



# **Traffic & Parking Assessment Report**

SSD-78156221

Proposed Mixed Use Tower Development

93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill

Ref 24136

19<sup>th</sup> December 2024



CONSULTING  
ENGINEERS

## Document Control

|                        |                                                      |                      |               |                    |
|------------------------|------------------------------------------------------|----------------------|---------------|--------------------|
| <b>Project Number</b>  | 24136                                                |                      |               |                    |
| <b>Project Address</b> | 93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill |                      |               |                    |
| <b>Revision</b>        | <b>Date</b>                                          | <b>Details</b>       | <b>Author</b> | <b>Approved By</b> |
| Draft                  | 14.11.24                                             | First draft          | C. Palmer     | C. Palmer          |
| Final                  | 19.12.24                                             | Final for submission | C. Palmer     | C. Palmer          |

CJP Consulting Engineers Pty Ltd (CJP) has prepared this report in accordance with the instructions of the Client, for the sole use of the Client and for a specific purpose, as expressly stated in the document. CJP does not accept any responsibility for any use of or reliance on the contents of this report by any third party. Any other persons who use any information contained herein do so at their own risk. CJP reserves all legal rights and remedies in relation to any infringement of its rights in respect of its intellectual property and/or confidential information.

## Table of Contents

|                                                                     |           |
|---------------------------------------------------------------------|-----------|
| <b>1. Introduction.....</b>                                         | <b>1</b>  |
| 1.1 Project Summary & Background.....                               | 1         |
| 1.2 SEARs Item Responses .....                                      | 2         |
| 1.3 Assessment Tasks.....                                           | 3         |
| 1.4 Relevant Planning Controls.....                                 | 3         |
| 1.5 Traffic, Transport & Parking Guidelines & Standards.....        | 4         |
| <b>2. Existing Conditions.....</b>                                  | <b>5</b>  |
| 2.1 Site Location & Description.....                                | 5         |
| 2.2 Existing Planning Controls .....                                | 7         |
| 2.3 Site-Specific DCP 2012, Part D, Section 21.....                 | 8         |
| 2.4 Greater Sydney Region Plan – A Metropolis of Three Cities ..... | 11        |
| 2.5 Hills Future 2036 .....                                         | 12        |
| 2.6 Castle Hill Strategic Centre – Draft Precinct Plan.....         | 13        |
| 2.7 Road Network.....                                               | 14        |
| 2.8 Future Road Upgrades.....                                       | 15        |
| 2.9 Existing Surrounding Traffic Controls .....                     | 18        |
| 2.10 Existing Surrounding Parking Restrictions .....                | 18        |
| <b>3. Approved Planning Proposal – 12/2016/PLP.....</b>             | <b>19</b> |
| 3.1 Approved Development Description.....                           | 19        |
| 3.2 Approved Car Parking Arrangements.....                          | 19        |
| 3.3 Approved Loading & Servicing Facilities.....                    | 19        |
| 3.4 Approved Vehicular Access.....                                  | 19        |
| <b>4. Proposed Development.....</b>                                 | <b>20</b> |
| 4.1 Development Description.....                                    | 20        |
| 4.2 Parking Arrangements.....                                       | 21        |
| 4.3 Loading & Servicing Facilities.....                             | 21        |
| 4.4 Vehicular Access.....                                           | 21        |
| <b>5. Alternate Transport.....</b>                                  | <b>22</b> |
| 5.1 Public Transport .....                                          | 22        |
| 5.2 Active Transport.....                                           | 24        |
| 5.3 Car Share .....                                                 | 26        |
| 5.4 Green Travel Plan .....                                         | 27        |
| <b>6. Traffic Impact Assessment.....</b>                            | <b>28</b> |
| 6.1 Traffic Generation Guidelines.....                              | 28        |
| 6.2 Proposed Development Traffic Generation.....                    | 28        |
| 6.3 Approved Development Traffic Generation.....                    | 28        |
| 6.4 Traffic Impact .....                                            | 29        |
| <b>7. Access, Parking &amp; Servicing Assessment.....</b>           | <b>30</b> |
| 7.1 Applicable Car Parking Rates .....                              | 30        |
| 7.2 Car Parking Requirements.....                                   | 30        |
| 7.3 Proposed Car Parking Provision.....                             | 31        |
| 7.4 Accessible Parking.....                                         | 31        |
| 7.5 Electric Vehicle Parking .....                                  | 31        |
| 7.6 Bicycle & Motorcycle Parking Rates and Provisions .....         | 32        |
| 7.7 Loading & Servicing.....                                        | 33        |

|                                           |           |
|-------------------------------------------|-----------|
| <b>8. Design Assessment</b>               | <b>34</b> |
| 8.1 Applicable Design Standards           | 34        |
| 8.2 Vehicular Access & Circulation Design | 34        |
| 8.3 Parking & Loading Design              | 35        |
| <b>9. Conclusion</b>                      | <b>36</b> |

**Appendix A:** Architectural plans

**Appendix B:** Swept turn paths



## 1. Introduction

### 1.1 Project Summary & Background

CJP has been engaged by Alton Property Group to prepare a Traffic & Parking Assessment Report (TPAR) in support of a State Significant Development Application (SSD-78156221), involving a new mixed use development located at 93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill.

By way of background, Council received Gateway Determination on 2 November 2016 to proceed with a planning proposal (12/2016/PLP) on the subject site. The approved amendments facilitated a mixed use, multi-storey development, comprising 460 dwellings and 8,025m<sup>2</sup> of commercial floor space. The key amendments to The Hills Local Environmental Plan 2012 included:

- Rezoning the site from R3 Medium Density Residential and R1 General Residential to B4 Mixed Use (now known as MU1 Mixed Use);
- Removing the maximum building height applicable to the site;
- Applying a 'base' floor space ratio of 1:1 across the entire site and an 'incentivised' floor space ratio of 3.5:1 across the entire site.

Off-street parking was envisaged to be provided for approximately 900 parking spaces, in accordance with the parking rates specified in The Hills Development Control Plan 2012 applicable at the time. Commercial vehicles are to have one vehicular access point on Cecil Avenue. Residential vehicles are to have a maximum of two vehicular access points.

A site-specific Development Control Plan (DCP) was prepared in response to the Planning Proposal (PP), and is known as DCP 2012, Part D, Section 21, 93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill. The site-specific DCP includes a number of objectives for any future development on the site, including to provide excellent pedestrian connectivity and amenity within the site, and to and from the surrounding locality, including a site through-link from Cecil Avenue to Roger Avenue, as well as providing sufficient parking spaces while encouraging public transport use.

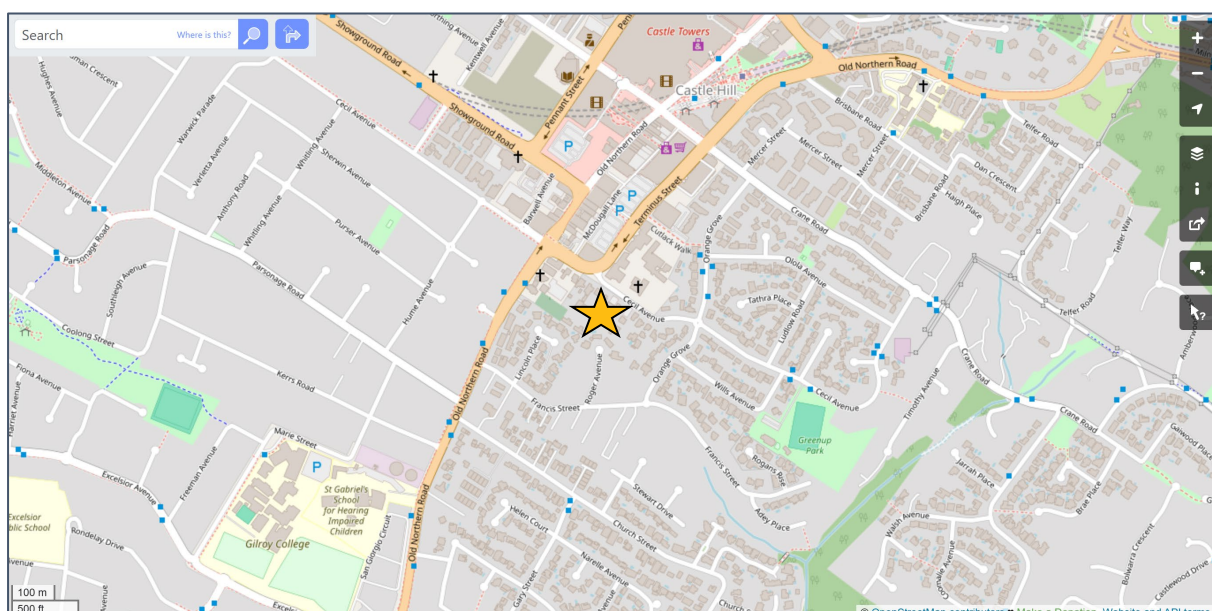


Figure 1.1 – Site Location (Source: OpenStreetMap)

Following on from the Planning Proposal (PP), this TPAR has been prepared to accompany a State Significant Development Application (SSD-78156221) for a new mixed use development on the site with a similar four-building footprint, built form and pedestrian through-link. The proposed development is intended to be staged, and again comprises 8,025m<sup>2</sup> of commercial floor area on the lower levels.

Notwithstanding, due to the new Affordable Housing Scheme that has been put in place under the SEPP (Housing) 2021, which allows for a 30% uplift in GFA, this SSDA involves the construction of additional residential levels, resulting in a total of 615 apartments, including 160 affordable rental housing units.

Off-street car parking in the SSDA scheme is proposed for a total of 979 spaces across a new multi-level basement, and compartmentalised in order to allow the staged construction, including break-through panels at selected locations. The proposed SSDA also makes provision for 4 loading bays within the lower ground level, all capable of accommodating 12.5m long HRV trucks.

Vehicular access to the site is proposed to be provided via a new entry/exit driveway located at the eastern end of the Cecil Avenue site frontage, and shared between all uses and all vehicles.

Plans of the proposed SSDA development have been prepared by A+ Design Group and are reproduced in Appendix A.

Based on State Environmental Planning Policy (Transport & Infrastructure) 2021, Schedule 3, the proposed development is classified as a *traffic generating development* as there are greater than 200 car parking spaces on site, plus there are greater than 300 dwellings. Referral to Transport for NSW is therefore required.

## 1.2 SEARs Item Responses

This TPAR has been prepared in response to the SEARs application feedback provided by the NSW Department of Planning, Housing & Infrastructure (DPHI), 29 November 2024, which is reproduced in Table 1.1 below.

| Table 1.1 – DPHI SEARs Requirements – SSD-78156221 |                                                                                                                                                                                                                                                                                                                                                                     |                                         |
|----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|
| SEARs Item                                         | Description & Requirements                                                                                                                                                                                                                                                                                                                                          | Section Addressed                       |
| 9. Traffic, Transport & Accessibility              | The EIS must include a transport and accessibility impact assessment, which includes:                                                                                                                                                                                                                                                                               |                                         |
|                                                    | an analysis of the existing transport network, including the road hierarchy and any pedestrian, bicycle or public transport infrastructure, current daily and peak hour vehicle movements, and existing performance levels of nearby intersections.                                                                                                                 | Section 2.7<br>Chapter 5<br>Section 6.4 |
|                                                    | Details of the proposed development, including pedestrian and vehicular access arrangements (including swept path analysis of the largest vehicle and height clearances), parking arrangements and rates (including bicycle and end-of-trip facilities), drop-off/pick-up-zone(s) and bus bays (if applicable), and provisions for servicing and loading/unloading. | Chapter 4<br>Chapter 7<br>Appendix B    |
|                                                    | Analysis of the impacts of the proposed development during construction and operation (including justification for the methodology used), including                                                                                                                                                                                                                 | Chapter 6<br>Preliminary                |

|  |                                                                                                                                                                                                                                                                                                                                                                                       |                                                |
|--|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
|  | predicted modal split, a forecast of additional daily and peak hour multimodal network flows as a result of the development (using industry standard modelling), identification of potential traffic impacts on road capacity, intersection performance and road safety (including pedestrian and cyclist conflict) and any cumulative impact from surrounding approved developments. | CTMP                                           |
|  | Measures to mitigate any traffic impacts, including details of any new or upgraded infrastructure to achieve acceptable performance and safety, and the timing, viability and mechanisms of delivery (including proposed arrangements with local councils or government agencies) of any infrastructure improvements in accordance with relevant standards.                           | Section 6.4                                    |
|  | Proposals to promote sustainable travel choices for employees, residents, guests and visitors, such as connections into existing walking and cycling networks, minimising car parking provision, encouraging car share and public transport, providing adequate bicycle parking and high-quality end-of-trip facilities, and implementing a Green Travel Plan.                        | GTP prepared by CJTP and provided separately   |
|  | Provide a Preliminary Construction Traffic Management Plan detailing predicted construction vehicle routes, access and parking arrangements, coordination with other construction occurring in the area, and how impacts on existing public transport, traffic, pedestrian and bicycle networks would be managed and mitigated.                                                       | PCTMP prepared by CJTP and provided separately |

### 1.3 Assessment Tasks

The purpose of this TPAR is to assess the traffic, parking, access, transport and servicing characteristics of the SSDA, and the associated impacts of the proposal on the surrounding road network, parking and transport environment. This can be briefly summarised below:

- Description of the existing site and its location
- Existing traffic and parking conditions
- Public and active transport infrastructure
- Traffic generation potential of the proposal and its impacts on the surrounding road network, compared to the previously approved PP
- Off-street parking/loading/access requirements and provisions
- Design of access driveway and parking area layout

### 1.4 Relevant Planning Controls

The site lies within The Hills Shire Council (Council) Local Government Area (LGA), such that the relevant Council, NSW Department of Planning, Housing & Infrastructure (DPHI), and Transport for NSW (TfNSW) planning controls and strategies referenced in this TPAR include:

- The Hills Local Environmental Plan 2019 (THLEP 2019)
- The Hills Development Control Plan 2012 (THDCP 2012)
  - THDCP Part B, Section 5 – Residential Flat Building (Mar 2018)
  - THDCP Part C, Section 1 – Parking (Aug 2024)
  - THDCP Part D, Section 21 – 93-107 Cecil Ave & 9-10 Roger Ave, Castle Hill (Aug 2024)
- The Hills Shire Council Local Strategic Planning Statement – Hills Future 2036 (LSPS)
- The Hills Shire Council Mayoral Minute No.9/2016 – Methodology for Providing Housing Mix and Diversity within the Sydney Metro Northwest Corridor

- The Hills Shire Council – Transit Centres Car Parking Requirements Report (prepared by People Trans, dated 20.01.21)
- The Hills Shire Council Castle Hill Strategic Centre Draft Precinct Plan (May 2023)
- The Hills Shire Council Bike Plan

## 1.5 Traffic, Transport & Parking Guidelines & Standards

In preparing this TPAR, references are also made to the following site access, traffic and parking guidelines:

- Roads & Maritime Service's Guide to Traffic Generating Developments 2002 (RMS Guide)
- RMS Technical Direction 2013/04a (TDT)
- Transport for NSW Draft Guide to Transport Impact Assessment 2024
- State Environmental Planning Policy (Transport & Infrastructure) 2021
- State Environmental Planning Policy (Housing) 2021
- Australian Standards 2890.1:2004 – Off-Street Car Parking (AS2890.1)
- Australian Standards 2890.2:2018 – Off-Street Commercial Vehicle Facilities (AS2890.2)
- Australian Standards 2890.3:2015 – Bicycle Parking (AS2890.3)
- Australian Standards 2890.6:2022 – Off-Street Parking for People with Disabilities (AS2890.6)
- NSW Government's Greater Sydney Region Plan: A Metropolis of Three Cities
- NSW Government's Planning Guidelines for Walking & Cycling (December 2004)
- National Construction Code (NCC)
- Building Code of Australia (BCA)

## 2. Existing Conditions

### 2.1 Site Location & Description

The subject site lies at the southern edge of the Castle Hill Strategic Centre, approximately 600m south-west of Castle Hill Metro station, and is located on the southern side of Cecil Avenue, opposite Terminus Street, extending through to Roger Avenue.

The site has street frontages of approximately 161m in length to Cecil Avenue, 36m in length to Roger Avenue, and occupies a total site area of approximately 17,623m<sup>2</sup>. A copy of the survey plan prepared by SDG Land Development Solutions is reproduced below.

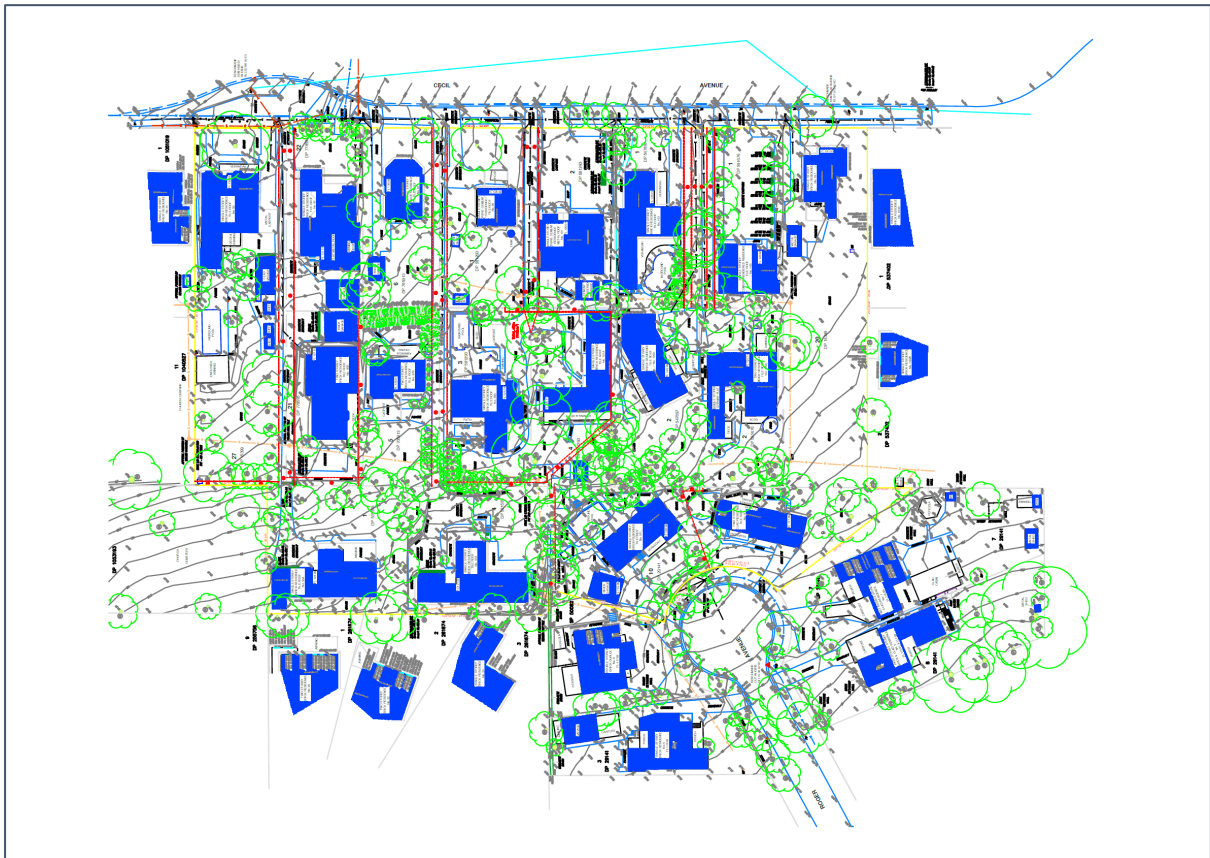


Figure 2.1 – Survey plan (Source: SDG Land Development Solutions)

The site is currently occupied by 18 free-standing dwelling houses, including a number of battle-axe lots, all with off-street parking and accessed via respective driveways located off either Cecil Avenue or Roger Avenue.

A recent aerial image of the site and its surroundings is reproduced on the following page, along with a series of Streetview images.





Figure 2.2 – Aerial image of the subject site ([www.nearmap.com](http://www.nearmap.com))



Figure 2.3 – Streetview image of the Cecil Avenue site frontage, looking west (Source: Google Maps)



Figure 2.4 – Streetview image of the Cecil Avenue site frontage, looking east (Source: Google Maps)





Figure 2.5 – Streetview image of the Terminus Street & Cecil Avenue intersection, looking south (Source: Google Maps)

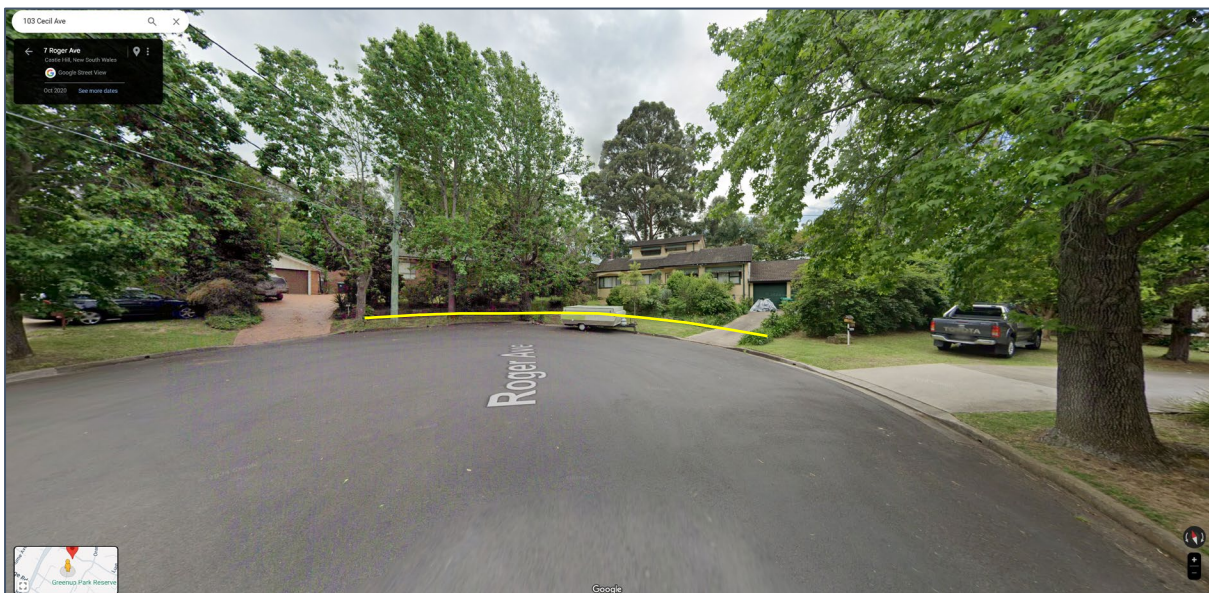


Figure 2.6 – Streetview image of Roger Avenue site frontage, looking north (Source: Google Maps)

## 2.2 Existing Planning Controls

The site is zoned MU1 Mixed Use (formally B4 Mixed Use) under The Hills Local Environmental Plan 2019 (LEP 2019), whilst there is no maximum Height of Building control as it was removed as part of the approved rezoning application and Planning Proposal.

Also approved under the PP was the application of a base Floor Space Ratio (FSR) of 1:1, an incentivised FSR of 3.5:1, and a limitation of 460 units on the site.

The proposed mixed use development is therefore permissible in the zone, subject to development consent.



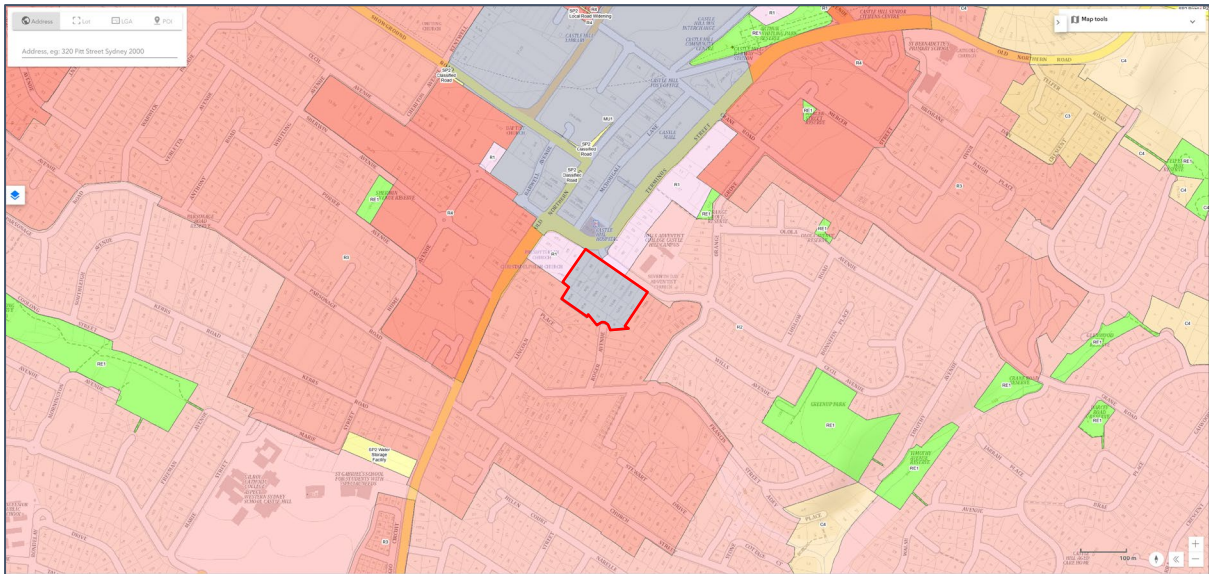


Figure 2.7 – Zoning Map (Source: ePlanning Spatial Viewer)



Figure 2.8 – Height of Building & Floor Space Ratio Map (Source: ePlanning Spatial Viewer)

## 2.3 Site-Specific DCP 2012, Part D, Section 21

A site-specific Development Control Plan (DCP) was prepared in response to the Planning Proposal, and is known as DCP 2012, Part D, Section 21, 93-107 Cecil Avenue & 9-10 Roger Avenue, Castle Hill. The site-specific DCP includes a number of development controls objectives for any future development on the site, including:

- Uses on the site are to be generally located in accordance with Figure 2.10
- Key thoroughfares and the Cecil Avenue frontage are to be activated by commercial, retail and other non-residential uses located at the lower ground, ground floor and podium levels, with residential uses located in tower forms above
- At least 8,025m<sup>2</sup> GFA of retail/commercial uses is to be provided on the site
- A maximum of 460 residential apartments are to be provided on the site
- Residential vehicles are to have a maximum of two vehicular access points; one on Roger Avenue and one on Cecil Avenue
- Commercial vehicles, including service vehicles and loading, are to have one vehicular access point on Cecil Avenue



- The car park design shall prevent commercial and visitor vehicles from utilising Roger Avenue to access the site
- On-site car parking is provided in accordance with the following rates:
  - 1 space per apartment
  - 1 visitor space per 5 apartments
  - Commercial & retail parking in accordance with DCP, Part C, Section 1 – Parking
- Construction of a roundabout at the intersection of Roger Avenue & Francis Street

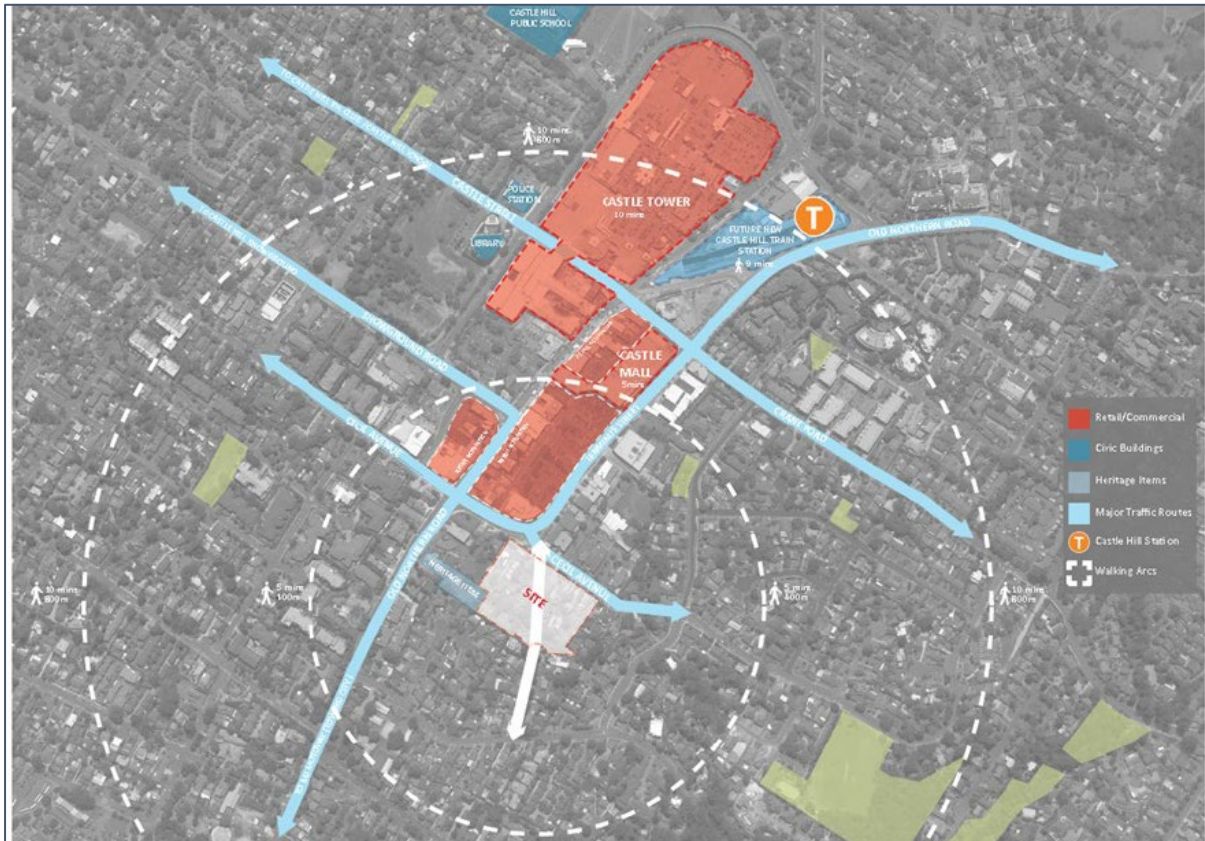


Figure 2.9 – Urban context (Source: DCP 2021, Part D, Section 21, Figure 2)

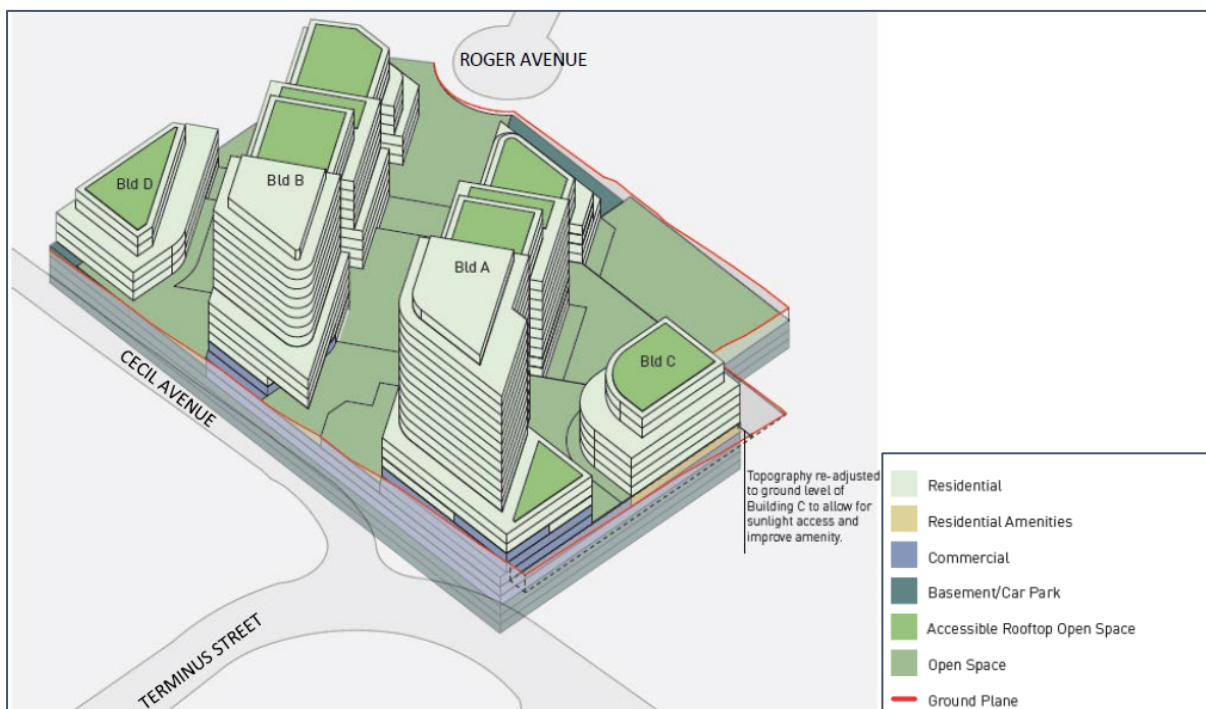


Figure 2.10 – Land use distribution (Source: DCP 2021, Part D, Section 21, Figure 3)

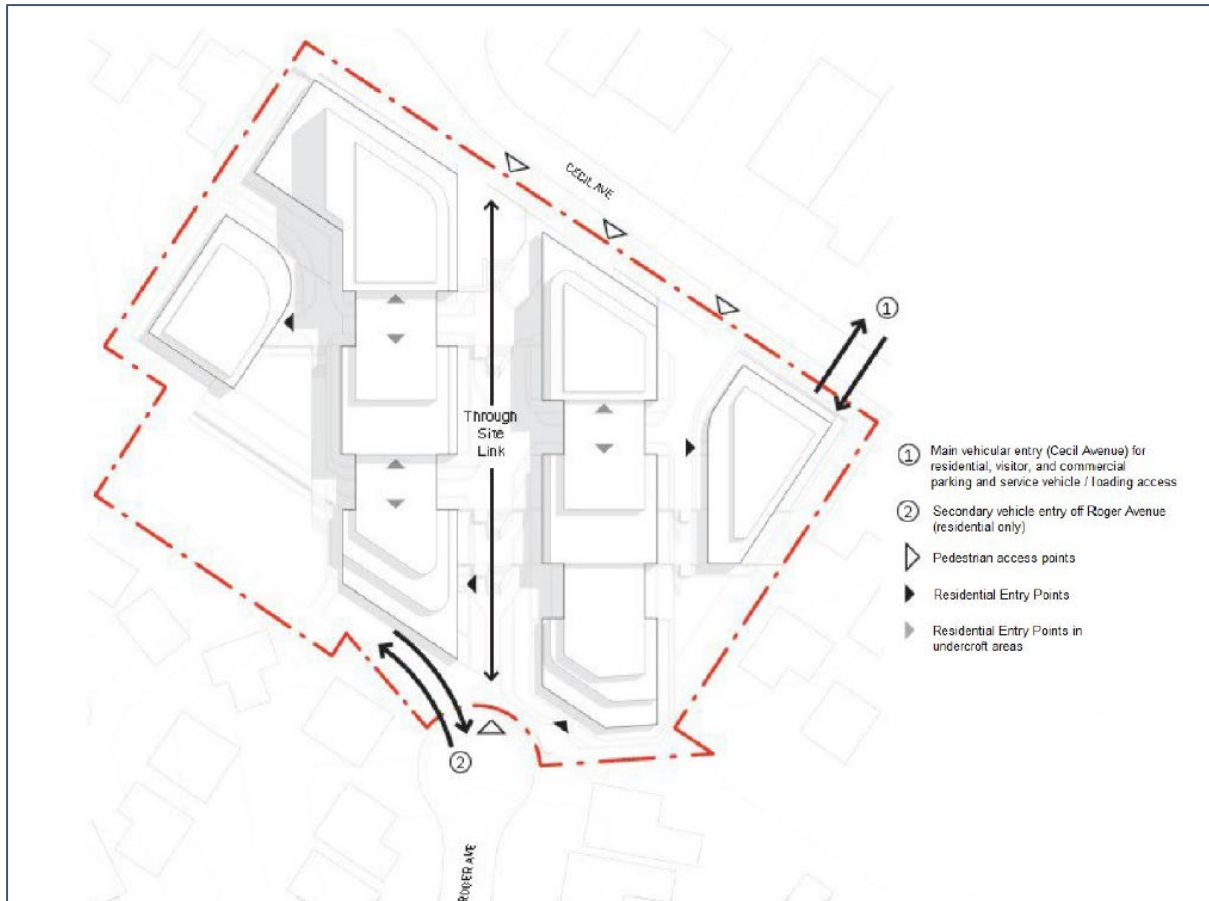


Figure 2.11 – Access network (Source: DCP 2021, Part D, Section 21, Figure 12)

The site-specific DCP also specifies the following public road improvements that shall be provided prior to the completion and occupation of the development:

- Widening of the Roger Avenue carriageway (within the existing road reserve) on the eastern side (from the development site up to and including No.23 Francis Street) by approximately 2m to reflect the profile shown in the figure below. The cost of the road widening is to be funded by the developer at no cost to Council.

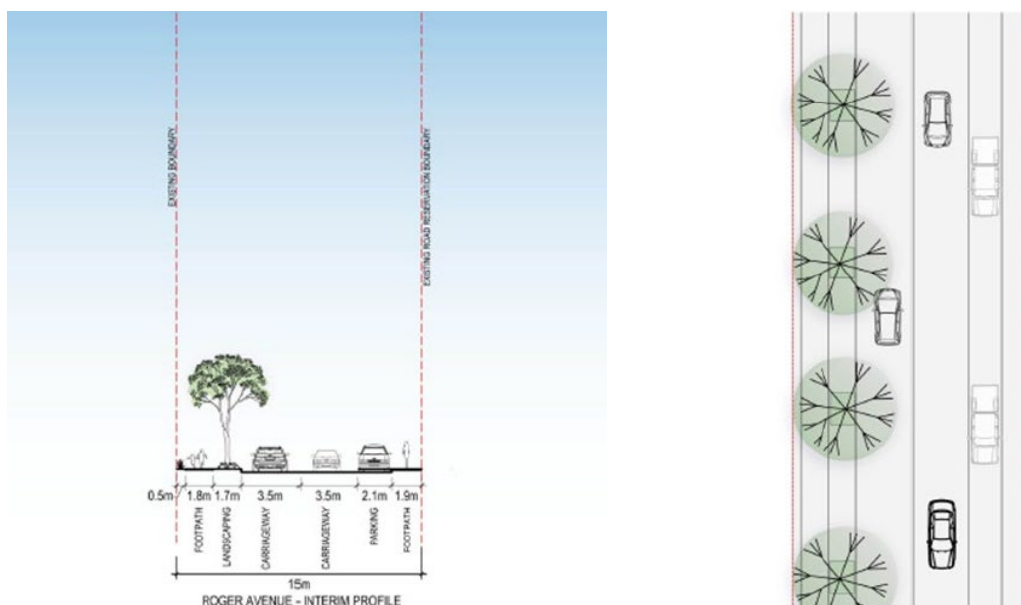


Figure 2.12 – Roger Avenue interim profile (Source: DCP 2021, Part D, Section 21, Figure 13)



- Widening of the road verge area (as per the figure below) will be considered during future master planning of the area. The final design outcome will require a future developer to dedicate 2m of land to Council (at no cost to Council) to increase the Roger Avenue width of the footpath reservation to allow for landscaping.

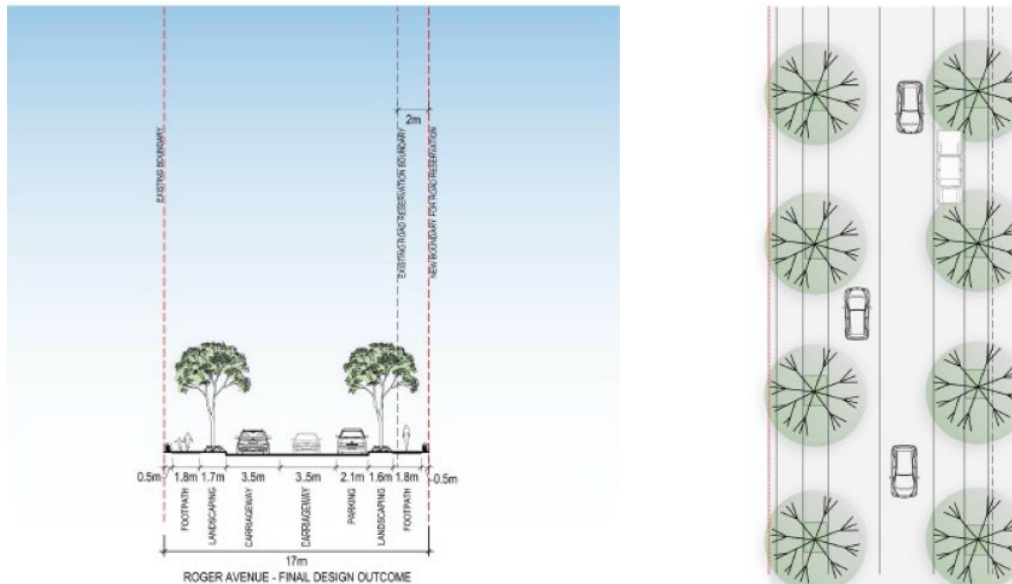


Figure 2.13 – Roger Avenue final design outcome (Source: DCP 2021, Part D, Section 21, Figure 14)

Notwithstanding the above, given the proposal does not include vehicular access off Roger Avenue, the above upgrades are not proposed as part of the SSDA.

## 2.4 Greater Sydney Region Plan – A Metropolis of Three Cities

In 2018, the NSW Government released the Greater Sydney Region Plan: A Metropolis of Three Cities document. As the population grows, the goal is to rebalance economic and social opportunities across Greater Sydney by dividing Sydney into three core cities to allow residents to live within 30 minutes of their jobs, education and health facilities, services and other key places of interest. The three cities are known as:

- the Western Parkland City
- the Central River City
- the Eastern Harbour City.

The vision brings new thinking to land use and transport patterns to boost Greater Sydney's liveability, productivity and sustainability by spreading the benefits of growth.

As the population of Greater Sydney is projected to grow to 8 million over the next 40 years, rebalancing economic and social opportunities will leverage that growth and deliver the benefits more equally and equitably across Greater Sydney.

The proposed mixed use development on the site thereby satisfies the objectives of the Plan by providing a significant quantum of employment floor area within a 30 minute journey of the site. This includes older existing, new and approved low/medium/high density residential areas, including Castle Hill Town Centre itself.

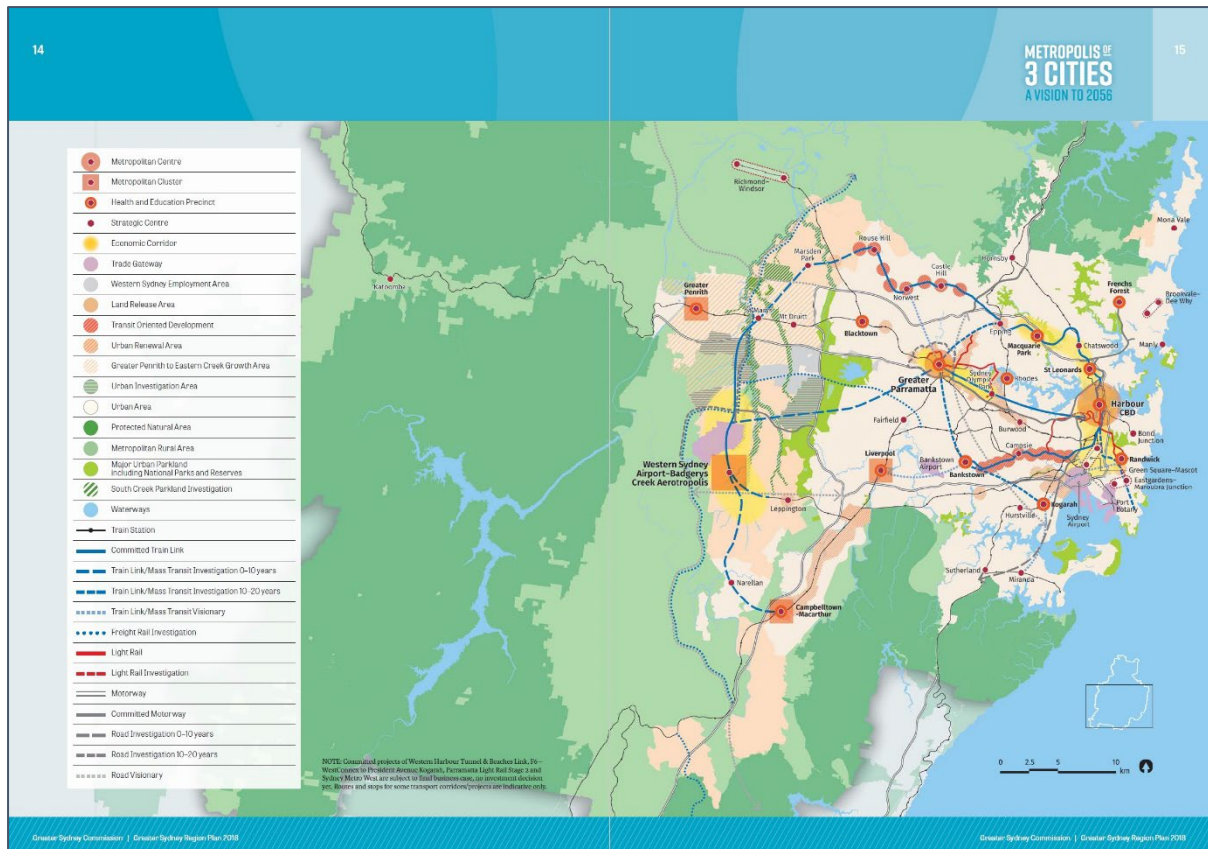


Figure 2.14 – Structure Plan (Source: Greater Sydney Region Plan: A Metropolis of Three Cities)

## 2.5 Hills Future 2036

The Hills Shire Council Local Strategic Planning Statement – Hills Future 2036 (LSPS) is the community strategic plan for the Shire. The plan identifies the community's main priorities and aspirations for the future and to plan an approach to achieve these goals.

The LSPS notes that the Shire is going through a time of unprecedented growth and change, and with the arrival of Sydney Metro Northwest, transformation in The Hills is inevitable. The LSPS considers how Council's strategic and local centres and communities can support the population which is expected to reach more than 250,000 people by 2036.

The LSPS looks into the transport opportunities that will connect The Hills with other regions of Greater Sydney, whether through established or planned corridor routes. These networks will allow people to move around The Hills, or get to jobs or educational facilities across Greater Sydney, and in time, to Western Sydney International Airport.

The vision is for residents to live where there is a mix of housing, jobs and transport options, by making areas around new stations become places where people can live and work within a short walk of transport, with plenty of nearby shops, cafés, community hubs and well-designed open spaces.

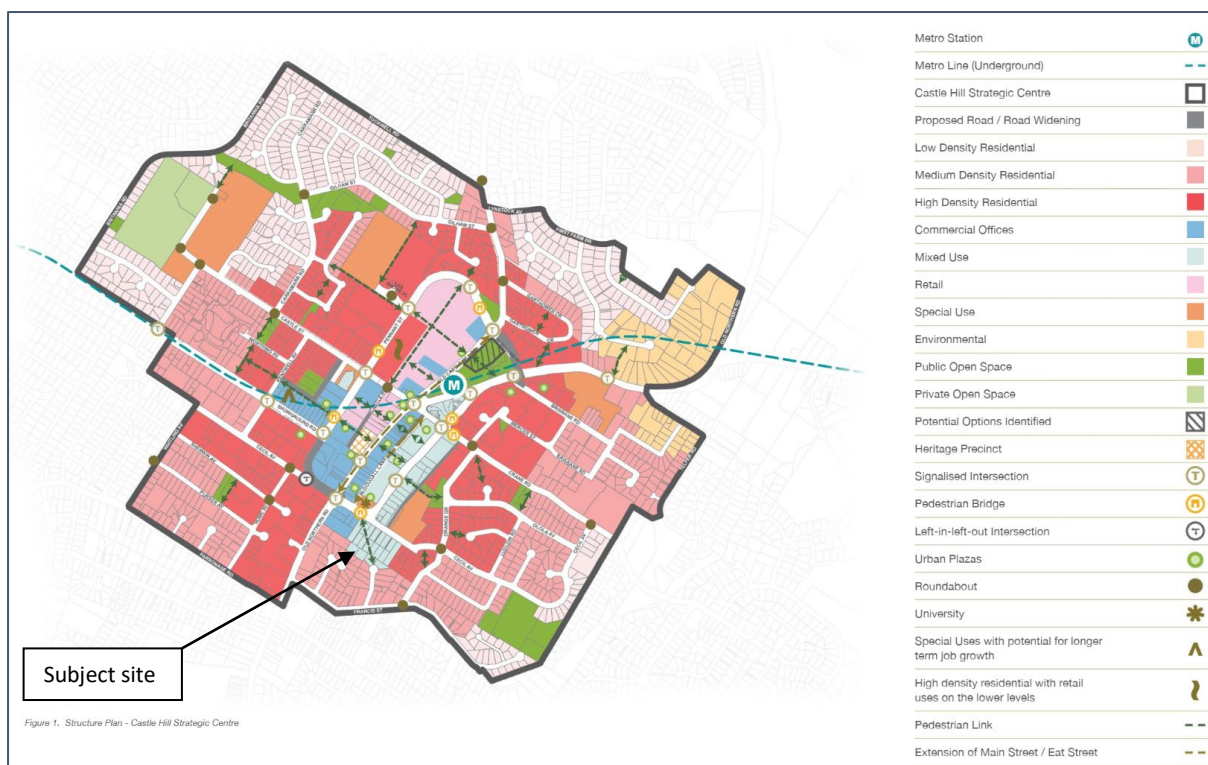
## 2.6 Castle Hill Strategic Centre – Draft Precinct Plan

In May 2023, Council released the Draft Precinct Plan for the Castle Hill Strategic Centre, which sets the framework for reinforcing Castle Hill as a vibrant regional destination which expands the mix of uses within the Strategic Centre, including increased housing capacity and more employment opportunities aligned with the skills of local residents.

Residents and workers will find walking and cycling an attractive and convenient option with enhanced open spaces, public plazas, new pedestrian bridges, through site links and upgraded pedestrian/cycle paths, providing improved permeability and a seamless connection between the Metro Station and key locations within the Centre. New road links, upgraded intersections and the completion of the Ring Road will make it easier for people to travel within and around Castle Hill.

Ensuring that the road network continues to operate at an acceptable level of service will require the implementation of a combination of measures, including:

- reduced parking rates that recognise the accessibility of high frequency public transport services to and from the Centre
- modal shift toward increased public transport usage to access the Strategic Centre (assisted through reduced parking rates, improved access to the Metro Station, the delivery of future regional transport connections and connectivity and public domain improvements)
- upgrades and expansion of certain roads and intersections to increase capacity. This will contain the impact as much as possible, to the walking catchment of each Metro Station, whilst ensuring that traffic continues to flow efficiently.





## 2.7 Road Network

The Transport for NSW (TfNSW) road hierarchy comprises the following road classifications:

- State Roads: Freeways, Motorways and Primary Arterial Roads (TfNSW managed)
- Regional Roads: Secondary or Sub-Arterial (Council managed, partly funded by the State)
- Local Roads: Collector and Local Access Roads (Council managed)

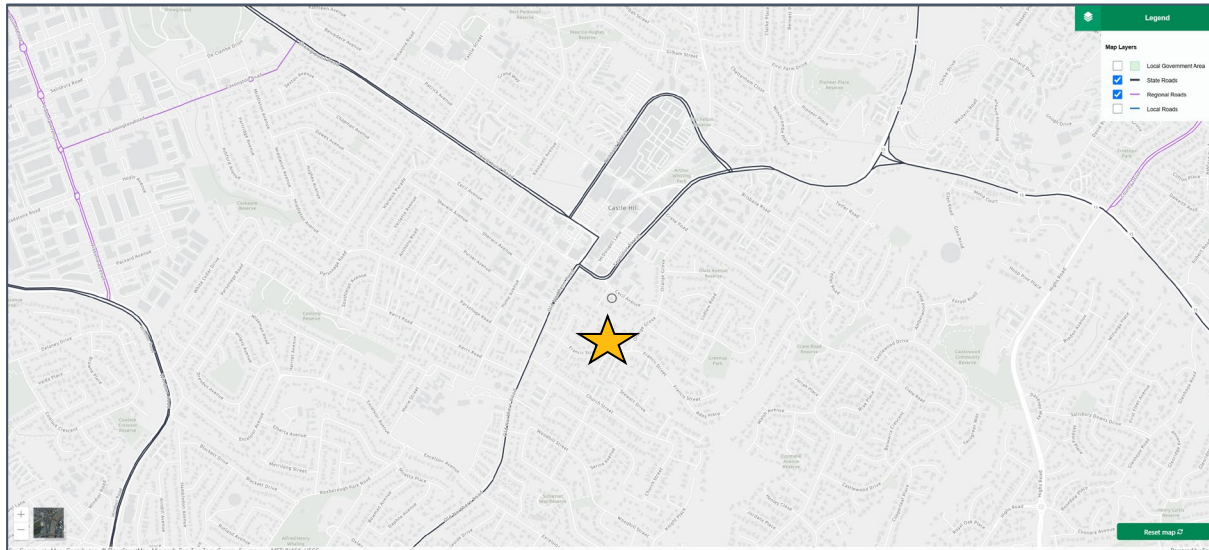


Figure 2.16 – Road Hierarchy (Source: Transport for NSW)

The road hierarchy in the vicinity of the site is shown in the figure on the following page, whilst the key roads and intersections are summarised below:

- Windsor Road is classified as a State Road which provides a key north-south road link in the area, linking James Ruse Drive at Northmead to Windsor township. It carries two traffic lanes in each direction in the vicinity of the site, with turning lanes provided at key intersections.
- Showground Road is also classified as a State Road which provides a key east-west road link in the area, linking Windsor Road to Old Northern Road. Upgrade of Showground Road has recently been completed and now comprises dual lane/dual carriageway along its entire length, with turning lanes provided at key intersections.
- Old Northern Road & Terminus Street are also classified as State Roads which provides another key north-south road link in the area, connecting Baulkham Hills to Wisemans Ferry. They typically carry two traffic lanes in each direction, with turning lanes provided at key intersections and Clearway restrictions applying during peak periods.
- Cecil Avenue is a local road which provides vehicular and pedestrian access to frontage properties, including the subject site. Two-way traffic flow is permitted along with kerbside parking, whilst carriageway width in the vicinity of the site is 9.5m.
- Roger Avenue is also a local road which provides vehicular and pedestrian access to frontage properties. It is approximately 125m in length, extending northward from Francis Street, and terminates at a cul-de-sac turning head with a diameter of 22m.

More locally, the existing Town Centre is located at the junction of Showground Road & Old Northern Road, and is surrounded by a “Ring Road” that enables vehicles to pass around and through the Town Centre.

Showground Road is a key arterial road that provides connectivity to the neighbouring Norwest Strategic Centre, whilst Old Northern Road is the key north-south arterial link connecting the rural areas in the northern parts of the LGA to Baulkham Hills, Parramatta and Sydney CBD.

Pennant Street and Terminus Street form part of the Ring Road, framing the existing Town Centre and providing connections to the broader local road network and surrounding residential areas.

There are four bus services which operate within 400m of the site, as shown in the figure below, whilst the route details and frequencies are provided in Table 2.2.

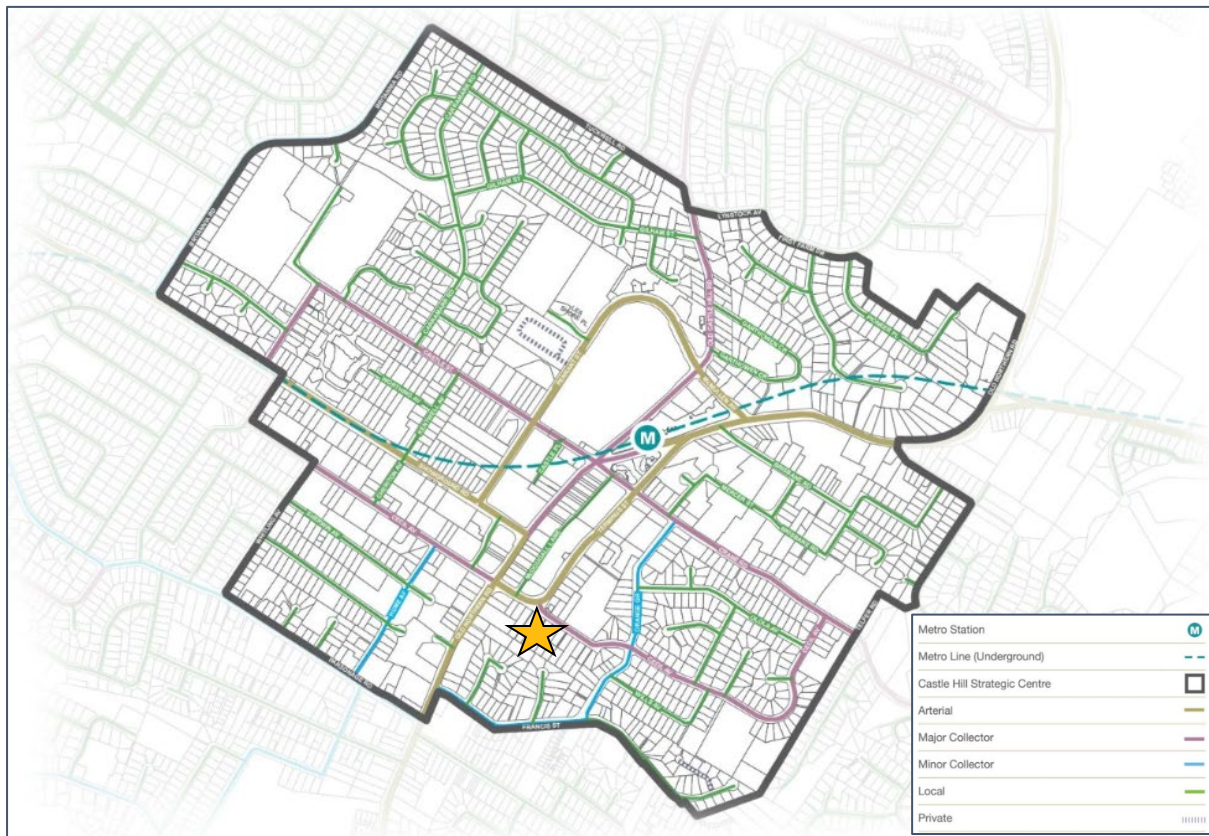


Figure 2.17 – Castle Hill Strategic Centre Existing Road Network (Source: Castle Hill Strategic Centre – Draft Precinct Plan)

## 2.8 Future Road Upgrades

The NSW Government (Transport for NSW) is responsible for the regional road network, which includes Showground Road, Old Northern Road, Pennant Street and Terminus Street within the Strategic Centre. Regional traffic modelling is currently being finalised by Cardno (an external traffic engineering consultancy) to assess capacity for growth and potential upgrades required within the Castle Hill and Norwest Strategic Centres. It is anticipated that the findings of this modelling will identify that if existing policy settings are retained, the expected growth within the Strategic Centres will result in unacceptable impacts on the road network, with most intersections on the regional road network failing during both the AM and PM Peak Hours by 2036.

Various upgrades are identified to assist in increasing the capacity of the regional road network (for land within the Castle Hill Strategic Centre), as shown in the figure below. The delivery of the upgrades would primarily be the responsibility of the NSW Government.

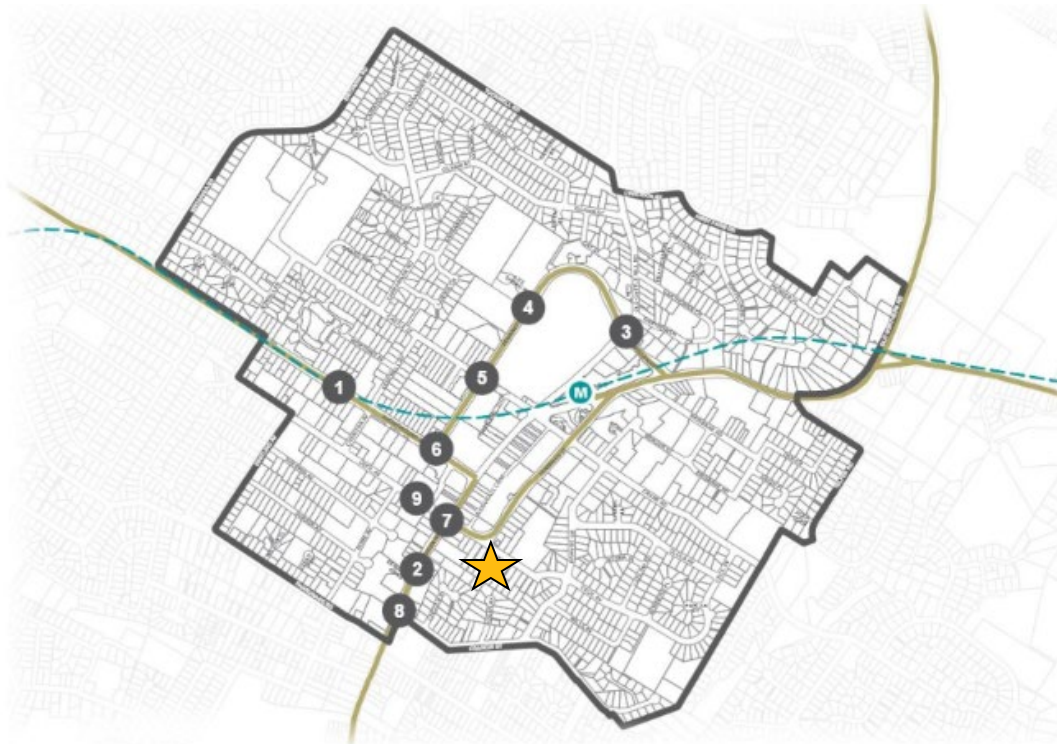
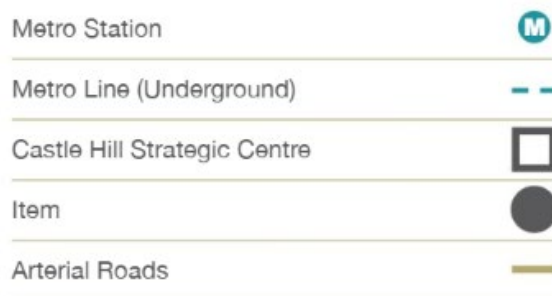


Figure 78. Regional Road Upgrades

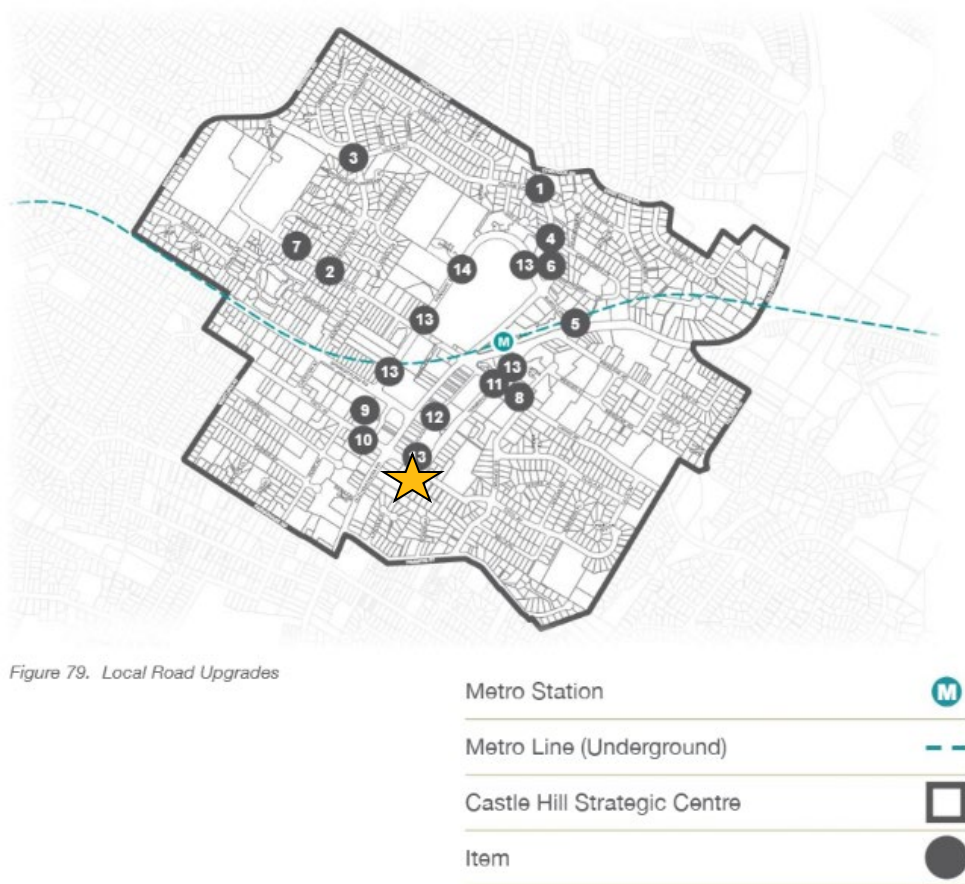


| No. | Item Description                                                                               | Responsibility |
|-----|------------------------------------------------------------------------------------------------|----------------|
| 1   | Upgrade of Showground Road between Old Northern Road and Cecil Avenue                          | TfNSW          |
| 2   | Upgrade of Old Northern Road between Cecil Avenue and Francis Street                           | TfNSW          |
| 3   | Signalisation upgrade at Old Castle Hill Road, Pennant Street and McMullen Avenue intersection | TfNSW          |
| 4   | Signalisation upgrade at Les Shore Place and Pennant Street intersection                       | TfNSW          |
| 5   | Signalisation upgrade at Castle Street and Pennant Street intersection                         | TfNSW          |
| 6   | Signalisation upgrade at Pennant Street and Showground Road intersection                       | TfNSW          |
| 7   | Signalisation upgrade at Cecil Avenue and Old Northern Road intersection                       | TfNSW          |
| 8   | Signalisation upgrade at Old Northern Road and Francis Street intersection                     | TfNSW          |
| 9   | Completion of Ring Road (from Pennant Street to Old Northern Road)                             | TfNSW          |

Figure 2.18 – Castle Hill Strategic Centre Regional Road Upgrades (Source: Castle Hill Strategic Centre – Draft Precinct Plan)



In addition to the regional road upgrades, several local road improvements (including new road connections, intersection upgrades, new signalised intersections, roundabouts, left-in/left-out upgrades) are identified within the Castle Hill Strategic Centre, as shown in the figure below. These are principally feeder roads onto the regional road network and provide local vehicular access to existing and future development sites.



| No. | Item Description                                                                                                                                                                                                            | Responsibility                                               |
|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| 1   | Roundabout – Old Castle Hill Road and Gilham Street                                                                                                                                                                         | Council                                                      |
| 2   | Roundabout – Castle Street and Carramar Road                                                                                                                                                                                | Council                                                      |
| 3   | Roundabout – Gilham Street and Carramar Road                                                                                                                                                                                | Council                                                      |
| 4   | Roundabout – Garthowen Crescent and Old Castle Hill Road (northern junction)                                                                                                                                                | Council                                                      |
| 5   | Signalised Intersection – McMullen Avenue and Brisbane Road and Realignment of Brisbane Road                                                                                                                                | Council                                                      |
| 6   | Road upgrade and widening of Old Castle Hill Road (from Eric Felton Reserve to Gilham Street) – including road widening on both the eastern and western sides of Old Castle Hill Road                                       | Council                                                      |
| 7   | Road upgrade and widening of Castle Street (from Grand Way to Cecil Avenue) – including road widening on the northern side of Castle Street                                                                                 | Council                                                      |
| 8   | Roundabout – Orange Grove, Crane Road and Mercer Street (including realignment of road)                                                                                                                                     | Strategically Identified                                     |
| 9   | Completion of Ring Road from Pennant Street to Cecil Avenue (including potential widening as well as closure of Barwell Avenue and the far eastern section of Showground Road between Pennant Street and Old Northern Road) | Strategically Identified                                     |
| 10  | Left-in-left-out upgrade from Cecil Avenue into and out of the Ring Road Extension                                                                                                                                          | Strategically Identified                                     |
| 11  | Upgrade of Crane Road between Terminus Street and Orange Grove Road                                                                                                                                                         | Strategically Identified                                     |
| 12  | Widening and Realignment of McDougall Lane                                                                                                                                                                                  | Strategically Identified                                     |
| 13  | 5 pedestrian bridges in various locations                                                                                                                                                                                   | Council (2 bridges) and Strategically Identified (3 bridges) |
| 14  | Widen the verge / footpath on the western corner of Pennant Street and Les Shore Place                                                                                                                                      | Strategically Identified                                     |

Figure 2.19 – Castle Hill Strategic Centre Local Road Upgrades (Source: Castle Hill Strategic Centre – Draft Precinct Plan)

These improvements will result in the following benefits:

- Ease traffic congestion
- Improve vehicular connectivity
- Facilitate active transport links
- Facilitate improved amenity for residents and workers

The suite of local road improvements will work in tandem with reduced parking rates, improved public transport services and improved connectivity and public domain. Typically, local road improvements will either be funded through local Contributions Plans or will be delivered by developers (at no cost to Council) as redevelopment occurs. Some of the upgrades listed in the table below are already identified for delivery and funding responsibilities. The strategically identified items have not yet been finalised and do not have a current funding source. Where needed, Council can consider including capital and land acquisition costs associated with upgrades within an acceptable Contributions Plan. Where appropriate, land required for road widening will be zoned for acquisition within The Hills LEP.

## 2.9 Existing Surrounding Traffic Controls

The existing traffic controls in the vicinity of the site comprise:

- a 60km/h speed limit along Terminus Street, Cecil Avenue (between Terminus Street & Old Northern Road) and Old Northern Road
- a 50km/h speed limit elsewhere along Cecil Avenue, and all other local roads in the area
- a 40kmh school zone speed limit in Cecil Avenue, opposite the subject site, in the vicinity of the Hills Adventist College
- Traffic signals in Terminus Street where it intersects with Crane Road and also Castle Mall Shopping Centre car park, including signalised pedestrian crossings
- Traffic signals in Old Northern Road where it intersects with Cecil Avenue and also Showground Road, including signalised pedestrian crossings
- a central median island in Cecil Avenue, where it intersects with Terminus Street, which restricts turning movements to left-in/left-out only
- a roundabout at the Cecil Avenue & Orange Grove intersection
- a stop sign in Francis Street where it intersects Old Northern Road

## 2.10 Existing Surrounding Parking Restrictions

The existing parking restrictions in the vicinity of the site comprise:

- Clearway restrictions along Terminus Street, Cecil Avenue (between Terminus Street & Old Northern Road) and Old Northern Road, with No Stopping restrictions at all other times
- 2P parking restrictions along the eastern side of Cecil Avenue, opposite the site
- A Bus Zone located outside the Hills Adventist College on school days, opposite the site, with No Parking at all other times
- No Stopping restrictions outside the Hills Adventist College on school days & Saturday mornings, east of the abovementioned Bus Zone, with No Parking at all other times
- Generally, unrestricted kerbside parking elsewhere throughout the local road network, including along the Cecil Avenue and Roger Avenue site frontages

### 3. Approved Planning Proposal – 12/2016/PLP

#### 3.1 Approved Development Description

As noted in the foregoing, Council received Gateway Determination on 2 November 2016 to proceed with a planning proposal (12/2016/PLP) on the subject site. The approved amendments facilitated a mixed use, multi-storey development, comprising 460 dwellings and 8,025m<sup>2</sup> of commercial floor space. The key amendments to The Hills Local Environmental Plan 2012 included:

- Rezoning the site from R3 Medium Density Residential and R1 General Residential to B4 Mixed Use (now known as MU1 Mixed Use);
- Removing the maximum building height applicable to the site;
- Applying a 'base' floor space ratio of 1:1 across the entire site and an 'incentivised' floor space ratio of 3.5:1 across the entire site.

#### 3.2 Approved Car Parking Arrangements

Off-street parking in the PP was envisaged to be provided across several basement levels for approximately 900 parking spaces, as set out in the table below.

| Table 3.1 – Approved Planning Proposal Development & Parking Schedule |                           |                                     |                   |
|-----------------------------------------------------------------------|---------------------------|-------------------------------------|-------------------|
| Land Use                                                              | Quantum                   | Parking Rate                        | Required          |
| Residential                                                           | 460 units                 | 1 space per unit                    | 460 spaces        |
| Visitors                                                              |                           | 1 space per 5 units                 | 92 spaces         |
| <i>Sub-total residential</i>                                          |                           |                                     | <i>552 spaces</i> |
| Commercial                                                            | 7,222m <sup>2</sup>       | 1 space per 25m <sup>2</sup> GFA    | 289 spaces        |
| Retail                                                                | 803m <sup>2</sup> *       | 1 space per 18.5m <sup>2</sup> GLFA | 35 spaces         |
| <i>Sub-total commercial</i>                                           | <i>8,025m<sup>2</sup></i> |                                     | <i>324 spaces</i> |
| <b>Total</b>                                                          |                           |                                     | <b>876 spaces</b> |

\* 80% of GFA = 642m<sup>2</sup> GLFA

#### 3.3 Approved Loading & Servicing Facilities

A loading area to cater for the development, both residential and commercial, was envisaged as part of the PP scheme, and ultimately designed in accordance with AS2890.2 requirements.

#### 3.4 Approved Vehicular Access

The main vehicular access in the PP scheme was envisaged to be provided at the eastern corner of the site, off Cecil Avenue. This access was to be used by all vehicles associated with the commercial component of the development as well as all visitors to the residential units. It was also able to be used by residential tenants.



## 4. Proposed Development

### 4.1 Development Description

Due to the new Affordable Housing Scheme that has been put in place under the NSW SEPP (Housing) 2021 which allows for a 30% uplift in GFA, the development proposal involves the submission of a State Significant Development Application (SSD-78156221). The SSDA comprises the demolition of the existing dwellings on the site and the staged construction of a new mixed use tower development in their place. The proposed SSDA scheme comprises commercial and retail space on the lower levels, with residential apartments on the levels above, including 160 affordable rental housing units. Key parameters of the proposed SSDA scheme are provided in the Table 4.1 below.

| Table 4.1 – Proposed SSDA Development Schedule |                   |                         |                         |
|------------------------------------------------|-------------------|-------------------------|-------------------------|
| Land Use                                       | Strata Apartments | Affordable Rental Units | Total                   |
| Residential                                    | 0 x studio        | 1 x studio              | 1 x studio              |
|                                                | 0 x 1 bed         | 65 x 1 bed              | 65 x 1 bed              |
|                                                | 317 x 2 bed       | 103 x 2 bed             | 420 x 2 bed             |
|                                                | 127 x 3 bed       | 0 x 3 bed               | 127 x 3 bed             |
|                                                | <u>2 x 4 bed</u>  | <u>0 x 4 bed</u>        | <u>2 x 4 bed</u>        |
|                                                | <b>446 units</b>  | <b>169 units</b>        | <b>615 units</b>        |
| Commercial                                     |                   |                         | 7,211m <sup>2</sup> GFA |
| Retail                                         |                   |                         | 814m <sup>2</sup> GFA   |

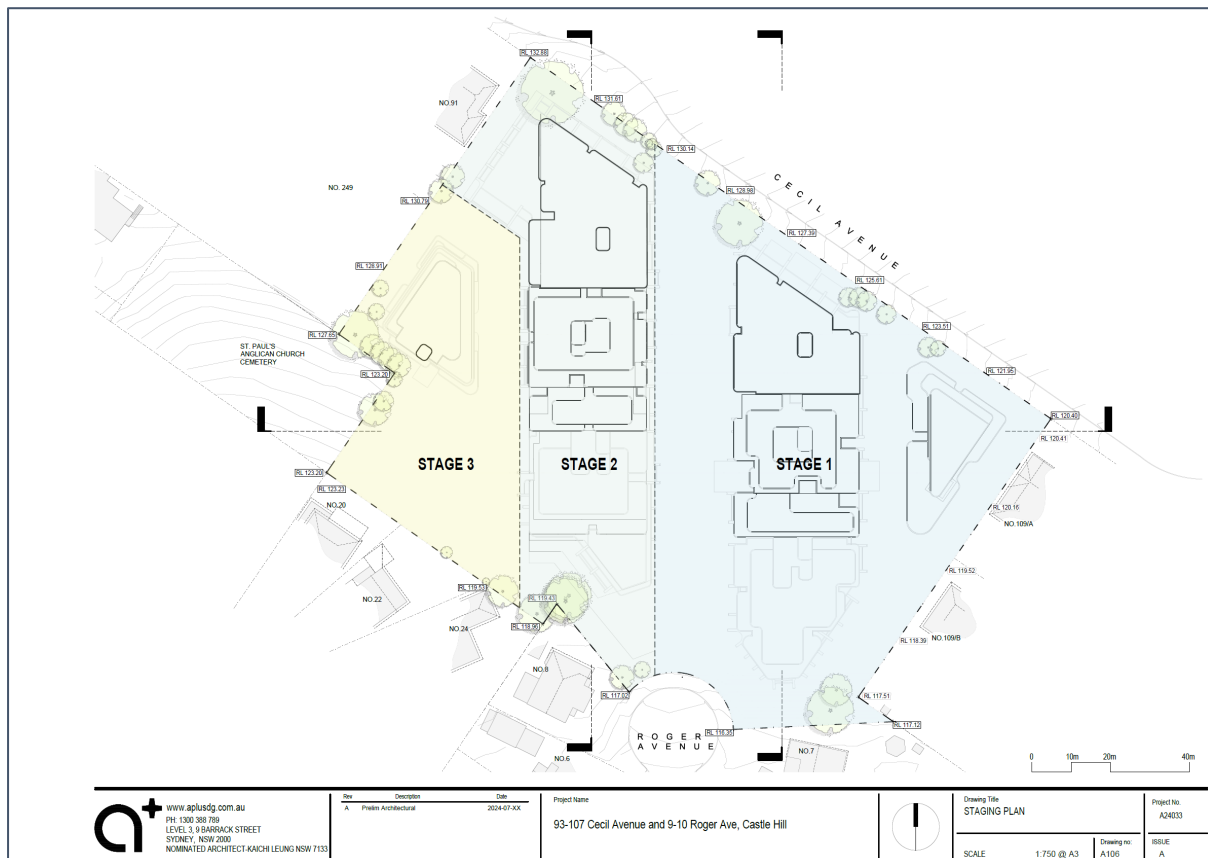


Figure 4.1 – Proposed SSDA staging plan (Source: A+ Design Group)

## 4.2 Parking Arrangements

Off-street car parking in the SSDA scheme is proposed for a total of 979 spaces across a new multi-level basement, and compartmentalised in order to allow the staged construction, including break-through panels at selected locations. The proposed SSDA also makes provision for 291 bicycle spaces and 20 motorcycle spaces, which is set out in Table 4.2 below.

| Table 4.2 – Proposed SSDA Parking Allocation |                   |
|----------------------------------------------|-------------------|
| Land Use                                     | Key parameters    |
| Residential car parking                      | 524 spaces        |
| Visitor car parking                          | 123 spaces        |
| Commercial/retail car parking                | 332 spaces        |
| <b>Total</b>                                 | <b>979 spaces</b> |
| Residential bicycle parking                  | 206 spaces        |
| Visitor bicycle parking                      | 63 spaces         |
| Residential motorcycle parking               | 12 spaces         |
| Commercial/retail bicycle parking            | 22 spaces         |
| Commercial/retail motorcycle parking         | 8 spaces          |

## 4.3 Loading & Servicing Facilities

Servicing and deliveries in the SSDA scheme are proposed to be undertaken by a variety of commercial vehicles, ranging from vans, utilities and the like, up to and including 12.5m long HRV trucks.

In this regard, the proposed SSDA makes provision for 4 loading bays within the lower ground level, comprising two in Stage 1 and two in Stage 2, all capable of accommodating 12.5m long HRV trucks.

## 4.4 Vehicular Access

Similar to the approved PP scheme, vehicular access to the loading dock and service area in the SSDA scheme is again proposed to be provided via a new entry/exit driveway located at the eastern end of the Cecil Avenue site frontage.

The vehicular access and internal manoeuvring have been designed to allow all vehicles to enter and exit the site in a forward direction at all times.

## 5. Alternate Transport

### 5.1 Public Transport

The nearby public transport services are shown in the figures below and on the following page. The site is situated approximately 300m walking distance (approximately 4 minutes) to the nearest bus stop which is located on Old Northern Road and serviced by the 600, 603, 610X & 612X.

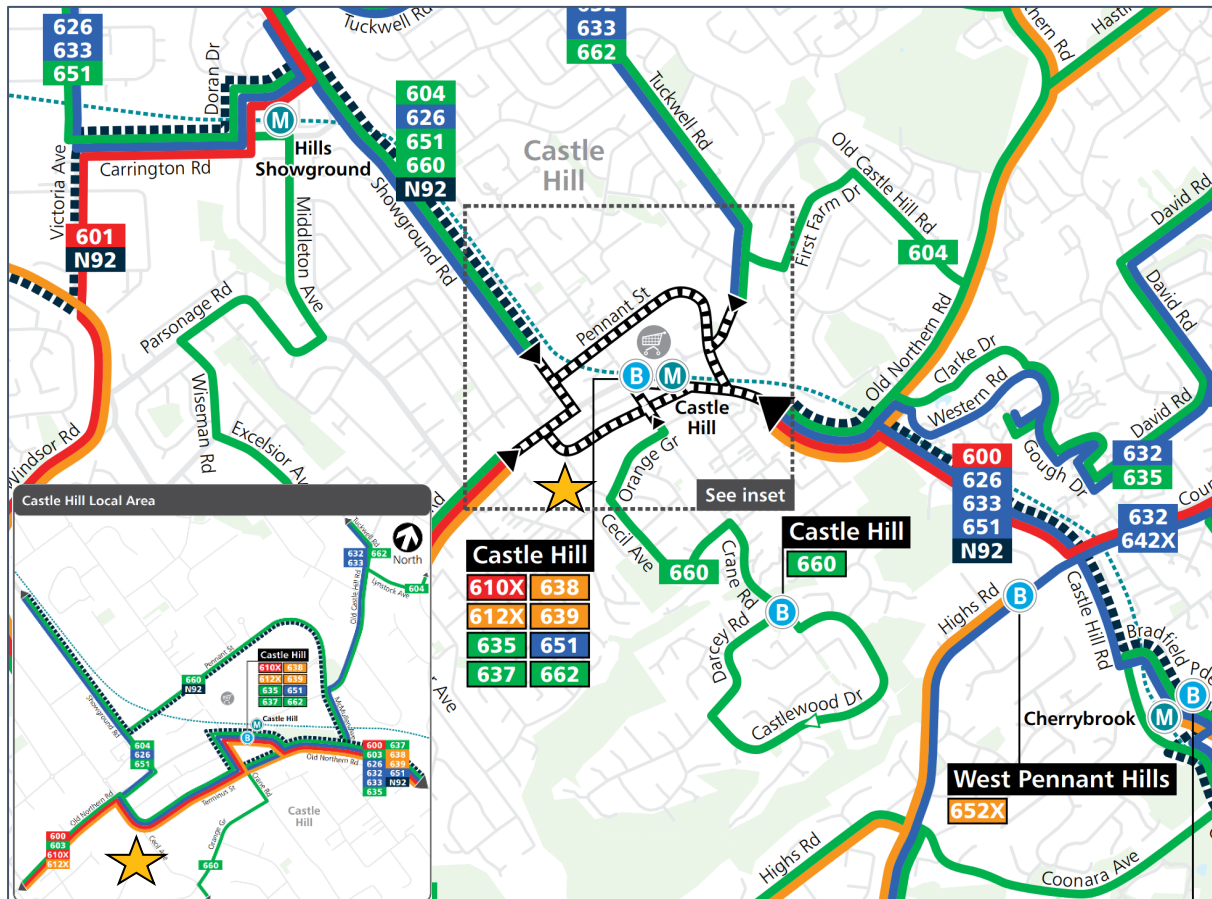


Figure 2.19 – Existing Public Transport Map (Source: Transport for NSW)

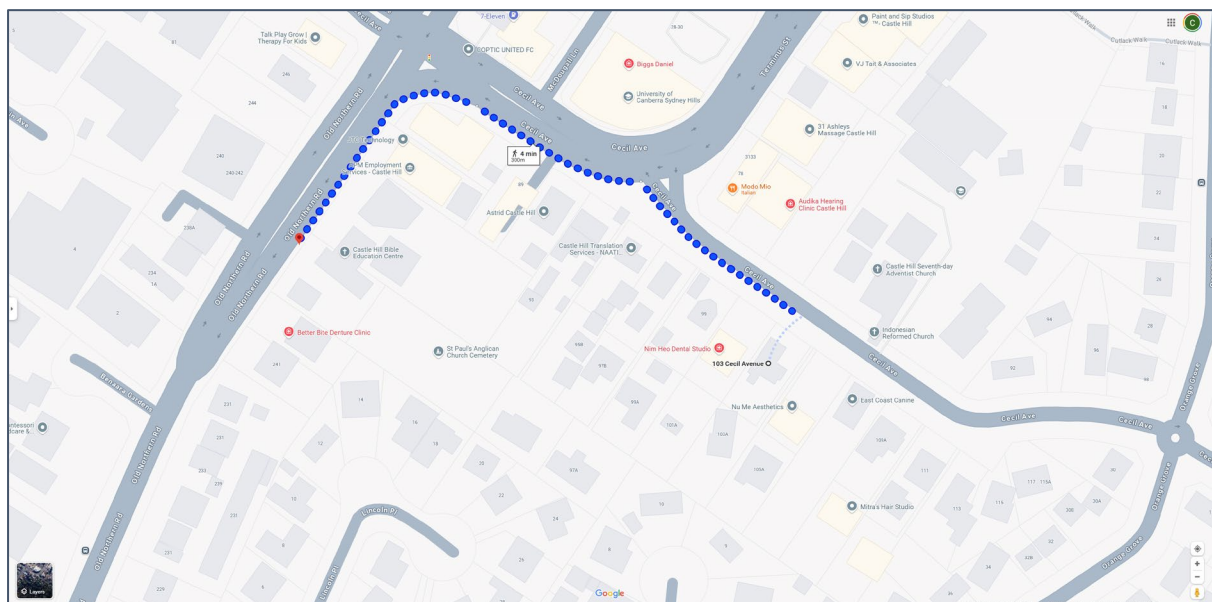


Figure 2.20 – Walking distance between site and Old Northern Road bus stop (Source: Google Maps)



Research suggests that proximity to bus services influence the travel mode choice for areas within 400m walking distance (approximately 5 minutes) of a bus stop. As such, the proposed development has excellent potential for future residents, visitors, staff and customers to utilise bus for their trip to/from the site.

Castle Hill Metro Station is also located approximately 750m north of the site, which lies on the M1 Sydenham to Tallawong Line. Services operate every 4-5 minutes during peak periods and every 10 minutes during off-peak periods.

Research also suggests that proximity to train services influence the travel mode choice for areas within 800m (approximately 10 minutes) of a train station. As such, the proposed development also has excellent potential for future residents, visitors, staff and customers to utilise train for their trip to/from the site.

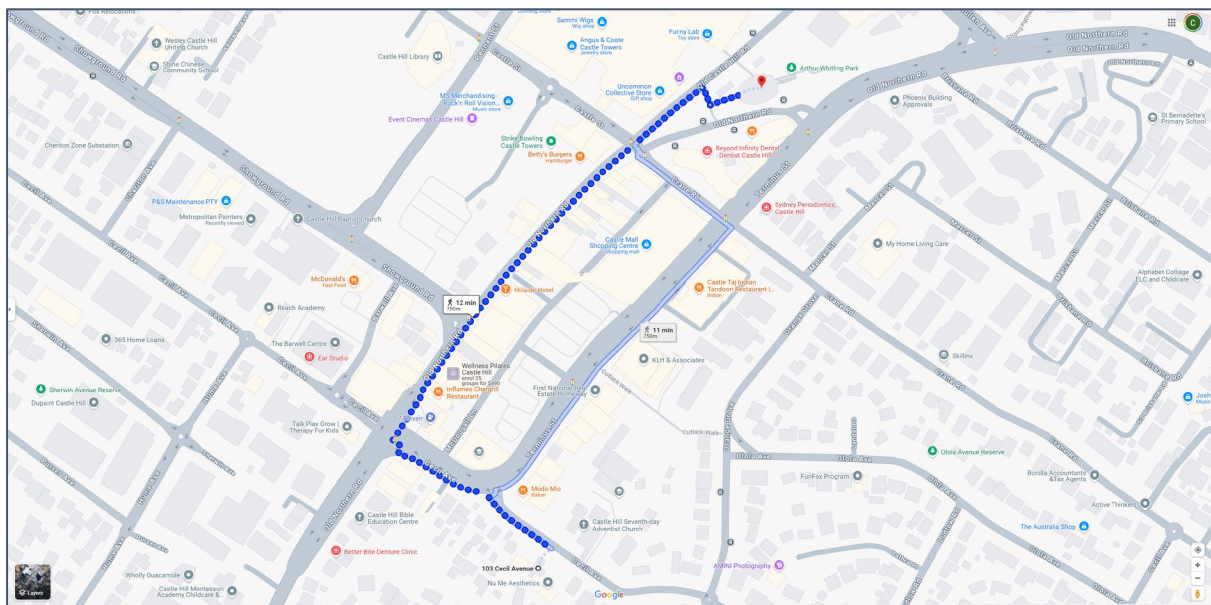


Figure 2.21 –Walking distance between site and Castle Hill Metro Station (Source: Google Maps)

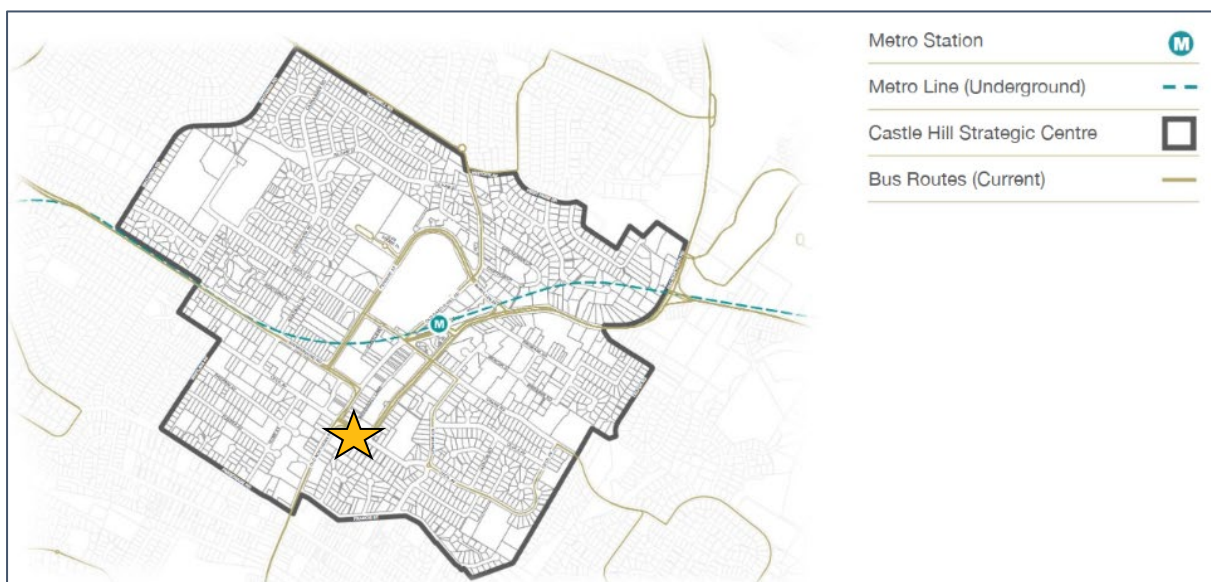


Figure 2.22 – Castle Hill Strategic Centre Public Transport Map (Source: Castle Hill Strategic Centre – Draft Precinct Plan)

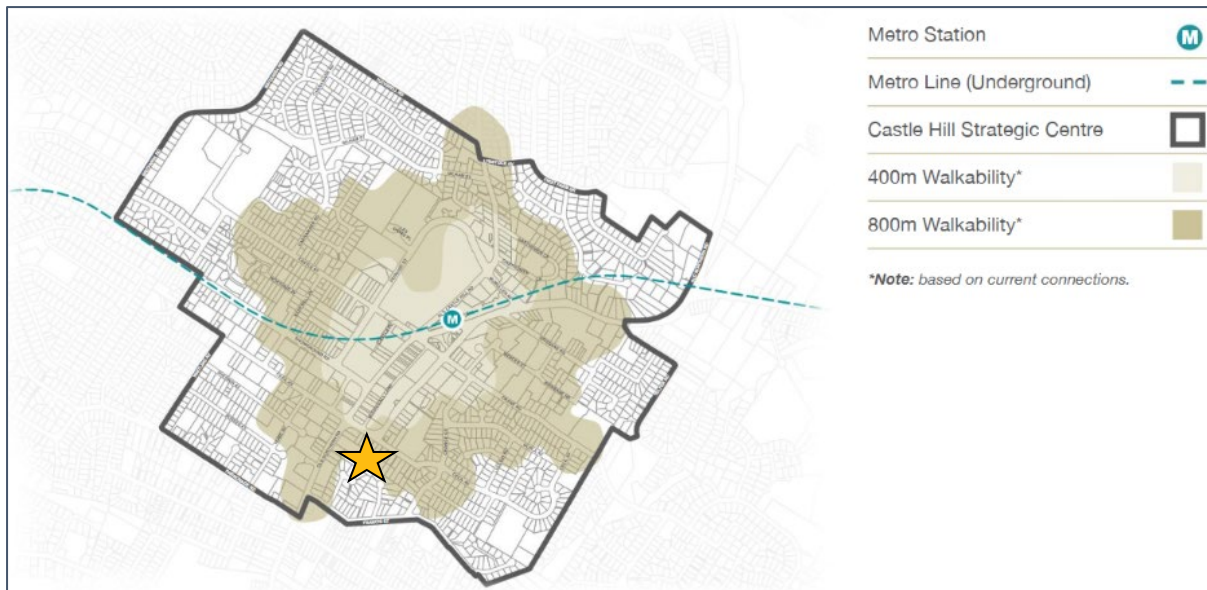


Figure 2.23 – Castle Hill Strategic Centre Existing Walkability Map (Source: Castle Hill Strategic Centre – Draft Precinct Plan)

## 5.2 Active Transport

In addition to the public transport services available in the vicinity of the site, there is also a good level of pedestrian connectivity, including safe and convenient footpaths to the abovementioned bus stops and Metro station. All existing footpaths in the surrounding area are of good quality, with appropriate widths and pram ramps provided at most intersections.

The strategic bicycle network in the vicinity of the site is reproduced in the figure on the following page, taken from Council's The Hills Shire Bike Plan. At a network-wide level, existing cycle routes in the LGA are limited. Notwithstanding, Council's vision is to provide a high quality, connected walking and cycling network that enables residents, workers and visitors to choose active transport to move about the LGA and beyond.

The *Planning Guidelines for Walking and Cycling* identify a number of city-scale design principles that can assist the creation of walkable and cyclable cities and neighbourhoods. These principles emphasise urban renewal and the creation of compact, mixed use, accessible centres around public transport stops. At the neighbourhood scale, design principles can be reinforced through the creation of local and accessible centres and neighbourhoods with connected street patterns and road design which aim to reinforce local walking and cycling networks.

In particular, the *Guidelines* note that increased population density is an important element in creating a walkable and cyclable city. A compact development brings activities close together, making them more accessible by foot or by bicycle, without the need to use a car. Increased population density also enhances the viability of public transport services.



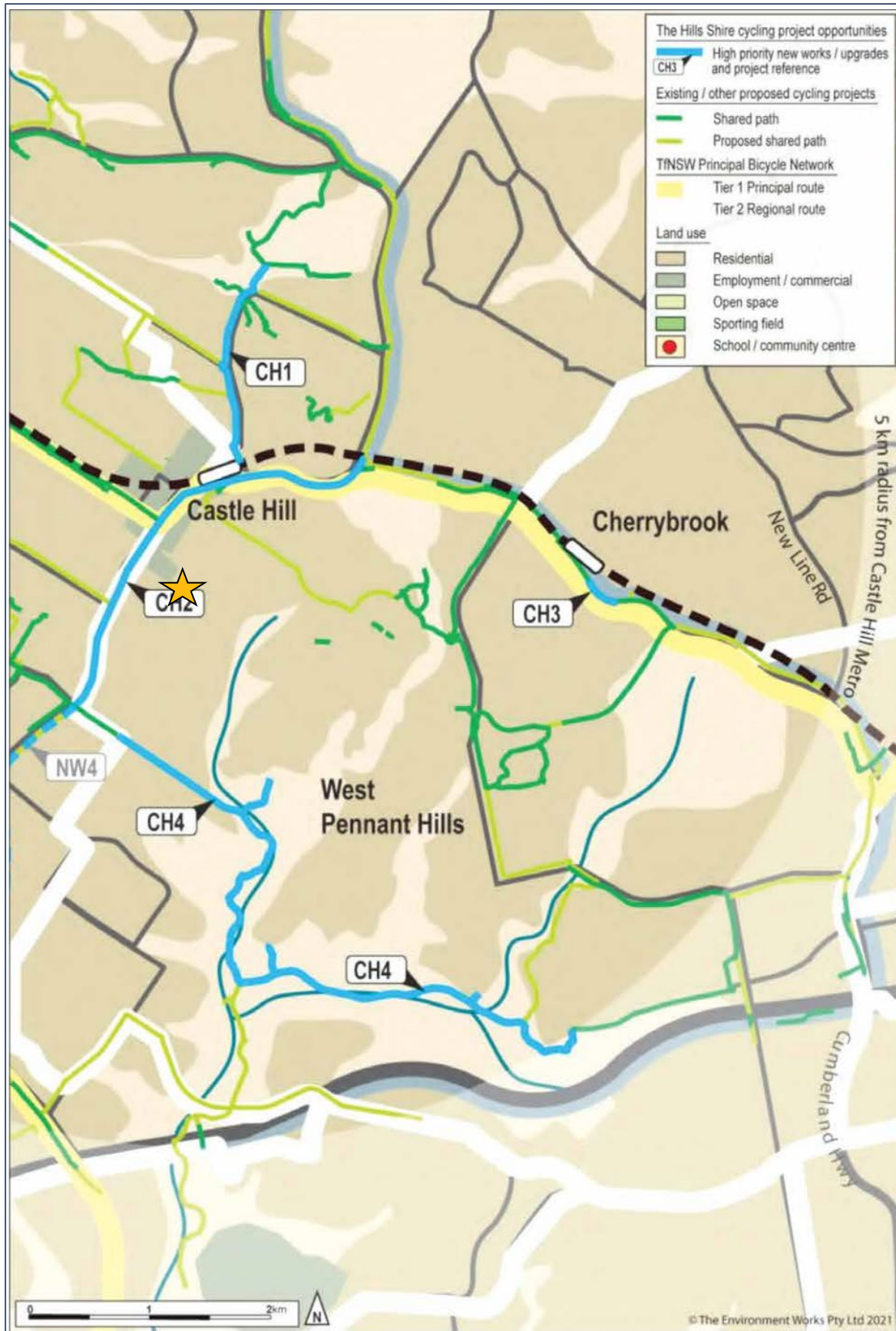


Figure 2.24 – Strategic cycling network for Castle Hill precinct (Source: The Hills Shire Bike Plan)



### 5.3 Car Share

In addition to public and active transport options, car sharing is becoming increasingly popular in Sydney, and offers a convenient, affordable, and sustainable alternate transport option to owning/using private cars.

The locations of existing surrounding car share pods are shown in the figure below, indicating there are 2 existing pods located within a 400m radius of the site plus a further 2 existing pods located within an 800m radius of the site.

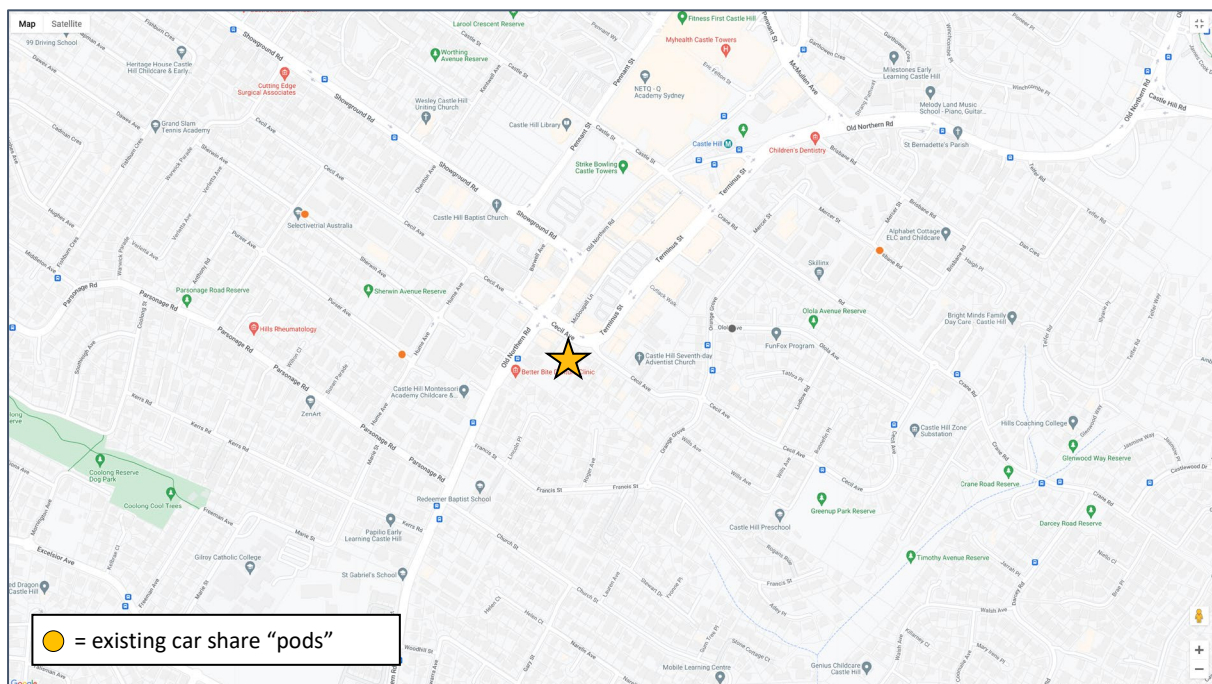


Figure 3.5 – Existing car share pod locations (Source: GoGet)

The Hills Shire Council supports design initiatives which support sustainable transport, including car sharing, because it encourages more sustainable travel habits by allowing a single vehicle to be used by a large number of people. This reduces road congestion and the competition for parking spaces, which ultimately benefits all road users.

Research undertaken by industry leaders, GoGet, indicates that in built up areas such as Rockdale, each car share space can replace in the order of 10 private vehicles.

Data published by car share leading LGA, City of Sydney Council, indicates that almost 31,000 residents and businesses within the LGA have joined car share schemes, where members can book for a car online whenever they need one, and pick it up from one of the nearby car sharing “pods”.

Car share users are charged by time and distance, at a rate set by each operator. Costs associated with fuel, vehicle maintenance and insurance are usually included in the operator’s hire fees which ranges from \$6 to \$13 per kilometre depending on the type of vehicle.

The subject site and proposed tenancies within it are therefore conveniently located to take advantage of these existing car share services, in accordance with Council's planning objectives to encourage the greater use of sustainable modes of transport. For example, an employee within one of the future office tenancies may not have an on-site car space within the basement and therefore takes public transport to work. That employee may have a meeting they have to travel to, and a car share car may be the most convenient way to travel to that meeting.

#### **5.4 Green Travel Plan**

A Green Travel Plan is a document that provides a package of actions designed to encourage safe, healthy and sustainable travel options. The objectives of a Green Travel Plan are to remove barriers to active travel for all users of developments, and to maximize the number of people who walk, cycle or take public transport to and from a development.

A key feature of Green Travel Plans includes a plan detailing the location of all public transport services as well as key facilities such as banks, post office etc. located within a 5 minute and 10 minute radius (400m & 800m) of the site. As noted in the foregoing, the nearest bus stop is located 350m walking distance west of the site whilst Castle Hill Metro Station is located 750m walking distance north of the site, both of which a large proportion of future residents, employees and visitors of the development are likely to utilise for their trips to/from the site.

Furthermore, Castle Hill Town Centre in the vicinity of the site offers a wide variety of shops and services, which a large proportion of future employees are likely to utilise for their lunchtime errands/social trips – e.g. gymnasiums, food & drink premises, pubs, barber shop, bottle shop, McDonalds etc.

Bicycle parking and end-of-trip facilities are also proposed to be provided, and further shows the commitment of the development to a more sustainable approach to travel.

A Green Travel Plan has been prepared by CJP and is provided under separate cover.

## 6. Traffic Impact Assessment

### 6.1 Traffic Generation Guidelines

The traffic implications of development proposals primarily concern the *nett change* in the traffic generation potential of a site compared to its existing and/or approved uses, and its impact on the operational performance of the surrounding road network, particularly during the weekday morning and afternoon road network peak periods.

An indication of the traffic generation potential of the existing and proposed uses on the site is provided by reference to the following documents:

- RMS Guide to Traffic Generating Developments 2002 (RMS Guide)
- RMS Technical Direction 2013/04a (TDT)
- Transport for NSW Draft Guide to Transport Impact Assessment 2024

### 6.2 Proposed Development Traffic Generation

In terms of commercial uses, the TDT recommends a peak trip rate of 1.6 trips/100m<sup>2</sup> GFA during the weekday AM peak period and 1.2 trips/100m<sup>2</sup> GFA during the weekday PM peak period.

In terms of retail specialty shop uses, the RMS Guide stipulates a peak trip rate of 4.6 trips/100m<sup>2</sup> GFA during the weekday PM peak period. For the purpose of this assessment, the AM peak trip generation rate for the retail component of the development is considered to be 25% of the PM rate, noting that retail shops will generally not be open to public during the typical weekday AM commuter peak period.

Lastly, in terms of high-density residential uses, the TDT recommends a peak trip rate of 0.19 trips/unit during the weekday AM peak period and 0.15 trips/unit during the weekday PM peak period.

Based on the abovementioned trip rates, the proposed SSDA development has a traffic generation potential of 242 vehicle trips per hour during the weekday AM peak period and 216 vehicle trips per hour during the weekday PM peak period, as set out in Table 6.1 below.

| Table 6.1 – Proposed SSDA Peak Period Traffic Generation |                     |                             |                             |                     |            |
|----------------------------------------------------------|---------------------|-----------------------------|-----------------------------|---------------------|------------|
| Land Use                                                 | Key Parameters      | Trip Rate                   |                             | Traffic Generation* |            |
|                                                          |                     | AM                          | PM                          | AM                  | PM         |
| Residential                                              | 615 units           | 0.19 trips/unit             | 0.15 trips/unit             | 117                 | 92         |
| Retail shops                                             | 814m <sup>2</sup>   | 1.2 trips/100m <sup>2</sup> | 4.6 trips/100m <sup>2</sup> | 10                  | 37         |
| Commercial                                               | 7,211m <sup>2</sup> | 1.6 trips/100m <sup>2</sup> | 1.2 trips/100m <sup>2</sup> | 115                 | 87         |
| <b>Total</b>                                             |                     |                             |                             | <b>242</b>          | <b>216</b> |

\* entry/exit combined

### 6.3 Approved Development Traffic Generation

In addition to the above projected future traffic generation potential of the SSDA scheme, consideration should be given to the traffic generation of the approved Planning Proposal scheme.



Based on the abovementioned trip rates, the approved PP scheme had a traffic generation potential of 212 vehicle trips per hour during the weekday AM peak period and 193 vehicle trips per hour during the weekday PM peak period, as set out in Table 6.2 below.

| Table 6.2 – Approved Planning Proposal Peak Period Traffic Generation |                     |                             |                             |                     |            |
|-----------------------------------------------------------------------|---------------------|-----------------------------|-----------------------------|---------------------|------------|
| Land Use                                                              | Key Parameters      | Trip Rate                   |                             | Traffic Generation* |            |
|                                                                       |                     | AM                          | PM                          | AM                  | PM         |
| Residential                                                           | 460 units           | 0.19 trips/unit             | 0.15 trips/unit             | 87                  | 69         |
| Retail shops                                                          | 803m <sup>2</sup>   | 1.2 trips/100m <sup>2</sup> | 4.6 trips/100m <sup>2</sup> | 10                  | 37         |
| Commercial                                                            | 7,222m <sup>2</sup> | 1.6 trips/100m <sup>2</sup> | 1.2 trips/100m <sup>2</sup> | 115                 | 87         |
| <b>Total</b>                                                          |                     |                             |                             | <b>212</b>          | <b>193</b> |

\* entry/exit combined

## 6.4 Traffic Impact

As noted above, the traffic implications of development proposals primarily concern the *nett change* in the traffic generation potential of a site compared to its existing and/or approved uses.

Based on the RMS trip generation rates and the above assessment, the proposed SSDA scheme is expected to result in a theoretical *nett increase* of just 30 vehicle trips during the weekday AM peak and a *nett increase* of just 23 vehicle trips during the weekday PM peak period, when compared to the approved Planning Proposal scheme, as set out in Table 6.3 below.

| Table 6.3 – Nett Change in Peak Traffic Generation |                          |                                       |                 |
|----------------------------------------------------|--------------------------|---------------------------------------|-----------------|
| Period                                             | Proposed SSDA Peak Trips | Approved Planning Proposal Peak Trips | Nett Peak Trips |
| AM Peak Hour                                       | 242 vph                  | 212 vph                               | +30 vph         |
| PM Peak Hour                                       | 216 vph                  | 193 vph                               | +23 vph         |

As demonstrated above, in terms of traffic generation potential between the proposed SSDA scheme and the approved Planning Proposal schemes, there is a negligible difference, equating to 1 additional vehicle trip approximately every 2.0-2.6 minutes during the peak periods.

Accordingly, the proposed SSDA scheme is consistent with what has been assessed and modelled in the past, is not expected to result in any unacceptable traffic implications on the surrounding road network, nor are any further road or infrastructure upgrades required. The SSDA proposal is therefore supportable on traffic grounds.

## 7. Access, Parking & Servicing Assessment

### 7.1 Applicable Car Parking Rates

The minimum off-street car parking requirements applicable to the residential (strata), commercial and retail components of the proposed SSDA scheme are specified in Council's DCP 2012, Part C, Section 1, Parking (19 August 2024), Table 1, as set out below.

#### **Residential**

*Minimum 1 space per unit*

*Minimum 1 visitor space per 5 units*

#### **Retail Premises**

*Minimum 1 space per 18.5m<sup>2</sup> GLFA*

#### **Commercial Premises**

*Minimum 1 space per 25m<sup>2</sup> GFA*

The minimum off-street car parking requirements applicable to the affordable residential component of the proposed SSDA scheme are specified in the SEPP (Housing) 2011, as set out below.

#### **Residential – Affordable**

*0.4 spaces per 1 bedroom unit*

*0.5 spaces per 2 bedroom unit*

*1 space per 3 or more bedroom unit*

### 7.2 Car Parking Requirements

Based on the various components outlined in the SSDA proposal, the proposed development requires a minimum of 979 car parking spaces, as set out in Table 7.1 below.

| Table 7.1 – Off-Street Car Parking Requirements |                         |                                     |                             |
|-------------------------------------------------|-------------------------|-------------------------------------|-----------------------------|
| Land Use                                        | Quantum                 | Applicable DCP/SEPP Parking Rates   | Minimum Parking Requirement |
| Residential – Strata                            | 317 x 2 bed             | 1 space per unit                    | 317 spaces                  |
| Residential – Strata                            | 127 x 3 bed             | 1 space per unit                    | 127 spaces                  |
| Residential – Strata                            | 2 x 4 bed               | 1 space per unit                    | 2 spaces                    |
| Residential – Affordable                        | 1 x studio              | 0.4 spaces per unit                 | 0.4 spaces                  |
| Residential – Affordable                        | 65 x 1 bed              | 0.4 spaces per unit                 | 26.0 spaces                 |
| Residential – Affordable                        | 103 x 2 bed             | 0.5 spaces per unit                 | 51.5 spaces                 |
| <b>Sub-Total</b>                                |                         |                                     | <b>524 spaces</b>           |
| Visitors                                        | 615                     | 1 space per 5 units                 | 123 spaces                  |
| <b>Sub-Total</b>                                |                         |                                     | <b>123 spaces</b>           |
| Retail                                          | 814m <sup>2</sup> GFA   | 1 space per 18.5m <sup>2</sup> GLFA | 44 spaces                   |
| Commercial                                      | 7,211m <sup>2</sup> GFA | 1 space per 25m <sup>2</sup> GFA    | 288 spaces                  |
| <b>Sub-Total</b>                                |                         |                                     | <b>332 spaces</b>           |
| <b>Total</b>                                    |                         |                                     | <b>979 spaces</b>           |

### 7.3 Proposed Car Parking Provisions

The proposed SSDA scheme makes provision for a total of 979 off-street car parking spaces within a multi-level basement, thereby satisfying the respective DCP 2012 & SEPP requirements, as set out in Table 7.2 below.

| Table 7.2 – Off-Street Car Parking Proposed |                     |                    |
|---------------------------------------------|---------------------|--------------------|
| Use                                         | Minimum Requirement | Proposed Provision |
| Residential                                 | 524 spaces          | 524 spaces         |
| Visitors                                    | 123 spaces          | 123 spaces         |
| Commercial/Retail                           | 332 spaces          | 332 spaces         |
| <b>Total</b>                                | <b>979 spaces</b>   | <b>979 spaces</b>  |

### 7.4 Accessible Parking

The Hills DCP 2012, Part B, Section 5 – Residential Flat Buildings, Section 3.21 – Access & Mobility, specifies that 10% of the total number of dwellings within a residential flat building shall be adaptable/accessible dwelling(s), as set out in the table below.

| No. of Dwellings | No. of Adaptable <u>or</u> Accessible Dwellings |
|------------------|-------------------------------------------------|
| 5 or less        | NIL                                             |
| 6-15             | 1                                               |
| 16-30            | 2                                               |
| More than 30     | 10% of all dwelling units                       |

(Source: The Hills DCP 2012, Part B, Section 5)

In turn, developments containing adaptable housing must allocate at least one accessible parking space to each adaptable unit.

Based on the proposal for 616 apartments, the proposed development requires the provision of 62 adaptable apartments, all of which require an accessible car parking space each.

That requirement is satisfied by the proposed provision of 62 residential accessible spaces within the basement parking area in close proximity to the lifts, in addition to 2 visitor accessible spaces.

Furthermore, DCP 2012, Part C, Section 1 – Parking, Table 2, specifies that for commercial and retail uses, 2% of the total car parking must be designated as accessible.

That requirement is also satisfied by the proposed provision of 6 retail/commercial accessible spaces in close proximity to the lifts.

### 7.5 Electric Vehicle Parking

The Hills DCP 2012, Part C, Section 1 – Parking, Clause 2.6, sets out the design requirements for electric vehicle charging points in new development, as set out below.



### Objectives

- (i) To ensure that the demand for transport generated by development is managed in a sustainable manner.
- (ii) To encourage the use of electric vehicles within the community.
- (iii) To ensure new development provides the necessary infrastructure to support the charging of electric vehicles.

### Controls

- (a) Electric vehicle charging infrastructure is encouraged as part of the development.
- (b) Any residential flat building, shop top housing, retail or commercial development must provide electric vehicle charging points or demonstrate that there is adequate electrical capacity and infrastructure to support the installation of electric vehicle charging points in the future as demand increases.
- (c) Refer to the quick reference guides on the NSW Climate and Energy Action website – “Drive Electric NSW EV Ready Buildings” for commercial and residential strata buildings.

The proposed development will ultimately comply with the above requirements, with all charging point locations to be identified on the Construction Certificate plans should the development receive approval.

## 7.6 Bicycle & Motorcycle Parking Rates and Provisions

The off-street bicycle parking rates applicable to the commercial and retail component of the development proposal are specified in Council’s DCP 2012, Part C, Section 1 – Parking, as set out below.

| Land Use                                                                 | Minimum Bicycle Parking Provisions                                                                                                                                                                                                                                        | Change and Shower Facilities |
|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Commercial Premises<br>(including business premises and office premises) | 2 spaces plus 5% of the total number of car spaces required where –<br>New development exceeds 5,000m <sup>2</sup> in GFA, or<br>Additions to existing developments that increase the size of the total development to greater than 5,000m <sup>2</sup> of GFA.           | Yes                          |
| Retail/Shops                                                             | 2 spaces plus 5% of the total number of car spaces required where –<br>New retail developments exceed GFLA of 5,000m <sup>2</sup> , or<br>Additions to existing developments that increase the size of the total development to greater than 5,000m <sup>2</sup> of GFLA. | Yes                          |

(Source: The Hills DCP 2012, Part C, Section 1 – Parking)

Notwithstanding, DCP 2012, Part C1, is silent on bicycle rates for residential development. As a guide, reference is therefore made to Council’s DCP 2012, Part D, Section 19 – Showground Precinct, as set out below.

**Table 9 Bicycle Parking Rates**

| Land Use                   | Rate (minimum)                                                           |
|----------------------------|--------------------------------------------------------------------------|
| Residential flat buildings | 1 resident space per 3 apartments.<br>1 visitor space per 12 apartments. |

(Source: The Hills DCP 2012, Part D, Section 19 – Showground Precinct)

Based on the various components outlined in the SSDA proposal, the proposed development requires a minimum of 275 bicycle parking spaces, comprising 205 residential spaces, 51 visitor spaces and 19 retail/commercial bicycle spaces.

The proposed SSDA scheme makes provision for a total of 291 off-street bicycle parking spaces at various locations throughout the site, including at-grade and within the basement levels, comprising 206 residential spaces, 63 visitor spaces & 22 retail/commercial spaces. The minimum DCP requirements for bicycle parking are therefore satisfied.

Council's DCP 2012 also requires motorcycle parking to be provided at a rate of *1 space per 50 car spaces*. In response, the proposed SSDA scheme makes provision for 20 motorcycle parking spaces located throughout the basement levels, thereby satisfying the DCP requirements and encouraging non-car travel modes and sustainability.

## **7.7 Loading & Servicing**

The proposed development makes provision for a total of 6 x HRV loading bays within the lower ground area, adjacent to the bin storage rooms. In this regard, the vehicular access, manoeuvring area and loading bay have been designed to accommodate the 12.5m HRV truck, such that the truck is able to enter and exit the site in a forward direction.

During non-waste collection periods, the loading bays will be able to be used by removalist trucks and maintenance contractors, however, will need to be pre-booked through the building manager to ensure its availability.

## 8. Design Assessment

### 8.1 Applicable Design Standards

The following design standards have been used as the basis for compliance with respect to the vehicular access, parking & loading requirements:

- Australian Standards 2890.1:2004 – Off-Street Car Parking (AS2890.1)
- Australian Standards 2890.2:2018 – Off-Street Commercial Vehicle Facilities (AS2890.2)
- Australian Standards 2890.3:2015 – Bicycle Parking (AS2890.3)
- Australian Standards 2890.6:2022 – Off-Street Parking for People with Disabilities (AS2890.6)

Whilst the vehicular access, parking & loading area has been designed in accordance with the above Australian Standards, it is expected that a condition of consent would be imposed requiring reconfirmation of compliance at the Construction Certificate stage (CC). Any minor amendments required to the current DA design can therefore be addressed at the CC stage.

### 8.2 Vehicular Access & Circulation Design

The following key compliances are noted with respect to the vehicular access design and circulation system:

- A 13m wide entry/exit driveway off Cecil Avenue, in accordance with Category 4 requirements
- proposed driveway located outside of the 6m “prohibited” tangent point of an intersection
- first 7m of the vehicular ramp within the property boundary @ 5% (1:20)
- maximum gradient of 15.4% (1:6.5) along the main access ramp, in accordance with AS2890.2 requirements for HRVs
- 7m transitions on the main access ramp, with a maximum change in grade of 6.25% (1:16), in accordance with AS2890.2 requirements for HRVs
- maximum gradient of 25% (1:4) along the internal ramps within the residential car park levels
- maximum gradient of 20% (1:5) along the internal ramps within the retail/commercial/visitor car park levels
- 2m long top and bottom transitions @ 12.5% (1:8) on the internal basement ramps
- minimum 5.8m wide residential parking aisles
- 5.8m-6.2m wide commercial/retail parking aisles
- 6.1m wide internal ramps
- dedicated turning bays located within the basement car park, where required
- minimum 2.2m overhead clearance provided throughout the vehicular circulation system in the basement parking area
- 2.5m x 2.0m pedestrian sight triangle on the exit side of the driveway
- minimum 1m “aisle extension” at the end of dead-end parking aisles
- “desirable 5 second gap” sight distance of 69m achieved (for a 50km/h frontage road) at the access driveway.



Further to the above, the vehicular access and internal circulation arrangements have been designed to accommodate the swept turning path requirements of the B99 design vehicle as specified in AS2890.1, allowing them to circulate through the basement parking area without difficulty. Similarly, the lower ground floor loading dock and service area has also been designed to accommodate the swept path requirements of the 12.5m long HRV. Importantly, all vehicles are able to enter and exit the site in a forward direction at all times. Swept turn path diagrams are reproduced in Appendix B.

### 8.3 Parking & Loading Design

The following key compliances are noted with respect to the parking area design:

- 5.4m long x (minimum) 2.4m wide standard residential car parking spaces
- 5.4m long x (typical) 2.6m wide standard residential visitor car parking spaces
- 5.4m long x (typical) 2.6m wide standard retail and commercial car parking spaces
- 5.4m long x 2.4m wide accessible car parking spaces *plus* 5.4m long x 2.4m wide “shared area”, in accordance with AS2890.6
- additional 300mm width for parking spaces located against walls
- minimum 2.5m overhead clearance provided above accessible parking spaces and adjacent shared area in the basement parking area
- minimum 2.2m overhead clearance provided above all other parking spaces in the basement parking area
- columns in parking areas generally located ~750mm back from the edge of the parking aisle
- no obstructions within the “design envelope” of any car parking spaces
- motorcycle parking and bicycle parking areas designed in accordance with AS2890.1 & AS2890.3, respectively
- all vehicles are able to enter and exit the site in a forward direction at all times
- 4m x 12.5m HRV loading bays within the lower ground floor loading dock and service area, capable of accommodating medium & large rigid vehicles, including garbage trucks, with an overhead clearance of 4.5m.

## 9. Conclusion

In summary, this TPAR has been prepared to accompany a State Significant Development Application (SSD-78156221) for a new mixed use development on the subject site and the construction of a new mixed use tower development. The proposed SSDA scheme comprises 8,025m<sup>2</sup> of commercial/retail space on the lower levels, with 615 residential apartments on the levels above, including 160 units as affordable rental housing.

Off-street car parking in the SSDA scheme is proposed for a total of 979 spaces across a new multi-level basement, and compartmentalised in order to allow the staged construction, including break-through panels at selected locations. The proposed SSDA also makes provision for 4 loading bays within the lower ground level, all capable of accommodating 12.5m long HRV trucks.

Vehicular access to the site is proposed to be provided via a new entry/exit driveway located at the eastern end of the Cecil Avenue site frontage, and shared between all uses and all vehicles.

Based on the findings contained within this report, the following conclusions are made:

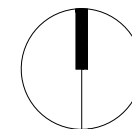
- the site is located within the Castle Hill Strategic Centre and within easy walking distance to Castle Hill Metro Station as well as multiple bus services which also provides access to other railway stations
- the proposed SSDA scheme is expected to result in a theoretical *nett increase* of just 23-30 vehicle trips during the weekday AM & PM peak periods when compared to the approved Planning Proposal scheme
- the proposed *nett increase* in traffic activity is minimal and not expected to result in any unacceptable traffic implications to the surrounding road network, nor are any further road upgrades required
- the proposed development makes provision for 979 car parking spaces across multiple basement levels, along with motorcycle and bicycle parking, all of which satisfy the relevant numerical requirements
- the on-site loading and service area has been designed to allow 12.5m long HRVs (e.g. waste truck) to turn around, thereby entering and exiting the site in a forward direction at all times
- the proposed vehicular access, parking and loading area design complies with the relevant requirements of the AS2890 series
- a future emphasis will be placed on alternate forms of transport to/from the site, for residents, visitors, staff and customers
- a detailed Construction Traffic Management Plan will be developed at the Construction Certificate stage in order to minimise impacts to the public and surrounding residents and businesses and ensure a high level of safety in the vicinity of the works area.

In light of the foregoing assessment, it is therefore concluded that the proposed mixed use development is supportable on vehicular access, traffic, parking, servicing, transport and construction grounds and will not result in any unacceptable implications.

## **Appendix A**

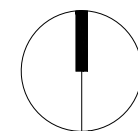
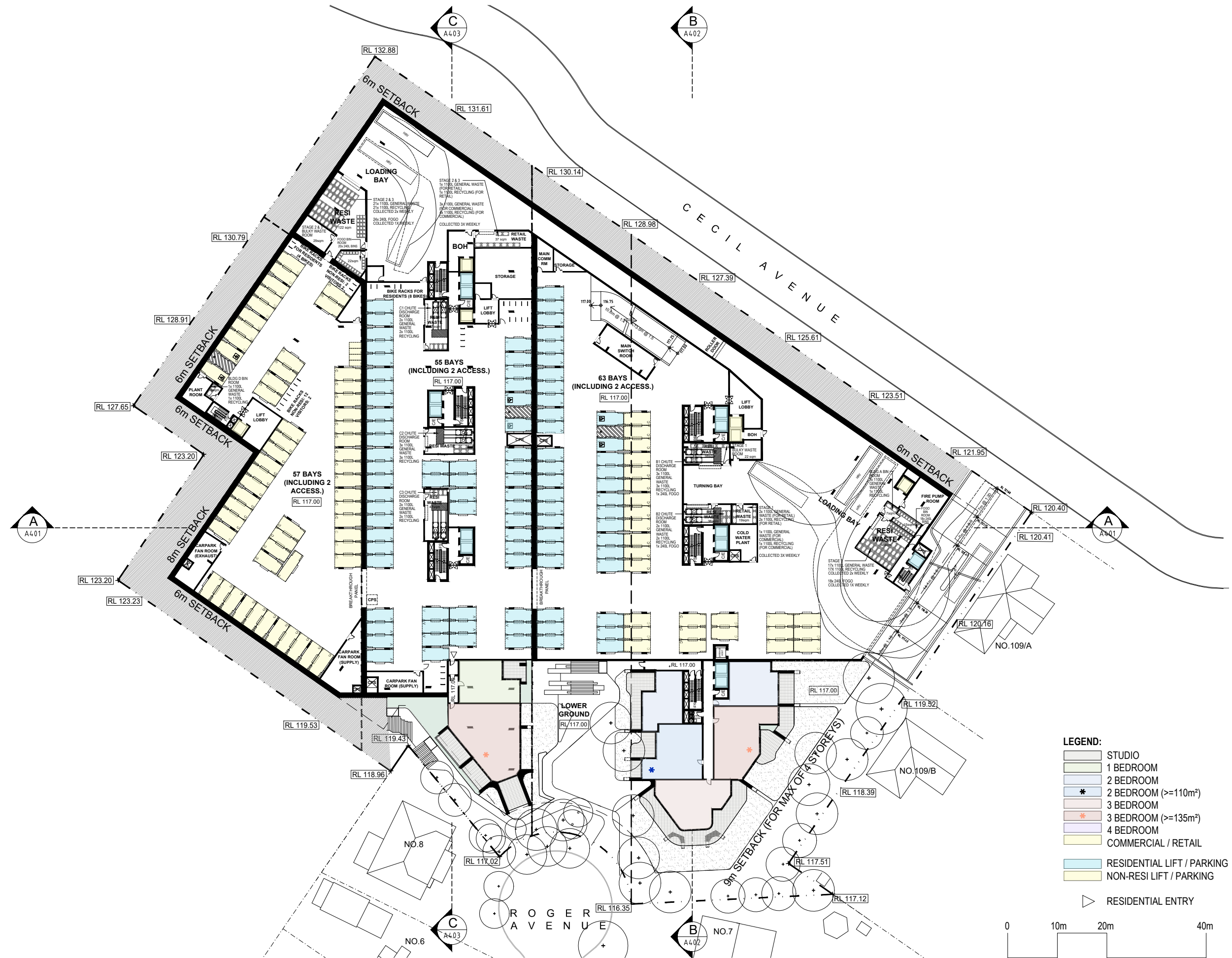
### Proposed Architectural Plans

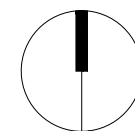
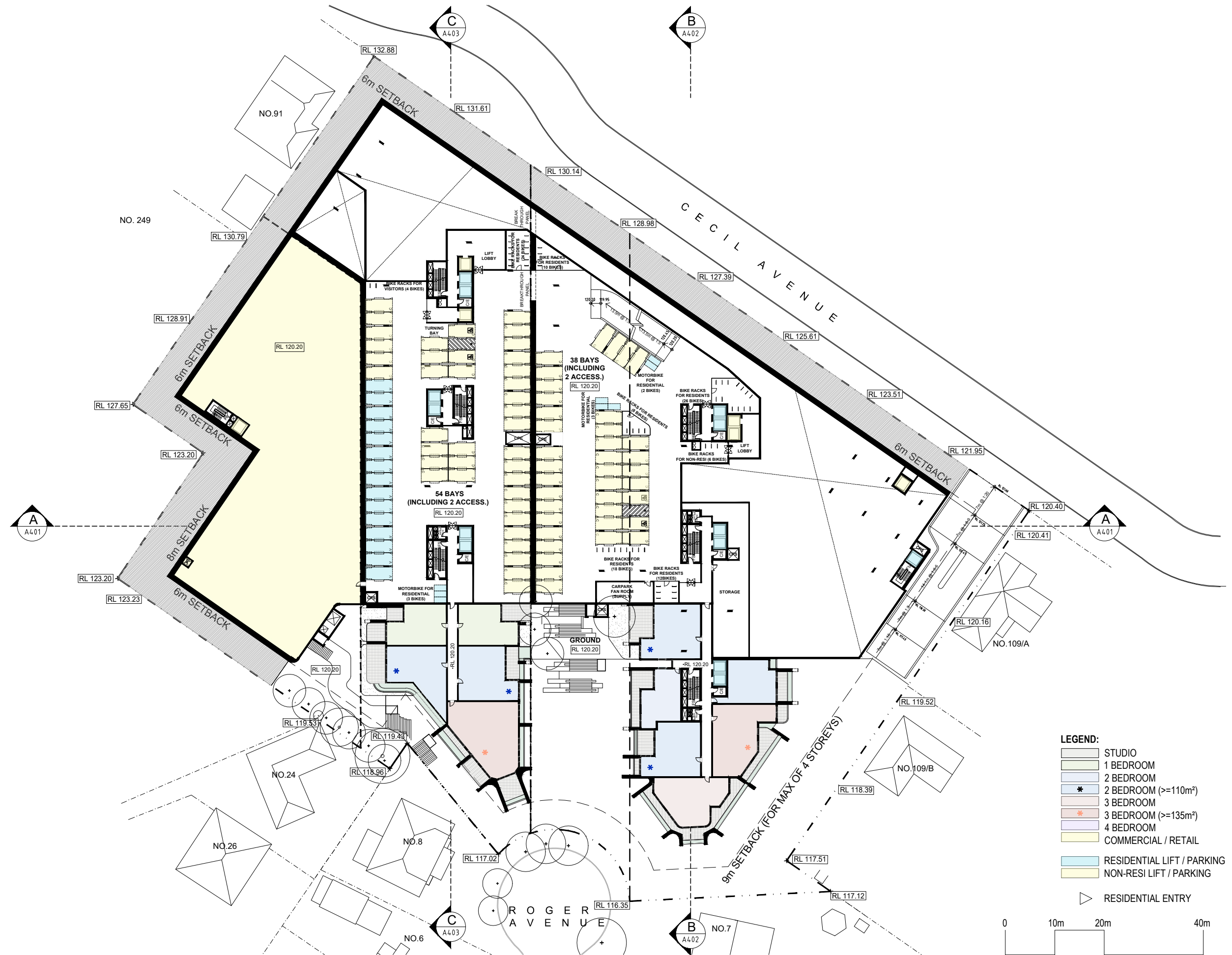




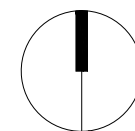
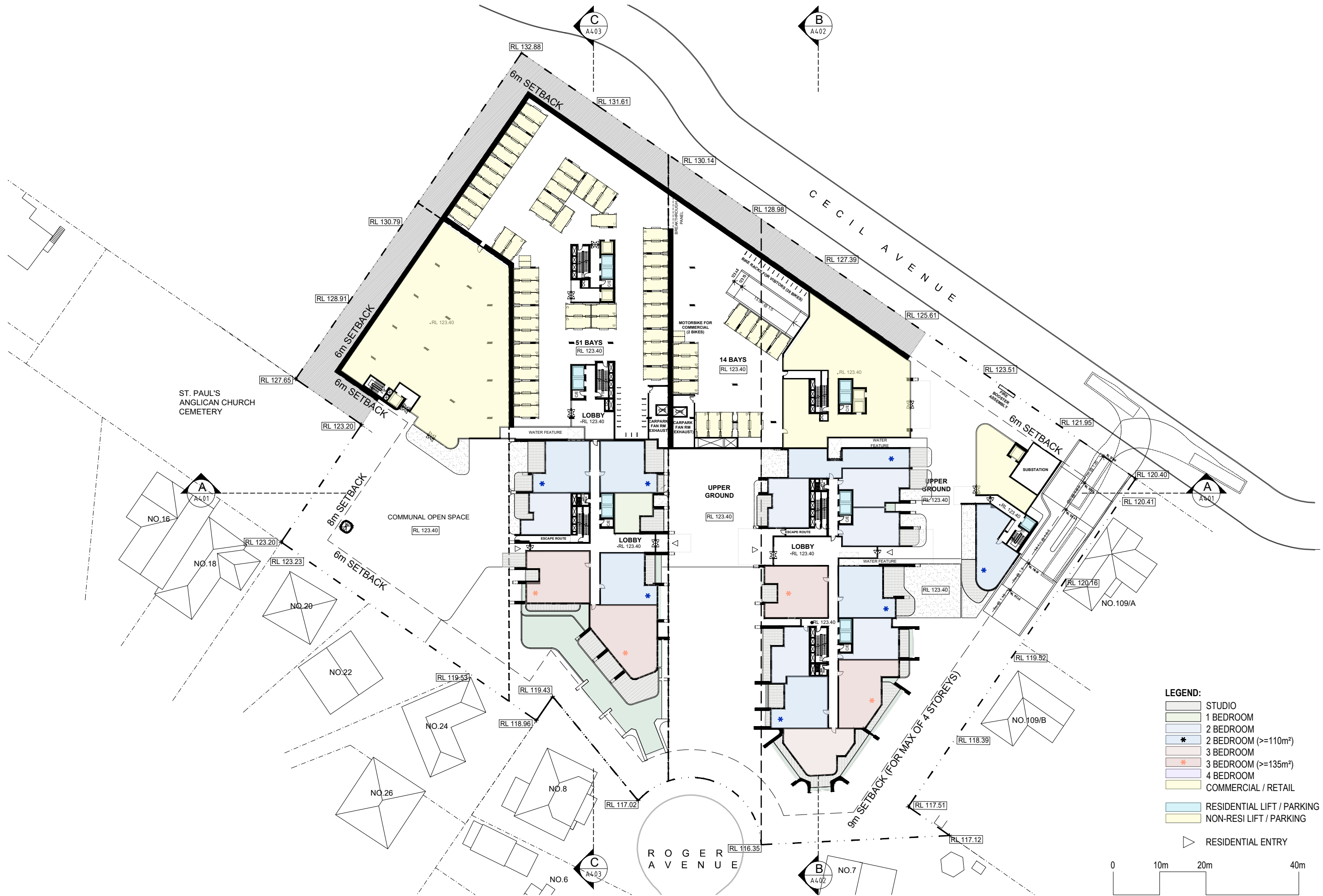








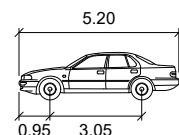
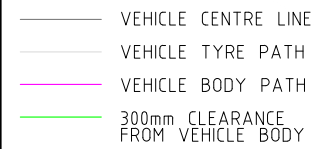




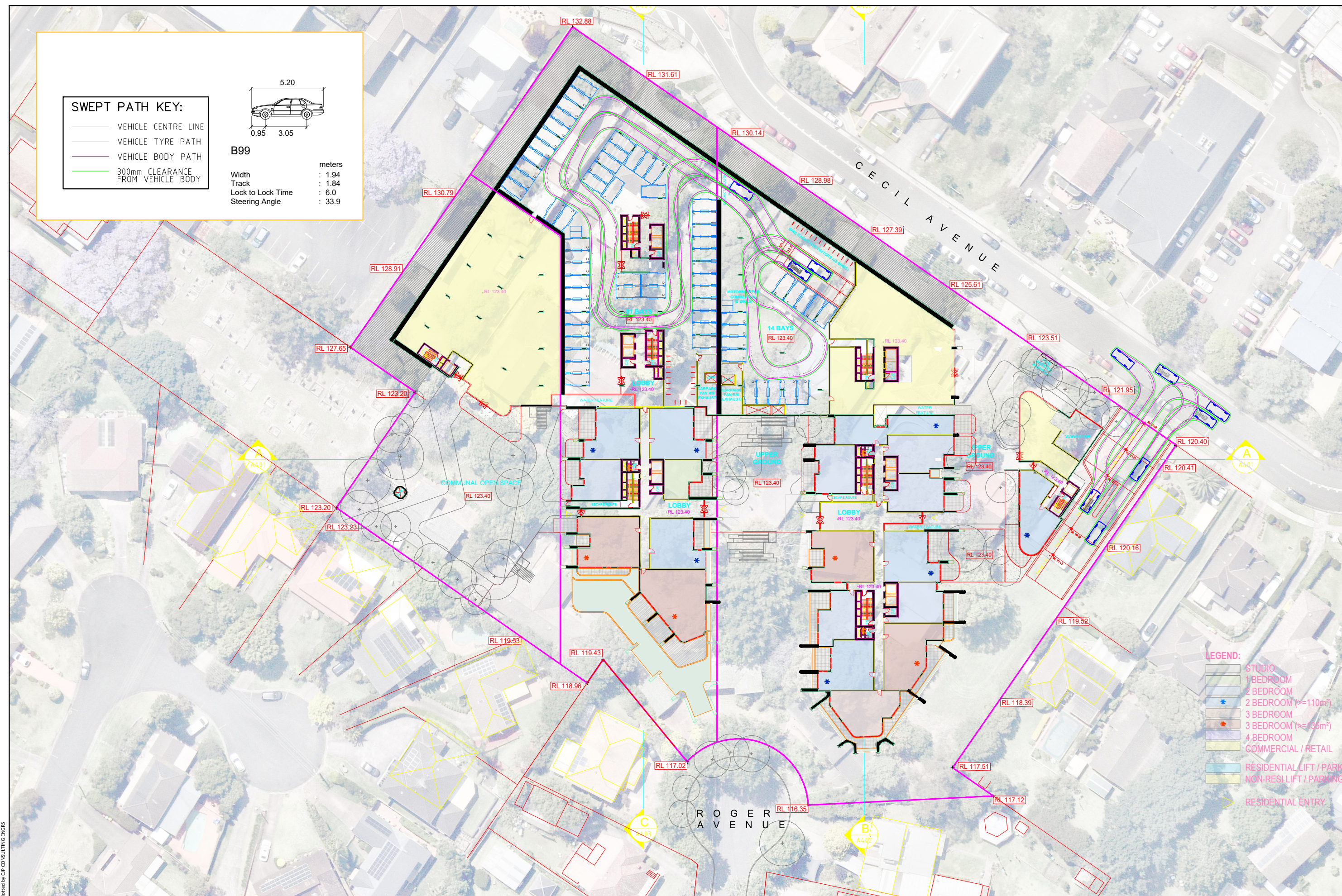
## **Appendix B**

### Swept Turn Paths

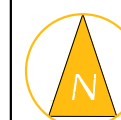




|                   |        |
|-------------------|--------|
| Width             | : 1.94 |
| Track             | : 1.84 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 33.9 |



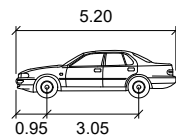
lotted by CIP CONSULTING ENGRS





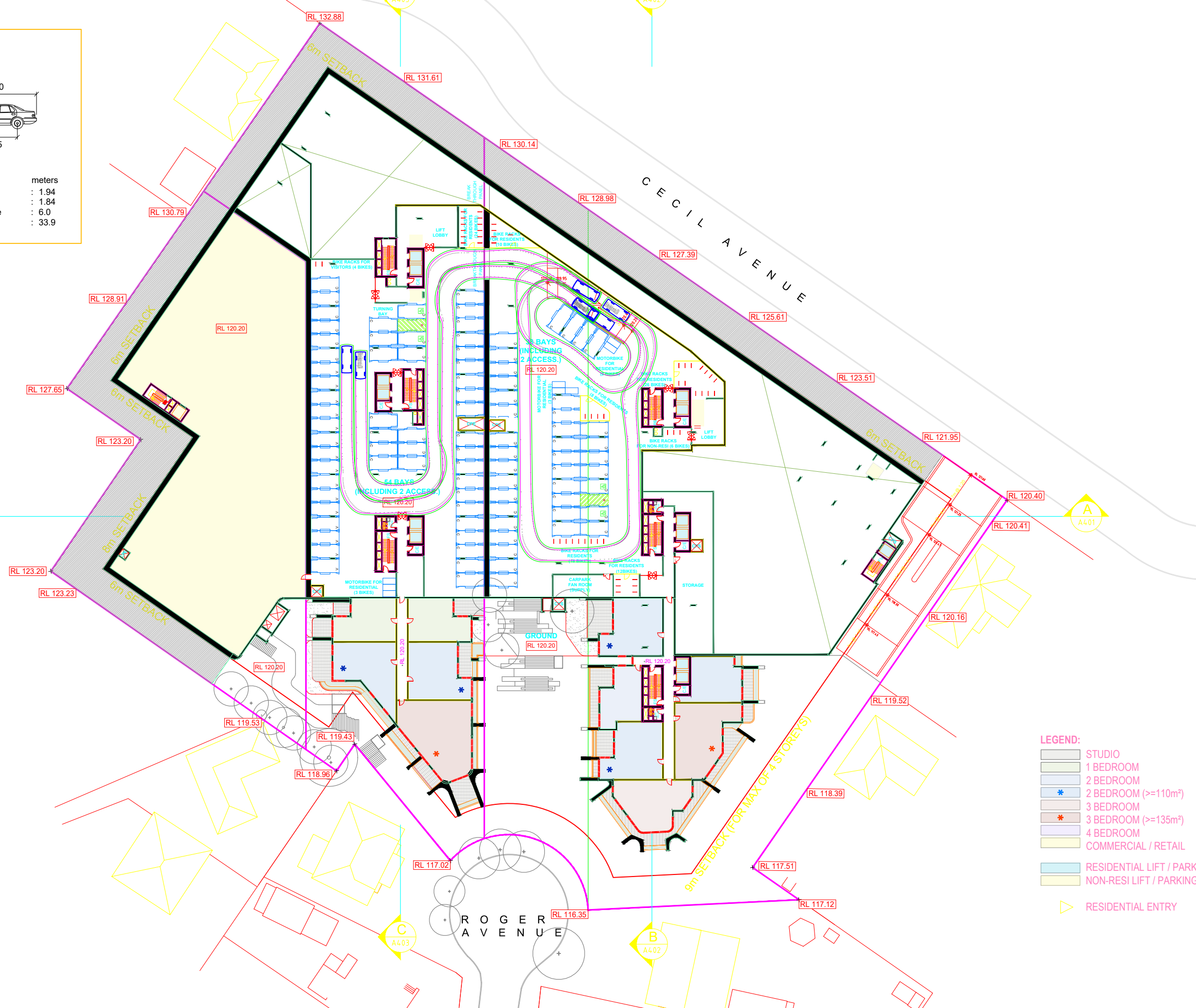
# SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B99

|                   | meters |
|-------------------|--------|
| Width             | : 1.94 |
| Track             | : 1.84 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 33.9 |



- LEGEND:**
- STUDIO
  - 1 BEDROOM
  - 2 BEDROOM
  - 2 BEDROOM ( $\geq 110m^2$ )
  - 3 BEDROOM
  - 3 BEDROOM ( $\geq 135m^2$ )
  - 4 BEDROOM
  - COMMERCIAL / RETAIL
  - RESIDENTIAL LIFT / PARKING
  - NON-RESI LIFT / PARKING
  - RESIDENTIAL ENTRY

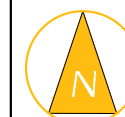
## PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

## WARNING

THE LOCATIONS OF UNDERGROUND SERVICES  
ARE APPROXIMATE ONLY.  
THE EXACT LOCATIONS SHALL BE PROVIDED ON SITE.  
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL  
CAR PARK COMPLIANCE REVIEW - GROUND  
B99 CIRCULATION PATH



SCALE 0 7.5 15.0 1:750 @ A3

DRAWING NO. 24136-D01-V2

ISSUE DATE 17 December 2024

SHEET NO. 02 OF 07

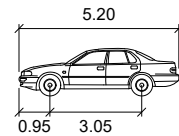
DRAWN BY C. PALMER

REVIEWED BY C. PALMER



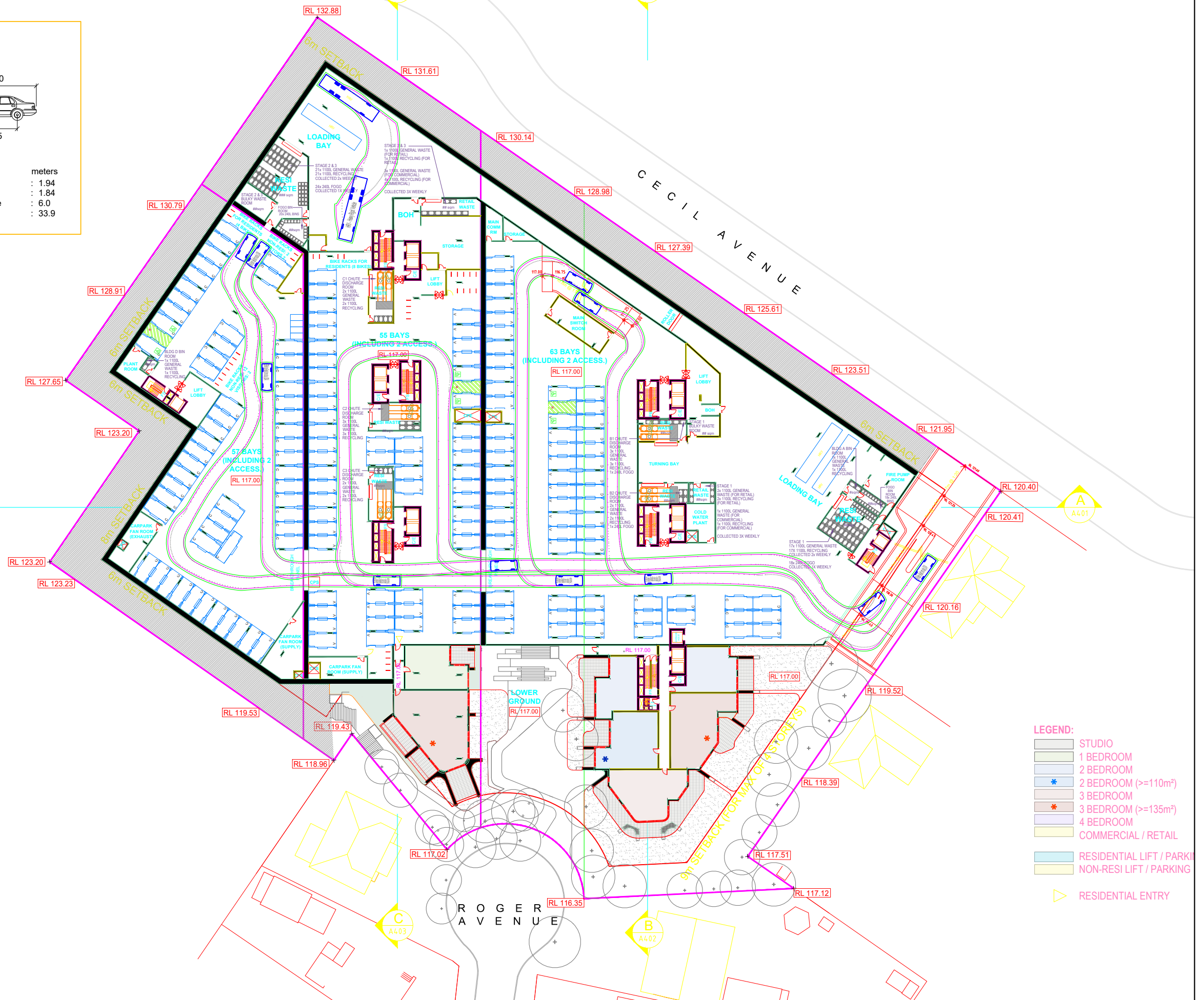
# SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B99

|                   | meters |
|-------------------|--------|
| Width             | : 1.94 |
| Track             | : 1.84 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 33.9 |



- LEGEND:**
- STUDIO
  - 1 BEDROOM
  - 2 BEDROOM
  - 2 BEDROOM (>=110m<sup>2</sup>)
  - 3 BEDROOM
  - 3 BEDROOM (>=135m<sup>2</sup>)
  - 4 BEDROOM
  - COMMERCIAL / RETAIL
  - RESIDENTIAL LIFT / PARKING
  - NON-RESI LIFT / PARKING
  - RESIDENTIAL ENTRY

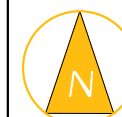
## PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

## WARNING

THE LOCATIONS OF UNDERGROUND SERVICES  
ARE APPROXIMATE ONLY.  
THE EXACT LOCATIONS SHALL BE PROVEN ON SITE.  
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL  
CAR PARK COMPLIANCE REVIEW - LOWER GROUND  
B99 CIRCULATION PATH



SCALE 0 7.5 15.0 1:750 @ A3

DRAWING NO. 24136-D01-V2

ISSUE DATE 17 December 2024

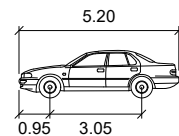
SHEET NO. 03 OF 07

DRAWN BY C. PALMER

REVIEWED BY C. PALMER

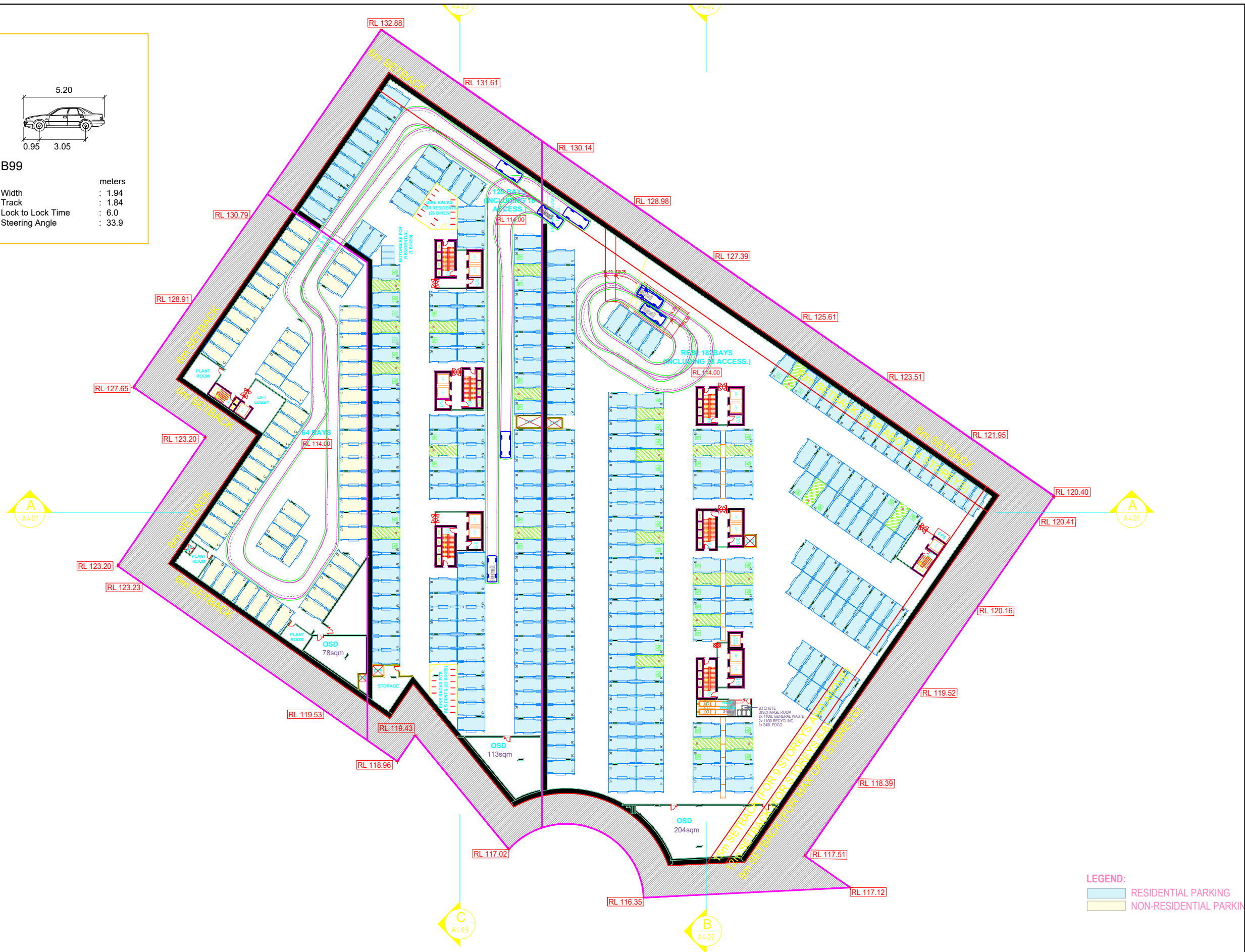
# SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B99

|                   | meters |
|-------------------|--------|
| Width             | : 1.94 |
| Track             | : 1.84 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 33.9 |



LEGEND:  
 RESIDENTIAL PARKING  
 NON-RESIDENTIAL PARKING

Plotted by CJP CONSULTING ENGRS

**CJP** CONSULTING ENGINEERS

CJP Consulting Engineers  
 PO Box 1184  
 Hunters Hill NSW 2110  
 M: 0415 256 233  
 E: info@cjpconsultingengineers.com.au

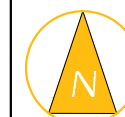
## PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
 ONLY SUBJECT TO CHANGE  
 WITHOUT NOTIFICATION

## WARNING

THE LOCATIONS OF UNDERGROUND SERVICES  
 ARE APPROXIMATE ONLY.  
 THE EXACT LOCATIONS SHALL BE PROVIDED ON SITE.  
 ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL  
 CAR PARK COMPLIANCE REVIEW - BASEMENT 1  
 B99 CIRCULATION PATH



SCALE 0 7.5 15.0 1:750 @ A3

DRAWING NO. 24136-D01-V2

ISSUE DATE 17 December 2024

SHEET NO. 04 OF 07

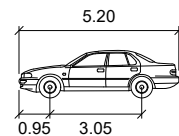
DRAWN BY C. PALMER

REVIEWED BY C. PALMER



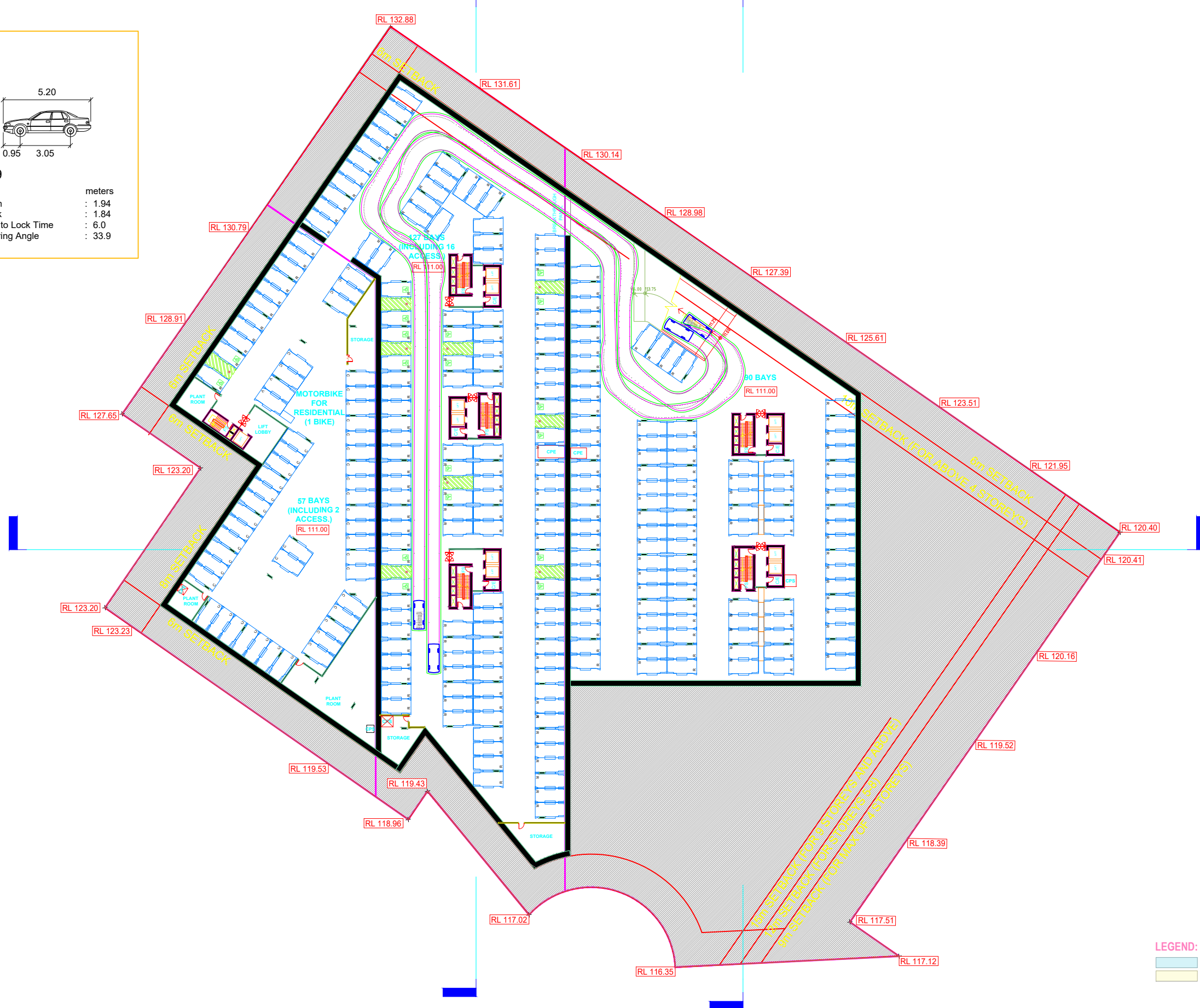
# SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



B99

|                   | meters |
|-------------------|--------|
| Width             | : 1.94 |
| Track             | : 1.84 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 33.9 |



- LEGEND:**
- RESIDENTIAL PARKING
  - NON-RESIDENTIAL PARKING

Plotted by CJP CONSULTING ENGRS



CJP Consulting Engineers  
PO Box 1184  
Hunters Hill NSW 2110  
M: 0415 256 233  
E: info@cjpconsultingengineers.com.au

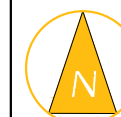
## PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

## WARNING

THE LOCATIONS OF UNDERGROUND SERVICES  
ARE APPROXIMATE ONLY.  
THE EXACT LOCATIONS SHALL BE PROVIDED ON SITE.  
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL  
CAR PARK COMPLIANCE REVIEW - BASEMENT 2  
B99 CIRCULATION PATH



SCALE 0 7.5 15.0 1:750 @ A3

DRAWING NO. 24136-D01-V2

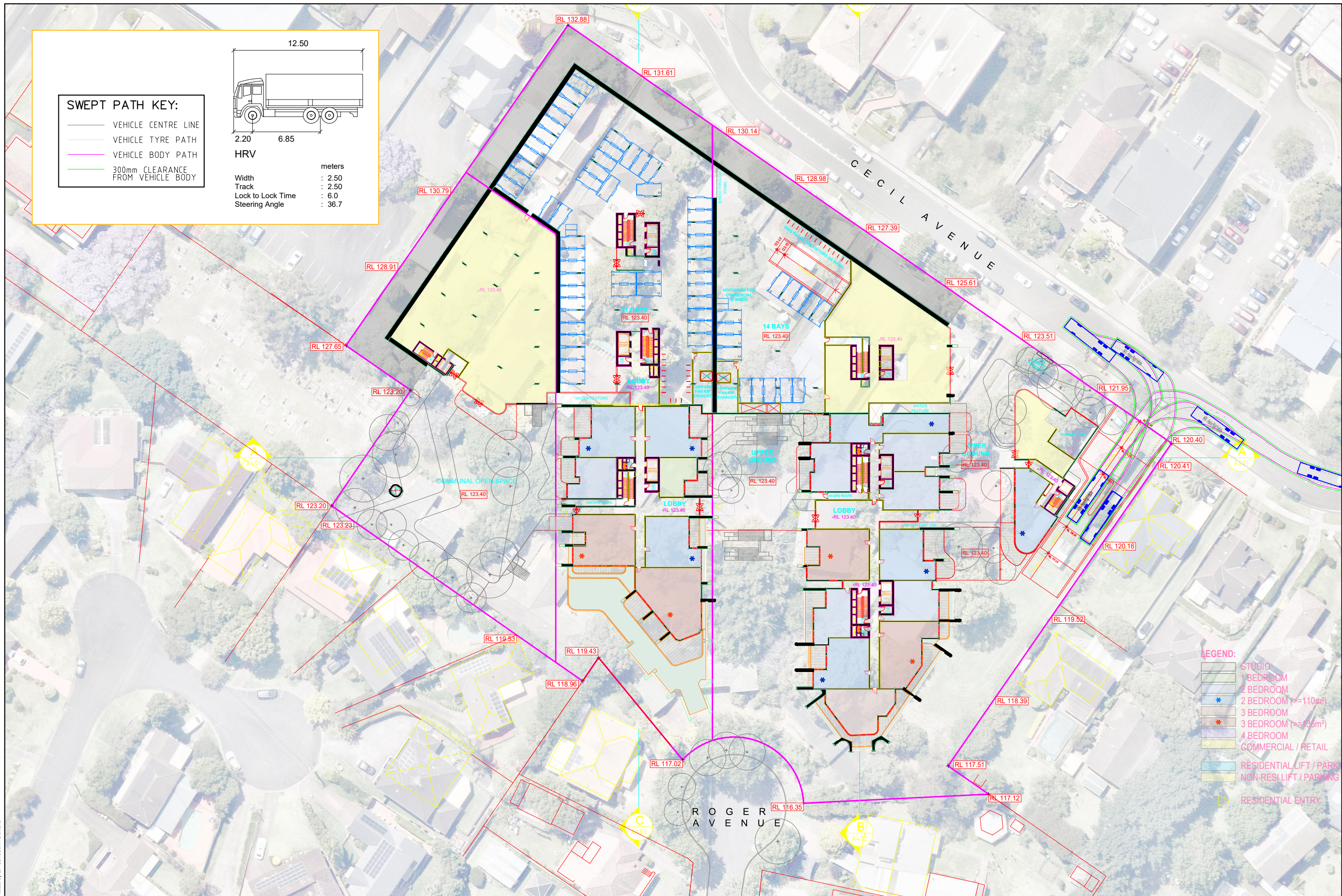
ISSUE DATE 17 December 2024

SHEET NO. 05 OF 07

DRAWN BY C. PALMER

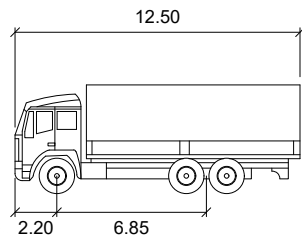
REVIEWED BY C. PALMER





### SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



HRV

|                   | meters |
|-------------------|--------|
| Width             | : 2.50 |
| Track             | : 2.50 |
| Lock to Lock Time | : 6.0  |
| Steering Angle    | : 36.7 |

### LEGEND:

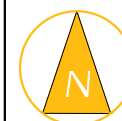
- STUDIO
- 1 BEDROOM
- 2 BEDROOM
- 2 BEDROOM ( $\geq 110m^2$ )
- 3 BEDROOM
- 3 BEDROOM ( $\geq 130m^2$ )
- 4 BEDROOM
- COMMERCIAL / RETAIL
- RESIDENTIAL LIFT / PARKING
- NON-RES LIFT / PARKING
- RESIDENTIAL ENTRY

### PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

### WARNING

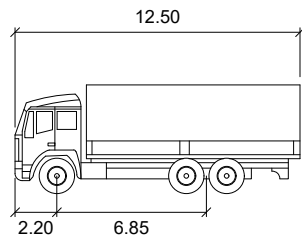
THE LOCATIONS OF UNDERGROUND SERVICES  
ARE APPROXIMATE ONLY.  
THE EXACT LOCATIONS SHALL BE PROVIDED ON SITE.  
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.



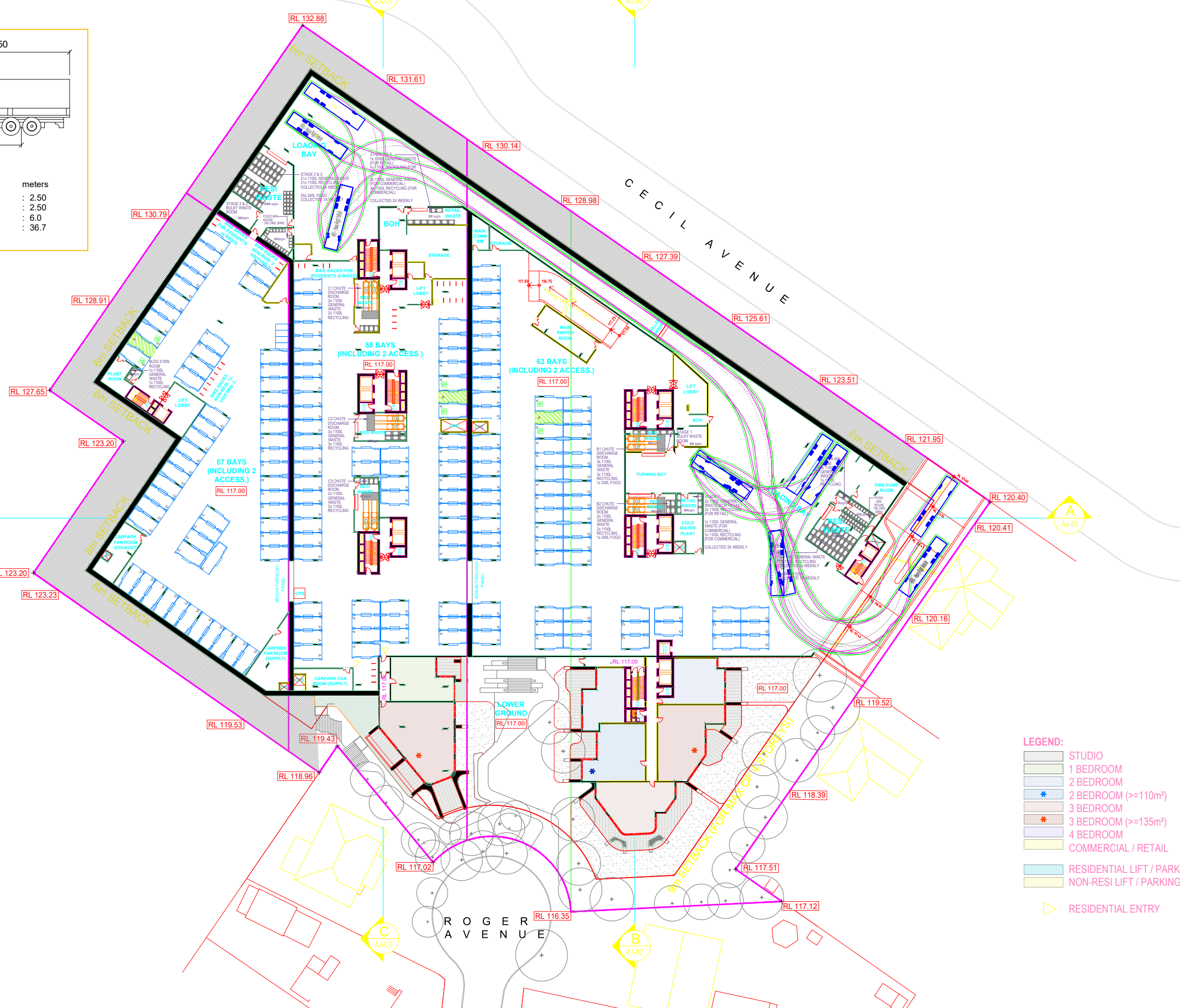


# SWEPT PATH KEY:

- VEHICLE CENTRE LINE
- VEHICLE TYRE PATH
- VEHICLE BODY PATH
- 300mm CLEARANCE FROM VEHICLE BODY



Width : 2.50  
Track : 2.50  
Lock to Lock Time : 6.0  
Steering Angle : 36.7



- LEGEND:**
- STUDIO
  - 1 BEDROOM
  - 2 BEDROOM
  - 2 BEDROOM ( $\geq 110m^2$ )
  - 3 BEDROOM
  - 3 BEDROOM ( $\geq 135m^2$ )
  - 4 BEDROOM
  - COMMERCIAL / RETAIL
  - RESIDENTIAL LIFT / PARKING
  - NON-RESI LIFT / PARKING
  - RESIDENTIAL ENTRY

CJP Consulting Engineers  
PO Box 1184  
Hunters Hill NSW 2110  
M: 0415 256 233  
E: info@cjpconsultingengineers.com.au

## PRELIMINARY PLAN

FOR DISCUSSION PURPOSES  
ONLY SUBJECT TO CHANGE  
WITHOUT NOTIFICATION

## WARNING

THE LOCATIONS OF UNDERGROUND SERVICES  
ARE APPROXIMATE ONLY.  
THE EXACT LOCATIONS SHALL BE PROVEN ON SITE.  
ALL EXISTING SERVICES SHOWN ARE NOT GUARANTEED.

93-107 CECIL AVENUE & 9-10 ROGER AVENUE, CASTLE HILL  
CAR PARK COMPLIANCE REVIEW - LOWER GROUND  
HRV ENTRY AND EXIT PATHS



SCALE 0 7.5 15.0 1:750 @ A3

DRAWING NO. 24136-D01-V2

ISSUE DATE 17 December 2024

SHEET NO. 07 OF 07

DRAWN BY C. PALMER

REVIEWED BY C. PALMER