20-22 MacPherson Street, Warriewood

Transport Assessment

13 June 2023

1 Introduction

1.1 Background

JMT Consulting has prepared this document to provide an overview of the traffic and transport implications of the proposed site development of 20-22 MacPherson Street, Warriewood. The proposal envisages the development of 53 residential lots on the existing site occupied by Flower Power.

1.2 Site location

The site location is presented in Figure 1 below and is located within the Warriewood Valley Release Area. Existing residential development adjoins the site with Narrabeen Creek also adjacent to the site. The site is currently occupied by a Flower Power retail store which contains approximately 80 on-site car parking spaces.

Figure 1 Site location

1.3 Proposed site plan

The proposed site plan (developed by Craig & Rhodes) indicating the future lot layout and internal street network is presented in Figure 2 below. This site plan has informed the development of this transport assessment.

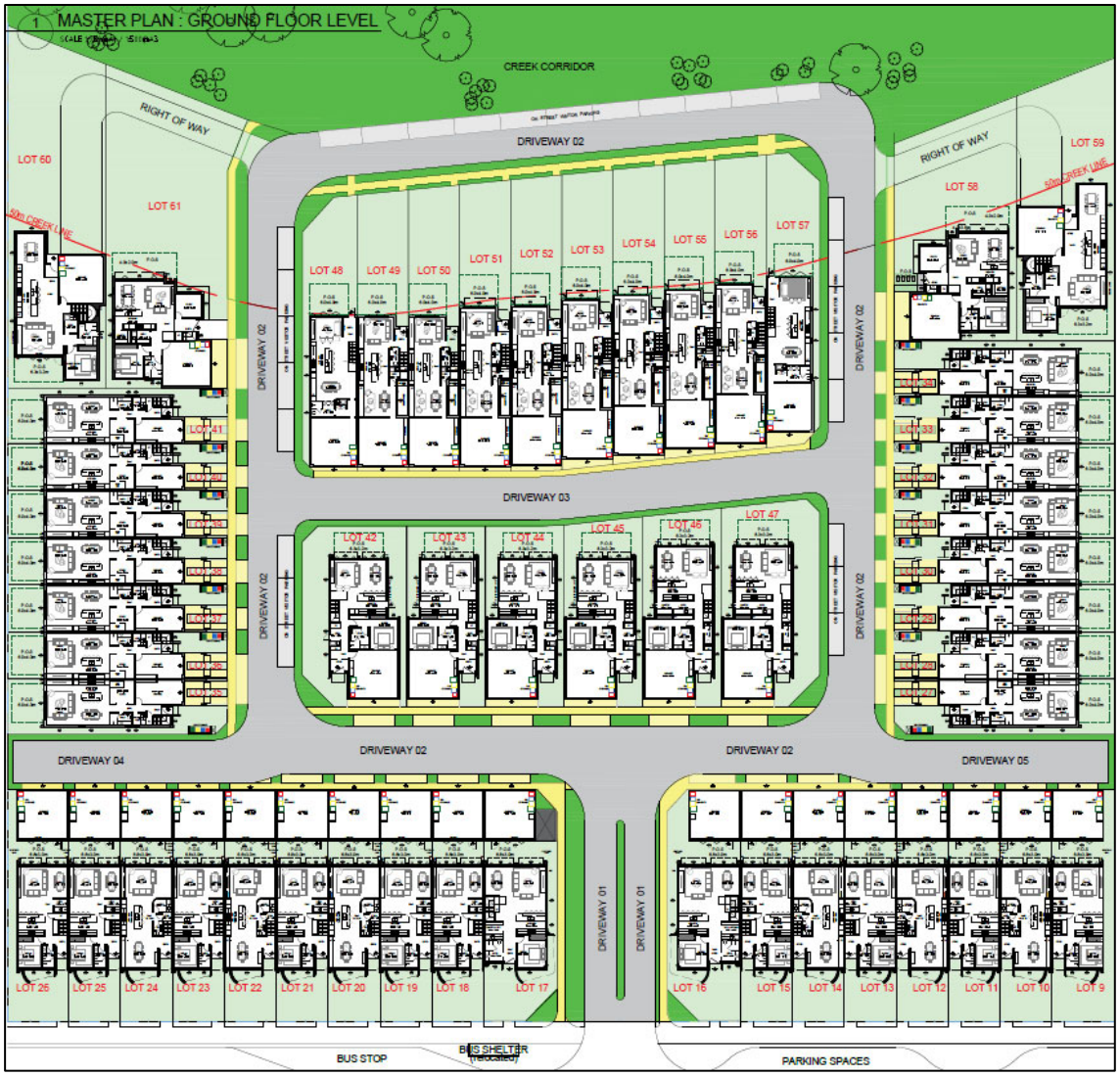

Figure 2 Proposed site plan

Source: PBD Architects

2 Transport Assessment

2.1 Proposed vehicle site access

The proposal seeks to retain the existing vehicle access point on MacPherson Street that has successfully served the Flower Power site as shown in Figure 3. This location is considered suitable given:

- Providing an access directly from MacPherson Street (as opposed to integrating the access with the nearby roundabout at Garden Street) will facilitate a slower speed environment into and out of the site – commensurate with the nature of the activity within the site. Providing an additional leg of the roundabout at MacPherson Street / Garden Street will promote vehicles to enter and exit the site at greater speeds given the roundabout design requirements (to RMS standards) and therefore result in a poorer transport outcomes – particularly for pedestrians.
- The access point proposed is similar to that provided at adjacent developments on MacPherson Street within the Warriewood Valley Release Area – particularly the adjoining site at 18 MacPherson Street. The access will be designed in accordance with the requirements of the Warriewood Valley Roads Masterplan document.
- An access at this location complements the proposed lot layout and internal street circulation network proposed for the site
- The proposed access point has operated successfully for the current Flower Power site, with the proposed residential subdivision to generate significantly fewer traffic flows in comparison to the current use (see Section 0 for further details).

Figure 3 Existing vehicle access point

Source: Google Street View

2.2 Crash history

A review of all recorded crashes in the vicinity of the site was undertaken through the NSW Centre for Road Safety. This indicates that there were no recorded crashes at the existing access point in the five year period between 2016 and 2020 – confirming it's suitability for continued use.

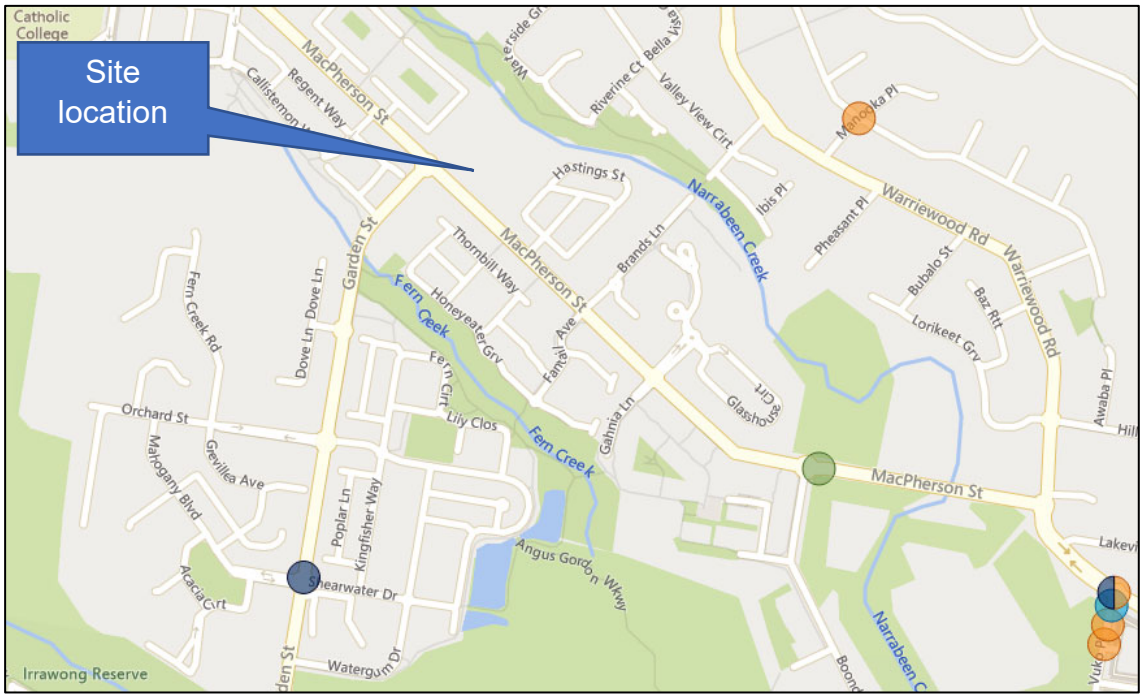

Figure 4 Recorded crashes in the vicinity of the site

Image Source: NSW Centre for Road Safety

2.3 Internal vehicle circulation

For the majority of the site a one-way anti-clockwise circulation loop is proposed. This one-way loop system has been proposed to provide for a simpler, more efficient internal street network that minimises vehicle conflict points. By removing two-way traffic movements across the majority of the site the potential for conflicts between vehicles travelling in either direction, particularly around corners and at intersections, is significantly reduced. The one-way loop system still retails the ability to provide for suitable waste collection arrangements as well as provided for on-street visitor car parking.

Given the anti-clockwise circulation some residents will be required to transport their bins onto the verge of the opposite side of the street given the side-loading arrangements for waste collection vehicles in the Northern Beaches LGA. The proposed carriageway widths on the access streets of 6m will be sufficient for general traffic to pass waste collection vehicles which is understood to be a key requirement of Council.

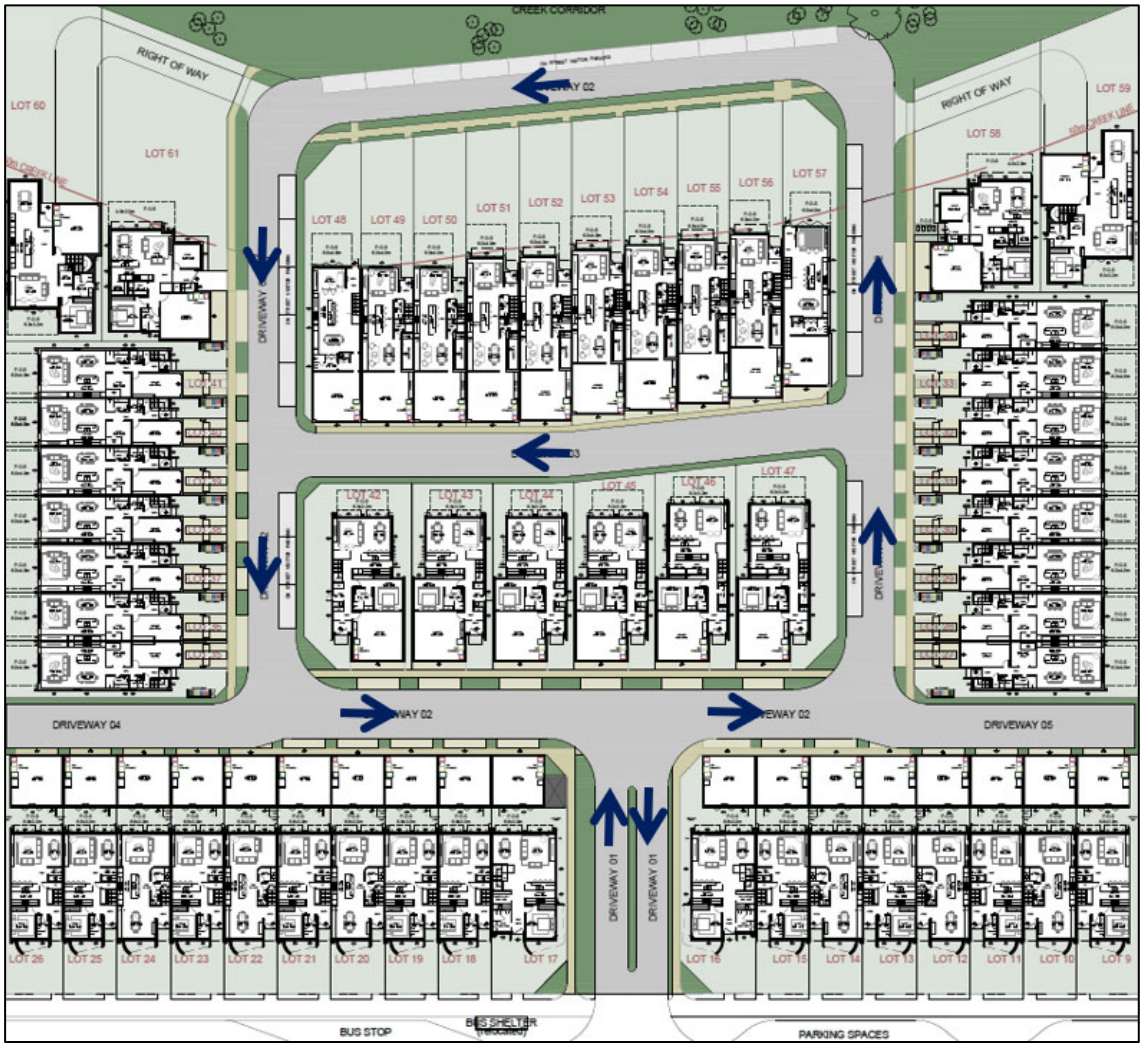

Figure 5 Proposed vehicle circulation

The Warriewood Valley Roads Masterplan document has been used to guide the road design requirements for the site, noting however that this document assumes two-way traffic movements plus on-street car parking on one side of the road. Based on this, and following discussions with Council's waste officer, the following street cross-sections have been provided:

- A sector entry street (9m wide carriageway) at the site entrance adjacent to MacPherson Street allowing for 4.5m traffic lanes plus appropriate verge / footpath widths.
- A 6m wide road carriageway (access street) around the perimeter of the site which will accommodate one travel lane plus one on-street car parking lane. Generally the overall road reserve width for the perimeter access street will be either 9.5m or 10.5m. Although this road reserve width is lower in comparison to the recommended 12.5m width noted in the Warriewood Valley Roads Masterplan document it is still considered acceptable given the internal one-way road system proposed for the site. The road reserve widths recommended in the Warriewood Valley Roads Masterplan document assume two-way vehicle movements (plus on-street car parking) which requires an additional 2.5m-3.0m width in comparison to single direction flow.
- On bin collection days the parking lane along the perimeter access strategy will be utilised by waste collection vehicles, with 'No Parking' controls to be implemented to ensure that there is sufficient space for general traffic to pass waste vehicles.
- A 5.5m wide laneway will be provided through the centre of the site, in accordance with the design requirements noted in the Warriewood Valley Roads Masterplan document. The instances of general traffic needing to pass waste collection vehicles on the laneway will be very infrequent, however the 5.5m carriageway width to be provided can facilitate this movement if required.

Refer to the engineering plans prepared by Craig & Rhodes for detailed information on proposed road reserve widths within the site.

As indicated in Figure 6 and Figure 6 the internal road design makes suitable provision for vehicle manoeuvring, including that of a Council waste vehicle equivalent to an 8.8m long Medium Rigid Vehicle (MRV). The one-way circulation will allow for the safe and efficient circulation of vehicles and minimise conflicts with vehicles travelling in the opposing direction.

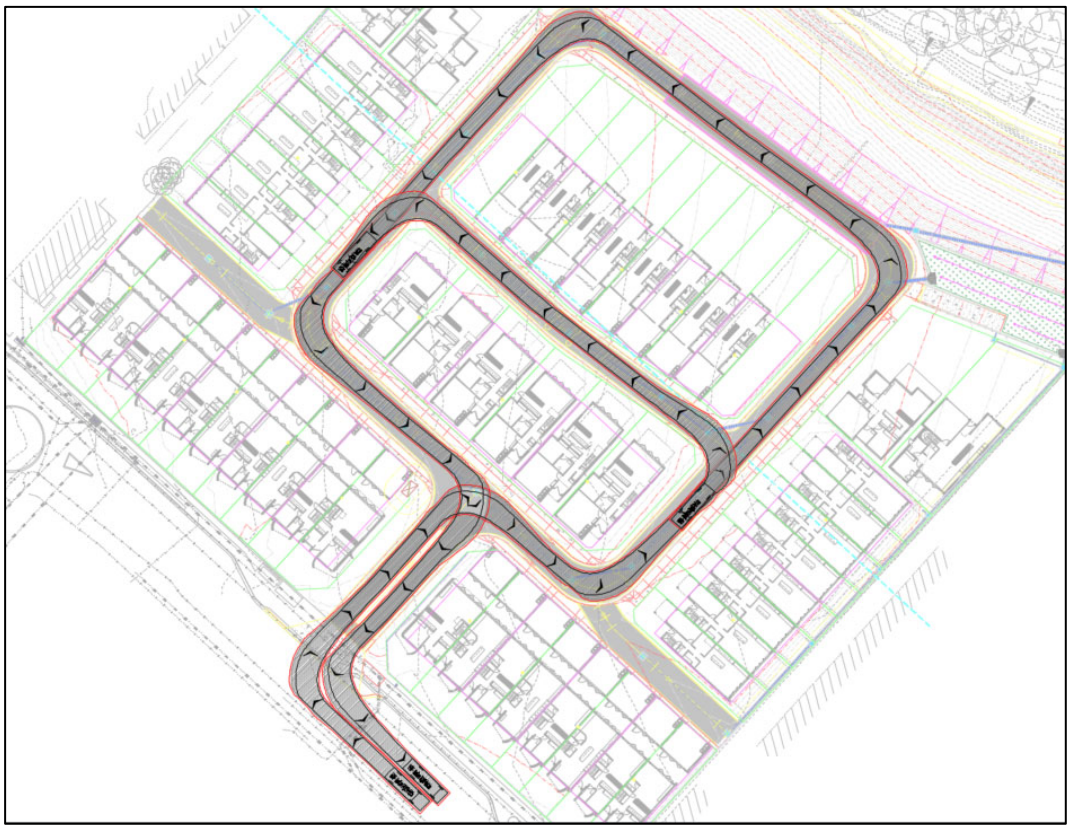

Figure 6 Swept path analysis – waste truck

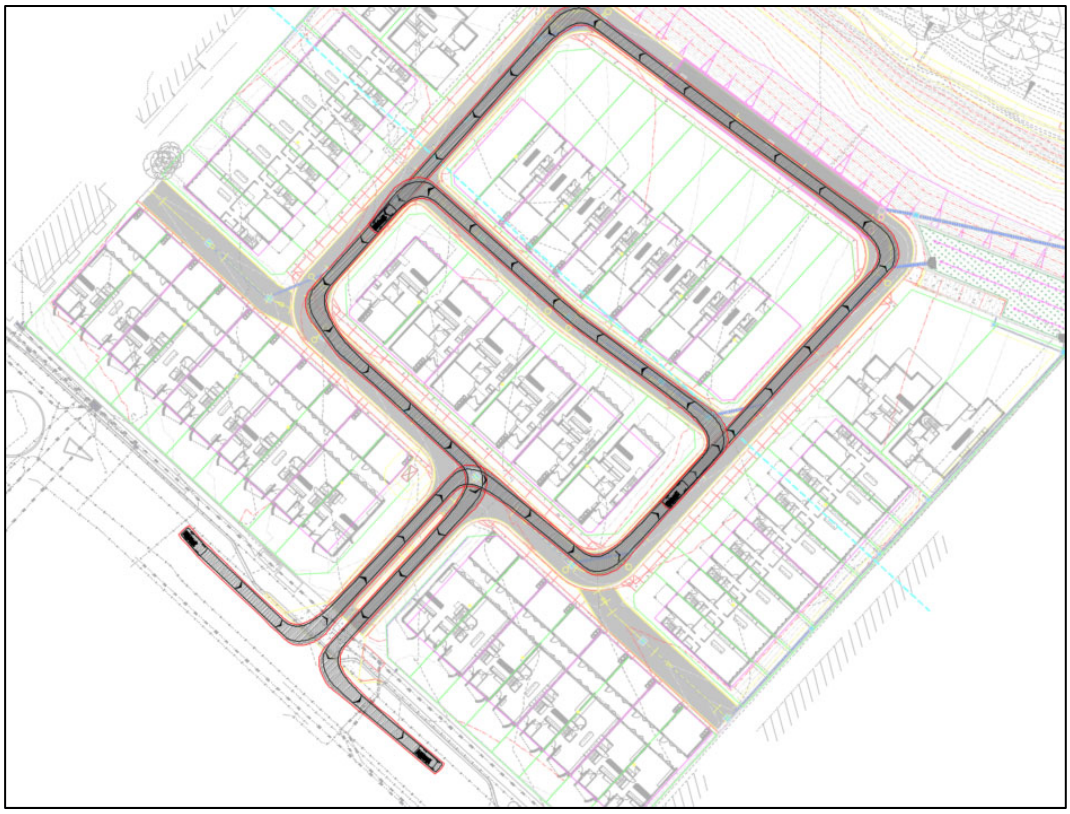

Figure 7 Swept path analysis – passenger vehicles

2.4 Traffic generation and road network impacts

The forecast level of traffic generated from the development has been based off the rates outlined in the *RMS Guide to Traffic Generating Developments* (2013 update) document. The rates applicable to low density residential dwellings are as follows:

- AM peak hour (8am – 9am): 0.99 vehicles / dwelling
- PM peak hour (5pm – 6pm): 0.95 vehicles / dwelling

The expected directions of travel for vehicles, based again off guidance within the *RMS Guide to Traffic Generating Developments* document, is as follows:

- AM peak hour: 80% departing, 20% arriving
- PM peak hour: 20% departing, 80% arriving

The resultant level of traffic generation is summarised in Table 1.

Table 1 Forecast traffic generation

Peak Hour	No. of dwellings	Traffic Generation Rate	Number of vehicle trips		
			Into site	Out of site	Total
AM Peak Hour	53	0.95	10	40	50
PM Peak Hour	53	0.99	42	10	52

The analysis indicates the sub-division may generate in the order of 50 traffic movements during the AM and PM peak hours. It is important to recognise however that the site currently operates as a Flower Power store with approximately 80 car parking spaces. This would generate significant levels of traffic movements through the day – over and above that forecast by the residential subdivision. Recent surveys undertaken at a Flower Power store in Enfield indicated a traffic generation rate of approximately 1 trip / parking space during the AM peak hour and 1.5 trips / parking space during the PM peak hour. For the Flower Power Warriewood site this would be equivalent to approximately 80 vehicle movements during the AM peak hour and 120 vehicle movements during the PM peak hour.

The proposed development of the site would result in significantly fewer traffic movements on the surrounding road network when compared to the existing Flower Power use. It can therefore be concluded that the residential subdivision proposal would result in an improved road network outcome when compared to current conditions.

2.5 Car parking

Two standard car parking spaces will be provided for each detached dwelling which complies with the Pittwater DCP requirement.

Car parking for visitors to the site can be provided on the internal street network, with a 6.0m carriageway width to be provided on the main circulation roadway. As a one-way anti-clockwise circulation system will be provided, this 6.0m width will be sufficient to accommodate one travel lane and one on-street parking lane. Approximately 27 visitor parking spaces are provided within the internal streets in the site.

2.6 Footpaths

Consistent with the requirements of the Warriewood Valley Roads Masterplan a 1.5m wide footpath will be provided on at least one side of the perimeter access street – facilitating good pedestrian connectivity through the site.

2.7 Cycling

The site will benefit from being located in close proximity to a number of existing and future walking and cycling paths to be provided within the Warriewood Valley Release Area. These pathways are shown in Figure 8 and includes a shared pathway along the southern bank of Narrabeen Creek which adjoins the site. This pathway provides connections through to the Warriewood centre. A shared pathway is also provided along the southern side of MacPherson Street which also adjoins the site.

Figure 8 Network of cycling routes

2.8 Public transport

Public transport access to the site is provided via two bus routes within viable walking distance which are as follows:

- Route 182 which runs between Mona Vale and Narrabeen via Forest Road and Macpherson Street
- Route 185 which runs between Mona Vale and Narrabeen via Garden Street and Macpherson Street

Bus stops for the 185 bus route are located on MacPherson Street immediately opposite the site as illustrated in Figure 9 below. The closest bus stops for the 182 route are on either Garden Street or MacPherson Street approximately 150m from the site entry point.

Figure 9 Public transport access

The existing bus stop on Macpherson Street outside of the site will be retained as part of the project, with no changes proposed to the stop location. The project will however necessitate the minor relocation and replacement of the existing bus shelter servicing this stop (see Figure 10). The bus shelter will be reconstructed in accordance with current Council standards and continue to provide a good level of service for bus passengers on Macpherson Street.

Figure 10 Existing bus stop and bus shelter on Macpherson Street

3 Summary

This transport assessment has been developed by JMT Consulting for the proposed site development at 20-22 MacPherson Street, Warriewood. The proposal envisages the development of 53 residential lots on the existing site occupied by Flower Power. Key findings of the assessment are as follows:

- Access from the surrounding road network will be provided via the existing vehicle access point on MacPherson Street that has successfully served the Flower Power site with no recent records of vehicle crashes. The access point proposed is similar to that provided at adjacent developments on MacPherson Street within the Warriewood Valley Release Area.
- A one-way anti-clockwise loop circulation system has been proposed to provide for a simpler, more efficient internal street network that minimises vehicle conflict points. The one-way loop system still retails the ability to provide for suitable waste collection arrangements as well as provided for on-street visitor car parking.
- Car parking will be provided in accordance with the recommendations of the Pittwater DCP, including the provision of on-street visitor parking within the site boundary.
- The proposed development of the site would result in significantly fewer traffic movements on the surrounding road network when compared to the existing Flower Power use
- The site benefits from a range of alternate transport options such as public transport as well as walking and cycling paths.

Based on the above key findings, it is considered that the proposal's impact on the transport network will be acceptable.