



Transport Assessment

10-12 Boondah Road, Warriewood
Development Application

5/06/2024

Ref: P2587r03



Info@asongroup.com.au
+61 2 9083 6601
Suite 17.02, Level 17,
1 Castlereagh Street,
Sydney, NSW 2000

Document Control

Project No	P2587
Project	10-12 Boondah Road, Warriewood
Client	Henroth Group
File Reference	P2587r03 TA_10-12 Boondah Road, Warriewood

Revision History

Revision No.	Date	Details	Author	Approved by
1	24/05/2024	Final	I. Obermaier, R. Hazell	R. Hazell
2	05/06/2024	Final – updated to include minor amendments	I. Obermaier, R. Hazell	R. Hazell

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1 Introduction

1.1 Overview

Henroth Group engaged Ason Group to prepare a transport assessment as part of a Development Application for a proposed garden centre at 10-12 Boondah Road, Warriewood.

The site is legally identified as Lot 3 and 4 of DP26902 and covers an area of 2.05 hectares. It is within Northern Beaches Council Local Government Area (LGA) and subject to Pittwater Development Control Plan 2014. The site is zoned as RU2 Rural Landscape under Pittwater LEP 2014 and currently occupied by rural residential dwellings.

The surrounding properties include a mix of residential dwellings, from rural lots through to medium and high-density developments further to the north. Warriewood wastewater treatment plant is north-east of the site with Northern Beaches Council Boondah Depot located to the east. A range of sporting facilities are also located on Boondah Road, including Warriewood Valley Sports Courts opposite the site on the eastern side of Boondah Road and sporting fields further to the south, closer to Jacksons Road. Warriewood Square Shopping Centre is also south-east of the site. The site location is shown in **Figure 1**.

This report includes a detailed assessment of the traffic and parking impacts associated with the proposed development and ensures appropriate site access arrangements and internal layout in accordance with relevant statutory guidelines.

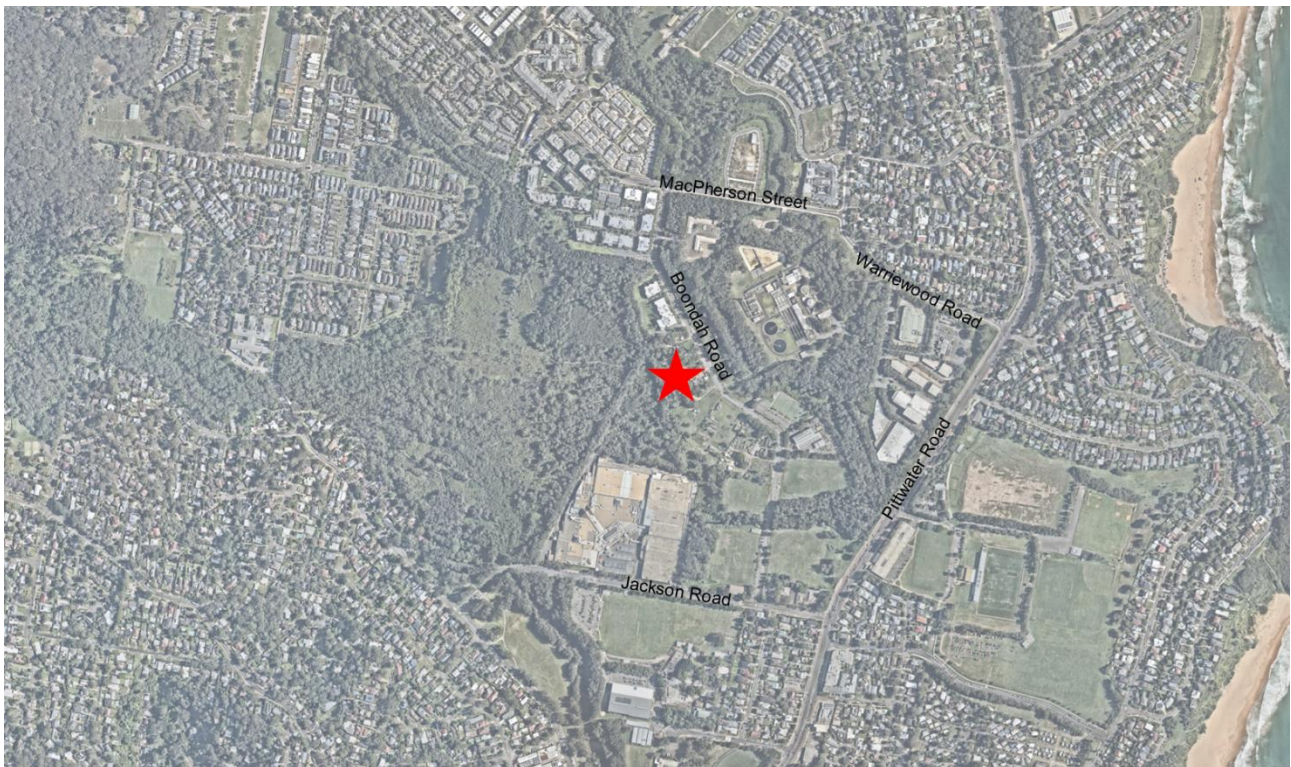


Figure 1: Site location

1.2 Key References

In preparing this transport assessment, Ason Group has referenced key planning documents and transport standards and guidelines, including but not limited to:

- Pittwater Development Control Plan (DCP) 2021.
- Pittwater Local Environmental Plan (LEP) 2014.
- Transport for NSW Guide to Traffic Generating Developments 2002.
- Australian Standard 2890.1: Parking Facilities – Off-Street Car Parking.
- Australian Standard 2890.2: Parking Facilities – Off-Street Commercial Vehicle Facilities.
- Australian Standard 2890.6: Parking Facilities – Off-Street Parking for People with a Disability.
- Transport for NSW Guide to Traffic Generating Developments, Updated Traffic Surveys TDT 2013/04a.
- Northern Beaches Council, Warriewood Valley Roads Masterplan, 2018.
- Architectural plans prepared by Buchan and landscape plans prepared by JCA, dated May 2024.
- Other documents as referenced in the context of this report.

2 Existing Conditions

2.1 Road Network

The road network surrounding the site includes a mix of state, regional and local roads. Boondah Road provides access to the site and connects Jacksons Road to the south with McPherson Street to the north. All surrounding roads, including Boondah Road, Jacksons Road and Macpherson Street are classified as local roads with posted 50km/h speed limits.

The key roads in the vicinity of the site are defined as follows:

- **Boondah Road:** a local road which generally runs in a north-south direction along the eastern site boundary. South of the site, Boondah Road includes a high pedestrian activity 40km/h posted speed zone on account of the sporting activity in the vicinity. It provides one traffic lane in each direction with unformed edges and informal parking close to the site. A mix of parallel and perpendicular parking with 5P time restrictions are further to the south. Boondah Road adjacent to the site is shown in **Figure 2** and **Figure 3**.
- **Jacksons Road:** a local road which runs west-east to the south of the site. It generally provides one traffic lane in each direction with on-street parking permitted in select locations along its length. Jacksons Road has a posted speed limit of 50km/h.
- **Macpherson Street:** a local road which runs in an west-east direction north of the site, connecting with Warriewood Road to the east. It has a posted speed limit of 50km/h.
- **Pittwater Road:** a state road which runs along the Pittwater Peninsular from Manly in the south to Palm Beach in the north. Near the site, Pittwater Road provides six traffic lanes for two-way traffic (3 lanes per direction) including dedicated bus lanes on both sides as part of the B-Line. It has a posted speed limit of 70km/h.



Figure 2: Boondah Road (looking north)



Figure 3: Boondah Road (looking south)

2.2 Public Transport and Pedestrians

TfNSW Guidelines state that bus services influence the travel mode choices of sites within 400m (5-minute walk) of a bus stop. The site is serviced by two bus stops on Macpherson Street immediately north of the site. There is also a bus stop on Jacksons Road 500m to the south and within a reasonable walk, plus good access to high frequency bus services along the Pittwater Road B-Line further to the east.

The local area bus stops are serviced by bus routes 182 and 185 which provide connections between Mona Vale and Narrabeen via Warriewood Valley and other key centres within Northern Beaches LGA. These services combine to provide 14 services per day with mostly hourly frequencies. The B-Line services run every 5 to 10 minutes during weekday peak hours.

The Northern Beaches Walking Plan was adopted by Council in 2019 to integrate former Council plans into one document and provide a priority footpath schedule to lead future footpath programs ultimately seeking to provide a connected footpath network to support walking as a preferred mode of travel.

The existing and planned bicycle network connections surrounding the site are shown in **Figure 4**. The relatively flat surrounds and connecting cycleways of Warriewood and the surrounding suburbs make it relatively easy to travel by bicycle.

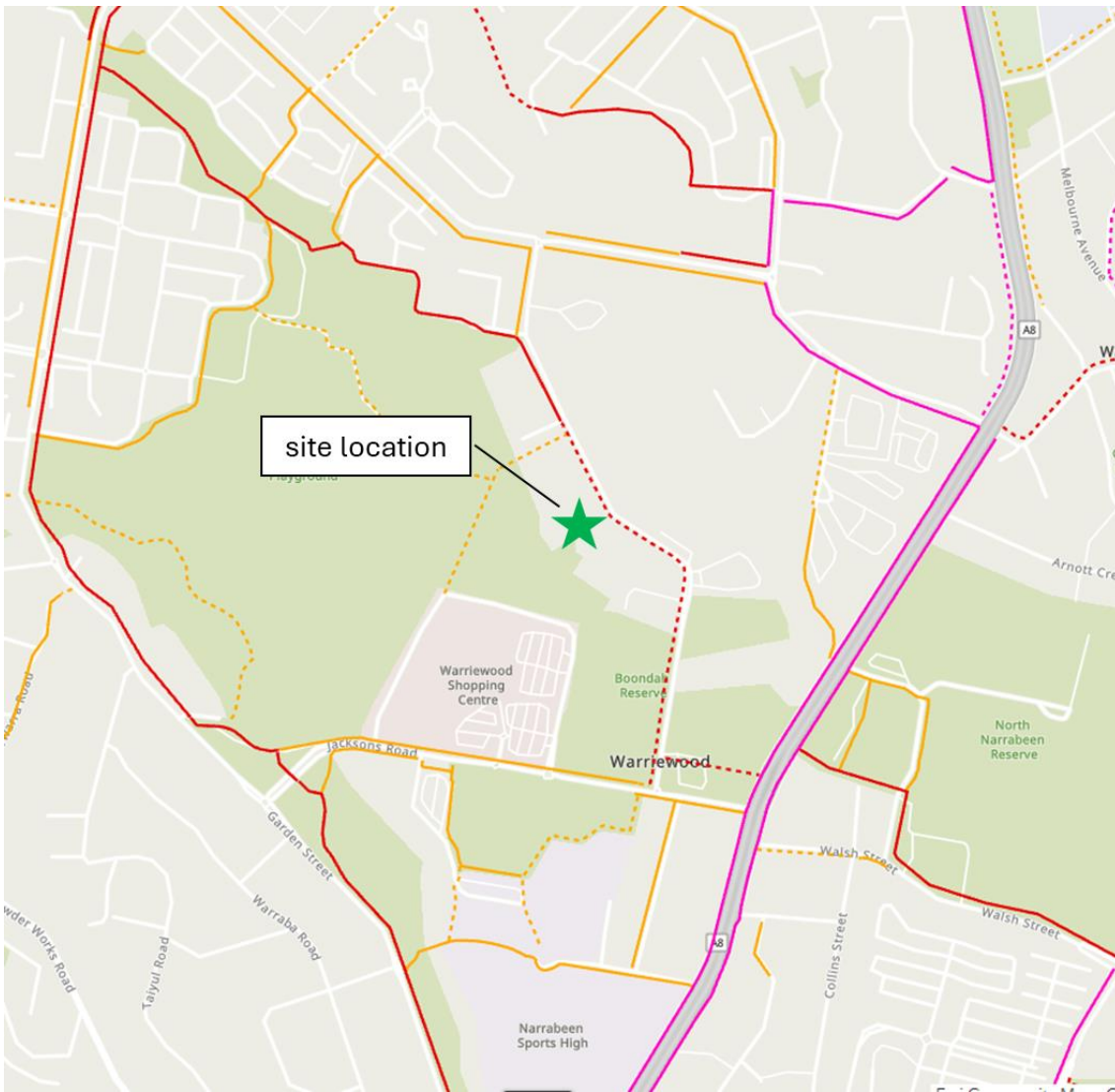


Figure 4: Surrounding bicycle network

3 Proposed Development

3.1 Overview

The proposed development aims to deliver a garden centre covering 452m² GFA. Site access is proposed via a single access driveway on Boondah Road along the eastern site boundary, with the proposed site layout, access arrangements and internal circulation shown in **Figure 5**.

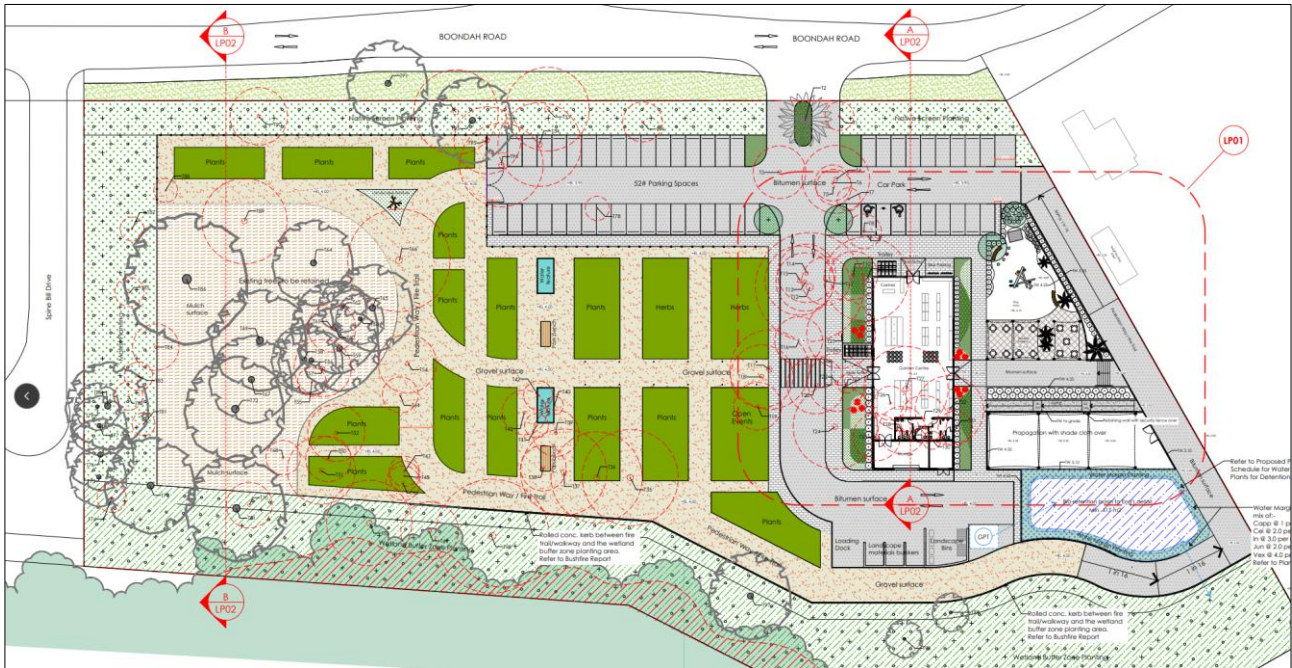


Figure 5: Proposed site layout plan

Key to the site, Northern Beaches Council adopted the Warriewood Valley Roads Masterplan in August 2018 (WVRM). The Masterplan documents the technical requirements for traffic management measures for implementation in the Warriewood Valley Urban Release Area. The report was to reflect the updated land-use data applicable to Warriewood Valley and the associated amended transport network requirements.

Boondah Road is designated as a Collector Street in the WVRM and subject to widening to accommodate the cross-sections as shown in **Figure 6**. These requirements, including a carriageway width of 8.4m and, if required, 2.1m wide kerbside parking lanes will be considered as part of any development approval on the site.

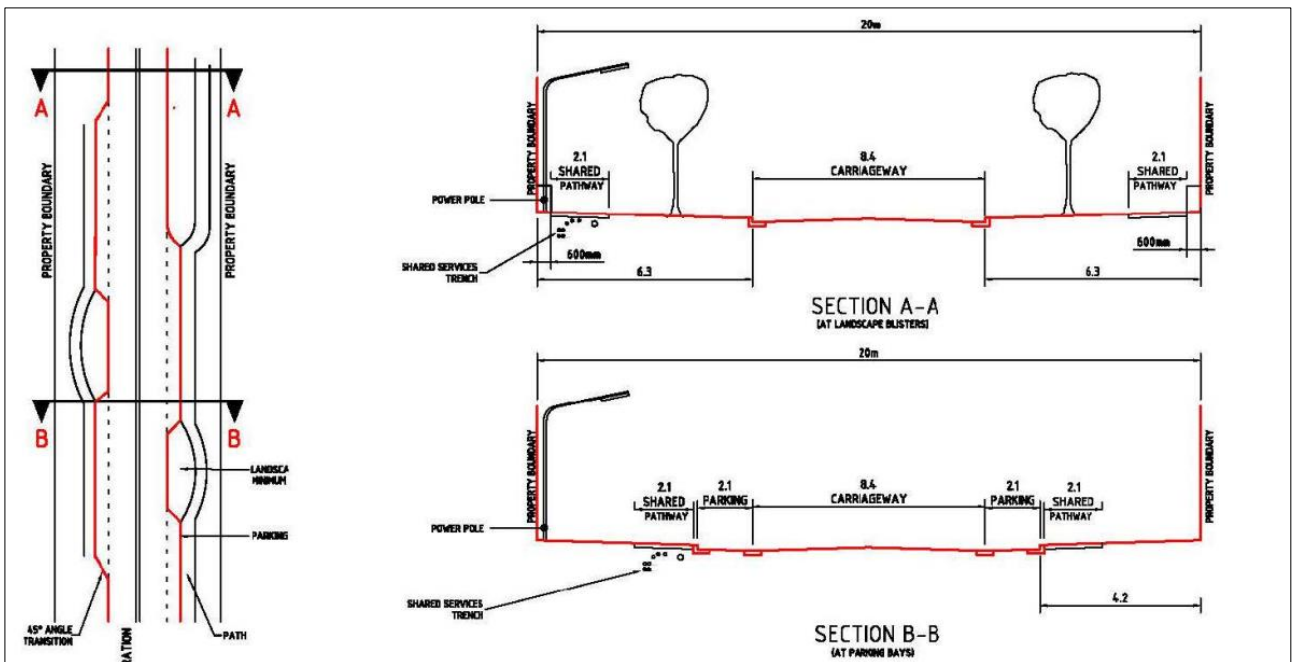


Figure 6: Typical Collector Street plans and cross sections

3.2 Parking Requirements

With car parking rates for garden centres/ nurseries not defined in Pittwater DCP 2021, reference has been made to the retail parking rates to provide some estimates. When adopting the applicable one space per 30m² and considering the 452m² garden centre, the proposal would need to provide 15 parking spaces. Reference to the TfNSW Guide to Traffic Generating Developments (2002) is similarly key to understanding more appropriate parking rates as they relate to the proposed development, with the applicable nursery rate including a minimum 15 spaces or 0.5 spaces per 100m² of site area, whichever is greater.

On this basis and with the developable area covering approximately 10,000m² of the total site area, the proposal is required to provide up to 50 on-site parking spaces. This parking provision also equates to one space per nine square metres of garden centre retail GFA and readily able to accommodate for peak period demand, parking turnover and expected day to day operations. It also significantly exceeds the applicable TfNSW parking rates for retail shopping centres.

The proposed development exceeds this requirement with provision of 52 parking spaces within a single car park fronting the site and setback from Boondah Road. Two accessible parking spaces are included, exceeding the general requirement of one accessible space for every 50 spaces. 10 bicycle racks are also provided adjacent to the building entrance and significantly exceed DCP 2021 requirements.

A dedicated loading area is provided to the rear of the main building and with one dedicated loading bay and hardstand area with capacity for several vehicles to stand and load/ unload, the capacity of this area exceeds any such peak demand. The area has been designed to allow all vehicles to enter, manoeuvre as required and exit in a forward direction. Landscaping bins, material bunkers and waste bins ensure appropriate use of the area.

3.3 Site Layout Review

The proposed development is laid out in a simple and clean manner with the at-grade car park straddling each side of the single site access driveway. The car park has been designed as a User Class 3A facility in accordance with AS2890.1:2004, with 2.6m wide and 5.4m long spaces and adjacent 6.6m wide circulation aisle. Dedicated 3.6m wide bays allow for all vehicles to turnaround, if required. The accessible spaces are a

minimum 2.4m wide with adjacent 2.4m wide shared area (with bollard) and consistent with the requirements of AS2890.6:2022.

The site access driveway has been designed to accommodate all vehicles up to and including 8.8m medium rigid vehicles. A wide central median ensures good separation between entering and exiting vehicles, with full independent movements at all times. Waste collection will be by private contractor with all trucks to access the dedicated bins in the loading dock in a forward direction. The site perimeter has also been designed to accommodate a general fire appliance with these vehicles able to navigate the perimeter road in a forward direction (in either direction) without the need to reverse.

Vehicle swept paths have been completed for a range of vehicles to ensure appropriate design and independent movement. This includes at the site access driveway to confirm the passing of vehicles and within the loading area. The swept paths are included in **Appendix A**.

4 Traffic Assessment

4.1 Traffic Generation and Distribution

Traffic generation estimates for garden centres/ nurseries have been derived from the TfNSW Guide 2002. The Guide states that peak trip generation occurs on weekends and specifically during the Sunday midday period. With a peak generation estimated to be up to 57 vehicle trips plus 0.7 trips per 100m² of site area, the proposed development could generate up to 127 vehicle trips in any peak hour during the Sunday midday peak period.

The estimated directional distribution of traffic generated by the proposed development is shown in **Figure 7**. This includes a broad 60 per cent that arrive and depart via the south (using Jackson Road) and 40 per cent via the north (using McPherson Street). The distribution assumes an even 50:50 split between inbound and outbound vehicles and is consistent with higher turnover sites that experience demand by a range of visitors across the day.

This would result in about 75 vehicle trips on Boondah Road south of the site and about 50 vehicle trips on Boondah Road north of the site. With between 25 and 38 trips in any direction during any peak hour, this equates to one vehicle every 1.5 to 2 minutes. Such moderate traffic volumes are not expected to have a material impact on Boondah Road or the operation of key intersections in the vicinity, especially during the Sunday midday period when the surrounding road network is unconstrained.

The proposed development is also not expected have any impact on existing traffic conditions in the surrounding area during the weekday AM and PM peak hours given that it will likely either be closed or certainly not generating noticeable customer activity. At most, it is estimated that it may generate 25 vehicle trips during these periods (20 per cent of the peak Sunday generation). With the same distribution applied, there would be between 10 and 15 vehicle trips per hour on Boondah Road north and south of the site. This would similarly not have a material impact on the operation of the key intersections surrounding the site.

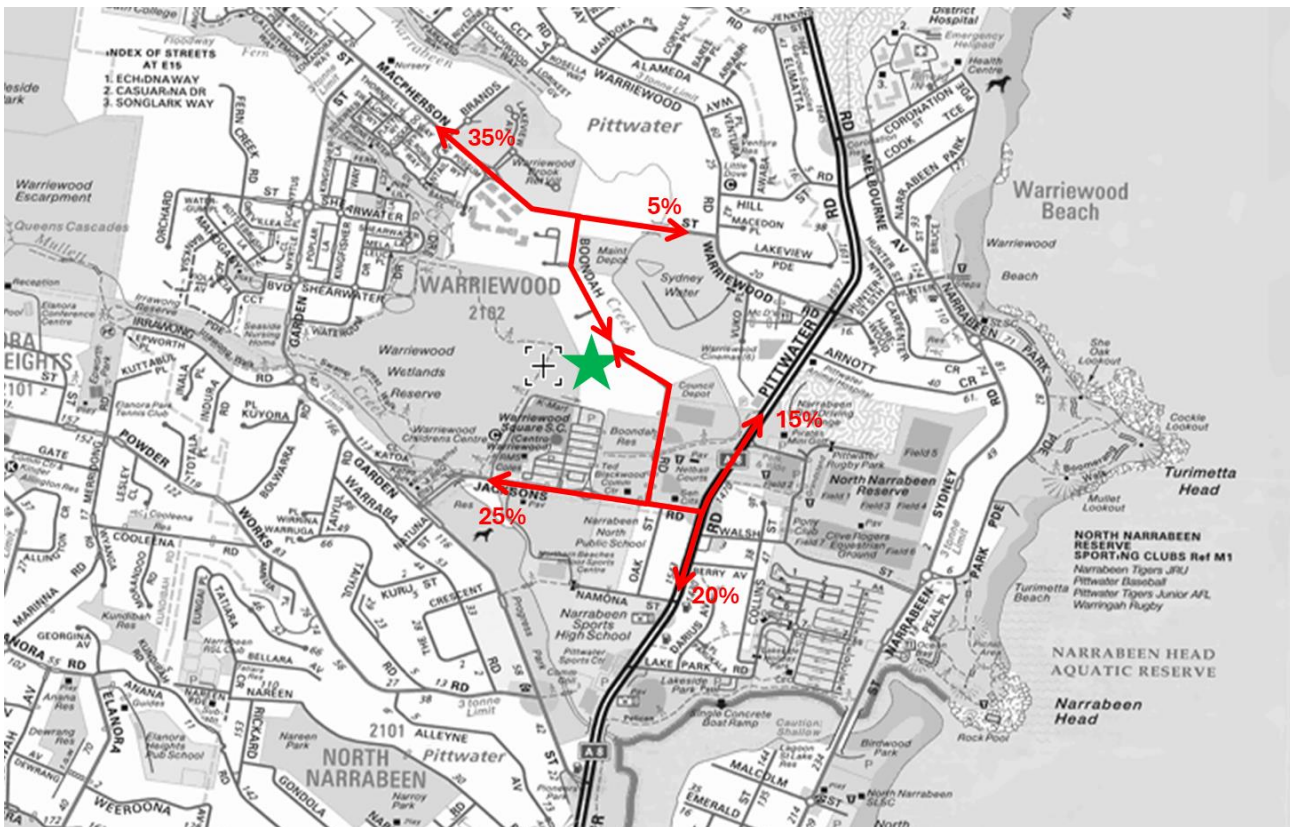


Figure 7: Estimated traffic distribution

5 Overview Construction Traffic Management Plan

5.1 Overview

This section seeks to provide an overview of the Construction Traffic Management Plan (CTMP) initiatives to be implemented as part of construction works associated with the proposed development. Specifically, this overview CTMP considers the following:

- truck routes to/ from the site
- anticipated truck volumes during construction stages
- construction site access arrangements
- requirements for work zones (if any)
- worker parking
- traffic control measures
- overview of the CTMP requirements.

5.2 Principles of Traffic Management

The general principles of traffic management during construction activities are as follows:

- maintain appropriate public transport
- minimise the loss of on-street parking
- minimise the impact on adjacent and surrounding sites
- restrict construction vehicle movements to designated routes to/ from the site
- manage and control construction vehicle activity near the site
- carry out construction activity in accordance with approved hours of works.

5.3 Work Hours

The construction works will be completed during the approved work hours with the anticipated work hours as follows:

- Weekdays: 7:00am – 5:00pm.
- Saturdays: 8:00am – 3:00pm.
- Sundays and public holidays: no work permitted.

The details of the work hours will be provided to all workers during induction. Any construction activities conducted outside of the work hours would be subject to specific prior approval from the relevant authorities. Such activities might involve the delivery of cranes, large machinery or equipment essential for the site that require oversize vehicle access.

5.4 Site Access and Loading

Construction vehicle access will be provided via Boondah Road in a similar location of the proposed end-state site access driveway. Work zones will not be required given the site has adequate area to accommodate all construction related activities, including the loading and unloading of trucks internal to the site.

As part of the detailed CTMP, a Traffic Guidance Scheme will be prepared in accordance with the principles of the Traffic Control at Work Sites manual (version 6.1 (TCAWS v 6.1)). The TGS' primarily show where construction signs will be located at specific locations (such as uncontrolled intersections) along the approved truck routes to warn other road users of the increase in construction vehicle movements.

Emergency vehicle access to neighbouring properties would not be affected by the works as the frontage road would be unaffected. Emergency protocols on the site would include a requirement for site personnel to assist with emergency access from the street. The truck movements to the site and/ or incident point would be suspended or cleared.

5.5 Construction Worker Parking

It is anticipated that there will be on average 30 workers on-site at one time, with up to 40 workers during peak activities.

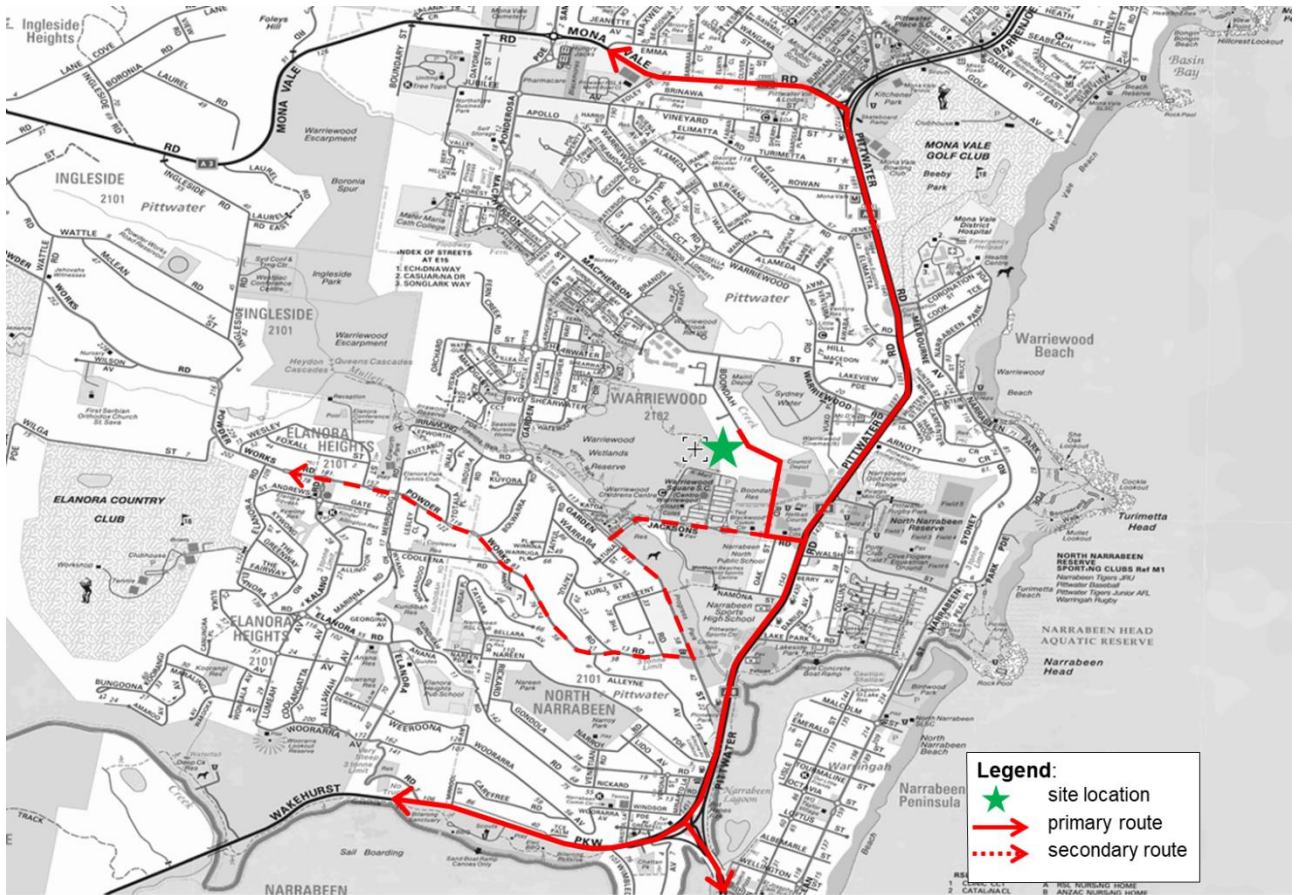
It is expected that all construction worker parking requirements will be met within the site. During site induction, workers will be informed of the existing bus network servicing the site. Appropriate arrangements will be made for any equipment/ tool storage and drop-off requirements.

5.6 Heavy Vehicle Access

Construction vehicles generated by the site would generally include vehicles up to 12.5-metre heavy rigid trucks, 18.1-metre truck and dog combinations and 19-metre semi-trailers. There is expected to be on average around five trucks per day accessing the site, or up to 10 trucks per day during peak activities.

These peak construction traffic generation estimates are low and not expected to materially affect traffic conditions along any local or arterial roads on the defined approach and departure routes. Overall, the construction traffic impact of the proposed development is expected to be minor.

Figure 8 shows the indicative construction vehicle routes to/ from the site with all drivers to be advised of the designated truck routes prior to construction activities requiring heavy vehicle access.



Source: Basemap streetdirectory.com.au

Figure 8: Construction vehicle arrival and departure routes

6 Conclusion

Based on the analysis and discussions presented within this report, the following conclusions are made:

- This transport assessment details the traffic and parking impacts associated with the proposed garden centre at 10-12 Boondah Road, Warriewood.
- The proposal includes a 452m² garden centre with a single access driveway on Boondah Road along the eastern site boundary. The developable area covers an indicative 10,000m², with much of the proposed centre incorporating garden beds and outdoor space plus a fire trail around the site perimeter.
- The proposed development generates the need for 50 on-site parking spaces when referencing the TfNSW Guide to Traffic Generating Developments. The provision of 52 parking spaces within a single at-grade car park adjacent to the Boondah Road frontage and on either side of the single site access driveway exceeds this requirement. Two accessible parking spaces are also provided, exceeding the applicable guidelines, with two turnaround bays allowing for all vehicles to enter and exit the car park in a forward direction.
- The site access driveway has been designed to accommodate all vehicles up to and including 8.8m medium rigid vehicles. A wide central median ensures good separation between entering and exiting vehicles, with full independent movements possible at all times.
- The car park has been designed as a User Class 3A facility in accordance with AS2890.1:2004, with 2.6m wide and 5.4m long spaces and adjacent 6.6m wide circulation aisle. The accessible spaces are a minimum 2.4m wide with adjacent 2.4m wide shared area (with bollard) and consistent with the requirements of AS2890.6:2022.
- 10 bicycle racks are provided close to the building entrance and exceed the requirements of DCP 2021.
- A dedicated loading area is provided to the rear of the main building and with one dedicated loading bay and hardstand area with capacity for several vehicles to stand and load/ unload, the capacity of this area exceeds any such peak demand. Private waste contractor vehicles up to 8.8m medium rigid trucks will similarly use this area for waste collection.
- The traffic generation estimates have been completed based on the applicable garden centre/ nursery trip generation rates outlined in the TfNSW Guide to Traffic Generating Developments. On this basis, the proposal is estimated to generate up to 127 vehicle trips during the Sunday midday peak period and at times when the surrounding road network has ample spare capacity.
- With the estimated directional distribution of site generated traffic, there would be between 25 and 38 vehicle trips in any direction during the Sunday midday peak hour. This equates to one vehicle every 1.5 to 2 minutes. Significantly less traffic (about 25 vehicle trips) is expected during the weekday road network peak periods.
- Such moderate traffic volumes are not expected to have a material impact on Boondah Road or the operation of key intersections in the vicinity during any road network peak or non-peak period.
- The anticipated construction traffic impact of the proposal is expected to be appropriately managed to minimise the impacts on pedestrians, cyclists and traffic.
- Overall, the proposed development is well considered and can be supported from a traffic and parking perspective.

Appendix A. Vehicle Swept Paths