



**TRAFFIC AND PARKING IMPACT ASSESSMENT OF  
THE PROPOSED LAHC SENIORS HOUSING DEVELOPMENT  
AT 36-38 BIRDWOOD AVENUE, PAGEWOOD**



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**Transport Planning, Traffic Impact Assessments, Road Safety Audits, Expert Witness**

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## **1 INTRODUCTION**

McLaren Traffic Engineering was commissioned by CKDS to provide a traffic and parking impact assessment of the proposed LAHC Seniors Housing Development at 36-38 Birdwood Avenue, Pagewood as depicted in **Annexure A**.

### **1.1 *Description and Scale of Development***

The proposed development has the following characteristics relevant to traffic and parking:

- A two-storey residential flat building containing 10 units comprising of:
  - Eight (8) one-bedroom units;
  - Two (2) two-bedroom units.
- Separate driveways with access to one (1) and three (3) parking spaces, respectively, both with access from Birdwood Street;

### **1.2 *State Environmental Planning Policy (Transport and Infrastructure) 2021***

The proposed development does not qualify as a traffic generating development with relevant size and/or capacity under the *SEPP (Transport and Infrastructure) 2021*. Accordingly, formal referral to Transport for NSW (TfNSW) is unnecessary. The project is being assessed under Part 5 of the EP&A Act, therefore the determining authority is the Land and Housing Corporation.

### **1.3 *Site Description***

The subject development involves the amalgamation of two (2) lots being 36-38 Birdwood Street. The sites are currently zoned *R2 – Low Density Residential* under the Bayside Council LEP 2021 and are currently occupied by two (2) single storey residential dwellings. The site has a single frontage to Birdwood Avenue to the north.

The site is generally surrounded by low-density residential developments with UNSW athletics fields, golf clubs and parks surrounding the site to the north and west.

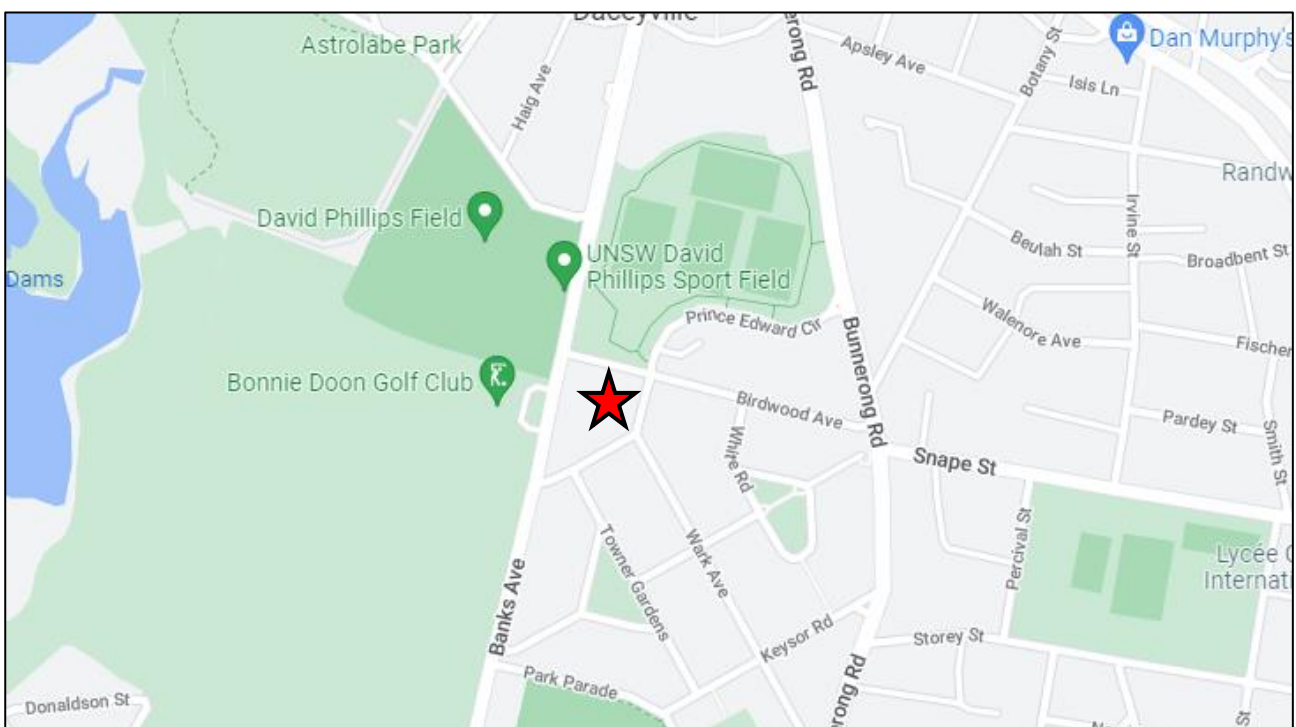


## 1.4 Site Context

The location of the site is shown on an aerial photo and a street map in **Figure 1** and **Figure 2** respectively.



**FIGURE 1: SITE CONTEXT – AERIAL PHOTO**



**FIGURE 2: SITE CONTEXT – STREET MAP**

## **2 EXISTING TRAFFIC AND PARKING CONDITIONS**

### **2.1 *Road Hierarchy***

The road network within close vicinity of the site has characteristics as described in the following sub-sections.

#### **2.1.1 Birdwood Avenue**

- Unclassified LOCAL Road;
- Approximately 9.8m wide two-way carriageway facilitating one traffic flow lane in each direction and kerbside parking on both sides of the road;
- No signposted speed limit, 50km/h applies;
- Unrestricted kerbside parking permitted along both sides of the road.

#### **2.1.2 Banks Avenue**

- Unclassified LOCAL Road;
- Approximately 12.5m wide two-way carriageway facilitating one traffic flow lane in each direction and kerbside parking on both sides of the road;
- Signposted 50km/h speed limit;
- Unrestricted kerbside parking permitted along both sides of the road.

### **2.2 *Existing Traffic Management***

- Priority controlled intersection of Banks Avenue / Birdwood Avenue

### **2.3 *Public Transport***

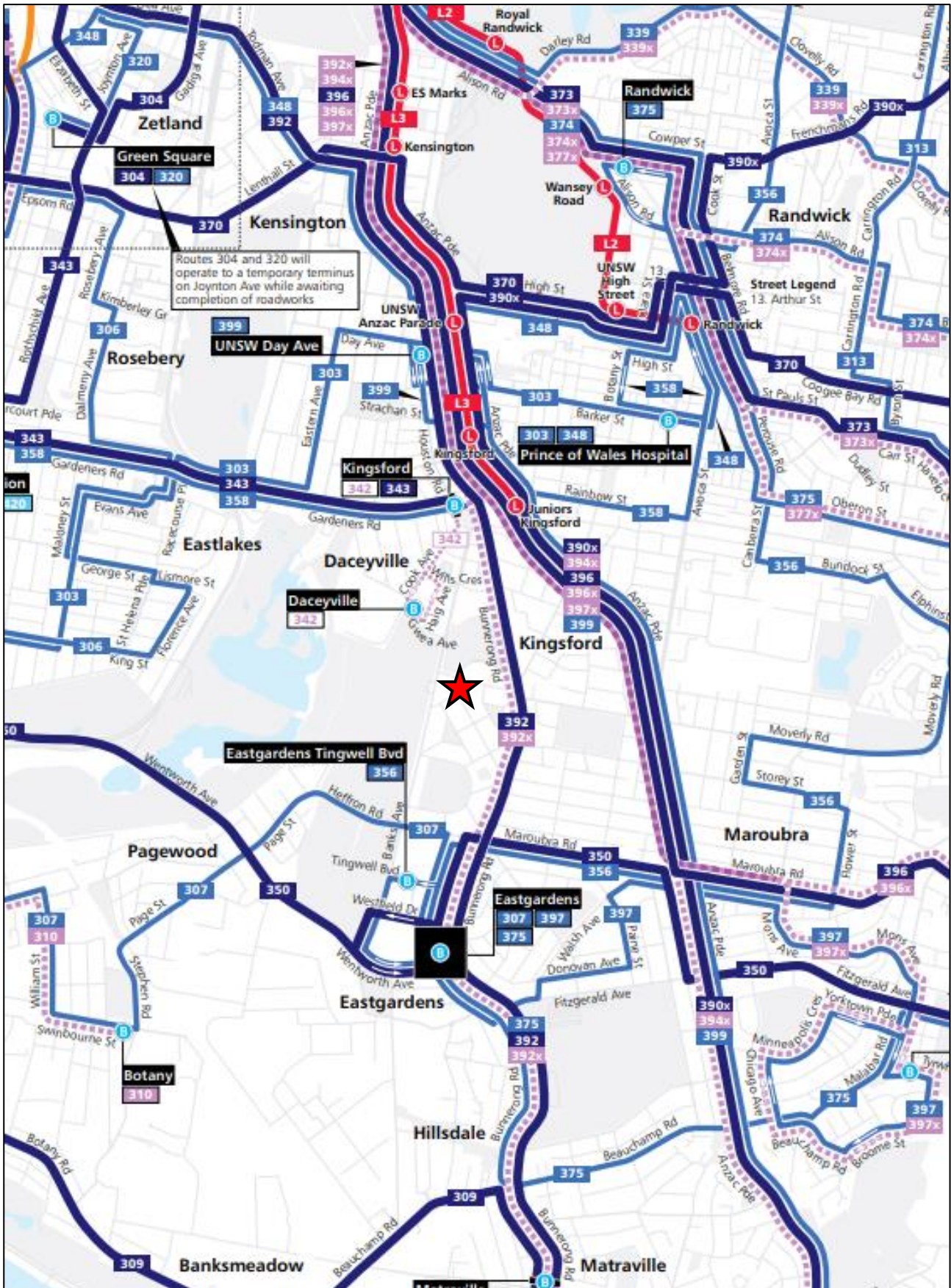
The subject site is located within 410m walking distance to an existing bus stop (ID: 203225) located on the eastern side of Bunnerong Road. The bus stop services the existing bus route 392 (Redfern to Little Bay).

The location of the site subject to the surrounding public transport network is shown in **Figure 3**.

### **2.4 *Future Road and Infrastructure Upgrades***

From Bayside Council's Development Application tracker and website, it appears that there are no future planned road or public transport changes that will affect traffic conditions within the immediate vicinity of the subject site.





Site Location

**FIGURE 3: PUBLIC TRANSPORT NETWORK MAP**

### 3 **PARKING ASSESSMENT**

#### 3.1 ***SEPP Parking Requirement***

Reference is made to the *State Environmental Planning Policy (Housing) 2021* hereinafter referred to as SEPP(H). The *SEPP(H) Division 7* provides the following car parking rate applicable to the proposal:

**Clause 108** *Non-discretionary development standards for independent living units*

*(2j) for a development application made by, or made by a person jointly with, a social housing provider – at least 1 parking space for every 5 dwellings*

The proposed development is being conducted by the *NSW Land and Housing Corporation* (LAHC). As such, the car parking requirements applicable to the proposal are summarised in **Table 1**.

**TABLE 1: SEPP(H) PARKING REQUIREMENTS**

Land Use	Type	Scale	Rate	Spaces Required	Spaces Provided
Independent Living Units – LaHC	One-Bedroom Unit	8	0.2 space per unit	2	4
	Two-Bedroom Unit	2			
<b>Total</b>	-	-	-	<b>2</b>	<b>4</b>

As shown, the proposed development requires the provision of two (2) car parking spaces. The proposed development includes provision of four (4) car parking spaces and therefore satisfies the requirements of the SEPP(H).

#### 3.2 ***Parking for People with Disabilities***

Schedule 4 of the 2021 Housing SEPP states that car parking spaces must comply with the requirements for parking for persons with a disability set out in AS2890.6. Though the proposal includes four (4) car parking spaces, the minimum SEPP requirement is for two (2) car parking spaces. Therefore, it is reasonable to assume that the minimum requirement for accessible parking is also two (2) spaces.

The proposal includes a car parking space from one driveway located at the rear of the site, which complies with AS2890.6. The second space accessed from the western driveway does not strictly comply with AS2890.6, however, it is relevant to note that the space is 3.8m in width, which complies as an accessible space in accordance with the Australian Standards for accessible car parking (AS4299). Please refer Access Report regarding further detail on the suitability of the accessible car spaces.



### 3.3 Bicycle & Motorcycle Parking Requirements

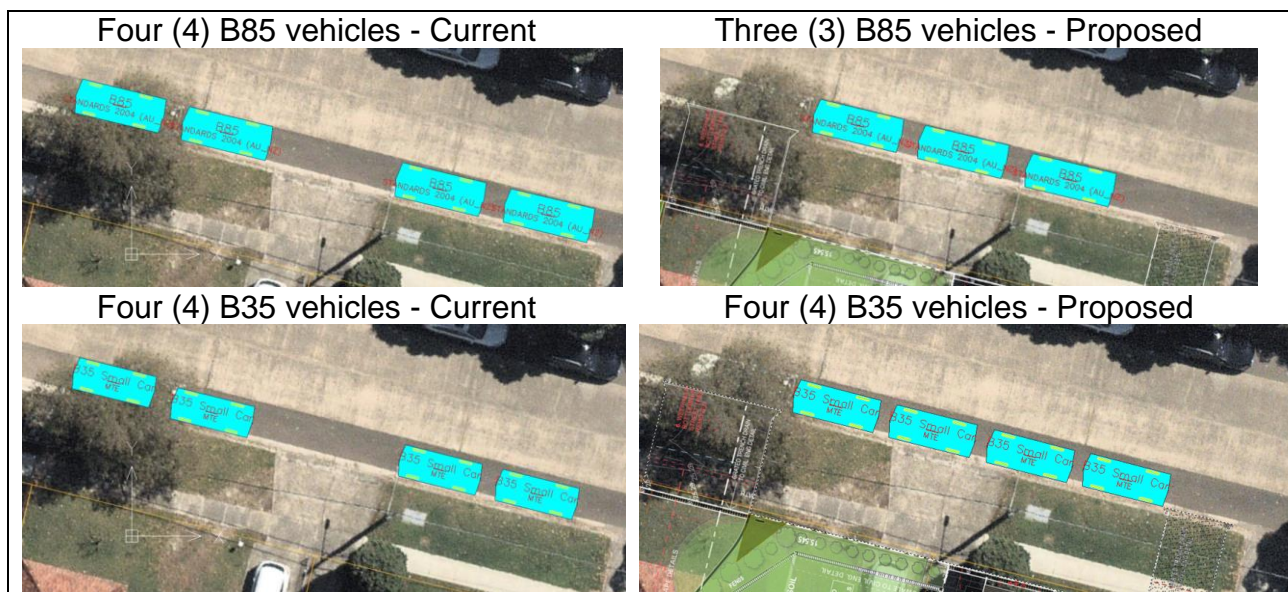
The SEPP(H) does not require the provision of bicycle or motorcycle parking facilities for residential developments proposed by the Land and Housing Corporation. As such, the provision of nil (0) bicycle and motorcycle parking spaces is acceptable.

### 3.4 Servicing & Loading

Bayside Council's relevant DCP and the SEPP(H) do not require onsite loading / unloading facilities for residential developments. It is anticipated that waste collection will occur on-street by Council's waste collection services in a similar fashion to what is currently occurring for the existing site uses, with no requirement or provision for vehicles to load / unload within the site.

### 3.5 On Street Car Parking

The proposal includes the relocation of a double width driveway to the west and the addition of a single width driveway. In the current scenario, there is enough room on the frontage for four (4) on-street car parking spaces, no matter if the cars are B85 vehicles or small cars (B35). In the proposed scenario, there is room for three (3) on-street car parking spaces for B85 vehicles or four (4) for small cars. This is demonstrated in **Figure 4**.



**FIGURE 4: ON-STREET CAR PARKING CONDITIONS**

It is also noted that the existing dwelling houses on site provide room for one (1) car parking space each. The Botany Bay DCP requires 1-2 car parking spaces for dwelling houses depending on the number of bedrooms in the house. Therefore, it is reasonable to assume that the existing dwelling houses rely on up to two (2) on-street car parking spaces in typical operation. By comparison, the proposal provides a surplus of two (2) car parking spaces, meaning that it is highly unlikely to rely on any on-street car parking spaces. Therefore, the proposal reduces the on-street car parking demand by up to two (2) car parking spaces.

In any case, the loss of 0-1 on-street car parking spaces is supported given the proposal reduces the on-street car parking demand by up to two (2) spaces.

### **3.6 Car Park Design & Compliance**

The car parking layout as depicted in **Annexure A**, has been assessed to achieve the relevant clauses and objectives of *AS2890.1:2004*. Any variances from standards are addressed in the following subsections including required changes, if any. Swept path testing has been undertaken and are reproduced within **Annexure B** for reference.

The proposed car parking and vehicular access design achieves the following:

- 5.5m wide driveway facilitating access to Birdwood Avenue;
- Minimum 3.0m wide driveway facilitating access to Birdwood Avenue;
- Minimum 5.8m wide parking aisles;
- Minimum 5.4m long, 2.4m wide spaces for residents;
- Parking module gradients not exceeding 5% in any direction.

Whilst the plans have been assessed to comply with the relevant standards, it is usual and expected that a design certificate be required at the Construction Certificate stage to account for any changes following the development application.

## 4 TRAFFIC ASSESSMENT

The impact of the expected traffic generation levels associated with the subject proposal is discussed in the following sub-sections.

### 4.1 **Traffic Generation**

Traffic generation rates for the relevant land uses are provided in the *RTA Guide to Traffic Generating Developments (2002)* and recent supplements as adopted by Transport for NSW (TfNSW) and are as follows:

#### **3.2.2 Medium density residential flat building**

*Smaller units and flats (up to two bedrooms)*

*Weekday peak hour vehicle trips = 0.4-0.5 per dwelling*

Application of this rate to the proposed 10 dwellings results in a traffic generation of five (5) vehicle trips in both the AM and PM peak hour periods. It is noted that this traffic generation is conservative as it does not take into account the reduced parking provision in line with the SEPP(H) requirements and also does not consider the traffic generation associated with the existing use of the site.

This level of traffic will have no adverse effect on any nearby intersections and can be readily accommodated within the existing road network with minimal impact in terms of traffic flow efficiency and road safety considerations.

It should be noted that the *Austroads Guide to Traffic Mgmt. Part 12: Integrated Transport Assessments for Developments Figure 5.1* outlines the following in relation to traffic impact of developments:

*Likely impact of development:*

*Low Impact (<10 Trips): No Detailed Assessment Required*

*Moderate Impact (10-100 Trips): Traffic Impact Statement Required*

*High Impact (>100 Trips): Traffic Impact Assessment Required*

Considering the above, the proposed development will generation less than 10 vehicle trips and is therefore likely to result in a low impact with no detailed assessment required.

Indeed, the computer models that are available to assess these impacts are not sensitive to such small changes and it may be concluded that the road network will operate with no change in the existing levels of service. In this regard, the proposed residential use of the site is a low-order traffic use and the proposed development is supportable in terms of its traffic impacts.



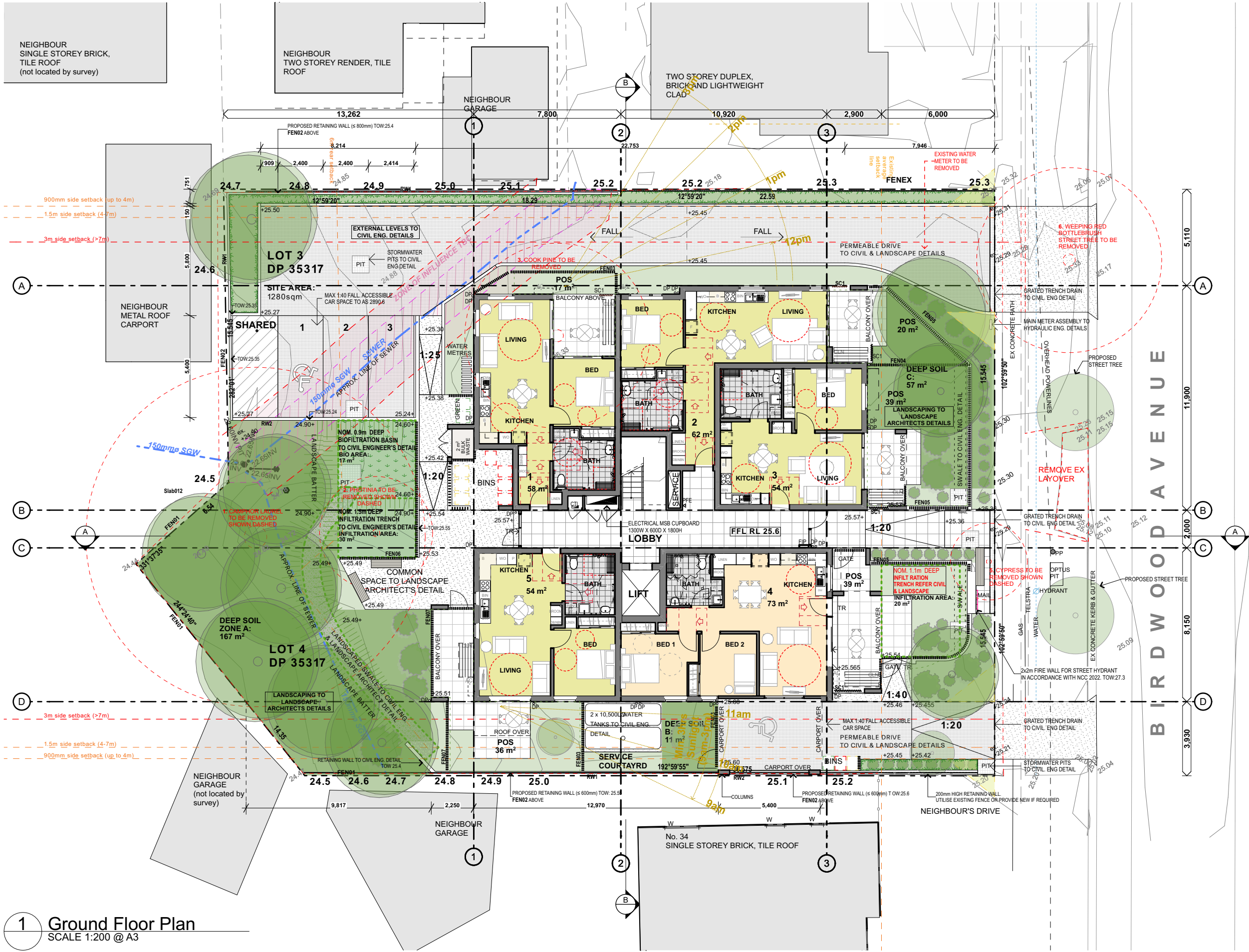
## 5 **CONCLUSION**

In view of the foregoing, the subject LAHC Seniors Housing Development proposal at 36-38 Birdwood Avenue, Pagewood (as depicted in **Annexure A**) is fully supportable in terms of its traffic and parking impacts. The following outcomes of this traffic impact assessment are relevant to note:

- The proposal includes the provision of four (4) car parking spaces within a proposed carpark, satisfying the SEPP(H) 2021 requirements.
- The SEPP(H) does not require the provision of bicycle or motorcycle parking facilities and nil (0) are provided.
- The parking areas of the site have been assessed against the relevant sections of AS2890.1:2004 and have been found to satisfy the objectives of each standard. Swept path testing has been undertaken and is reproduced within **Annexure B**.
- The traffic generation of the proposed development is minimal when considering the existing traffic volumes in the local area and will not adversely affect the performance of nearby critical intersections or the existing road network, particularly in terms of Level of Service, traffic flow efficiency, residential amenity and road safety considerations.



**ANNEXURE A: PROPOSED PLANS  
(1 SHEET)**



1 Ground Floor Plan  
SCALE 1:200 @ A3

**LEGEND**

B 820mm LONG ACCESSIBLE BENCH  
CLN CLOTHESLINE  
DP DOWNPIPE  
DW DISHWASHER  
EGL EAVES GUTTER TO HYD. ENG. DETAIL  
EGL EXISTING GROUND LEVEL  
FBM FACE BRICK  
FEN# FENCE  
FIP FIRE INDICATOR PANEL  
LCH LIGHT WEIGHT CLADDING  
MRC METAL ROOF CLADDING  
MRS# METAL ROOF SHEETING  
P PANTRY  
PFE PORTABLE FIRE EXTINGUISHER  
POS PRIVATE OPEN SPACE  
RL REDUCED LEVEL  
RW RETAINING WALL  
RWH RAIN WATER HEAD  
SC# SCREEN  
SKY SKYLIGHT  
TOW TOP OF WALL  
WO WALL OVEN

**FENCE & RETAINING WALL LEGEND**

FEN01: 1.8m HIGH COLORBOND BOUNDARY FENCE. EXISTING FENCE CONDITION TO BE ASSESSED FOR RETENTION  
FEN02: 1.8m HIGH COLORBOND BOUNDARY FENCE ON TOP OF <800mm RETAINING WALL  
FEN03: 1.8m HIGH POWDER-COAT ALUMINIUM PALISADE PRIVACY FENCE  
FEN04: 1.2m HIGH PALISADE FENCE  
FEN05: 1.3m HIGH FRONT FENCE  
345mm NOM. HIGH BRICK WALL (RETAINING) WITH 85mm NOM. POWDER-COAT ALUMINIUM PALISADE FENCE OVER  
FEN06: 900mm HIGH PALISADE FENCE  
FEN07: 1.6m HIGH POWDER-COAT ALUMINIUM PALISADE PRIVACY FENCE  
RW1 <800 CONCRETE SLEEPER RETAINING WALL TO LANDSCAPE ARCHITECT'S DETAILS  
RW2 <800 CONCRETE BLOCK RETAINING WALL CONCRETE DOWNTURN TO STRUCTURAL/CIVIL ENGINEER'S DETAILS

**PRELIMINARY WALL SCHEDULES EXTERNAL**

**BRICK VENEER**

10mm FACEBRICK  
50mm CAVITY / SARKING  
20mm RGD INSULATION TO BASIS REQUIREMENTS  
10mm BRICK  
13mm RENDER

**BRICK VENEER**

10mm FACEBRICK  
50mm CAVITY / SARKING  
20mm RGD INSULATION TO BASIS REQUIREMENTS  
10mm BRICK  
13mm RENDER

**LIGHTWEIGHT CLADDING**

50mm STEEL STUD INSULATION  
25mm CAVITY BATTEN / SARKING  
10mm NOMINAL CLADDING TRC

**WASTE ROOM / BALUSTRADE**

10mm RENDER  
18 BLOCKWORK  
PAINT FINISH

**INTERNAL**

**LIFT CORE**

13mm RENDER  
10mm BRICK  
50mm CAVITY  
10mm BRICKWORK

**PARTY WALL**

13mm RENDER  
10mm BRICK  
50mm TRIM CAVITY  
10mm BRICK  
13mm RENDER  
\*FACEBRICK TO FOYER

**INTERNAL 110mm BRICK BRICK WALL**

8mm FC SHEETING  
28mm CAVITY  
110mm BRICKWORK  
13mm CEMENT RENDER  
\*REFER STRUCTURAL DOCUMENTATION

**INTERNAL 110mm BRICK BRICK WALL**

13mm CEMENT RENDER  
110mm BRICKWORK  
13mm CEMENT RENDER  
\*REFER STRUCTURAL DOCUMENTATION

**INTERNAL STUD WALL**

13mm PLASTERBOARD  
50mm STEEL STUD  
13mm PLASTERBOARD

**FURRING CHANNEL**

28mm FURRING CHANNEL  
6mm VLLBOARD  
13mm NOM TILES  
NOTE: PROVIDE AGAINST BRICKWORK FOR BATHROOM FIXTURES

**PART 5 ACTIVITY SUBMISSION**

**NOTES**

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**key plan**

North Point

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NSW Land and Housing Corporation  
Planning & Environment

**project**

LaHC PAGEWOOD SENIORS HOUSING  
36-38 BIRDWOOD AVENUE  
3 & 4/-/DP 35317  
PAGEWOOD NSW

**drawing title**

General Arrangement Plan(s)  
Site Plan | Ground Floor Plan

**drawing scale**

AS SHOWN  
21160

**drawn**

SC  
A-1101

**verified**

SC  
C

**date**

23/2/2023

**project #**

21160

**drawing #**

A-1101

**issue**

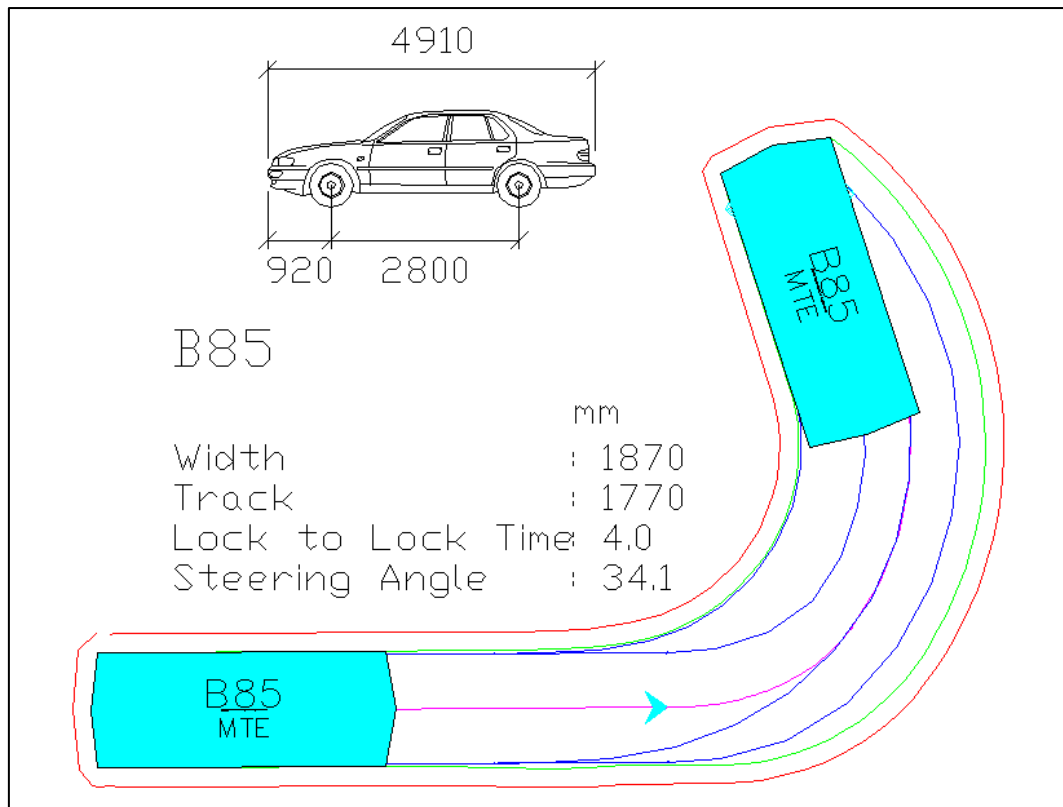
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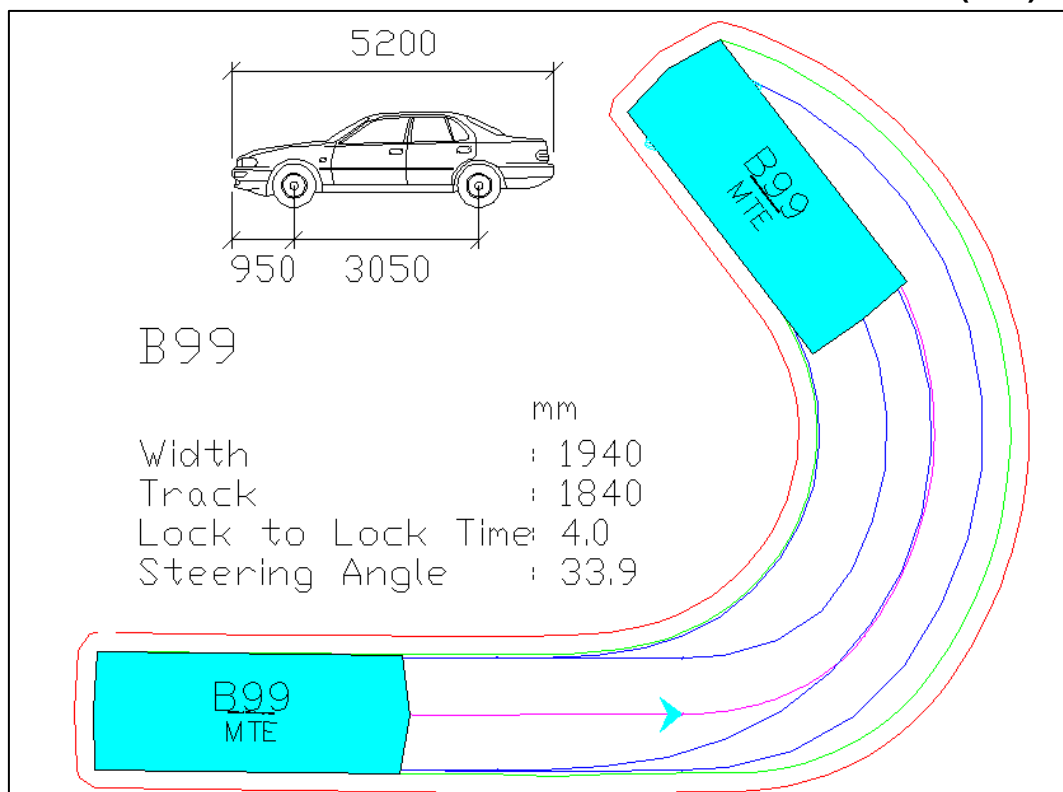




**ANNEXURE B: SWEPT PATH TESTING  
(2 SHEETS)**



### AUSTRALIAN STANDARD 85<sup>TH</sup> PERCENTILE SIZE VEHICLE (B85)



### AUSTRALIAN STANDARD 99.8<sup>TH</sup> PERCENTILE SIZE VEHICLE (B99)

Blue – Tyre Path  
 Green – Vehicle Body  
 Red – 300mm Clearance

