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TRAFFIC IMPACT ASSESSMENT

LOT 21 RENDEZVOUS ROAD, VASSE WA 6280

Proposed childcare centre

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INTRODUCTION

AusWide Consulting was commissioned by Darnum Super Fund to prepare a Traffic Impact Assessment for a proposed childcare centre at Lot 21 Rendezvous Road, Vasse. This report will assess the implications of the proposed development on existing traffic, and compliance with Council requirements, and relevant Australian Standards.

In the course of preparing this assessment, the subject site and its environment have been inspected, plans of the development examined, and all relevant traffic data collected and analysed. Full-scale drawings of the proposed development have been provided as part of the Development Application package and reference should be made to these drawings.

BACKGROUND AND EXISTING CONDITIONS

The subject property is located at the corner of 440 Rendezvous Road, Vasse. The subject property is currently developed as a rural-residential property with several structures including an existing dwelling, and a mix of wide open space and moderate vegetation. The subject property has a total site area of approximately 42 acres.

The subject property is located on Rendezvous Road, opposite Woodswallow Drive. Rendezvous Road is a local sealed road under the jurisdiction of City of Busselton, with a single lane in each direction and a posted speed limit of 80km/hr. The roads are characterised by a low volume of traffic, a straight and level driving course, and some property access. An existing dwelling is entered via an access road from Rendezvous Road.

A traffic count conducted in 2015 indicated an AADT of 582 at the east end of Rendezvous Road and 417 at the western end. An average of these two rates would indicate an AADT in the middle of Rendezvous Road of 500. Accounting for an increase over the past three years, the current rate of traffic adjacent to the subject property would be approximately 584 (assuming a rate of growth of 4% plus 4% per year).

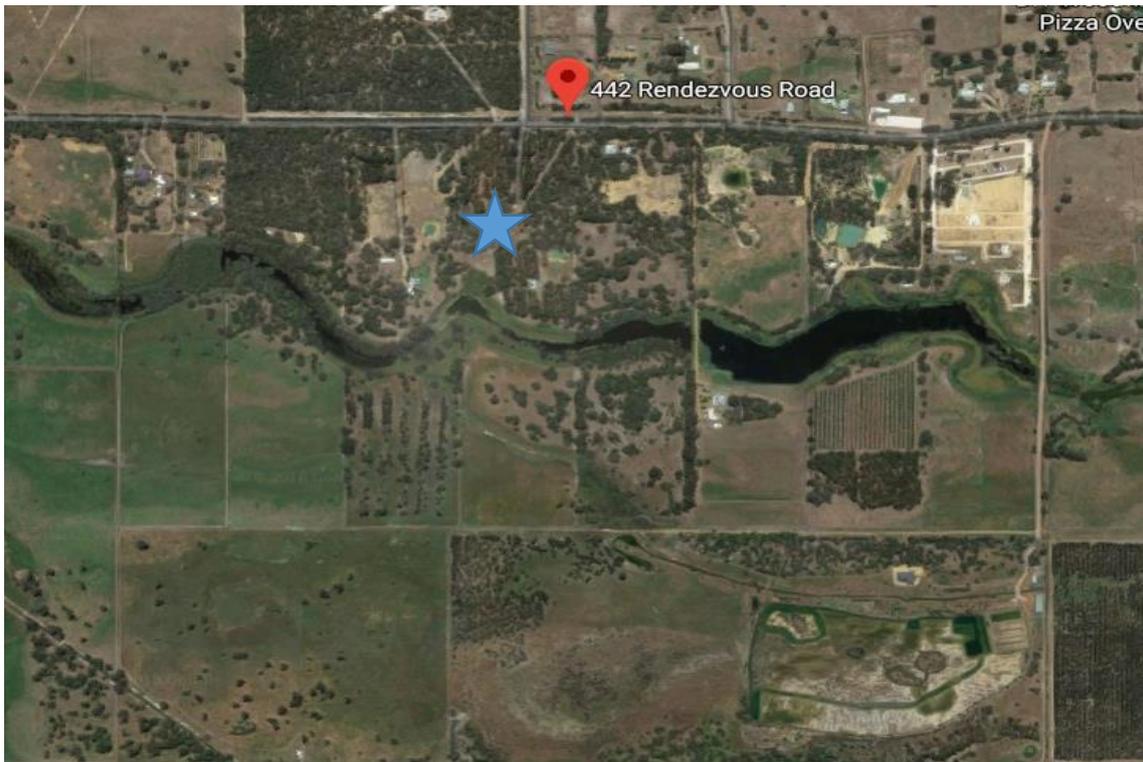


Figure 1: Google Maps imagery of property (existing dwelling shown by blue star)
(Source: Google Maps, January 2018)



Figure 2: Vehicle approaching from east (property on right)
(Source: Google Map, February 2018)



Figure 4: Vehicle approaching from west (property on left)
(Source: Google Map, February 2018)

DEVELOPMENT PROPOSAL

The development proposal consists of renovation of the existing dwelling to convert it into a childcare centre, as per the attached development plans. Much of the balance of the property will remain as open space and environmental living. The existing access road shall be utilised for incoming traffic, and additional fencing shall be constructed to create a safe, enclosed area where children can be monitored.

The childcare centre shall operate between 7:30am and 6:30pm on weekdays (Monday to Friday). It is proposed that the licence for operation of the childcare centre be for 100 children. The intended breakdown of age groups is approximately 36 infant/toddler, 40 kindergarten, and 24 after school. The differing age groups shall be under the same roof but be cared for by employees with a breakdown of 8 infant/toddler, 4 kindergarten, 2 after school educators, and 3 additional staff for a total of 17 staff.

The developer is proposing 20 parking spaces for parent/guardians, and 20 parking spaces for staff.

TRIP GENERATION AND TRAFFIC IMPACT

The development proposal is considered to be a “Childcare Centre – Long day care” as per Section 5.12.3 of the Roads and Traffic Authority’s (now Roads and Maritime Services) *Guide to Traffic Generating Development (2002)*. The following trip rates have been adopted/assumed based upon the Guide:

- Long day care (7am-9am) = 0.8 trips per child in care;
- Long day care (2:30pm-4pm) = 0.3 trips per child in care;
- Long day care (4pm-6pm) = 0.7 trips per child in care;

The peak hour for a childcare centre is typically considered to be the morning and evening commuter peak, where parents drop off or pick up their children on the way to or from work. Using the above rates, and dividing by half to obtain the single hour peak), the following peak hour trips are obtained:

- Long day care (7am-9am) = $100 \times 0.8 = 80$ trips per period;
- Long day care (2:30pm-4pm) = $100 \times 0.3 = 30$ trips per period;
- Long day care (4pm-6pm) = $100 \times 0.7 = 70$ trips per period;

Thus, the total peak hour trips generated by the proposed development is 40 and represents 1 trips every 1.5 minutes during the morning peak hour. It is expected that the highest number of children shall be dropped off in the morning peak, with children to be picked up over a wider period of time (approximately 3:00-6:30pm). It is also to be considered that many trips on the greater road network will not be generated solely by the development, but rather deviated from existing trips (i.e. people commuting between work and home will divert to the childcare centre, rather than make dedicated trips between their home and the childcare centre).

As above, the estimated average annual daily traffic is 585 vehicles per day, with a morning peak hour of 8am and an evening peak of 3pm (City of Busselton traffic counts 2015). Therefore, it is considered that there would be some impact upon traffic conditions in the immediate area however, due to the proximity to Busselton Bypass (and planned Busselton Outer Bypass which would be expected to draw through traffic away from Rendezvous Road), the additional trips can quickly be absorbed by the arterial road network.

CAR PARKING ASSESSMENT

Provision of car parking spaces

The car parking requirements for childcare centres are defined in 'Car Parking Provisions' of the City of Busselton Local Planning Policy Part 7. As per the table in Part 7 (6), minimum off-street parking requirements for 'pre-school' is calculated at a rate of:

- 1 space per five children cared for;
- 1 space per staff member (staff determined by *Child Care and/or Outside School Hours Care Regulations (2006)*)

Thus, minimum parking requirements are as follows:

- Minimum off-street parking requirement = 100 children x 0.2 + 17 staff x 1 = 37 parking spaces

Thus, the total minimum parking requirement as per the City of Busselton is 37 car parking spaces, of which 40 spaces have been proposed by the developer (20 for staff, and 20 for parents/guardians). Two of these spaces have been designated for accessible parking, which is suitable for a car park of this size. 11 bicycle parking spaces are also required as per the Local Planning Policy; however due to the rural setting (and need to safely transport young children) of the development, it is not anticipated that bicycle parking for parents shall be needed.

Minimum parking requirements and actual provision are summarised in Table 2.

Unit type	Quantity	City of Busselton Local Planning Policy Manual		Actual spaces proposed
		Minimum requirement per unit	Minimum spaces required (rounded)	
Parent	100	1 per 5 children	20	20
Staff	17	1	17	20
			37	40

Table 2: Overview of parking requirements and provision



Thus, the minimum off-street parking requirements as per City of Busselton Local Planning Policy have been entirely provided, with an oversupply of three parking spaces. Further comment may be provided by the City regarding pickup and drop-off parking requirements.

CAR PARK DESIGN AND COMPLIANCE

This section will investigate the compliance internal car parking and circulation requirements outlined in AS 2890.1-2004, in addition to the City of Busselton Local Planning Policy.

CAR PARKING DESIGN

Car Space Dimensions

All childcare (user class 3) parking spaces are located inside the property, and shall be compliant with the council's Geometric Standards in the Local Planning Policy:

- Bay width greater than 2.5m;
- Bay length of at least 5.5m;
- Aisle width greater than 6.7m.

Accessible Car Spaces

It is recommended that an accessible space be provided in accordance with AS2890.6. The space shall have an adjacent 'shared area' and is located as close as possible to the door.

Vehicle crossover and circulation

It is proposed that the existing crossover shall continue to be utilised which appears appropriate for two way traffic. Two standard vehicles may pass on the gravel road, and through the boundary wall at the intersection with the road.

All vehicles are able to leave the site in a forward direction. Curved splays are provided at each side of the crossover to ensure that vehicles leaving the site are aware of oncoming vehicles. Pedestrian activity is not expected.

Entering sight distance

The default urban speed limit of 80km/h applies to Rendezvous Road. For roads with an 80km/h limit, AS2890.1-2004 specifies a minimum sight distance of 105m. Rendezvous Road is straight and level, and offers good visibility (over 200m) in the road reserve in both directions. The street tree foliage is at a higher level than driver eye height (assumed to be 1.15m from ground level as per AS2890.1) and the trunks of the trees are not expected to significantly obstruct driver vision. Vehicular intensity along Rendezvous Road is expected to be low, with high-speed traffic using the nearby bypass. No additional treatment of the intersection between the property and Rendezvous Road is proposed.

CONCLUSIONS

Based on the assessment presented in this report, it is considered that:

- The proposed site has good access to public transport and walking alternatives and it is expected that the full utilisation of parking shall not be exceeded;
- The proposed site will generate a moderate number of additional trips, particularly in the morning (and to lesser extent, evening) peak hour. Given the proximity to the Busselton Bypass (and proposed Busselton Outer Bypass), the number trips can be quickly accommodated by the local traffic network. Light impact is expected upon the local traffic network, with negligible impact on the greater road network;
- The proposed development meets minimum off-street parking requirements as required under the City of Busselton Local Planning Policy 7. An oversupply of three parking space has been provided;
- Vehicles are capable of entering and leaving the property in a forward direction, and onto a relatively quiet road. There is little obstruction to visibility for both oncoming vehicles and pedestrians. Low level vehicular and negligible pedestrian traffic is expected in the locality, and no significant impact is expected on Rendezvous Road
- The car park assessment indicates that the design of the circulation road and common parking spaces shall be compliant with the City of Busselton Local Planning Policy and supporting guidelines, including AS2890.1;

As per the above, the subject development is endorsed within the context of traffic and parking, subject to consideration of the City of Busselton. The proposed development is unlikely to adversely impact existing traffic conditions and the car parking provision proposed on-site is deemed adequate for the proposed land use.