

QuantumTraffic

Quantum Traffic Pty Ltd

ABN 54617474370

ACN 617474370

T (03) 9879 4250

E admin@quantumtraffic.com.au

A 5 Murray Place
RINGWOOD VIC 3134

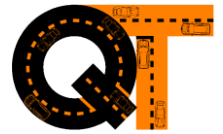
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Traffic Impact Assessment Report

2 Greenvale Lane, Mansfield

Proposed Child Care Centre & Swimming Pool

1/06/2023



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Quantum Traffic Pty Ltd

ABN: 54617474370

ACN: 617474370

T

1300 757 016

E

admin@quantumtraffic.com.au

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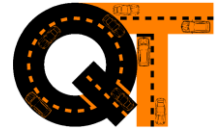
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Executive Summary

This report assesses the Proposed Child Care Centre & Swimming Pool at 2 Greenvale Lane, Mansfield. The following provides an executive summary of the report.

Car Parking

The statutory car parking requirement as specified under Clause 52.06-5 of the Mansfield Planning Scheme is 277 car spaces, comprising 22 spaces for the child care centre and 255 spaces for the swimming pool.

The application has provision for 30 car spaces, allocated as 22 child care centre spaces and 8 spaces for the swimming pool. The application would therefore meet its statutory car parking requirements for the child care centre, however is seeking a car parking reduction for 247 car spaces for the swimming pool.

A car parking demand assessment has been undertaken, reviewing in detail the specific operation of the swimming pool and it is determined that the parking provisions would be acceptable provided the following conditions are met/followed.

- There are no more than 4 swimming pool staff on-site at any one time.
- The pool is not open to the public and walk-ins, rather, the pool is used only for swimming lessons and aqua aerobic classes.
- Pool patron numbers are limited to 5 No. during peak drop-off and pick-up times of the child care centre.
- Pool patron numbers are limited to 8 No. during opening hours of the child care centre, outside of peak periods.
- Swim lessons and aqua aerobic classes are staggered by a minimum of 15 minutes to allow an appropriate amount of time for car spaces to vacate prior to the following lesson/class.
- A minimum of 4 child care centre car spaces are made available during its opening hours and outside of peak periods.

By applying the above restrictions to the proposed swimming pool operations, the car parking demands are expected to be appropriately managed to allow the proposed development to operate with 30 car spaces.

The proposed car park layout and access arrangements accord with the design standards of Clause 52.06-9, and is therefore expected to provide convenient and functional car parking and access.

Bicycle Parking

The proposed child care centre does not have a statutory bicycle parking requirement, although the swimming pool has a statutory bicycle parking requirement to provide 5 spaces under Clause 52.34 of the Planning Scheme.



We anticipate the bicycle parking demands will be negligible for a site in this location and the access to available infrastructure. Nevertheless a requirement to provide bicycle parking could be conditioned where necessary.

Traffic Impacts

The proposed development is not expected to have an adverse impact on the performance or operation of Greenvale Lane or the surrounding road network.

Services

Waste collection is proposed to occur on site by a private waste contractor. Collection should occur outside of site opening hours, or at least peak set-down and pick-up times of the child care centre.

Loading demands for the proposed development are expected to minimal, undertaken by vans and small trucks which could be accommodated informally on site.

Summary of Opinions

Having undertaken all tasks necessary to adequately assess the traffic engineering impacts of the proposed development at 2 Greenvale Lane, Mansfield, we conclude there are no traffic engineering reasons that would unreasonably preclude the issue of a permit, subject to appropriate conditions.



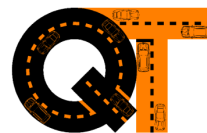
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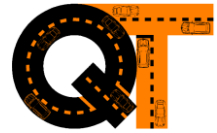


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1 Introduction

The following Traffic Impact Assessment Report (TIAR), reviews the critical traffic engineering matters associated with the Proposed Child Care Centre & Swimming Pool at 2 Greenvale Lane, Mansfield.

A permit is required for the proposed development to construct a child care centre, and swimming pool on the subject land. The following report provides a detailed assessment of the car parking and traffic elements of the proposal with consideration the Planning Scheme, local Government policies and the Australian Standard.

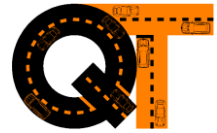
2 Proposed Operation

The application proposes the development of a child care centre and swimming pool. Table 1 outlines the key attributes of the development from a traffic engineering perspective.

Table 1: Proposed Operations

Attribute	Proposed
Land Use	
Child Care Centre	100 child care places
Swimming Pool	Site area allocated to the swimming pool: 946m ² Area of the swimming pool: 809m ²
Car Parking Provision	
Child Care Centre	22 car spaces (0.22 spaces per child place)
Swimming Pool	8 car spaces
Child Care Operating Hours	
Weekdays	6:30AM-6:30PM
Weekends	Closed
Swimming Pool Operating Hours	
Weekdays	6:30AM-8:00PM
Saturday	9:00AM-5:00PM
Sunday	9:00AM-5:00PM

The application plans prepared by Raymond Design Building Designers, are attached at Appendix A.



2.1 Existing Conditions

2.1.1 Subject Site

The subject site, addressed as 2 Greenvale Lane, Mansfield, is located on the east side of Greenvale Lane, approximately 185m north of its intersection with Mt Buller Road. The subject site relates to the vacant parcel of land immediately to the north of the All Seasons Mansfield accommodation.

An aerial photograph and location map of the subject site are provided at Figure 1 and Figure 2, respectively, and Table 1 outlines the key existing features of the application and development site.



Figure 1: Aerial Image of Site (Source: Nearmap)

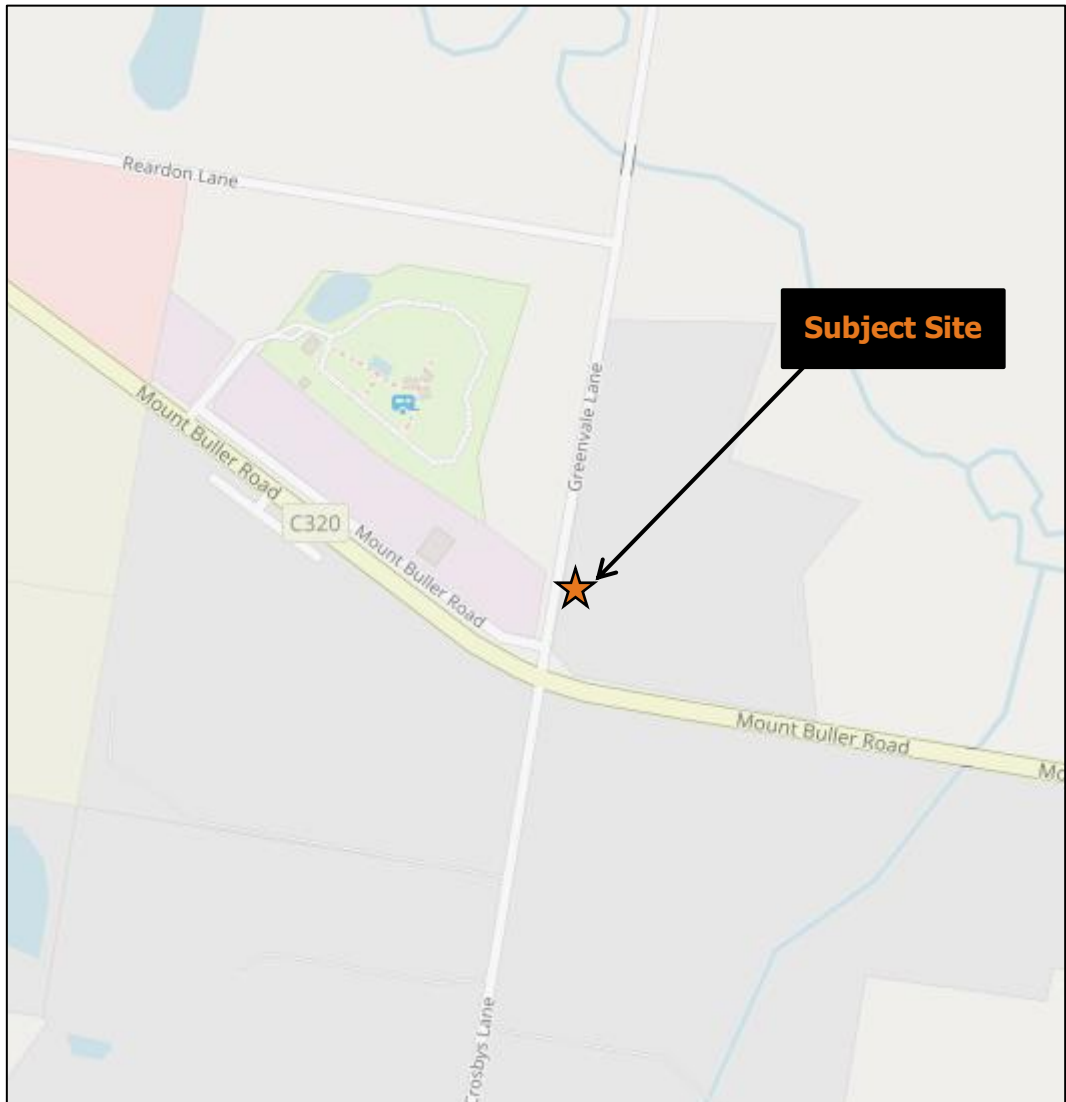


Figure 2: Location Map (Source: Melway)

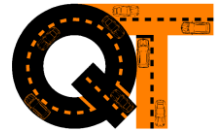


Table 2: Existing Details of Subject Site

Site Feature	Detail
Municipality & Referral Authorities	
Municipality	Mansfield Shire Council
Referral Authorities	-
Zoning & Overlays	
Zoning	Schedule to the Mixed Use Zone (MUZ)
Overlays	Development & Development Overlay – Schedule 1 (DDO1) Land Subject to Inundation Overlay Schedule (LSIO)
Critical Dimensions	
Total Site Area	Approx. 4,560m ²
Site Frontage (approx.)	Greenvale Lane – approx. 50.7m
Existing Use	
On-Site	Vacant
Existing On-Site Car Parking	
On-Site	Not used for parking
On-Street Car Parking (within approx. 200m)	
Existing	No formalised car parking available on the street
Nearby Land Use	
Within 100m	Accommodation (All Seasons) Mansfield Caravan Park Commercial Uses Veterinary Services Monkey Gully Creek

2.2 Road Network

Greenvale Lane

Greenvale Lane is a local access road (road register class A) under the care and management of Mansfield Shire Council. Greenvale Lane is generally aligned in a north to south direction and provides a connection between Mount Battery Road in the north with Mount Buller Road in the south, continuing as Crosbys Lane.

Adjacent the subject site, Greenvale Lane has a carriageway width of approximately 6.0m, and has provision for two-way traffic and unsealed gravel/grassy shoulders on both sides. Currently, no formal parking is provided on either side.

We have been provided with for construction plans which illustrate that Greenvale Lane, proximate the site, is being resonstructed as a heavy vehicle alternate route. The typical cross section, illustrated at Figure 3, shows that the main carriageway is proposed to be typically constructed at 7.0m wide, with 1.5m wide crossovers.

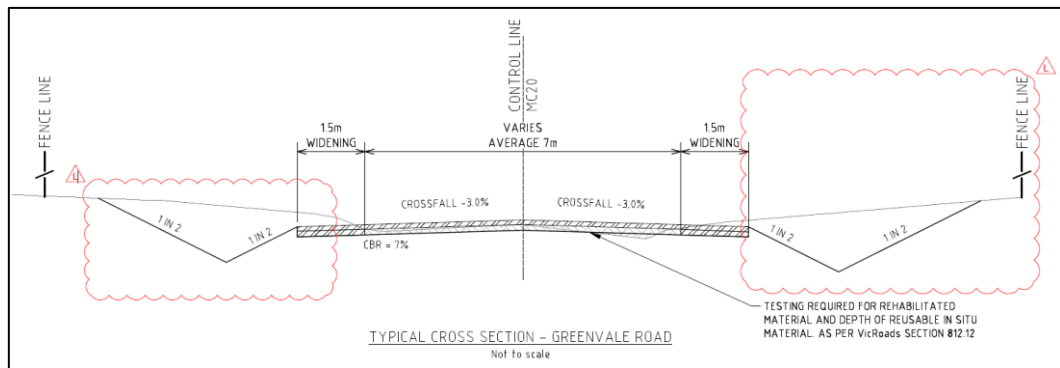
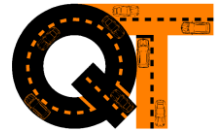


Figure 3: *Greenvale Lane Cross Section (Source: JJ Ryan Construction Plans)*

We note that the drainage layout plan (Sheet 9 of 9) retains the existing culverts underneath existing site crossings to Greenvale Lane.

2.3 Heavy Vehicle Alternate Route (HVAR), Mansfield

The HVAR is a \$4.03M two-stage road construction project diverting heavy vehicles around the township of Mansfield illustratively shown at Figure 4. The first stage has been completed, with Stage 2 already commenced.

Stage 1 included road upgrades from the intersection of Withers Lane and Maroondah Highway and stretches of Withers Lane and Dead Horse Lane. Stage 2 will include road works along section of Dead Horse Lane, Mansfield-Whitfield Road, Mount Battery Road, and Greenvale Lane. The road upgrades seek to formalise roads with kerb and channel, provide a bituminous surface on roadways, culvert construction and line-marking.

The project aims to redirect heavy vehicles around residential and commercial streets within the town centre of Mansfield and provide the opportunity to reassign road space for car parking and other facilities to accommodate alternate transport modes.

The Federal Government, via the Road to Recovery Program, has also invested approximately \$44,000 for widening works at the intersection of Mount Buller Road and Greenvale Lane allowing for B-doubles to turn at the intersection. The upgrade works also includes the construction of new pavement and seal, line-marking, and a separator island on the Greenvale Lane north approach. These works have been completed.

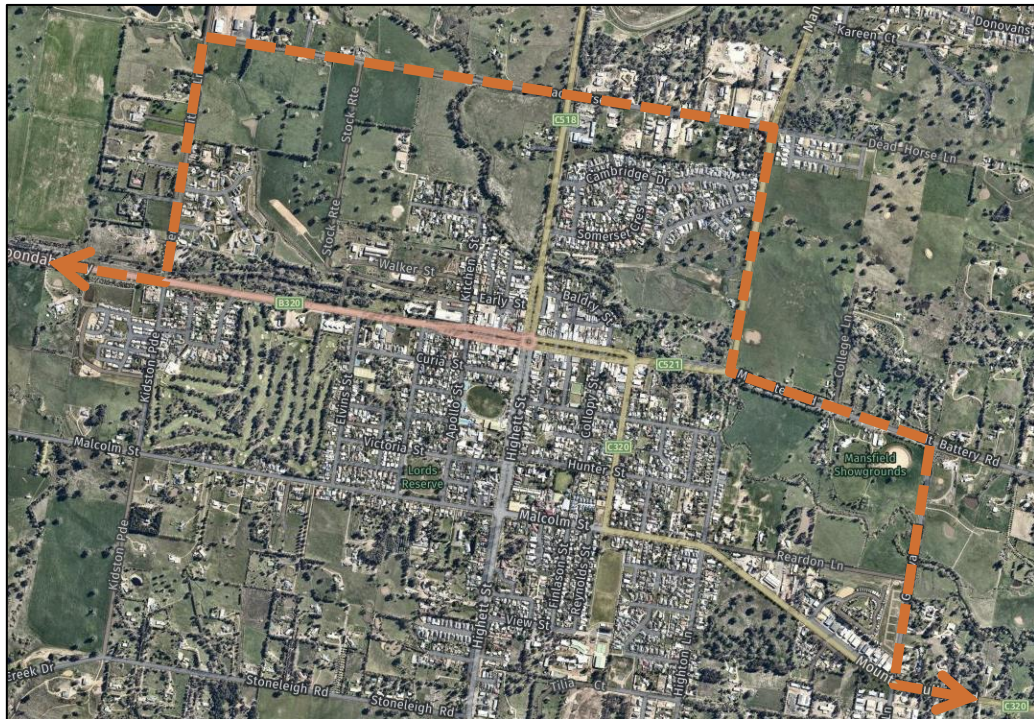
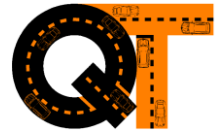


Figure 4: Heavy Vehicle Alternate Route (Source: Nearmap)

2.4 Sustainable Transport Infrastructure

2.4.1 Public Transport

Access to public transport services is fairly typical for a regional town, with public transport and local bus services available to Mansfield.

V/Line bus services operate between Mansfield and Southern Cross, via Lilydale and Whittlesea. Mansfield also provides bus services to Mount Buller via a private bus company.

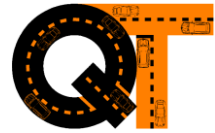
2.4.2 Walking & Cycling

The site currently has limited walking and cycling connectivity.

The nearest pedestrian path is located southwest of the subject site along the Mount Buller Road service road commercial tenancies.

This pedestrian path connects this area to the Mansfield town centre, where there is an established pedestrian footpath network.

Most cycling trips within the Mansfield township are undertaken on-road on local streets. There are currently limited shared paths throughout the township.



3 Car Parking Assessment

3.1 Statutory Car Parking

Clause 52.06-5 of the Mansfield Planning Scheme prescribes the statutory car parking requirement for the proposed use.

Under Clause 74 the proposed uses are included under the terms 'Child Care Centre' and 'Swimming Pool'.

Table 3 provides an assessment of the car parking provision against the statutory requirement for the proposed application.

Table 3: Statutory Car Parking Assessment (Clause 52.06)

Use	Size/No.	Statutory Car Parking Rate	Requirement ⁽¹⁾	Provision
Child Care Centre	100 places	0.22 car spaces to each child	22	22
Swimming Pool	4,560m ²	5.6 to each 100m ² of the site	255	8
TOTAL			277	30

Note 1: Non-whole numbers rounded down to the nearest whole number as specified by Clause 52.06-5.

Based on the Clause 52.06 assessment above, the proposed development has a statutory car parking requirement to provide 277 car spaces, noting the site area includes other uses not related to the swimming pool despite it being the car parking measure.

The proposal has provision for 30 car spaces, which are proposed to be allocated as 22 car spaces for the child care centre and 8 spaces for the swimming pool.

Based on the foregoing, the application meets its statutory car parking requirement for the proposed child care centre, however, seeks a parking permit to vary the requirements of Clause 52.06 of the Planning Scheme for the swimming pool.

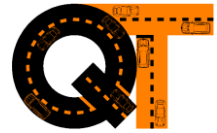
3.2 Car Parking Reduction Sought

The Mansfield Planning Scheme allows for the car parking provision of a proposed development to be less than the statutory car parking requirement. Clause 52.06-3 states:

A permit is required to:

- *Reduce (including reduce to zero) the number of car parking spaces required under Clause 52.06-5 or in a schedule to the Parking Overlay*

A two-step assessment is required to justify the car parking reduction sought.



The first step is to assess the likely car parking requirement or demand generated by the proposed development, which is to undertake a Car Parking Demand Assessment (CPDA).

If the CPDA determines that the likely demand of the proposal will not be met on-site, the second step is to determine whether it is appropriate to reduce the number of car spaces provided than is generated.

The second part of the assessment is more strategic in nature.

An assessment of the appropriateness of reducing the statutory requirement is set out as follows.

3.2.1 Car Parking Demand Assessment

To determine the likely car parking requirement or demand generated by the proposed development, a CPDA has been undertaken.

The following assessment is provided under Clause 52.06-7 of the Planning Scheme.

Given the child care centre provides car parking meeting the statutory rate, the following outlines our CPDA for the proposed swimming pool.

A first principles assessment will be undertaken based on the proposed operations and business plan provided by the applicant.

Swimming Pool

The swimming pool is proposed to be restricted to swim lessons and aqua aerobic classes, under a booking-based system.

The patrons expected to use the facility will generally be kids learning to swim and people over the age of 65 attending aqua aerobics classes. These classes/lessons will be approximately 30mins in duration and be conducted with a maximum of 8 kids/patrons per session. Each session is proposed to be staggered by at least 15 minutes to appropriately allow the turnover of on-site car parking resources.

At any one time, there is likely to be 3-4 staff members, including a duty manager at the front desk, an aqua aerobics or swim instructor and a lifeguard. Another member may be on site to support these operations during peak times.

Lesson and class sizes are proposed to be limited to 5 patrons during peak set-down and pick-up times of the child care centre, and then increase to a limit of 8 patrons per class during the day when the child care centre car parking demands are expected to relax.

Swim lessons and aqua aerobic classes are proposed to run separately to one another due to the noise disturbance from each activity and will therefore never be run simultaneously.

The swimming pool does not propose to accept general admissions and walk-ins.

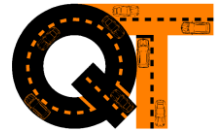


Table 4: Proposed Operations

Attribute	Proposed
Swim Lessons	
Weekdays	Mornings 9:30AM-12:30PM (restricted to 8 patrons), Afternoons 12:30PM-4:30PM (restricted to 8 patrons), and Evenings 4.30PM-7:00PM (restricted to 5 patrons)
Saturdays	9:00AM-5:00PM
Sunday	9:00AM-5:00PM
Aqua Aerobic Classes	
Weekdays	Mornings 6:30AM-8:30AM (restricted to 5 patrons), Mornings 8:30AM-12:00PM (restricted to 8 patrons), Afternoon 12:00PM-4:30PM (restricted to 8 patrons), and Evenings 4.30PM-7:00PM (restricted to 5 patrons)
Weekends	Limited number of classes

A stagger time of at least 15 minutes will be adopted between consecutive lessons/classes and in this regard, overlapping is unlikely to occur and allow the appropriate turnover of on-site car parking.

Based on the foregoing, and conservatively assuming all parents drive to/from the site and watch their child swim, the swim lessons may generate up to 8 car spaces assuming.

Given the aqua aerobics classes are similarly limited to 8 patrons per class, the same parking generation assessment can be adopted.

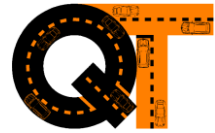
Assuming there is no overlap of car parking between lessons/classes, the car parking demands is not expected to exceed 8 car spaces associated with patrons.

Child Care Centre

The child care centre is anticipated to have variation in car parking demands across the day, displaying peak parking demands during the morning drop-off and afternoon pick-up periods on weekdays.

From our experience, these peak periods are likely to occur 7:00AM-8:30AM, and 4:30PM-6:00PM and parking demands are expected to reach the statutory car parking rate, in this case 22 car spaces, when the centre is operating at full capacity.

During the day, car parking associated with the child care centre is likely to relax, and some spaces will become available to both child care centre staff and pool patrons. We have assumed that 80% of the child care spaces would be utilised during off-peak periods, allowing for 20% vacant spaces during the day. That is 4 child care centre spaces could be shared with the swimming pool during off-peak periods.



Total Projected Car Parking Demand

Based on the foregoing, the resultant demands are expected to be generated at the relevant key periods across the day.

Table 5: Projected Car Parking Demand Summary

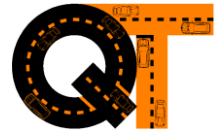
Use	Peak CCC Pick-Up/Drop-Off Times	Daytime Weekdays	Weekend Demands
Swimming Pool			
Staff	3	4	3
Patrons/Parents	5	8	8
Child Care Centre			
Staff	10	18	-
Parents	12	-	-
Total Parking Demand	30	30	11
Parking Provision			
On-Site	30	30	30
Total Surplus / Shortfall (15min Staggering)	Met On-Site	Met On-Site	+19*

*Larger classes could be held, or back-to-back lessons/classes are possible on weekends when the child care centre is closed.

We note that school swim programs undertaken during school time are anticipated to bus children and teachers from their relevant school to/from the swimming pool, and therefore, the demand for parking is not expected to peak during these times.

Based on the assessment above, the proposed swimming pool is projected to generate up to 30 car spaces during peak periods provided the following occurs.

- a. There are no more than 4 swimming pool staff on-site at any one time.
- b. The pool is not open to the public and walk-ins, rather, the pool is used only for swimming lessons and aqua aerobic classes.
- c. Pool patron numbers are limited to 5 No. during peak drop-off and pick-up times of the child care centre.
- d. Pool patron numbers are limited to 8 No. during opening hours of the child care centre, outside of peak periods.



- e. Swim lessons and aqua aerobic classes are staggered by a minimum of 15 minutes to allow an appropriate amount of time for car spaces to vacate prior to the following lesson/class.
- f. A minimum of 4 child care centre car spaces are made available during its opening hours and outside of peak periods

3.2.2 Car Parking Demand Factors - Clause 52.06-7

The above assessment is further supported by the justification provided against the car parking demand factors identified in Clause 52.06-7 of the Planning Scheme, provided in Table 6 below.

Table 6: Car Parking Demand Assessment Factors

Factor	Commentary
<i>The likelihood of multi-purpose trips within the locality which are likely to be combined with a trip to the land in connection with the proposed use.</i>	There may be some instances where parents may use both swim lesson facilities prior to or after dropping-off and picking-up their children.
<i>The variation of car parking demand likely to be generated by the proposed use over time.</i>	<p>The hydrotherapy and swimming pools will experience variation in parking demand over time but generally peak when there are swim lessons and aqua aerobic classes.</p> <p>We expect the peak parking demands will occur when there are lessons/classes occurring at the same time as child care centre pick-up and drop-off times, on weekdays.</p> <p>Parking demands are likely to relax on weekends when the child care centre is proposed to be closed.</p>
<i>The short-stay and long-stay car parking demand likely to be generated by the proposed use.</i>	<p>Both the swimming pool and child care centre will generate long-term parking demands associated with staff.</p> <p>The swimming pool is expected to generate patron parking demands with durations of approximately 30-45mins.</p> <p>Parents of the child care centre will be short-term and transient in nature, with most drop-offs and pick-ups occurring within 10-15mins.</p>
<i>The availability of public transport in the locality of the land.</i>	Overall public transport access for the subject site is limited, and therefore the car parking demand assessment has assumed that private motor vehicles will be the main travel mode to/from the site.
<i>The convenience of pedestrian and cyclist access to the land.</i>	Overall pedestrian and cycle access for the subject site is limited, and therefore the car parking demand assessment has assumed that private motor vehicles will be the main travel mode to/from the site.



Factor	Commentary
<i>The provision of bicycle parking and end of trip facilities for cyclists in the locality of the land.</i>	Whilst no formal bicycle parking is proposed at this stage, bicycle parking could be provided to support cycling as a mode of travel to the subject site.
<i>The anticipated car ownership rates of likely or proposed visitors to or occupants (residents or employees) of the land.</i>	A car parking demand assessment has been undertaken above, which suggests that there will be a demand for 30 car spaces, of which would be accommodated on the site.
<i>Any empirical assessment or case study.</i>	A first principles assessment, and our expectations of how staff and patrons might travel to/from the site have been applied to the assessment. Given the location of the subject site, and limited access to other forms of transport, most employees and patrons are likely to drive.

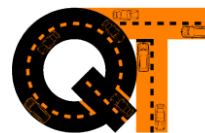
3.3 Car Park Design

An open air car park is proposed within the front setback of the buildings, which is proposed to be accessed via Greenvale Lane. Two (2) access points are proposed to facilitate one-way circulation within the car park, with entry proposed at the northern crossover and exit at the southern crossover.

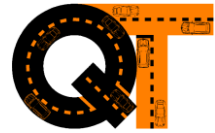
The following table reviews the proposal against the design standards as specified under Clause 52.06-9 of the Mansfield Planning Scheme.

Table 7: Review of Car Park Design Against Clause 52.06-9

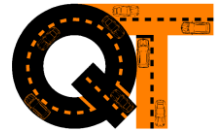
Design Standard	Compliant	Comments
Design Standard 1 - Accessways		
<i>Be at least 3 metres wide</i>	Compliant	Access is provided with a minimum width of 4.5m wide, exceeding this requirement.
<i>Have an internal radius of at least 4 metres at changes of direction or intersection or be at least 4.2 metres wide.</i>	Compliant	Accessway are at least 4.5m wide, exceeding this requirement.
<i>Allow vehicles parked in the last space of a dead-end accessway in public car parks to exit in a forward direction with one manoeuvre</i>	Not Applicable	No dead end accessways are proposed within the carpark.
<i>Provide at least 2.1 metres headroom beneath overhead obstructions, calculated for a vehicle with a wheel base of 2.8 metres</i>	Not Applicable	No overhead structure is proposed above the carpark that would impact on vehicle headroom clearances.



Design Standard	Compliant	Comments
<i>If the accessway serves four or more car spaces or connects to a road in a Transport Zone 2 or Transport Zone 3, the accessway must be designed so that cars can exit the site in a forward direction</i>	Compliant	All cars can enter and exit the site in a forward direction with the proposed access design.
<i>Provide a passing area at the entrance at least 6.1 metres wide and 7 metres long if the accessway serves ten or more car parking spaces and is either more than 50 metres long or connects to a road in a Transport Zone 2 or Transport Zone 3.</i>	Not Applicable	A passing area is not required, however, based on the access design proposed, passing would not occur given the one-way restriction of each access point.
<i>Have a corner splay or area at least 50 per cent clear of visual obstructions extending at least 2 metres along the frontage road from the edge of an exit lane and 2.5 metres along the exit lane from the frontage, to provide a clear view of pedestrians on the footpath of the frontage road.</i>	Compliant	The southern crossover provides the required sight splay to allow an exiting motorist to observe potential conflicts at the boundary, should there be a requirement to provide a pedestrian footpath along the site's frontage.
<i>If an accessway to four or more car parking spaces is from land in a Transport Zone 2 or Transport Zone 3, the access to the car spaces must be at least 6 metres from the road carriageway</i>	Not Applicable	Access is not via a road in a Transport Zone, nevertheless, car parking is provided more than 6m into the site.
<i>If entry to the car space is from a road, the width of the accessway may include the road</i>	Not Applicable	Access to all car parking spaces is proposed via an internal accessway.
Design Standard 2 – Car Parking Spaces		
<i>Car parking spaces and accessways must have the minimum dimensions as outlined in Table 2.</i>	Compliant	All standard car parking spaces are provided with minimum dimensions of 2.6m width, 4.9m length and are accessible from aisles 7.0m wide.
<p><i>A wall, fence, column, tree, tree guard or any other structure that abuts a car space must not encroach into the area marked 'clearance required' on Diagram 1, other than:</i></p> <ul style="list-style-type: none"> <i>A column, tree, or tree guard, which may project into a space if it is within the area marked 'tree or column permitted' on Diagram 1.</i> 	Compliant	All standard spaces are provided with an effective clearance of 300mm if adjacent to a wall, fence, or landscaping, affording convenient door opening.



Design Standard	Compliant	Comments
<ul style="list-style-type: none"> A structure, which may project into the space if it is at least 2.1 metres above the space. 		
Car spaces in garages or carports must be at least 6 metres long and 3.5 metres wide for a single space and 5.5 metres wide for a double space measured inside the garage or carport.	Not Applicable	No garage spaces are proposed.
Where parking spaces are provided in tandem (one space behind the other) an additional 500 mm in length must be provided between each space	Not Applicable	No car spaces are arranged in tandem.
Where two or more car parking spaces are provided for a dwelling, at least one space must be under cover	Not Applicable	No dwellings are proposed by the application.
Disabled car parking spaces must be designed in accordance with Australian Standard AS2890.6-2009 (disabled) and the Building Code of Australia. Disabled car parking spaces may encroach into an accessway width specified in Table 2 by 500mm	Compliant	DDA bays are provided with dimensions of 2.4m wide and 5.4m depth. Bays are accessible from an aisle width of 7.0m.
Design Standard 3 – Gradients		
Accessway grades must not be steeper than 1:10 (10 per cent) within 5 metres of the frontage.	Compliant	Minor grades for drainage only.
Ramps (except within 5 metres of the frontage) must have the maximum grades as outlined in Table 3 and be designed for vehicles travelling in a forward direction.	Compliant	
Where the difference in grade between two sections of ramp or floor is greater than 1:8 (12.5 per cent) for a summit grade change, or greater than 1:6.7 (15 per cent) for a sag grade change, the ramp must include a transition section of at least 2 metres to prevent vehicles scraping or bottoming.	Compliant	
Plans must include an assessment of grade changes of greater than 1:5.6 (18 per cent)	Compliant	



Design Standard	Compliant	Comments
<i>or less than 3 metres apart for clearances, to the satisfaction of the responsible authority.</i>		
Design Standard 4 – Mechanical Car Parking		
<i>Mechanical parking may be used to meet the car parking requirement...</i>	Not Applicable	No mechanical car parking is proposed within this development

Swept path diagrams have been prepared for the critical car parking spaces, affirming acceptability of the proposed car parking layout and access arrangements.

Swept path diagrams are attached at Appendix B.

Car parking spaces have been designed in accordance with the Planning Scheme, allowing drivers to appropriately access car spaces and enter and depart the site in a forward direction. On the preceding basis, the design of the car park satisfactorily affords convenient and practical car parking and access, in accordance with the Mansfield Planning Scheme and AS/NZS 2890.1:2004.

3.4 Statutory Bicycle Parking

Clause 52.34 prescribes the number of bicycle spaces to be provided for each different land use within the proposed development.

The 'child care centre' land use is not listed in Table 1 to Clause 52.34-5.

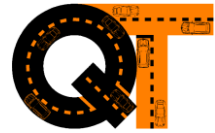
Typically, swimming pools are assessed against the land use term of 'minor sports and recreation centre'. The rates listed under this land use term are:

- Staff: 1 bike space for every 4 employees; and
- Patrons: 1 to each 200m² of net floor area.

Based on the these rates, expected staffing requirements and a floor area of 809m², the swimming pool would have a statutory bicycle parking requirement of 5 spaces comprising, a single staff space and 4 patron spaces.

With consideration to the existing infrastructure and location of the site, the bicycle parking demands generated by staff and visitors is likely to be low. There are several areas that bicycle parking devices could be installed, and where Council deem it necessary, the provision of bicycle parking can be conditioned if a planning permit is issued.

Bicycle parking layout and associated access arrangements should be designed with reference to AS 2890.3:2015 – Bicycle Parking, and at least 20% of spaces shall be provided in horizontal format with dimensions of 1.8m depth, spaced at 1.0m centres and be accessible from at least 1.5m wide aisles.



4 Traffic Assessment

4.1.1 Traffic Generation

Child Care Centre

Child care centres are likely to service the local community who typically live or work in the nearby area.

Child care centres operate differently to traditional education facilities such as kindergartens and schools as they don't have set set-down and pick-up times. In this regard, parents will arrive and depart the site across the morning and afternoon periods which typically extend for over an hour. This is in contrast to traditional education centres where set start and finish times will generate higher traffic levels within a shorter duration.

Core staff members will typically arrive before parents set-down their children and depart when all children have been collected. Staff will also tend to peak later in the morning as children numbers increase closer to the centre's capacity, and conversely, reduce as children numbers decrease in the afternoon.

As child care centres typically service parents that are on their way to work, any trip to/from the site aren't usually a new trip but rather a deviation of an existing trip.

Accordingly, the likelihood of additional trips to the area is expected to be low as parents will typically already be passing through the area.

The following rates apply to 'Child Care Centre' use (defined as long day care in RTA Guide (now RMS)):

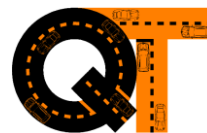
- AM Period (7:00AM-8:30AM) – 0.8 vehicle movements per child.
- PM Peak (4:30PM-6:00PM) – 0.7 vehicle movements per child.

These rates are considered appropriate as a guide to assessing the traffic generated by a child care centre.

Table 8 below outlines the peak hour traffic generation of the proposed development based on the above.

Table 8: Traffic Generation Assessment

Use	No.	Traffic Generation Rate ⁽¹⁾	Peak Hour Trips
AM	100 places	0.8 vte per child/peak hour	80 vte
PM		0.7 vte per child/peak hour	70 vte



Swimming Pool

We have undertaken a first principles assessment to understand the likely traffic to be generated by the proposed swimming pool.

It is assumed that the peak development traffic will be generated during the child care centre set-down and pick-up times.

During these times, the swimming pool is expected to have reduced patron numbers (5 No.).

Our traffic generation assessment assumes the following.

- All staff conservatively arrive shortly before patrons within the same hour;
- Lessons and classes have a 30min duration, with a 15 minute stagger between classes.
- During any one-hour period, staff will generate a single movement in (in the AM peak) or out (in the PM peak) of the site; and
- During any one-hour period, it is conservatively assumed that 2 entry and 2 exit movements are generated by patrons, when a prior class finishes and the next commences i.e.

Based on the above assumptions, the proposed swimming pool would generate a total of 23 movements inclusive of 3 staff movements, and 20 patron movements within a peak hour period.

Total

Based on the above, the proposed development is projected to generate a total of 103 movements in the AM peak period and 93 movements in the PM peak period.

4.1.2 Traffic Distribution

Table 9 outlines the broad distribution of entering and exiting traffic in the AM and PM peak hours to/from the road network. The distribution of entry and exit movements is based on the following percentages:

Child Care Centre

- AM Peak hour – 50% of vehicles entering, 50% of vehicles exiting
- PM Peak Hour – 50% of vehicles entering, 50% of vehicles exiting

Swimming Pool

- AM Peak hour – 50% of vehicles entering, 50% of vehicles exiting
- PM Peak Hour – 50% of vehicles entering, 50% of vehicles exiting

Based on the above rates, Table 9 has been prepared to demonstrate the movements that might occur at the site.

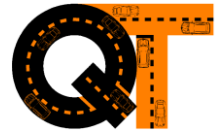


Table 9: Traffic Distribution

Use	No. of Movements	Avg. Time Per Movement per Peak Hour
AM Peak Hour		
Entering Movement	52	1 movement every 1.2 minutes
Exiting Movement	51	1 movement every 1.2 minutes
PM Peak Hour		
Entering Movement	47	1 movement every 1.3 minutes
Exiting Movement	46	1 movement every 1.3 minutes

4.1.1 Traffic Impacts

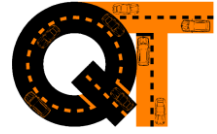
Traffic associated with the child care centre will largely comprise of diverted trips associated with parents typically already on their way to, or from work. Whilst the development would generate traffic onto Greenvale Lane, these traffic movements would already be on the broader road network rather than being specifically generated by the proposal.

Typically, traffic generated by child care centres are spread across a larger period of time, and not concentrated to one specific hour or period, particularly when there are different age groups of children where there is typically a range of drop-off and pick-up times.

The traffic generated by the swimming pool will largely comprise of parents arriving and departing before and after each swim class, or patrons arriving and departing before and after an aqua aerobics class.

As classes/lessons will be staggered, the swimming pool is likely to generate only 5-8 vehicle movements at any given time during the peak hour. This is a low level of traffic, and is unlikely to have a perceptible impact to the operation of the car park and surrounding road network.

On the preceding basis, the proposed development is not expected to cause adverse traffic impacts to the operation and performance of Greenvale Lane and broader road network.



5 Service Vehicles

5.1 Waste Management

Waste for the development is proposed to be collected on-site by a private contractor with an 8.8m medium rigid vehicle (MRV), or similar. Collection will be undertaken informally within the car park outside of swimming pool and child care centre opening times.

Swept path diagrams, attached at Appendix B, demonstrate that an MRV can access the site, manoeuvre on site to collect waste adjacent the bin store area, and then exit the site again in a forward direction.

5.2 Loading

The loading demands expected to be generated by the application are expected to be minimal for both uses and associated mainly with the delivery of food, beverages, and supplies.

Loading and unloading, when they occur, is likely to be undertaken by vans and small trucks, which would not require a designated loading facility, rather it can be undertaken informally on the site at appropriate times.

Any loading and waste collection activities associated with the child care centre should occur outside of peak drop-off/pick-up periods.



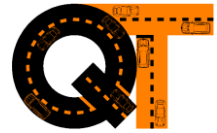
6 Conclusions

Having visited the site, undertaken surveys and a detailed traffic engineering assessment of the proposal, the following conclusions are reached in relation to the proposed child care centre and swimming pool at 2 Greenvale Lane, Mansfield:

2. The statutory car parking requirement as specified under Clause 52.06-5 of the Mansfield Planning Scheme is 277 car spaces, comprising 22 spaces for the child care centre and 255 spaces for the swimming pool.
3. The application has provision for 30 car spaces, allocated as 22 child care centre spaces and 8 spaces for the swimming pool. The application would therefore meet its statutory car parking requirements for the child care centre, however is seeking a car parking reduction for 247 car spaces for the swimming pool.
4. A car parking demand assessment has been undertaken, reviewing in detail the specific operation of the swimming pool and it is determined that the parking provisions would be acceptable provided the following conditions are met/followed.
 - a. There are no more than 4 swimming pool staff on-site at any one time.
 - b. The pool is not open to the public and walk-ins, rather, the pool is used only for swimming lessons and aqua aerobic classes.
 - c. Pool patron numbers are limited to 5 No. during peak drop-off and pick-up times of the child care centre.
 - d. Pool patron numbers are limited to 8 No. during opening hours of the child care centre, outside of peak periods.
 - e. Swim lessons and aqua aerobic classes are staggered by a minimum of 15 minutes to allow an appropriate amount of time for car spaces to vacate prior to the following lesson/class.
 - f. A minimum of 4 child care centre car spaces are made available during its opening hours and outside of peak periods.

By applying the above restrictions to the proposed swimming pool operations, the car parking demands are expected to be appropriately managed to allow the proposed development to operate with 30 car spaces.

5. The proposed car park layout and access arrangements accord with the design standards of Clause 52.06-9, and is therefore expected to provide convenient and functional car parking and access.
6. The proposed child care centre does not have a statutory bicycle parking requirement, although the swimming pool has a statutory bicycle parking requirement to provide 5 spaces under Clause 52.34 of the Planning Scheme.



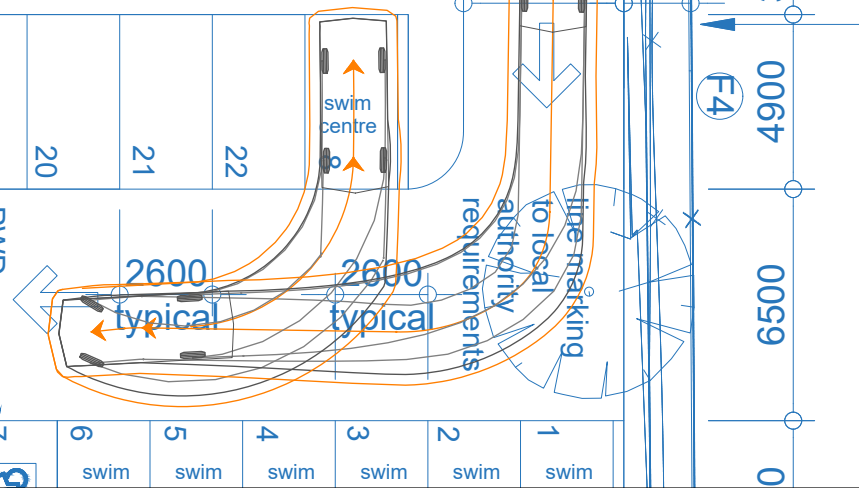
We anticipate the bicycle parking demands will be negligible for a site in this location and the access to available infrastructure. Nevertheless a requirement to provide bicycle parking could be conditioned where necessary.

7. The proposed development is not expected to have an adverse impact on the performance or operation of Greenvale Lane or the surrounding road network.
8. Waste collection is proposed to occur on site by a private waste contractor. Collection should occur outside of site opening hours, or at least peak set-down and pick-up times of the child care centre.
9. Loading demands for the proposed development are expected to minimal, undertaken by vans and small trucks which could be accommodated informally on site.

Having undertaken all tasks necessary to adequately assess the traffic engineering impacts of the proposed development at 2 Greenvale Lane, Mansfield, we conclude there are no traffic engineering reasons that would unreasonably preclude the issue of a permit, subject to appropriate conditions.

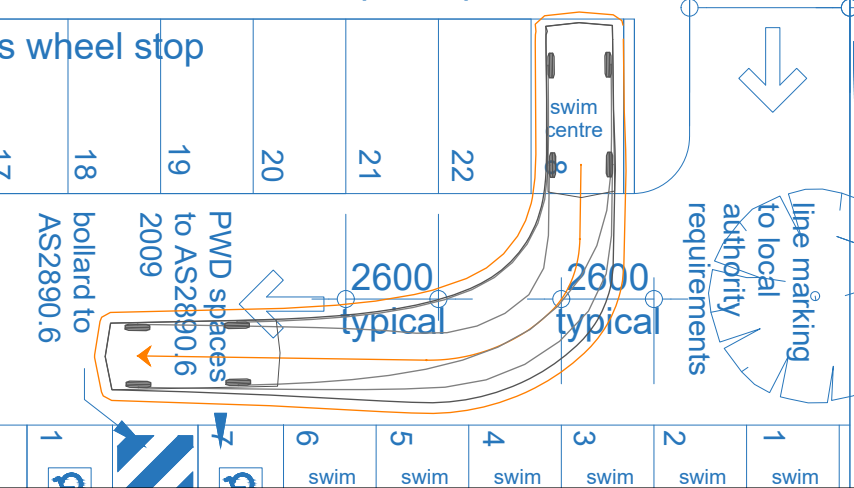
SWIM. POOL CAR SPACE 8
ENTRY

landscape strip

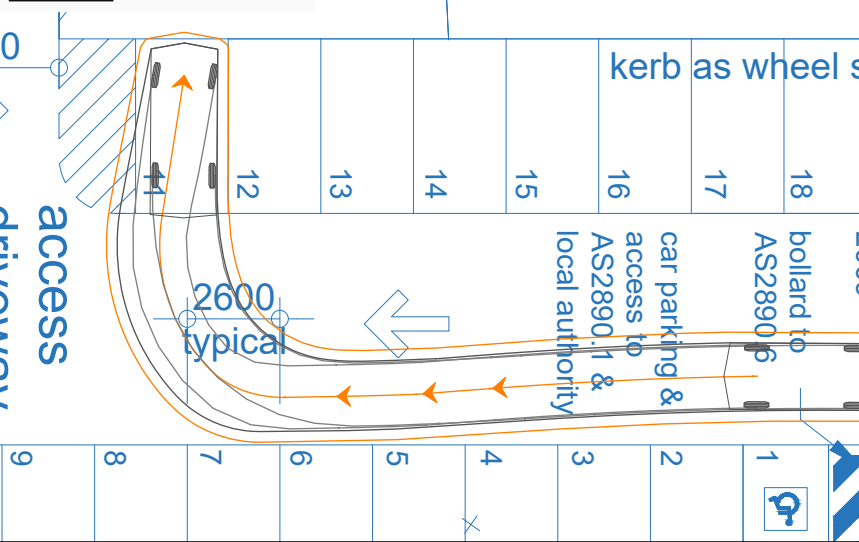


SWIM. POOL CAR SPACE 8
EXIT

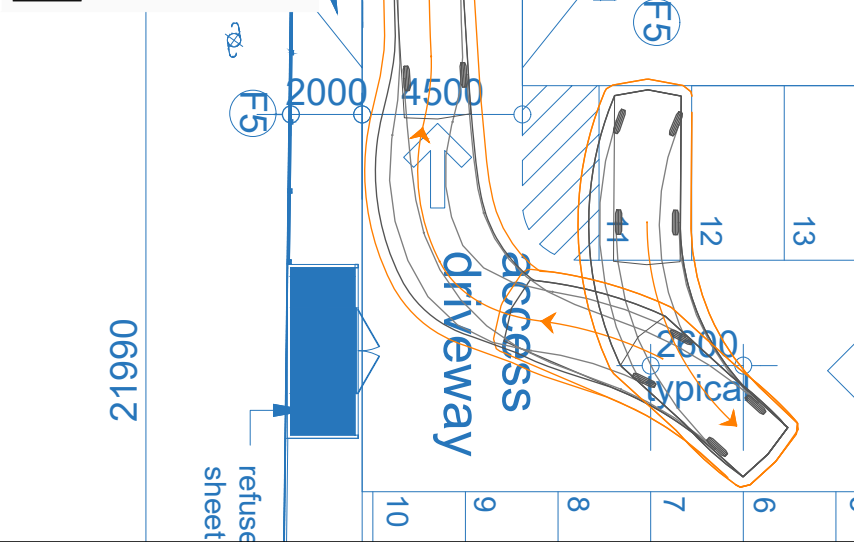
landscape strip



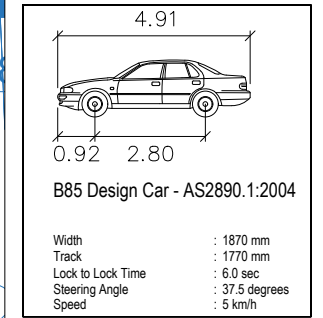
CCC CAR SPACE 11
ENTRY



CCC CAR SPACE 11
EXIT

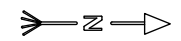


DESIGN VEHICLE USED IN SIMULATION



LEGEND

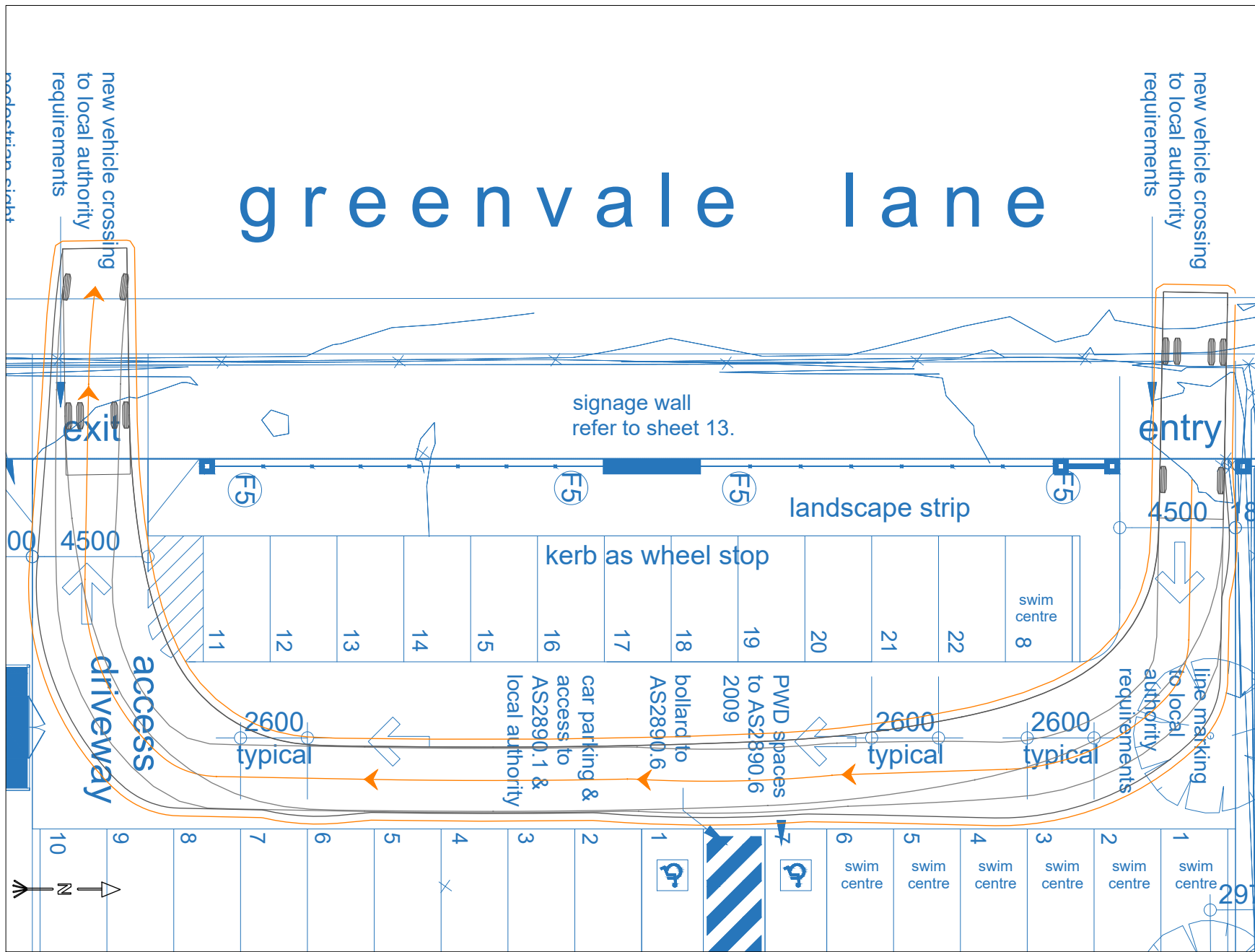
- Vehicle Body ———
- Wheel Tracks ———
- Clearance Lines (300mm) ———



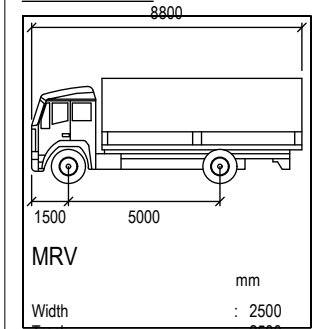
REVISION	DATE	DESCRIPTION
A	01/06/23	FINAL FOR SUBMISSION

NOTES:
- BASE PLANS PREPARED BY RAYMOND DESIGN
- SIMULATION SOFTWARE - AUTOTURN PRO 11

greenvale lane



DESIGN VEHICLE USED IN SIMULATION



MRV

Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 34.0

LEGEND

Vehicle Body	—
Wheel Tracks	—
Clearance Lines (300mm)	—

REVISION	DATE	DESCRIPTION
A	01/06/23	FINAL FOR SUBMISSION