dwelling	0.15-0.2 trips per hour per dwelling	0.29 trips per hour per dwelling
Modelled Trip Generation	60-80 trips per hour§	60-80 trips per hour§	113 trips per hour

§ - traffic assessment was conducted based on 85 trips per hour from an earlier development scheme

The previous assessments concluded that the proposed development would have minimal impacts to the local road network. The assessed intersections would operate with level of service D performance or better. However, it was recommended for turn bans be put in place at the Columbia Lane/Railway Street intersection with Parramatta Road to improve the overall safety of the intersection.

5.2 Proposed Development Traffic Generation

The traffic generation of the proposed development with 392 apartments has been estimated using the rates adopted in the previous traffic reports as discussed above. A summary of the traffic generation estimate is detailed in Table 5.2.

Table 5.2: Proposed Trip Generation Assessment

Scenario	AM Peak	PM Peak	Saturday Peak
Trip Rates	0.15-0.2 trips per hour per dwelling	0.15-0.2 trips per hour per dwelling	0.29 trips per hour per dwelling
Approved Development Trips	85 trips per hour	85 trips per hour	113 trips per hour
Proposed Development Trips	78 trips per hour	78 trips per hour	114 trips per hour
Difference from approved development	-7 trips per hour	-7 trips per hour	+ 1 trip per hour

Table 5.2 indicates that the proposed development would generate 78 trips per hour in the weekday peak periods and 114 trips per hour during the Saturday peak period. This is generally in line with the approved development, albeit marginally less than the traffic generation assumed by CBRK in their traffic modelling assessments.

On this basis, the nearby intersections would continue to operate with similar performance as concluded by the CBRK/Traffix assessments that is future intersection level of service D or better.

5.3 Public Transport Impact

The Roads and Maritime guide, specifically, the technical direction (*TDT2013/04a) to Guide to Traffic Generating Developments* (2002) includes both vehicular and person trip generation characteristics for various land uses. The Roads and Maritime guide indicates the following trip generation rates for a residential site:

- morning peak – 0.5 persons per unit,
- evening peak – 0.4 persons per unit, and
- weekend peak – 0.8 persons per unit.

Based on the above, the potential person trip generation of the proposed development is estimated to be 157-196 persons per hour on weekdays and 314 persons per hour on weekends.

Based on the mode share targets presented in Section 6.2 below, the average mode shares for public transport trips are expected to be as follows:

- Train – 65%, and
- Bus – 5%.

On this basis, the proposed development is anticipated to generate approximately 204 train trips per hour and 16 bus trips per hour.

The nearest railway station, Homebush Station provides five services per hour during the weekend peak hours. This translate to a demand trip rate of up to 40 trips per train service arising from the proposed development.

It is noted that generally weekend train services have substantial available capacity, with transport trips distributed over the course of the day where on weekdays transport trips are concentrated to the typical two-way commuting periods.

On this basis, it is expected existing infrastructure would have adequate capacity to absorb this moderate demand in public transport trips.

As such, the proposed development is not anticipated to have any adverse impacts to the existing public transport capacity.

6 Methods of Encouraging Modal Shift

6.1 Green Travel Plan

The transport sector is a large contributor of Australia's energy-related greenhouse gas emissions through fossil fuels such as petrol, oil, diesel and gas. Whilst transport is a necessary part of life, the effects can be managed through the implementation of a Green Travel Plan (GTP).

The key role of a GTP is to bring about better transport arrangements to manage travel demands, particularly promoting more sustainable modes of travel, modes which have a low environmental impact such as walking, cycling, public transport and better management of car use.

The key objectives of a GTP would be to:

- Identify initiatives to encourage sustainable transport modes
- Identify a methodology to monitor the implementation of sustainable modes of travel following occupation of the precinct
- Set targets to measure the success of initiatives implemented in the travel plan.

The planning of the new development would need to accommodate innovative ideas to better manage the transport demand of the project. It will be necessary to introduce new measures to ensure that trips generated by the proposed development are not solely private car based, particularly single occupancy trips. Measures implemented should target specific and sustainable modes of transport to encourage residents to choose alternative modes of transport other than the conventional car.

6.2 Mode Share Targets

The aim of a GTP is to encourage modal shift away from private vehicles by implementing measures that influence the travel patterns of staff and students. To ensure that the GTP is having the desired effect, the implementation of the GTP would be regularly monitored. The success of the GTP is measured by setting modal share targets and identifying the measures and actions that have the greatest impact.

It is noted that a modal shift between 3-5 per cent is typically considered to be a significant achievement (based on knowledge of local and international GTPs, and as stated by experts in Land Environment Court proceedings).

On this basis, the following targets are proposed for the UTS Central Campus:

- car mode share of 24% for staff (-5% shift).

The target mode shares are summarised in Table 6.1.

Table 6.1: Recommended Mode Share Targets

Mode Type	Existing Mode Share (as per Table 2.2)	Recommended Mode Share Targets
Car	29%	24%
Train	62%	65%
Bus	4%	5%
Walked Only	4%	5%
Bicycle	0%	1%
Ferry/Tram	0%	0%
Other	1%	0%
Total	**100%**	**100%**

6.3 Potential Measures

The subject site is located within close proximity to a wide range of sustainable transport, including high frequency public transport services, on-demand bus services and a well-established pedestrian network that would be further improved from the proposed development's pedestrian infrastructure improvements. The travel plan would put in place measures to encourage a modal shift away from car usage.

Notably, TTPP staff have been involved in a number of green travel plans for an array of different land uses, including sites at the Australia Technology Park and Harold Park in Sydney.

At these sites, the following measures are provided:

- Compliance with the stringent parking controls applicable to the site.
- Creation of footpaths and other links to encourage cycling and walking.
- Provision of a Transport Access Guide (TAG) which would be given to all residents and visitors.
- The Travel Access Guide (TAG) provides customised travel information for people travelling to and from a particular site using sustainable forms of transport – walking, cycling and public transport. It provides a simple quick visual look at a location making it easy to see the relationship of site to public transport facilities, such as train stations and bus stops, via existing walking and cycling routes. The site location is in close proximity to various public transport services. Therefore, a TAG would be effective in encouraging those on-site to use the public transport services by informing them from day one of occupation of the availability of services nearby.
- Provision of yearly membership to the GoGet car share scheme including the provision of dedicated cars and dedicated parking spaces reasonably close to the proposed development. This type of initiative promotes the use of shared vehicles and reduces the necessity to own cars and subsequently reduces car trips.

- Provision of Opal cards with prepaid credits to encourage the first occupiers of the units to use public transport.
- Provision of high quality bicycle facilities including bicycle parking facilities for residents and visitors.
- Promotion of resident cycling or walking clubs (possibly run by strata) to promote health and wellbeing in the development. This type of initiative promotes healthy lifestyles which in turn increases walking and cycling trips.

The proposed development would benefit greatly from implementation of the above measures or similar, to promote the use of more sustainable modes of travel, pertinently public transport, car-share, walking and cycling. These measures are required to implemented from 'Day One' of occupation as many people will establish habits of a lifetime from day one.

On the basis of all such measures being fully incorporated into the development, it is anticipated that the subject site would generate less traffic than other comparable sites in the vicinity. Consequently, this would have the positive effect in reducing the traffic impact associated with the proposed development on the surrounding road network.

6.4 Monitoring of the GTP

Whilst there is no standard methodology for monitoring the GTP, it is recommended that the GTP be monitored on a regularly basis to ensure that the desired benefits are achieved or otherwise, suitable measures be implemented to reduce the private car usage (particularly single car occupancy trips). At this early stage, it is not possible to identify what additional modifications may be required to reach the desired outcomes of the GTP as this would be dependent upon the particular circumstances at the time.

Thus, it is recommended that the GTP be monitored on a regularly basis, e.g. yearly, through travel surveys or similar. Travel surveys would show how staff/visitors travel to/from the site and assist identify whether the proposed initiatives and measures outlined in the FTP are effective or are required to be replaced or modified to ensure that the best outcomes are achieved. Regular consultation with staff and visitors would also be beneficial to help understand people's reasons for travelling the way they do and help identify any potential barriers to change their travel behaviours.

In order to ensure successful implementation of the GTP, a Travel Plan Coordinator (TPC) should be appointed to oversee the measures and resultant impacts of the FTP.

6.5 Summary

Although it is difficult to predict what measures might be achievable until the building is occupied, the above paragraphs provide a framework for the development and implementation of a future travel plan for the site.

On the basis of all such measures being fully incorporated into the development, it is anticipated that the subject site would generate significantly less traffic than other that assessed. Subsequently, this would have the positive effect in reducing the traffic impact associated with the proposed development on the surrounding road network.

7 Conclusion

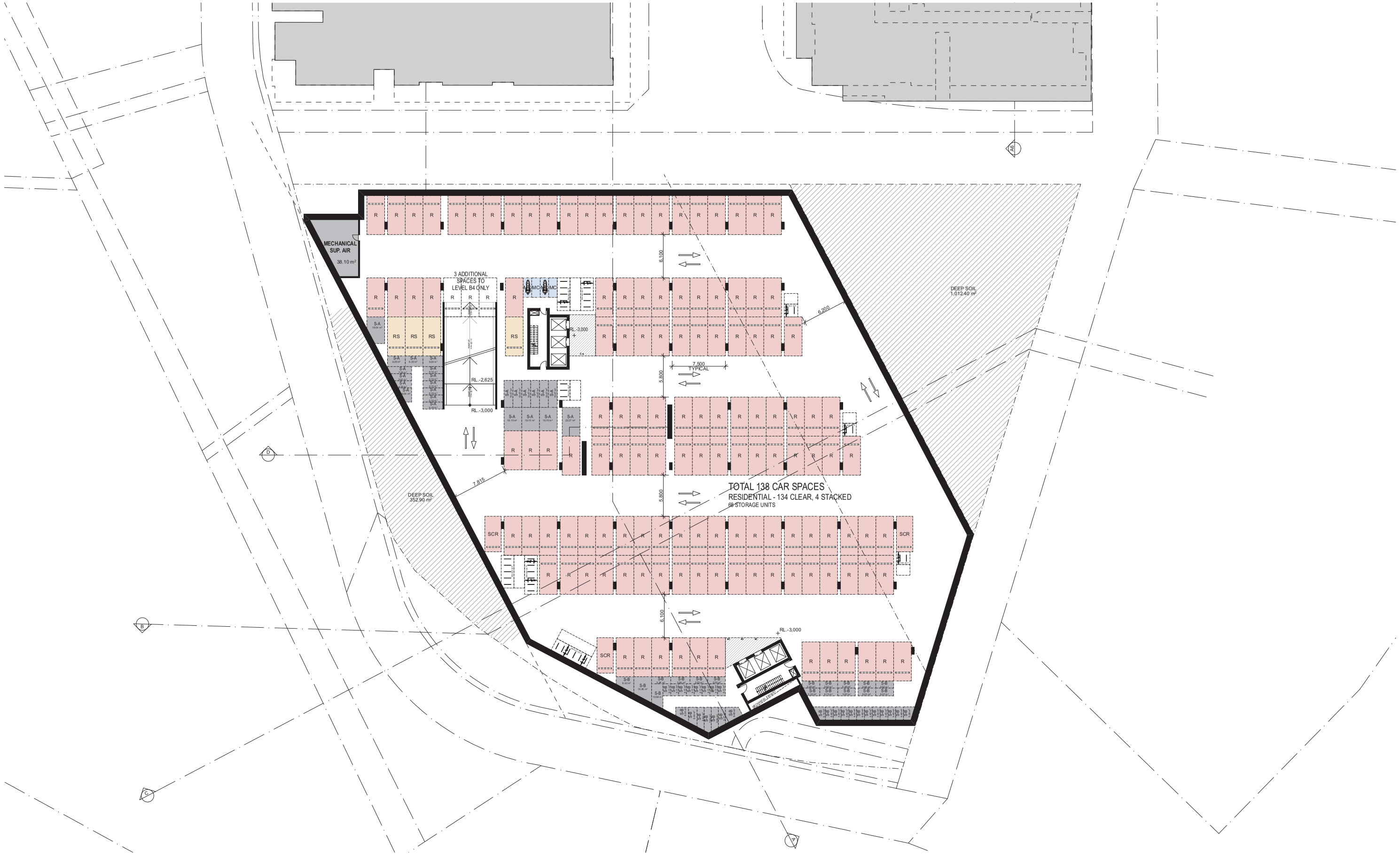
This transport impact assessment report relates to a proposed residential development 11-17 Columbia Lane, Homebush. The key findings of the report are presented below.

- The development proposal includes a high-density residential dwelling with 398 units and a public open area. There is an existing planning proposal approval for the development for 382 apartments. The site is also part of a larger masterplan that also covers the properties of 6-18 Parramatta Road and 2-4 Parramatta Road located north of the subject site.
- Vehicle access to the basement car park will be provided off Gramophone Lane. The loading dock is to be located at-grade and accessed off Columbia Lane. The car park, loading and access arrangements are proposed to be designed in accordance with the relevant Australian Standard and DCP requirements for waste collection.
- Car parking for this development has been assessed against Strathfield Development Control Plan No 20 (Parramatta Road Corridor Area) (DCP).
- The proposed development is compliant with the parking requirements of the above DCP with a proposed provision of 494 car parking spaces, 438 bicycle parking spaces and 16 motorcycle parking spaces.
- The proposed development is expected to generate 78 vehicle trips per hour in the weekday peak periods and 114 vehicle trips per hour in the weekend peak periods. This is in line with the traffic generation estimates modelled as part of the approved Planning Proposal.
- The proposed development is anticipated to generate in the order of 40 train trips per train service on a weekend peak hour. It is expected existing infrastructure would have adequate capacity to absorb this moderate demand in public transport trips.
- A Green Travel Plan is recommended to be implemented on-site to encourage a modal shift away from private vehicle use and towards sustainable travel modes.

Overall, the transport, traffic and parking aspects of the proposed development is considered to be satisfactory.

Appendix A

Architectural Plans



Basement 3 & 4
1:250

e reception@moscapserras.com.au
w www.moscapserras.com.au

north point:

N

key plan:

notes:

amendments:

Revision	Description	By	Date
A	DA SUBMISSION	SB	08.08.19

mpa
mosca pserras architects

project	MIXED USE DEVELOPMENT
location	11-17 Columbia Lane, HOMEBUSH
client	Columbina Lane Development Pty. Ltd
drawing title	Basement 3 & 4

scale	1:250 @ A1	project architect	SP / GK	drawn	GH/ MA
job no.	14028	drawing no.	AP04	issue	A

MECHANICAL SUP. AIR
38.10 m²

DEEP SOIL
1,012.40 m²

DEEP SOIL
352.90 m²

RL.0
RL -250
RL.375
RL.0
RL.0
RL.0

6,100
5,800
6,200
7,500 TYPICAL
7,815

TOTAL 120 CAR SPACES
RESIDENTIAL - 65 CLEAR, 45 DISABLED, 8 STACKED
2 VISITOR
64 STORAGE UNITS

Basement 2
1:250

e reception@moscapserras.com.au
w www.moscapserras.com.au

north point:

N

key plan:

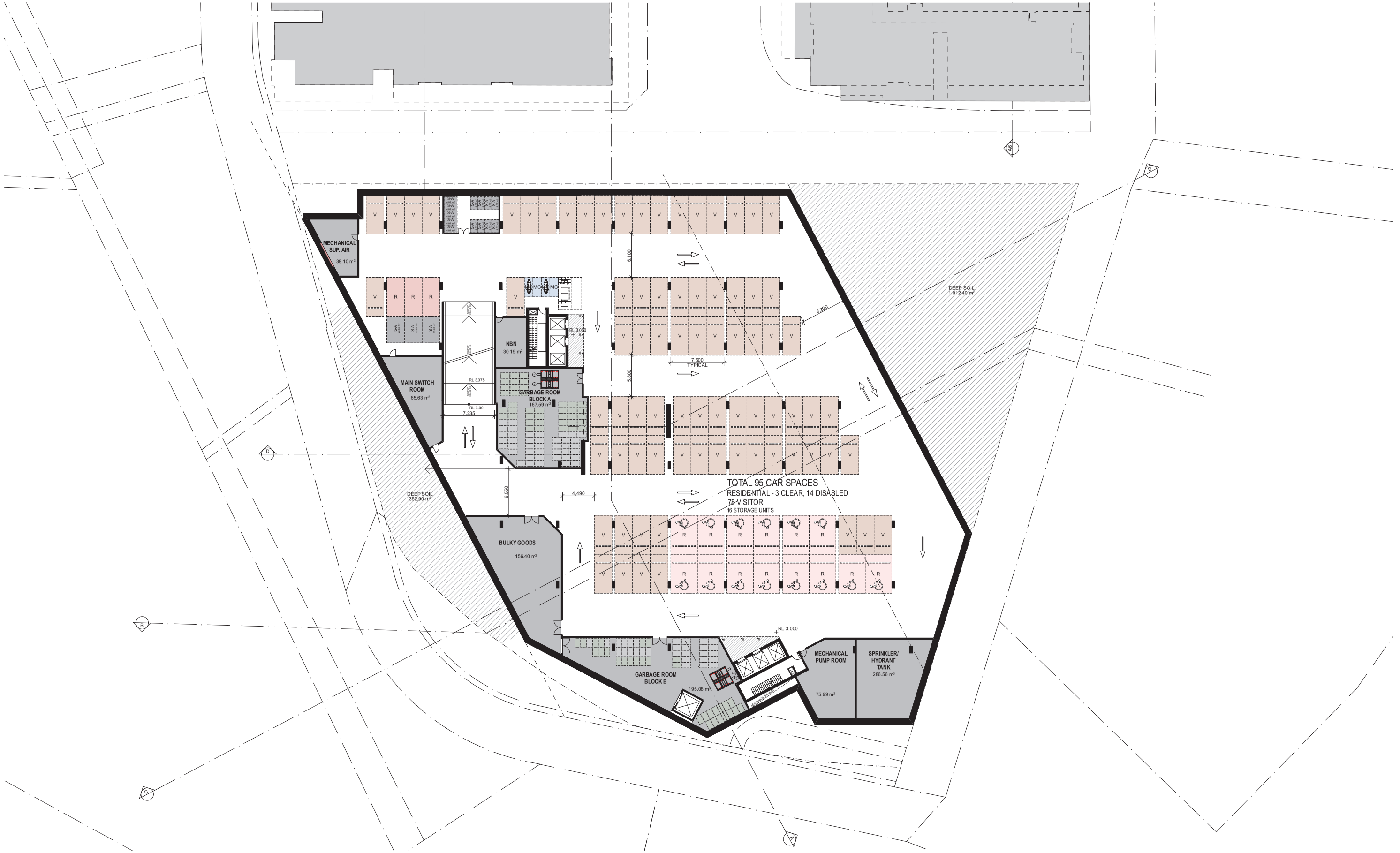
notes:

amendments:

Revision	Description	By	Date
A	DA SUBMISSION	SB	08.08.19

mosca pserras architects

project	MIXED USE DEVELOPMENT
location	11-17 Columbia Lane, HOMEBUSH
client	Columbina Lane Development Pty. Ltd
drawing title	Basement 2
scale	1:250 @ A1
project architect	SP / GK
drawn	GH/ MA
job no.	14028
drawing no.	AP05
issue	A



Basement 1
1:250

e reception@moscapserras.com.au
w www.moscapserras.com.au

north point:

N

key plan:

notes:

amendments:

Revision	Description	By	Date
A	DA SUBMISSION	SB	08.08.19

mosca pserras architects

project	MIXED USE DEVELOPMENT
location	11-17 Columbia Lane, HOMEBUSH
client	Columbina Lane Development Pty. Ltd
drawing title	Basement 1
scale	1:250 @ A1
project architect	SP / GK
drawn	GH / MA
job no.	14028
drawing no.	AP06
issue	A

WORK IN PROGRESS

e reception@moscapserras.com.au
w www.moscapserras.com.au

north point:

N

key plan:

notes:

- 1 BED UNITS
- 2 BED UNITS
- 3 BED UNITS
- LIVE WORK UNITS

amendments:

Revision	Description	By	Date
A	DA SUBMISSION	SB	08.08.19

mpa mosca pserras architects

project	MIXED USE DEVELOPMENT
location	11-17 Columbia Lane, HOMEBUSH
client	Columbina Lane Development Pty. Ltd
drawing title	Ground Floor

scale	1:250 @ A1	project architect	SP / GK	drawn	GH/ MA
job no.	14028	drawing no.	AP07	issue	A

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