

TRAFFIC AND PARKING ASSESSMENT

Proposed Child Care Centre 73 Murray Farm Road CARLINGFORD DECEMBER 2022

Client: Mark Glanville



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1. Introduction

Wongala Consulting Engineers was engaged by Mark Glanville to carry out a traffic and parking assessment to support a development application for a proposed child care centre located at 73 Murray Farm Road, Carlingford that is to be submitted to Parramatta City Council.

The subject property at 73 Murray Farm Road, Carlingford fronts a local road (Murray Farm Road) which provides access to other neighbouring properties in the street, whilst adjoining Murray Farm Road Reserve to the north and east. This report assesses the traffic and parking implications of the proposed development at the subject property. The report will also determine whether the parking areas comply with Australian Standards. Reference shall be made to the *NSW Department of Planning and Environment Child Care Planning Guideline 2021,* the *RTA Guide to Traffic Generating Developments 2002, and AS2890.1:2004 Parking – Off Street Car Parking.*

2. Location and Land Use

Currently, the existing site consists of a residential dwelling. The subject property is zoned R2 Low Density Residential with singular residential dwellings and Murray Farm Road Reserve surrounding the site. Figure



1 presents an aerial of the proposed development site.

Figure 1: Aerial Photo of Subject Site (Nearmap)

3. Proposed Development

The proposed development seeks to demolish all existing structures and construct a child care centre that will cater for up to 65 children, with basement parking beneath the child care centre.

Table	1:	Numl	ber of	Children

Age	No. of Children
0 – 2 year olds	16
2 – 3 year olds	25
3+ year olds	24



4. Car Parking Demands

Reference is made to NSW Department of Planning and Environment Child Care Planning Guideline 2021, (as adopted 1 October 2021) which provides parking rates for child care centres throughout the state of New South Wales:

Parking rates for sites that are further than 400m from a railway or Metro station within Greater Sydney are as follows:

• 1 space per 4 children

It is noteworthy that the Guideline states that there is an opportunity for reduction in car parking rates if the site is co-located or in proximity to other uses where parking is appropriately provided (for examples business centres, schools, public open space, public or commercially operated car parks).

The following table summarises the parking requirement and the provision that the development is proposing:

Table 2: Parking Rates

Requirement	Parking Rate	Number of	Spaces Required	Spaces Provided
Children	1 space per 4 children	65	16	16

Based on the proposed land use, the minimum required parking spaces for the development is 16 car spaces. The proposed development will provide 16 car spaces. It is also noteworthy that the proposed child care centre is directly adjacent to Murray Farm Reserve, which provides a possible 16 car spaces at 71 Murray Farm Road, with a further 26 parking spaces adjacent to the sporting fields. Section 5 of this report presents parking surveys that were undertaken during the expected peak period of 7am – 8am, 4pm – 5pm on a weekday, highlighting the availability of parking spaces adjacent to the proposed child care centre, that can be utilised for the proposed childcare centre. In accordance with the *NSW Department of Planning and Environment Child Care Planning Guideline 2021, (as adopted 1 October 2021),* the proximity of parking spaces to other were uses were parking where parking is appropriately should be considered when determining the adequacy of parking spaces within a proposed childcare centre. The proposed provision of 16 car spaces within the basement of the proposed child care cente is deemed to be suitable and in line with the *NSW Department of Planning and Environment Child Care Planning and Environment Child Care Planning Guideline 2021, (as adopted 1 October 2021), (as adopted 1 October 2021)*.

5. Surrounding Parking Provision

A Council owned car park (Murray Farm Reserve) is located adjacent to the subject site. The Council car park consists of 16 car spaces free for the public to use. There is no limit on time that a vehicle can utilise the available parking spaces.

In order to understand the existing demand of the Council owned car park, surveys were undertaken during the expected peak demand on the proposed child care centre between the hours of 8am – 7am, 4pm – 5pm on Thursday 20th September 2022. A summary of the available car spaces for general use in Council's car park at 15 minute intervals are presented in Table 3 below:



Time	Thursday 07/07/2022
8:00am	14
8:15am	13
8:30am	9
8:45am	10
9:00am	9
4:00pm	12
4:15pm	11
4:30pm	9
4:45pm	10
5:00pm	12

 Table 3: Available Car Spaces in Council's Car Park (During Expected Peak Hour Periods)

The parking demand surveys reveal that there is a minimum of 9 available public parking spaces within walking distance of the site during expect peak periods of the proposed child care centre. Therefore, it is deemed that there is ample car parking adjacent to the site.

6. Servicing Facilities

A small van would be expected to infrequently attend to the site to drop off supplies needed for the operation of the childcare centre. It is anticipated that all deliveries to the centre would be assumed to be outside the peak drop off/pick up times (7:00am – 9:00am, 4:00pm – 6:00pm). A small van would be able to utilise the plentiful supply of visitor car spaces in the basement in order to make deliveries to the child care centre. The deliveries would be anticipated to be infrequent and would be managed under a plan of management that would be created for the child care centre.

Anticipated private waste collection services would be conducted on Murray Farm Road, utilising the kerb directly out the front of the site. This would match the current arrangement that is used for the existing dwelling house.

7. Surrounding Road Network

7.1 Murray Farm Road

Murray Farm Road is a local road with one lane of traffic (separated) permissible each way. The speed limit is signposted as 50km/hr with unrestricted parking permissible on both sides of the road.

8. Traffic Generation

Reference is made to *RTA Guide to Traffic Generating Developments 2002* which provides expected traffic rates that will be generated from a long-day care centre:

- 0.8 peak vehicle trips/child (7am 9am)
- 0.7 peak vehicle trips/child (4pm 6pm)

Based on the proposed maximum care of 65 children, the proposed development is expected to generate 52 peak vehicle trips in the morning (26 vehicles entering the premises, 26 vehicles exiting the premises) and 46 peak vehicle trips in the afternoon (23 vehicles entering the premises, 23 vehicles exiting the premises).

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Vehicles travelling from all directions are expected to utilise Murray Farm Road, from the east to enter the basement. For vehicles exiting the site, vehicles will most likely turn left out of the basement to re-enter Murray Farm Road to travel in all directions. A select few may choose to turn right onto Murray Farm Road Avenue to head west towards local streets/residential properties that are located west of the subject site.

The development may result in a minor increase in peak hour flows along Murray Farm Road, however it is deemed that the additional traffic movements will not hinder the traffic flows of Murray Farm Road with sufficient capacity currently available. The peak vehicle trips discussed above do not account for shared trips for siblings that are enrolled in Murray Farm Public School which is located 185m south of the site. These vehicles would be deemed to existing trips in the locality, travelling to the child care centre as part of their existing journeys to Murray Farm Public School, and therefore the expected peak trips are deemed to be overly conservative. The increase in traffic flow in the locality are mostly deemed to be pre-existing diverted trips with residual new trips not hindering the capacity of the local road network and therefore the traffic demands of the proposed development are deemed to have a minor impact and deemed acceptable.

9. Public Transport Opportunities

The subject site offers accessibility to public transport. The site is located within walking distance (450m) to a bus stop on Oakes Road which is serviced by Bus Route 553, providing direct access to other parts of Carlingford, Beecroft, North Rocks and West Pennant Hills. Bus connections to Beecroft Train Station provides access to the T1 Northern Rail Line allowing access to Hornsby, Pennant Hills, Epping, Strathfield and other suburbs that are serviced by a train station within Greater Sydney. Additionally, Bus Route 553 provides access to Oaks Road Bus Stop on the M2 Motorway, which provides direct access to Sydney CBD, Castle Hill, Macquarie Park, Blacktown, North Sydney, Bella Vista.



Figure 2: Local Bus Services (Busways)

It is concluded that the site is accessible to public transport services within the area



10. Impact of Development Proposal

The proposed development will not pose an impact to the local traffic. Murray Farm Road will comfortably be able to absorb the additional 26 vehicles expected to visit the site during peak periods. It can also be deduced that residents in the surrounding streets would utilise the proposed child care centre, without needing to utilise private transportation. There are expected to be shared trips for siblings that are enrolled at the nearby Murray Farm Public School which are deemed to be existing journeys and therefore not increasing traffic in the area. The current traffic flows in the area are deemed to be free flowing with spare capacity ensuring there is no queuing of traffic. Murray Farm Road and surrounding streets will be able to comfortably take on the low increase in vehicular movements and the proposed use will not unfavourably impact the flow of traffic.

Additionally, the site is serviced by public transport services, thereby reducing the need for staff members to utilise private vehicles. There is good footpath connectivity to the site from other parts of Carlingford, thereby reducing the need for parents to drop their children off in a private vehicle and instead have the ability and option to walk to the site. There will be no impact to on-street parking on Murray Farm Road, as the proposal provides sufficient car parking spaces in the basement, with the option to utilise the parking spaces for Murray Farm Reserve as an overflow.

10. Compliance with AS2890

10.1 Access to Parking Areas

Access to the parking areas is proposed via a 5.5m wide (at the property boundary) access ramp that provides access from Murray Farm Road into the basement that houses 16 car spaces. The access ramp maintains a minimum 5.5m width throughout until reaching the basement floor. Therefore, it is deemed that the width of the proposed access ramp into the parking area complies with AS2890.1. The proposed access ramp possesses the following characteristics:

- 5% for the initial 6 metres of the ramp
- 12.5% gradient for a length of 2 metres
- 25% gradient for a length of 11.61 metres
- 12.5% gradient for a length of 2 metres

All gradients and transition length comply with AS2890.1.

10.2 Parking Spaces

As per Table 1.1 of AS2890.1, the User Class of the proposed visitor car spaces are deemed to be 3 (short term visitor parking). The minimum requirements for the 90 degree parking areas as stipulated by AS2890 are as follows:

- 90 degree parking spaces are to be a minimum 2.6m wide and 5.4m in length
- Aisle width is to be a minimum 5.8m wide
- Accessible parking spaces are to be a minimum 2.4m wide and 5.4m in length with an adjacent shared zone with identical measurements provided
- Car Spaces adjacent to walls or high vertical obstructions are to be increased in width by 300mm
- Blind aisle extension of 1m to be provided



The parking area proposed for visitors for 73 Murray Farm Road, Carlingford possesses the following characteristics:

- Parking spaces for visitors are a minimum 2.6m wide x 5.4m in length
- An aisle width of 7m has been provided
- All car spaces allow for vehicles to enter and exit the property in a forward direction (see below for swept path analysis of a B99 vehicle utilising selected car spaces)
- Car Spaces adjacent to high vertical obstructions have been increased in width by 300mm
- An accessible car space has been provided in close proximity to the entrance of the child care centre, with minimum dimensions of 2.4m x 5.4m in length with an adjacent shared zone with identical measurements
- Blind aisle extension of 1m has been provided

As per Table 1.1 of AS2890.1, the User Class of the proposed staff car spaces are deemed to be 1A (employee parking). The minimum requirements for the 90 degree parking areas as stipulated by AS2890 are as follows:

- 90 degree parking spaces are to be a minimum 2.4m wide and 5.4m in length
- Aisle width is to be a minimum 5.8m wide
- Car Spaces adjacent to walls or high vertical obstructions are to be increased in width by 300mm
- Blind aisle extension of 1m to be provided

The parking area proposed for staff for 73 Murray Farm Road, Carlingford possesses the following characteristics:

- Parking spaces for staff are a minimum 2.4m wide x 5.4m in length
- An aisle width of 7m has been provided
- All car spaces allow for vehicles to enter and exit the property in a forward direction (see below for swept path analysis of a B99 vehicle utilising selected car spaces)
- Blind aisle extension of 1m has been provided
- Car Spaces adjacent to high vertical obstructions have been increased in width by 300mm

10.3 Swept Path Analysis

Swept path analysis has been undertaken utilising a B99 vehicle template, as set by AS2890.1, to ensure that vehicle movements in the parking areas will be acceptable. Four car spaces have been selected, ensuring that a forward in and forward out manoeuvre out of the parking areas is possible. The following swept paths have been provided, to showcase that movements into and out of car spaces in the parking areas are acceptable and to provide sufficient justification that the parking areas comply with AS2890.1:

- B99 vehicle entering and exiting Car Space 1
- B99 vehicle entering and exiting the accessible car space
- B99 vehicle entering and exiting Car Space 11
- B99 vehicle entering and exiting Car Space 13



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Figure 4: B99 Exit out of Car Space 1









Figure 6: B99 Exit out of Accessible Car Space



Figure 7: B99 Vehicle Entry into Car Space 11 Wongala Consulting Engineers



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Figure 8: B99 Vehicle Exit out of Car Space 11



Figure 9: B99 Vehicle Entry into Car Space 13 Wongala Consulting Engineers



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Figure 10: B99 Vehicle Exit out of Car Space 13

11. Sight Distance

Section 3.2.4 of AS2890.1 provides requirements on sight distances for vehicles. Section 3.2.4 aims to ensure that access driveways are located and constructed so that there is adequate sight distance for vehicles entering a frontage road from within a property boundary ensuring that pedestrians and vehicles already present on the frontage road are able to be clearly seen.

Figure 3.2 of AS2890.1 states the minimum sight distance for the subject site is 45m based on the speed limit of 50km/hr. Minimum sight distance on both sides will be met on Murray Farm Road, with no permanent obstructions limiting sight distances.

Referring to Figure 3.3 of AS2890.1, the minimum sight lines for pedestrian safety will be met on Murray Farm Road with no obstructions to visibility proposed in the required sight triangles.



12. Conclusion

A traffic and parking assessment has been undertaken to support a proposed child care centre located at 73 Murray Farm Road, Carlingford. Reference has been made to *NSW Department of Planning and Environment Child Care Planning Guideline 2021,* the *RTA Guide to Traffic Generating Developments 2002 and AS2890.1:2004 Parking – Off Street Car Parking.* The traffic and parking assessment has concluded that the proposed development will pose no impact to the local area regarding parking and traffic, with an adequate provision of parking spaces, and that all parking areas comply with Australian Standards. Therefore, the proposal can be supported by Parramatta City Council from a traffic perspective.