Amber

Traffic & Transportation Direction

Mixed-Use Development

37 Ogilvie Street, Denman

Traffic Impact Assessment

August 2023

Reference: 695 rep 230802 final

Mixed-Use Development

37 Ogilvie Street, Denman

Traffic Impact Assessment

Prepared for: Vanessa Green

Status: Final report

Date: 2 August 2023

Reference: 695 rep 230802 final

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1. Introduction

Amber Organisation Pty Ltd has been engaged by Vanessa Green to advise on the traffic and parking matters of the proposed mixed-use development at 37 Ogilvie Street, Denman.

The proposal involves the construction of two ground floor shops which are to include individual shop top dwellings. It also includes the provision of seven studio serviced apartments. A total of 10 parking spaces, including one accessible space, are proposed on-site which would be accessed via a new double-width crossover to Paxton Street.

This report has been prepared to address the traffic and parking impacts of the proposed development. It is based on surveys and observations at the site and our experience of similar developments elsewhere.

2. Transport Environment

2.1 Site Location

The site is located on the southwestern corner of the intersection of Ogilvie Street and Paxton Street in Denman. Figure 1 shows the location of the site in relation to the surrounding transport network.

Figure 1: Site Location

Source: OpenStreetMap

The site and surrounding area of Denman are zoned RU5 Village. Land uses along Ogilvie Street are generally commercial and represent the main street of Denman. Notable land uses near the site with frontages to Ogilvie Street include an IGA supermarket, Pharmacy, the Denman Hospital, the Royal Hotel, and a mix of commercial offerings (e.g. newsagency, general store, fish and chip shop, bank, etc).

Figure 2 shows an aerial photograph view of the site and the surrounding area. The figure shows the commercial precinct of Denman and the associated opportunities for parking, notably the sealed off-street car parking located opposite the site to the east.

Figure 2: Aerial Photograph

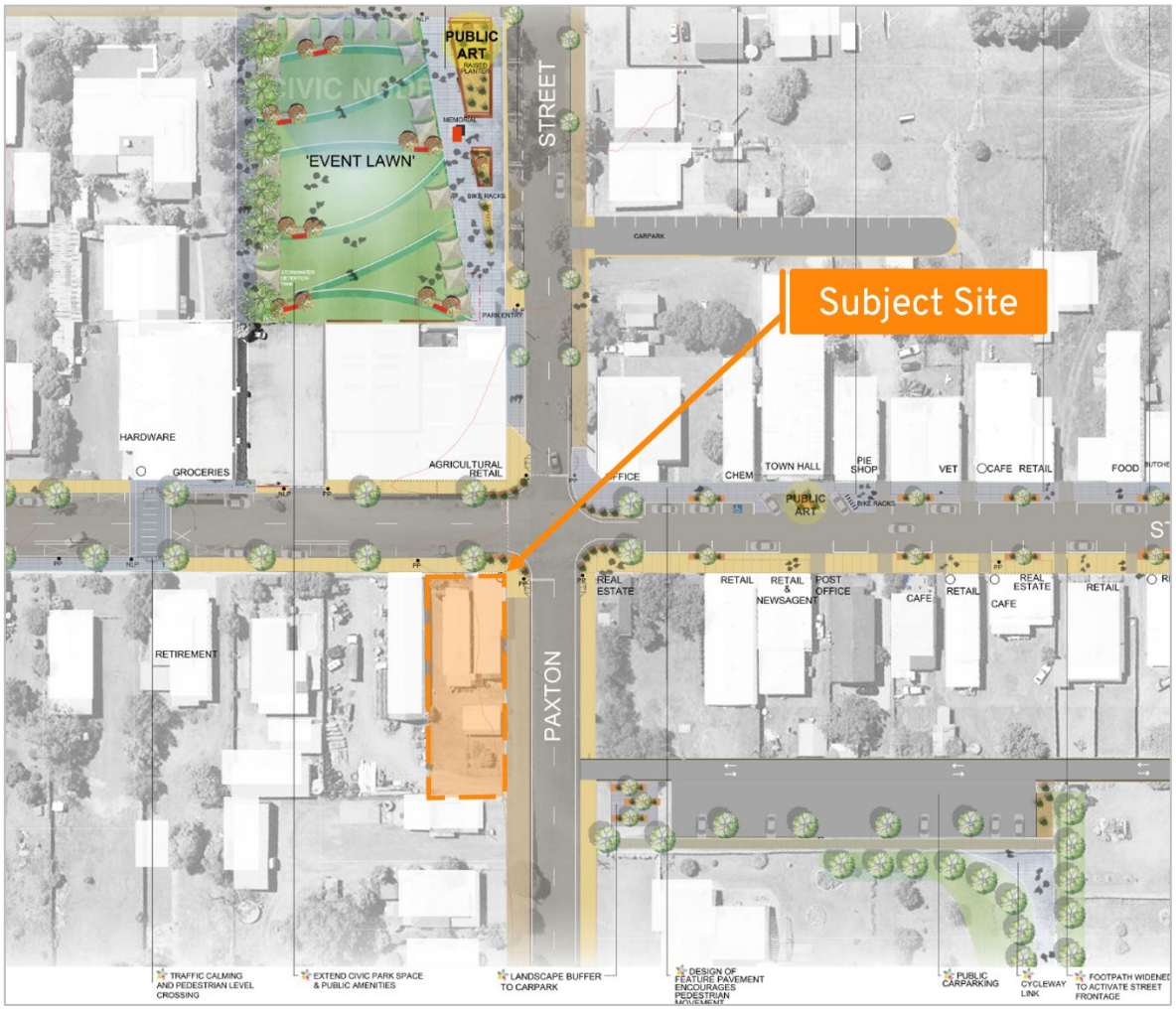
Source: Nearmap

The site is currently occupied by a derelict shop which has a frontage to Ogilvie Street. The derelict shop is provided with a storage shed which is accessed via a crossover to Paxton Street.

2.2 Road Network

Ogilvie Street is a local road under the care and management of Muswellbrook Shire Council. It runs in an east-west alignment between Turner Street and Stony Creek. At the site frontage and to the west of Paxton Street it has a wide sealed carriageway with a width of approximately 13 metres which accommodates one lane of traffic in each direction and kerbside parallel on both sides. To the east of Paxton Street it has a reduced carriageway width of approximately 9 metres which accommodates a through lane in the westbound direction only and kerbside parking on both sides. In this area, with the reduced vehicular carriageway and one way operation, there are improved facilities for pedestrians including widened footpaths, kerb outstands at intersections and additional street furniture such as benches. This reflects the part-delivery of changes outlined in the Denman Town Centre Concept Masterplan, which was adopted by Council in November 2016. This masterplan involves a range of improvements to the public realm with a focus on Ogilvie Street as the centre of Denman. An extract of this plan and the site's location is shown in Figure 3. This plan shows the works that now have been delivered to the east of the site along Ogilvie Street and the off-street car parking area.

Figure 3: Extract of Denman Town Centre Concept Masterplan (Issue K)



Source: Muswellbrook Shire Council

It is understood there are plans to deliver the balance of this masterplan over the coming years.

Paxton Street is a local road under the care and management of Muswellbrook Shire Council. It operates with a north-south alignment between Martindale Street to its termination approximately 350 metres south of Ogilvie Street. Near the site it has a carriageway width in the order of 10.5 metres which accommodates a through lane in each direction and kerbside parallel parking on both sides. A concrete footpath is provided on the western side of the road and on the eastern side near Ogilvie Street. A loading zone is provided on the eastern side of the road, opposite the site.

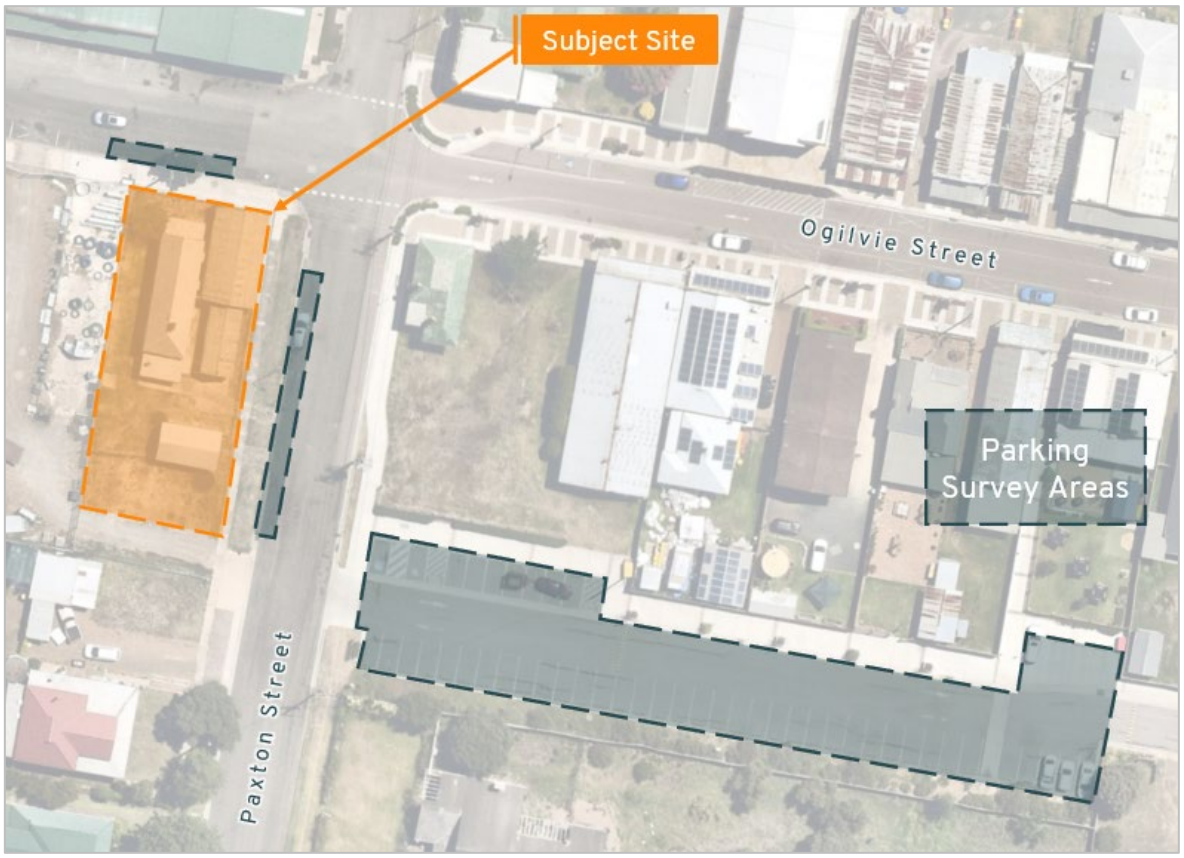
The intersection of Ogilvie Street and Paxton Street is controlled by way of Give Way signs. Vehicle exiting Paxton Street give way to traffic on Ogilvie Street.

2.3 Parking Conditions

There is a range of on and off-street parking opportunities near the site which includes on-street kerbside parking on Paxton Street and Ogilvie Street at the site frontages, as well as the off-street car parking area opposite the site.

To better understand the current parking demand near the site, a parking occupancy survey was undertaken using aerial photography. The areas surveyed are shown in Figure 4.

Figure 4: Aerial Parking Survey Areas



There are a total of at least 43 spaces within the parking survey area. The results of survey are presented within Table 1.

Table 1: Aerial Image Parking Survey Results

Date (Time)	Parking Demand	Available Parking
Sunday 12 February 2023 (11:00am)	9 spaces	34 spaces
Saturday 4 February 2023 (12 noon)	11 spaces	32 spaces
Wednesday 9 February 2022 (11:00am)	24 spaces	19 spaces
Monday 12 April 2022 (1:00pm)	30 spaces	13 spaces
Sunday 13 January 2019 (1:30pm)	10 spaces	33 spaces
Average	**17 spaces**	**26 spaces**

The survey results show that public parking is available in on and off-street parking areas adjacent the to the site, particularly on weekends. This includes along the direct frontages of the site where there is capacity for seven parking spaces.

It is also noted that the surveys were undertaken during lunchtime periods (11:00am to 1:30pm), which reflects the typically busiest time of day in Denman.

2.4 Traffic Conditions

Given the nature of the existing land uses in Denman and the surrounding area, traffic volumes on local roads around the subject site are expected to be within their capacity without significant levels of congestion.

More broadly, the road network in Denman is generally in a grid pattern which presents options for motorists travelling through.

2.5 Sustainable Transport

Town bus services 414 and 415 operate between Muswellbrook and Denman with stops on Paxton Street approximately 400 metres north of the site.

As indicated in Section 2.2, infrastructure changes to introduce a one-way system on Ogilvie Street have created a more walkable and safer environment for pedestrians through Denman near the site.

Reference is also made to the

2.6 Crash History

To gain an understanding of any existing road safety issues, a review was conducted of the TfNSW Centre for Road Safety Crash and Casualty Statistics database. The crash database provides the location and severity of all injury and fatal crashes for the five-year period from 2017 to 2021.

The review was undertaken in an area within 150 metres of the intersection of Ogilvie Street and Paxton Street on all approaches. The crash search revealed no crashes. As such, it is concluded that the road network is currently operating in a relatively safe manner.

3. The Proposal

The proposal involves the construction of a two-storey mixed-use development comprising:

- 7 studio serviced apartments for tourists;
- 2 ground floor commercial tenancies fronting Ogilvie Street with studio flats on the level above to be used as shop top housing;
- 10 parking spaces, including one accessible parking space, accessed via a new double width crossover to Paxton Street;
- Separate pedestrian access to the serviced apartments with links to Ogilvie Street and the parking area; and
- Areas for storage, waste and plant.

It is understood that waste is proposed to be collected via Council waste collection services.

4. Parking Requirement

Section 16.6 of the *Muswellbrook Shire Development Control Plan (DCP)* outlines the parking requirements for land uses with the requirements for the proposed land uses outlined in Table 2.

Table 2: DCP Car Parking Requirement

Use	Number / Floor Area	Parking Rate	Parking Requirement
Shop top housing – studio component	2 x studio shop-top housing units	1 space to each studio unit	2 spaces
Retail premises	2 x 31 sqm shops (62sqm total)	1 space per 20sqm GFA[1]	4 spaces
Serviced Apartment	7x studio serviced apartments	1 space to each studio unit	7 spaces
Total			**13 spaces**

As shown, the proposal has a requirement to provide 13 car parking spaces. It is proposed to provide 7 car parking spaces to the serviced apartments (one space each), 2 spaces to the shop top housing (one space each), and the accessible parking space would be provided as communal parking. Accordingly, the proposal seeks a reduction of 4 spaces associated with the retail tenancies.

The retail tenancies are not expected to generate an off-site parking demand associated with staff, as the staff are expected to live within the shop top housing and are allocated a parking space on-site. Therefore, the parking demand of 4 spaces is associated with customers who would generate a short-term parking demand and be accommodated within the adjacent on and off-street car parking.

As outlined in Section 2.3, there is capacity in the nearby on and off-street parking areas near the site. This includes along the site frontages to Ogilvie Street and Paxton Street where a total of 7 parking spaces are available. These on and off-street spaces are suitable to accommodate the parking demands associated with customers and visitors to the retail tenancies.

It is also noted that future tourists/guests to the serviced apartments are most likely to arrive in the morning or evening, when on-street parking demands in Denman would be expected to be lowest.

Given the above factors, the proposed parking provision is considered appropriate with all long-term parking demands accommodated on-site and the customer parking demand accommodated within the readily available on and off-street car parking adjacent to the site.

[1] The applicable rate for retail premises with a GFA less than 1,000 sqm

5. Car Park Layout

5.1 Access Arrangements

An assessment of the site access arrangements against the requirements of AS/NZS 2890.1:2004 and the aims, objectives and controls of the DCP, is provided below:

- All vehicles are able to enter and exit the site in a forward direction.
- An area to accommodate a pedestrian sight splay is provided on the departure (north) side of the access point, which extends approximately 750mm along the site frontage and 2.5 metres along the access from the site frontage. This area will provide a clear view of pedestrians on the footpath adjacent to the site and meets the intent of the Australian Standard. The road safety risks to pedestrians are very low given that all motorists will be travelling in a forward direction, the low vehicle speeds, and the low traffic and pedestrian volumes expected.
- The proposed driveway has been positioned clear of the intersection of Paxton Street and Ogilvie Street and provides for two-way access, in line with the requirements outlined in the DCP.

The assessment indicates that the access has been designed in accordance with the dimensional requirements and intent of AS/NZS 2890.1:2004 and the DCP.

5.2 Car Park Layout

An assessment of the car park layout against the requirements of AS/NZS 2890.1:2004 and the DCP is provided below:

- The parking spaces have all been designed with a width of 2.6 metres and a length of 5.4 metres, accessed via a minimum aisle width of 5.8 metres, meeting the dimensional requirements for ‘Class 3’ users.
- The accessible parking space has been provided with a width of 2.4 metres and a length of 5.4 metres, with an associated shared area and bollard, in accordance with AS/NZS 2890.6:2009.
- The parking space located adjacent the southern boundary has been widened to improve access.
- The provision for accessible parking spaces meets the requirements of Section 16.4.3 of the DCP.

The assessment indicates that the car park layout has been designed appropriately and in accordance with the dimensional requirements of AS/NZS 2890.1:2004, AS/NZS 2890.6-2009 and the DCP.

5.3 Swept Path Assessment

A swept path assessment has been prepared using a B85 vehicle (85th percentile vehicle) to ensure vehicles are able to access the parking areas, and is provided within Appendix A. The assessment found that the site and each space could be accessed (ingress and egress) in a satisfactory manner. Accordingly, the car park layout and access arrangements are considered to be suitably designed.

6. Waste Collection and Loading

It is understood that waste is proposed to be collected via Council waste collection services with bins to be stored in a central location and transported to the Ogilvie Street or Paxton Street frontage for collection.

Section 16.4.4 of the DCP outlines the objectives and requirements for loading/unloading facilities. In accordance with the DCP, the largest service vehicle is expected to be a van and would be able to utilise the on-site parking areas on the site during off-peak times for the loading and unloading of goods. Other one-off and infrequent loading activities are able to be undertaken on-street in available spaces nearby.

Accordingly, the waste collection and loading arrangements for the proposal are concluded to be appropriate.

7. Traffic Assessment

The *RTA Guide to Traffic Engineering Developments* provides guidance on the expected traffic generating rates for a range of land uses. The rates closest to the proposed land uses are 'motel' and 'office and commercial' land uses. Based on the size and location of the proposal, and our experience with similar developments, trip generation rates for a peak hour would be expected to be as follows:

- *Serviced Apartments* *1 guest vehicle trip per apartment*
- *Shop Top Housing* *1 resident vehicle trip per flat*
- *Shops* *a total of 4 customer trips to the two shops*

Application of the rates above results in a total of up to 13 vehicle trips in a peak hour, which would be split between trips to and from the proposal. This is a conservative assessment as it is unlikely that the peak hour for all the three uses would occur concurrently but rather be spread over the day.

A total of 13 trips in a peak hour is a modest level of traffic and represents approximately one vehicle movement every 4 to 5 minutes, on average. The surrounding road network is be able to accommodate the increase in vehicle movements without any adverse impact to traffic operations or safety.

8. Conclusion

Amber Organisation has reviewed the traffic and parking matters of the proposed mixed-use development at 37 Ogilvie Street, Denman. The proposal involves the construction of two ground floor shops which are to include individual shop top dwellings. It also includes the provision of seven studio serviced apartments. A total of 10 parking spaces, including one accessible space, are proposed on-site which would be accessed via a new double-width crossover to Paxton Street.

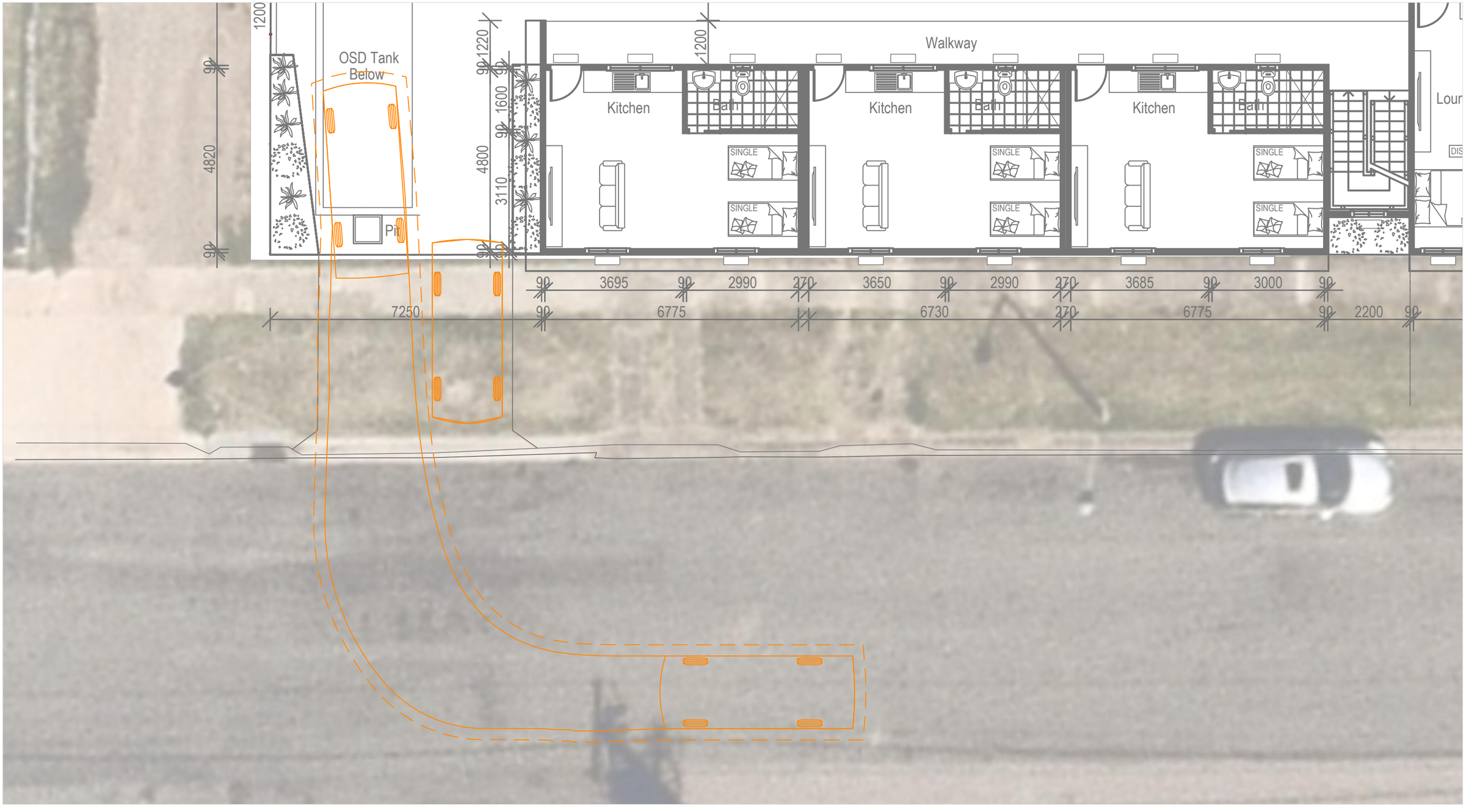
Based on the above assessment, the following conclusions are provided:

- The site generates a parking requirement of 13 spaces based on relevant DCP requirements. The proposed provision of 10 on-site spaces is considered appropriate given that:
  - The proposed parking provision meets the DCP requirements for tourists staying at the serviced apartments and staff/residents of the shop top housing.
  - There is capacity in nearby on and off-street parking adjacent to the site, including 7 spaces along the site frontages, which would be suitable for customers and visitors.
- The site is expected to generate up to 13 vehicle trips in a peak hour which can be readily accommodated on the surrounding road network;
- The site access is suitably designed to accommodate two-way vehicle movements;
- The car park layout has been designed in accordance with AS/NZS 2890.1:2004 and the DCP, and suitable access is provided to the individual parking spaces; and
- Waste collection and loading arrangements are considered appropriate.

Therefore, it is concluded that the traffic and parking aspects of the proposed development are satisfactory, and the development will have a minimal impact on the surrounding traffic and transport environment.

Appendix A

Swept Path Assessment



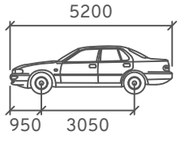
Vehicle Envelope

300mm Clearance

Reverse Manoevure

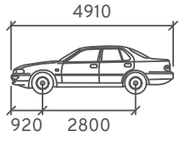
Min. Design Speed 5km/h

B99



	mm
Width	: 1940
Track	: 1840
Height	: 2200
Lock to Lock	: 6.0s
Steering Angle	: 33.9

B85



	mm
Width	: 1870
Track	: 1770
Lock to Lock	: 6.0s
Steering Angle	: 34.1
Height	: 2100

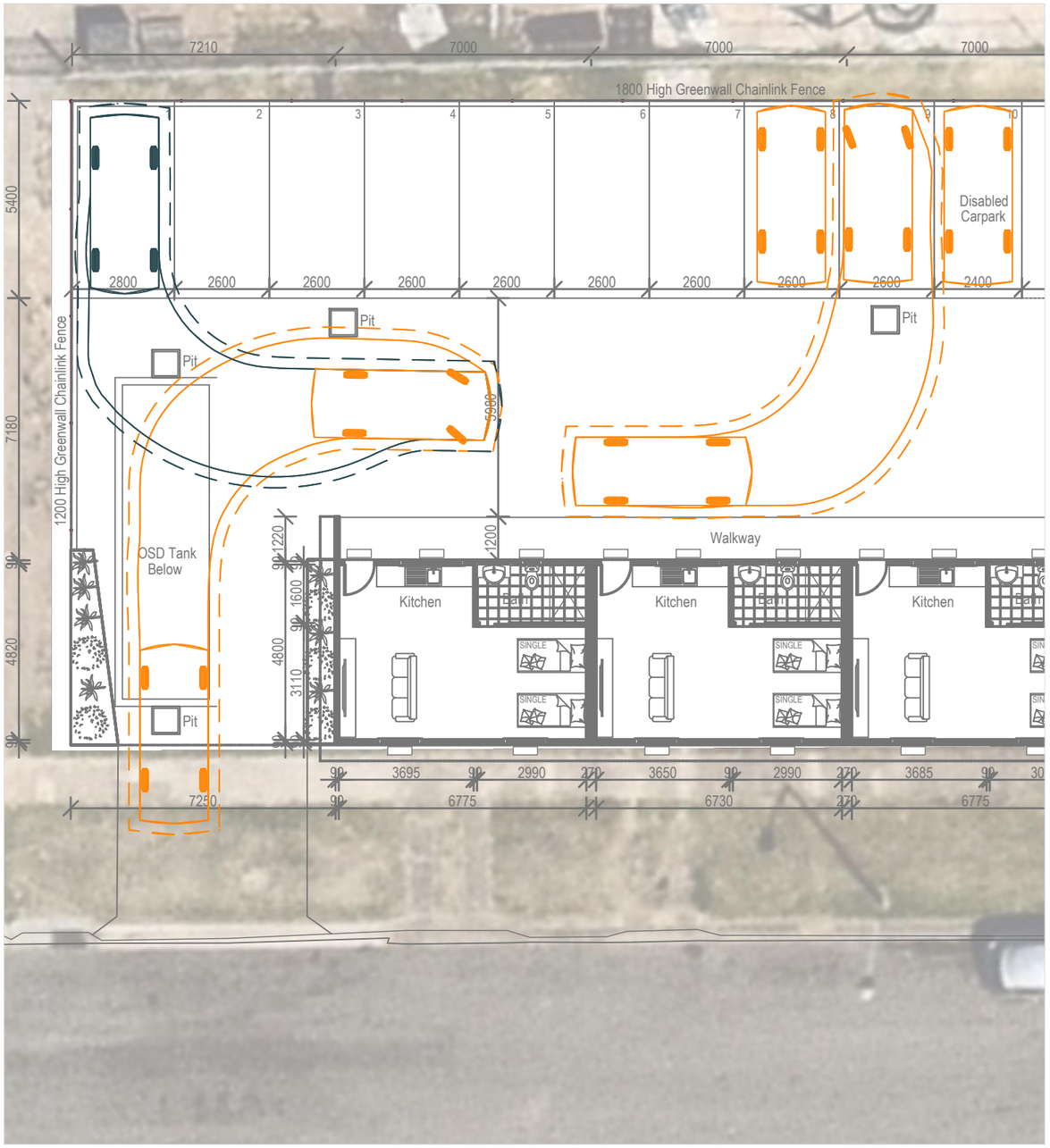
37 Ogilvie Street, Denman

Mixed Use Development

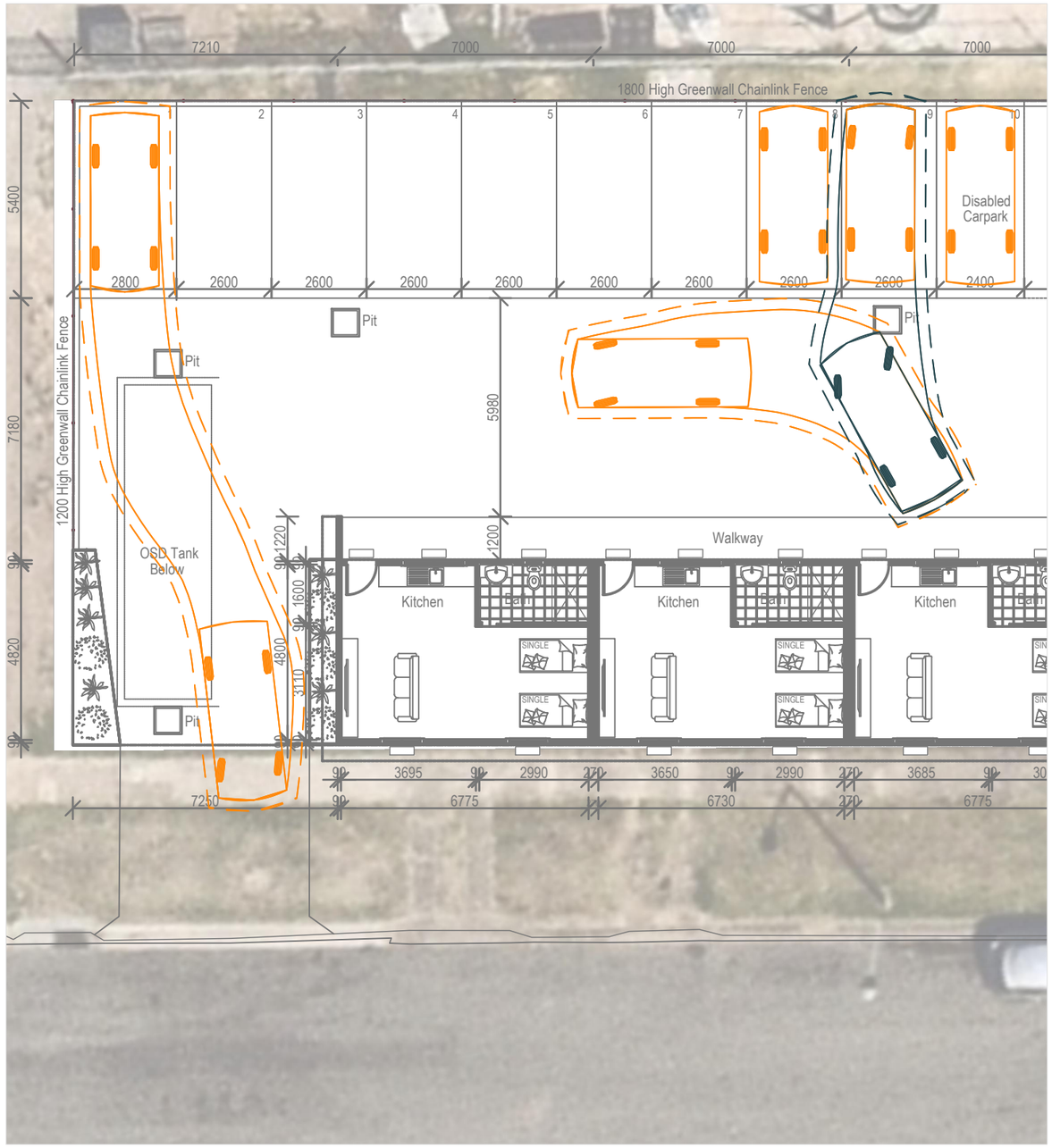
Swept Path Assessment - Passing at Site Access

DRAWN: TD
DATE: 02/08/2023
DWG NO: 695 S01
SCALE at A3: 1:100

Amber



Entry Manoeuvres



Exit Manoeuvres

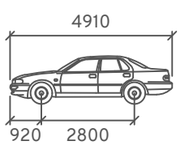
Vehicle Envelope

300mm Clearance

Reverse Manoevure

Min. Design Speed 5km/h

B85



	mm
Width	: 1870
Track	: 1770
Lock to Lock	: 6.0s
Steering Angle	: 34.1
Height	: 2100

37 Ogilvie Street, Denman

Mixed Use Development

Swept Path Assessment - Critical Car Parking Spaces

DRAWN: TD
DATE: 02/08/2023
DWG NO: 695 S01
SCALE at A3: 1:150

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