CALOUNDRA PCYC

Traffic Impact Assessment

BITZIOS consulting
traffic engineering transport planning

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Queensland Government

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1. INTRODUCTION

1.1 Background

Bitzios Consulting, on behalf of Tait Morton Johnston Pty Ltd (Client), has been engaged to prepare a Traffic Impact Assessment (TIA) for a proposed Police Citizens Youth Club (PCYC) development located on Revelry Road, Nirimba. The site is formally described as part of Lot 80048 on SP344641 and is situated within the Caloundra South Priority Development Area (PDA), specifically in the Town Centre Frame identified in the Aura Town Centre Context Plan.

The location of the subject site is illustrated in Figure 1.1.

Source: Adapted from Nearmap

Figure 1.1: Subject Site Locality

1.2 Proposed Development Details

Key development details are summarised below:

- **Yield:** 2,176.5m^2, comprised of:
  - Indoor Sport and Recreation (Gymnastics): ~703m^2 GFA
  - Indoor Sport and Recreation (Gym) ~582m^2 GFA
  - Office: ~101m^2 GFA.
  - Community Use: ~427m^2 GFA
- **Access:** Via a single all-movements 6.4m wide Type A crossover onto Revelry Road
- **Servicing:** Provision for an on-site servicing via front-load Waste / Refuse Collection (WCV / RCV) and Medium Rigid Vehicle (MRV)

A copy of the proposed development plans is included at **Appendix A**.

1.2.1 Scope

The scope of this traffic impact assessment included the following tasks:

- Reviewing the access arrangements against relevant Australian Standards (AS2890)
- Reviewing the car parking provisions considering Council's Planning Scheme provision rates, the rates identified based on surveys completed at similar existing developments, and / or expected peak demands based on a first principles assessment (considering site usage etc.)
- Reviewing the internal car park configuration (i.e. dimensions, etc) against AS2890
- Reviewing the servicing arrangements against Council's Planning Scheme and / or AS2890, including the preparation of swept path diagrams using AutoTURN software.
- Estimating the proposed development's traffic generation

2. EXISTING CONDITIONS

2.1 Existing Site

The subject site is described as part of Lot 8048 on SP344641 and is located within the Sunshine Coast Regional Council local government area. The site is situated in the Caloundra South Priority Development Area (PDA), within the Town Centre Frame as identified in the PDA's Aura Town Centre Context Plan. The site is currently vacant and will be developed for the proposed PCYC facility as part of the proposed works.

2.2 Surrounding Road Network

Details of the surrounding road network are summarised in Table 2.1.

Table 2.1: Surrounding Road Network

Road Name	Jurisdiction	No. of Lanes	Hierarchy	Divided	Posted Speed
Bells Creek Arterial Road	State	2	Collector	No	70km/h
Revelry Road	Council	2	Local Street	No	50km/h[1]
Splendour Street	Council	4	Local Street	Yes	50km/h[1]

[1]*As this section of road may have only recently been constructed and lacks posted speed signage, the assumed speed limit is based on typical limits for similar road types across Queensland.*

The surrounding key intersections are shown in Table 2.2.

Table 2.2: Key Intersections

Road 1 Name	Road 2 Name	Jurisdiction	Type
Splendour Street	Revelry Road	Council	Signalized
Splendour Street	Bells Creek Arterial Road	State	Roundabout

2.3 Public Transport

The subject site is located approximately 2.3 kilometres from the nearest bus stop, identified as the "Aura Boulevard at Central Avenue" stop on Aura Boulevard. This distance equates to an estimated walking time of 31 minutes. Given the separation and travel time, this stop is not considered to be within a reasonable walking distance for potential users of the development. As such, public transport accessibility to the site is considered limited.

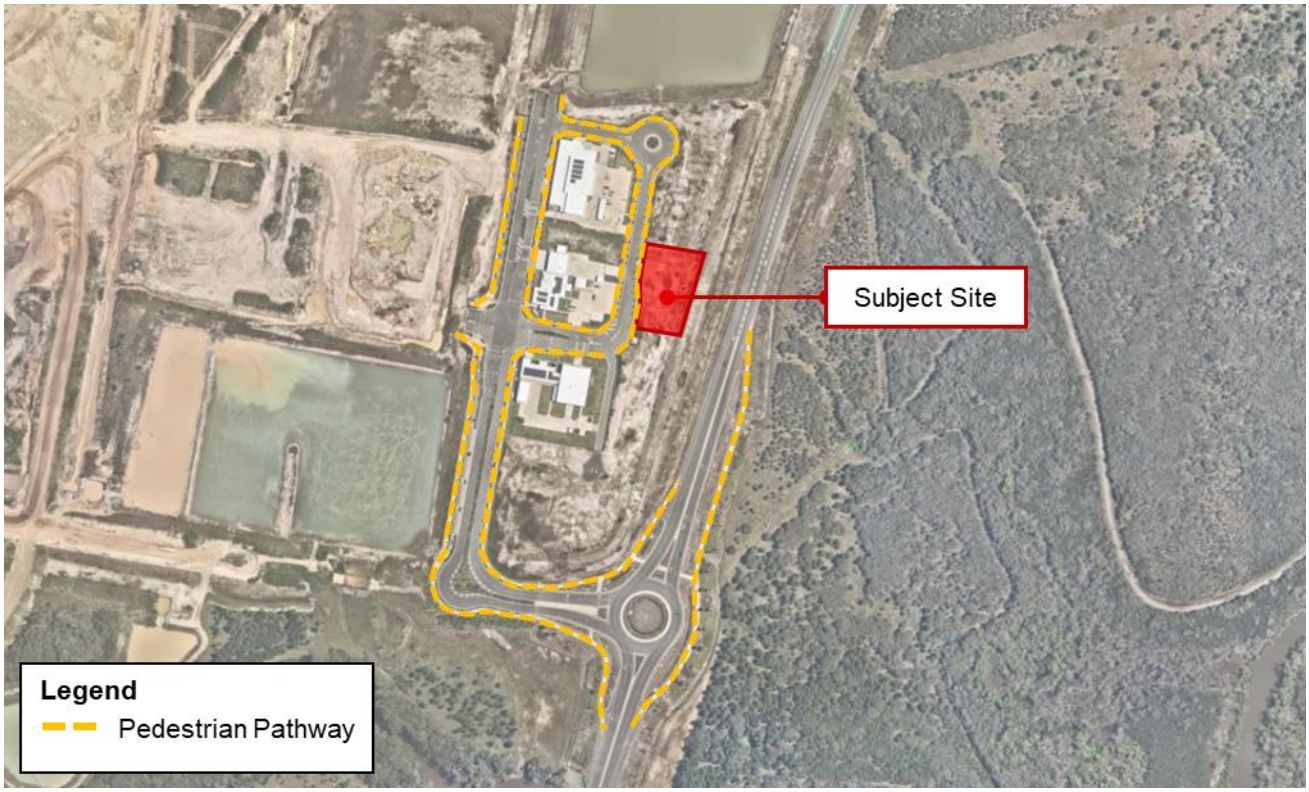
However, it is noted that the Queensland Government has announced plans to deliver a new heavy rail station in Nirimba (Aura) as part of the Direct Sunshine Coast Rail Line project. While a specific street address has not yet been confirmed, the proposed station will be located adjacent to the Aura Town Centre and is expected to provide high-frequency rail services connecting to Beerwah and Maroochydore. Once operational, the new station will significantly improve public transport access to the area and may support future modal shifts for users of the site.

2.4 Active Transport

2.4.1 Pedestrian Facilities

The subject site is currently situated within a developing area, where pedestrian infrastructure is in its early stages. At present, formal pedestrian pathways provide connections only to the existing facilities within the precinct, including the adjacent Ambulance, Police, and QFES sites. Broader pedestrian links beyond this immediate area have not yet been delivered as part of the surrounding road network. However, based on the current level of surrounding development, the proposal does not trigger the need for additional pedestrian facilities at this time.

The footpath network surrounding the subject site is shown in Figure 2.1.



SOURCE: Nearmap

Figure 2.1: Pedestrian Connectivity

2.4.2 Cycling Facilities

The subject site is located approximately 2.3 kilometres from the nearest connection to the Council's Cycling Network, as identified in the Birtinya to Pelican Waters planning information provided by Council. However, a separated cycleway is located approximately 150 metres from the site, providing a nearby opportunity for active transport access. Given the surrounding area is still undergoing significant development, it is anticipated that additional cycling facilities may be delivered in the future, potentially providing a direct connection to the broader Council Cycling Network.

3. TRAFFIC ASSESSMENT

3.1 Development Generated Traffic

Development generated traffic was estimated using the Transport for NSW (TfNSW) Guide to Transport Impact Assessments (GTIA version 1.1) for each of the proposed land uses. The subsequent traffic generation associated with the proposed development is outlined in Table 3.1.

Table 3.1: Development Traffic Generation

Land Use	Quantity	AM Rate	PM Rate	Daily	AM Trips (vph)	PM Trips (vph)	Daily Trips (vpd)
Fitness Centre (Gymnastics)*	703m^2 GFA	3.6 trips per 100m^2 GFA	3.6 trips per 100m^2 GFA	16.9 trips per 100m^2 GFA	26	26	119
Fitness Centre (Gym)*	582m^2	3.6 trips per 100m^2 GFA	3.6 trips per 100m^2 GFA	16.9 trips per 100m^2 GFA	21	21	99
Office	101m^2 GFA	0.99 trips per 100m^2 GFA	0.96 trips per 100m^2 GFA	9.87 trips per 100m^2 GFA	1	1	10
Community Use**	427m^2	0.99 trips per 100m^2 GFA	0.96 trips per 100m^2 GFA**	9.87 trips per 100m^2 GFA	5	5	43
			Total Trips		**53**	**53**	**271**

** Only peak hour rate provided which has been used for both AM and PM trips*
*** GTIA does not provide rate for Community Centre, Office trip rate has been used as surrogate rate*

The proposed development is estimated to add 53 trips in both the AM and PM peak hours, and 271 trips daily. Under uniform flow, this would equate to approximately one entering or exiting the network every minute during the peak hour. This volume is considered to be a minor amount of traffic to the external road network, when considering the frontage road of Revelry Road has the cross section and characteristics of a Neighbourhood Access Street (NAS) as identified in the Economic Development Queensland *State and Movement Network PDA Guideline No.6* (2019) and is anticipated to cater for up to 3,000vpd. Splendour Street has also been designed as a Trunk Collector (TC) which is able to cater for up to 7,500 vpd.

The development traffic impacts are not expected to result in any capacity issues on the surrounding road network that would require any mitigation measures to be imposed. No further detailed analysis has been deemed warranted.

4. PARKING ASSESSMENT

4.1 Car Parking

The development proposes a total of 81 car parking spaces including two Persons with Disability (PWD) and 7 tandem car parking spaces. In addition to the 81 parking spaces, two pick-up / drop-off bays have been provided in the centre of the parking area.

The proposed car parking provision has been reviewed considering the demands expected to be generated by each of the proposed land uses. Peak demands have been estimated based on the following:

- First principles – Estimates informed by expected usage assumptions / advice provided by PCYC QLD (e.g. expected gymnastics class attendance, class times, class capacities, number of staff)
- Survey data – Estimates informed by the results of car parking demand surveys completed at similar existing developments.

Consideration has also been given to the fact that peak car parking demands generated by each of the proposed uses are not expected to coincide.

4.1.1 Operational Profiles

As identified above, peak car parking demands generated by each use are not expected to coincide.

Based on information provided by PCYC QLD (who operate over 50 facilities across QLD) and a review of typical operational demand for similar existing uses elsewhere. Overall site parking demands are expected to peak during the following two periods:

- Weekday afternoon (around 4:30pm-5:30pm)
- Saturday morning (around 10:00am-11:00am).

Table 4.1: Adopted Peak Parking Demands Factors

Land Use	Weekday Afternoon	Saturday Afternoon	Notes
Indoor Sports and Recreation (Gymnastics)	N/A	N/A	Based on development specific first principles estimates – See 4.1.2 for further details
Indoor Sports and Recreation (Gym)	90%	70%	Based on a review of Google's Popular Times data for existing gyms in the Caloundra South area
Office	80%	25%	Based on information provided by PCYC QLD
Community Use	10%	10%	Based on information provided by PCYC QLD. These areas are expected to be predominately used on weekdays during the day

4.1.2 Gymnastics

The car parking provision rates often specified by planning authorities for indoor sports and recreation type land uses are not considered applicable to gymnastics use. The primary reason being that relatively large areas are required for equipment associated with each type of gymnastics event. Accordingly, preson0densities and therefore car parking demand are likely to be lower.

Likely gymnastics car parking demands during peak periods have been estimated based on first principles assessments. Information provided by PCYC QLD regarding expected usage, attendance etc. was predominately used to inform the assessments. We also made several assumptions which were reviewed by PCYC QLD.

Assumptions / information used, and resultant car parking estimates (per class) during the weekday afternoon peak period (4:30pm-5:30pm) are summarised in Table 4.2. Further calculation details are included at **Appendix B**.

Table 4.2: Weekday Afternoon Peak – Class Characteristics / Assumptions per Class

Characteristics / Assumptions		Class Type	
		Gymnastics – 8 Students per Class	Gymnastics – 10 Students per Class
Students per class		8	10
Students per car		1.25	1.25
% Adults that stay to watch class		30%	15%
% of students that are dropped off		30%	50%
% of vehicles on-site	15-30 minutes before class	0%	0%
	0-15 minutes before class	100%	100%
	During class	30%	15%
	0-15 minutes after class	100%	100%
	15-30 minutes after class	10%	10%
Parking Demands	15-30 minutes before class	0	0
	0-15 minutes before class	5	4
	During class	2	2
	0-15 minutes after class	5	4
	15-30 minutes after class	1	1
Drop-off/ pick-up demands		2	4

Assumptions / information used, and resultant car parking estimates (per class) during the Saturday morning peak period (10:00am-11:00am) are summarised in Table 4.3. Further calculation details are included in **Appendix B**.

Table 4.3: Saturday Morning Peak – Class Characteristics / Assumptions per Class

Characteristics / Assumptions		Class Type	
		Gymnastics – 8 Students per Class	Gymnastics – 10 Students per Class
Students per class		8	10
Students per car		1.25	1.25
% Adults that stay to watch class		30%	15%
% of students that are dropped off		30%	50%
% of vehicles on-site	15-30 minutes before class	0%	0%
	0-15 minutes before class	100%	100%
	During class	30%	15%
	0-15 minutes after class	100%	100%
	15-30 minutes after class	10%	10%
Parking Demands	15-30 minutes before class	0	0
	0-15 minutes before class	5	4
	During class	2	2
	0-15 minutes after class	5	4
	15-30 minutes after class	1	1
Drop-off/ pick-up demands		2	4

Table 4.4 summarises the car parking demand we estimate will be generated by the gymnastics use during the weekday afternoon peak period (4:30pm-5:30pm). Importantly, class times and the number of classes expected to be held simultaneously have been considered in our estimate. Further calculation details are included at **Appendix B**.

Table 4.4: Weekday PM Peak – Estimated Gymnastics Car Parking Demand by 15min Period

Class Type	Class Time	Number of Simultaneous Classes	Car Parking Demand (spaces) – 15min Period Ending			
			4:45PM	5:00PM	5:15PM	5:30PM
Gymnastics – 8	3:30pm-4:30pm	7	35	7	0	0
Gymnastics – 8	4:30pm-5:30pm	6	12	12	12	12
Gymnastics – 10	5:30pm-6:30pm	1	0	0	0	4
Total Parking Demands		**-**	**47**	**19**	**12**	**16**

As indicated above, the gymnastics used is expected to reach a peak requirement of 47 car parking spaces during the weekday afternoon peak. The estimated peak car parking demand (i.e. 47 spaces) has been considered in our estimate of overall development peak parking demands herein.

Table 4.5 summarises the car parking demands we estimate will be generated by the gymnastics use during the Saturday morning peak period (10:00am-11:00am). Importantly, class times and the number of classes expected to be held simultaneously have been considered in our estimates.

Table 4.5: Saturday AM Peak – Estimated Gymnastics Car Parking Demand by 15min Period

Class Type	Class Time	Number of Simultaneous Classes	Car Parking Demand (spaces) – 15min Period Ending			
			4:45PM	5:00PM	5:15PM	5:30PM
Little n Active	9:00am-10:00am	1	10	1	0	0
Little Active	10:00am-11:00am	1	10	10	10	10
Gymnastics – 8	9:00am-10:00am	5	25	5	0	0
Gymnastics – 8	10:00am-11:00am	5	10	10	10	10
Gymnastics – 8	11:00am-12:00pm	5	0	0	0	25
Total Parking Demands		**-**	**55**	**26**	**20**	**45**

As indicated above, the gymnastics use is expected to require up to 55 car parking spaces during the Saturday morning peak. The estimated car parking demand (i.e. 55 spaces) has been considered in our estimate of overall development peak parking demands herein.

4.1.3 Gym

A review of a report titled *Trip Generation and Parking Demand Surveys of Gymnasiums*, 2014, prepared by PeopleTrans (people Trans Report) for NSW roads and Maritime Services (MRS) was undertaken to identify likely car parking demands for the proposed gym use. All other things being equal, car parking demands do not typically vary significantly across the eastern coast. Therefore, it is considered appropriate to refer to the report although it was informed by data collected in NSW.

It is specifically noted that the car parking provision rates typically specified by planning authorities for indoor sports and recreation type land uses are not considered appropriate in this instance. The key reasons being that the rates do not appear to account for observed reduction in gym car parking demands over time. The PeopleTrans Report which compared data collected in 2014 as part of their report to that of the data collected in 1993 (including two identical locations) found that parking and traffic demands have decreased. The report hypothesised that the reduction is likely due to the increased number of gyms in many urban areas and the introduction of 24-hour gyms.

The PeopleTrans Report was informed by traffic and parking surveys that were completed at five different locations. Given the size and location of the subject site, we have excluded inner-city sites (Bondi and Kings Cross) that were surveyed as they are likely to have significantly better access to public and active transport infrastructure than the proposed development.

Table 4.6 identifies the peak car parking demand rates surveyed at the sites expected to operate most similarly to the proposed development.

Table 4.6: Gym Peak Car Parking Demands – PeopleTrans Gym Report

Site Location (Suburb)	Yield (GFA)	Peak Parking Rate
Oatley	905m^2	3.5 spaces / 100m^2 GFA
Willoughby	3,700m^2	4.3 spaces / 100m^2 GFA
MIISC	3,200m^2	2.0 spaces / 100m^2 GFA
Average Car Parking Demand	**-**	**3.3 spaces / 100m^2 GFA**
85th Percentile Car Parking Demand	**-**	**4.1 spaces / 100m^2 GFA**

Based on the above, Council's parking rate is significantly higher than the average and 85th Percentile rates identified based on the results of the surveys. Considering this, a car parking provision rate of 4.1 spaces / 100m^2 GGFA is considered appropriate to calculate the car parking demands likely to be generated by the gym proposed for the subject site.

Table 4.7 summarises the car parking demands estimated to be generated by the gym use during the weekday afternoon peak period (4:30pm-5:30pm).

Table 4.7: Weekday PM Peak – Estimated Gym Use Car Parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Indoor Sport and Recreation (Gym)	582m^2	4.1 spaces / 100m^2	90%	21.5

Table 4.8 summarises the car parking demands estimated to be generated by the gym use during the Saturday morning peak period (10:00am-11:00am).

Table 4.8: Saturday AM Peak – Estimated Gym Use Car Parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Indoor Sport and Recreation (Gym)	582m^2	4.1 spaces / 100m^2	70%	16.7

4.1.4 Office

The peak car parking provision rate identified in Council's Planning Scheme for the office land use is considered appropriate and has therefore been adopted to estimate associated parking demands. However, the rate has been adjusted to reflect the expected office use demands during the development's overall peak periods (i.e. based on the factors identified in Table 4.1).

Table 4.9 summarises the car parking demands estimated to be generated by the office use during the weekday afternoon peak period (4:30pm-5:30pm)

Table 4.9: Weekday Pm Peak – Estimated Office Use Car parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Office	101m^2	1 spaces / 30m^2	80%	2.7

Table 4.10 summarises the car parking demands that are estimated to be generated by the office use during the Saturday morning peak period (10:00am-11:00am).

Table 4.10: Saturday AM Peak – Estimated Office User Car Parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Office	101m^2	1 spaces / 30m^2	25%	0.8

4.1.5 Community Use

Limited information is available regarding the car parking requirements by community uses. Accordingly, the peak car parking provision rate identified by Council's Planning Scheme has been adopted to estimate associated parking demands. However, the rate has been adjusted considering expected demands during overall development peak periods (i.e. based on the factors identified in Table 4.1).

Table 4.11 summarises the car parking demands estimated to be generated by the community use during the weekday afternoon peak period (4:30pm-5:30pm).

Table 4.11: Weekday Pm Peak – Estimated Office Use Car parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Community Use	427m^2	20 spaces / 100m^2	10%	8.5

Table 4.12 summarises the car parking demands that are estimated to be generated by the office use during the Saturday morning peak period (10:00am-11:00am).

Table 4.12: Saturday AM Peak – Estimated Office User Car Parking Demands

Land Use	Yield GFA	Peak Parking Rate	Peak Demand Factor	Car Parking Demand Spaces
Community Use	427m^2	20 spaces / 100m^2	10%	8.5

4.1.6 Summary

Table 4.13 summarises the anticipated car parking demands that will be generated by the overall development during the weekday afternoon peak (4:30pm-5:30pm) and the Saturday morning peak (10:00am-11:00am).

Table 4.13: Weekday PM & Saturday AM Peaks – Estimated Car Parking Demands

Land Use	Car Parking Demands (Spaces)	
	Weekday PM Peak (4:30pm-5:30pm)	Saturday AM Peak (10:00am-11:00am)
Indoor Sport and Recreation (Gymnastics)	47	55
Indoor Sport and Recreation (Gym)	21.5	16.7
Office	2.7	0.8
Community Use	8.5	8.5
Total	**80**	**81**

Based on the above, it is expected that the proposed formal car parking provision of 81 spaces will be sufficient to accommodate typical peak demands.

The development is classified as a Class 9b sporting facility under the National Construction Code, which requires 1 accessible parking space per 50 car parking spaces for developments with up to 1,000 spaces. With 81 on-site parking spaces and 2 accessible spaces provided, the proposal complies with the relevant standard.

4.2 Bicycle Parking

The *Approved Plan of Development for Aura City Centre* (DEV2013/469) was used to determine the required bicycle parking rates for developments located on Lot 8048.

Table 4.14 details the parking requirements and provision for the for proposed PCYC development.

Table 4.14: Bicycle Parking Requirements and Provision

Land Use	Yield GFA	Parking Rate	Required Parking	Provided Parking
PCYC	2176.5m^2	1 space per 200m^2 GFA	11 spaces	11 spaces

The provision of 11 bicycle parking spaces is considered sufficient to meet the relevant requirements of the *Approved Plan of Development for Aura City Centre*. While the development meets the overall required provision, it is recommend that the bicycle parking spaces be provided with the 1.5m access aisle and shall be be provided in a location freely accessible to the public at all times in a well-lit area, conducive to passive surveillance.

4.3 Parking Geometric Layout

The on-site parking geometric layout has been assessed in accordance with the relevant requirements of Council's *Transport Code* (*Version 11*) and AS2890. The outcomes of the assessment are summarised in Table 4.15.

Table 4.15: Parking Layout Compliance

Design Element	AS2890 / Transport Code Requirement	Provided	Compliant
90º Parking space (User Class 2)	2.4m x 5.4m	2.6m x 5.4m	**YES**
Tandem car parking bays (User Class 1A)	2.4m x 10.8m	2.6m x 10.8m	**YES**
PWD Parking space (User Class 4)	2.4m x 5.4m with shared space as per AS2890.6	2.6m x 5.4m with shared space as per AS2890.6	**YES**
Parking aisle width	5.8m (+0.3m for single sided aisle)	6.2m	**YES**
One-way circulation aisle	3.0m + 0.3m clearances	52m	**Yes**
Clearance adjacent to vertical obstructions	0.3m (i.e. walls, fences)	Min. 0.3m (i.e. walls, fences)	**YES**
Grades (driveway)	Max. 1:20 for the first 6m into the site	Not annotated	**Shall comply**
Horizontal Bicycle Parking	0.5m x 1.8m x 1.5m	0.5m x 1.8m x 1.5m	**Shall comply** *See note 1*
Sight Triangles	2.0m wide x 2.5m deep	Not annotated	**Shall comply** *See note 2*

Notes:

1. *It is recommended that the bicycle parking spaces be provided with a 1.5m access aisle*
2. *Sufficient area has been provided adjacent to both sides of the driveway to accommodate pedestrian sight triangles, it is recommended that they be shown on all future plans.*

The on-site parking geometric layout complies with AS2890.1:2004 requirements and is considered acceptable from a traffic engineering perspective.

Relevant swept path diagrams have been provided at **Appendix C**.

5. ACCESS ASSESSMENT

5.1 Vehicular Access

The proposed development provides a single vehicular crossover onto Jefferson Lane for both residents and visitors (left in / left out movements). Details of the proposed access are summarised in Table 5.1.

Table 5.1: Vehicular Access Assessment

Design Element	Details
Vehicle Types	Type 2 as per AS2890.1 (i.e. User Class 2, Category 2, 25 to 100 car parking spaces and local road frontage)
Vehicle Crossing Separation Distance	The proposed vehicle crossings comply with the required separation distances, including a minimum 1 metre from vehicle crossings on adjoining properties and side boundaries, and 0.5 metres where built-to-boundary setbacks apply
Crossover Form	IPWEA Standard Drawing RS-051 – Type A
Access Width	6.8m at property boundary
Pedestrian Sight Triangles	Pedestrian sight line triangles shall be provided on both side of the driveway at 2.0m along the property boundary and 2.5m into the site as per Figure 3.3 in AS2890.1. The area within the triangle is clear of all obstructions to visibility.

The proposed vehicular access is generally in accordance with the relevant requirements of AS2890.1 and IPWEAQ Standard Drawing RS-051.

It is noted that occasional servicing is expected with a front-loading WCV and MRV. The proposed Type A crossover has been provided with 6.8m in width, noting suitable width and form to cater for the anticipated vehicle movements

5.2 Sight Distance

A sight distance assessment for the proposed development's vehicular access was undertaken in accordance with AS 2890.1. Revelry Road is a two-way street with a generally flat and straight alignment.

For southbound vehicles approaching at a 90-degree angle, it is anticipated that travel speeds would be close to 40 km/h, consistent with the Austroads Guide to Road Design Part 4B – Roundabouts, which references expected vehicle speeds at such turning angles.

AS 2890.1 specifies a desirable sight distance of 55 metres and a minimum sight distance of 35 metres for a design speed of 40 km/h. The proposed access arrangement has been assessed accordingly to ensure compliance with these requirements.

The available sight distance is shown in Figure 5.1.

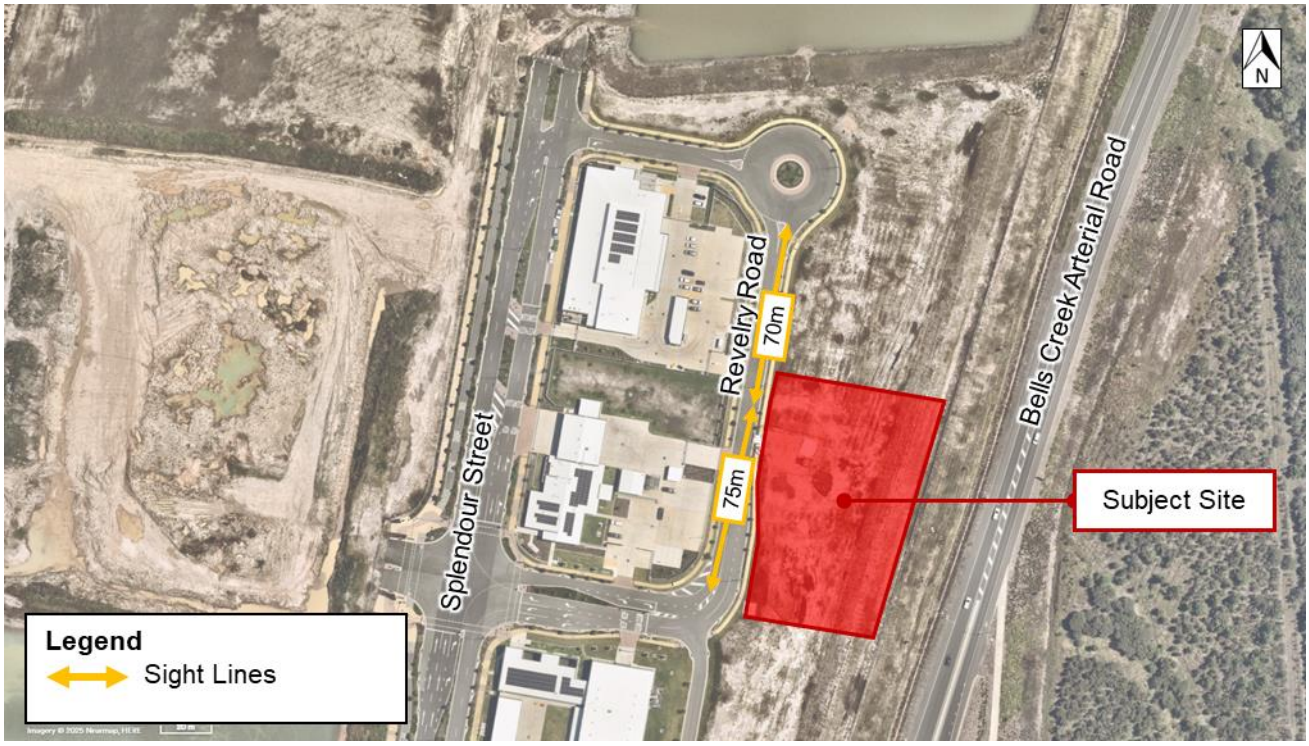


Figure 5.1: Available Sight Distance

As shown, sight distance exceeds the desirable sight distance requirement stipulated in AS2890.1. The proposed vehicular accesses are therefore not expected to introduce any adverse traffic impacts.

5.3 Pedestrian Access

The proposed development provides a dedicated pedestrian pathway along each road frontage and from all car parking and set-down areas to the main entry of the building, ensuring safe and direct access for users. All pathways have been designed and will be constructed in accordance with AS 1428.1 – *Design for access and mobility Part 1: General requirements for access – New building work*, to ensure compliance with accessibility standards. Furthermore, pedestrian pathways are clearly separated from vehicle movement areas, minimising conflict points and enhancing overall pedestrian safety within the site. The proposed pedestrian access arrangements are illustrated on the site plan included in **Appendix A**.

6. SERVICING ASSESSMENT

6.1 Servicing

Council's Planning Scheme identifies the following design servicing vehicles for each of the proposed land uses:

- **Indoor Sport and Recreation:** *Sufficient spaces to accommodate number of vehicles likely to be parked*
- **Office (under 999m^2 GFA):** Small Rigid Vehicle (SRV)
- **Community Use:** Van.

PCYC QLD have indicated that occasional servicing by an MRV is anticipated. It is also understood that large equipment are typically delivered in pieces / sections prior to opening of the facilities, meaning that the largest servicing vehicle anticipated to enter the site will be an MRV.

Accordingly, we have adopted an MRV as the design service vehicle in this instance.

Swept path diagrams have been prepared which demonstrate an MRV entering the subject site in a forward gear, circulate through and service the subject site, before exiting in a forward gear. Noting that general deliveries are expected to occur outside of peak periods, it is proposed that when making deliveries, delivery drivers will store within the parking aisle fronting the tandem staff parking spaces.

In summary, servicing arrangements are considered appropriate from a traffic engineering perspective.

A copy of the swept paths diagrams have been provided at **Appendix C**.

6.2 Refuse Collection

The development has provided a temporary bin storage point has been provided within the site and shall be serviced by a 9.9m front-end waste / refuse collection vehicle (WCV / RCV). Swept path diagrams demonstrating that an WCV can enter the site in a forward gear, service the temporary bin storage location and exit the site in a forward gear have been provided at **Appendix C**.

7. SUMMARY

The key findings from the Traffic Impact Assessment are summarised below:

- A total footprint of 2,176.5m^2, comprised of:
  - Indoor Sport and Recreation (Gymnastics): ~703m^2 GFA
  - Indoor Sport and Recreation (Gym) ~582m^2 GFA
  - Office: ~101m^2 GFA.
  - Community Use: ~427m^2 GFA
- The site is located on Revelry Road, Nirimba, within the Caloundra South Priority Development Area (PDA), and is accessible via a single vehicle crossover from Revelry Road.
- The site is situated within proximity to key civic functions (e.g. Ambulance, Police, QFES) but is currently not well served by public transport. A future heavy rail station is planned for the area as part of the Sunshine Coast Rail Line, which is expected to improve long-term access.
- Pedestrian access to the site is currently limited to immediate surroundings. A separated cycleway exists approximately 150 metres from the site, with future expansion expected.
- The development is estimated to generate minimal additional traffic during peak periods, equivalent to approximately one vehicle entering or exiting the site every minute during peak hours. No adverse impact on the surrounding road network is anticipated.
- A total of 81 car parking spaces are proposed (including 2 accessible spaces and 7 tandem bays), supported by demand estimates derived from first principles and industry survey data. Peak demands are estimated at 80 (weekday PM) and 81 (Saturday AM) spaces, respectively.
- Bicycle parking provision complies with the *Approved Plan of Development for Aura City Centre* (DEV2013/469) guidelines for developments on Lot 80048
- The internal parking layout complies with AS2890.1 and Council's Transport Code (Version 11), including appropriate aisle widths, setbacks, accessible bays, and sight distances.
- Servicing is to be accommodated via an MRV and a 9.9m RCV (refuse vehicle), with swept path analysis demonstrating safe forward-in/forward-out manoeuvrability within the designated service area.
- Based on the above assessment, it is concluded that there are no significant traffic or transport impacts associated with the proposed development to preclude its approval or warrant specific mitigation measures.

Appendix A: Development Plans

ACCESS TO OUTDOOR SPACE FOR GYM

SCREENED WESTERN WALL

LANDSCAPE BUFFER

QPS / YOUTH WORKER AFTER HOURS ACCESS

REVELRY ROAD

EXISTING TRANSFORMER

RUNNING TRACK /OUTDOOR RECREATION

½ COURT BASKETBALL

SCREEN WALL

½ COURT BASKETBALL

ACCESS FROM GYMNASTICS

LANDSCAPE BUFFER

LANDSCAPE BUFFER

SCREENED AC PLANT

SERVICE ACCESS AREA

ONE WAY ACCESS

SCREENED BIN STORAGE AREA

2M SCREENED FENCE

ONE WAY ACCESS

GYMNASTICS DROP OFF ZONE

LANDSCAPE BUFFER

2M SCREENED FENCE

Outdoor Activity Space

Gym 568M²

Outdoor

Store 5 sqm

Store 7 sqm

PWD

UNISEX 28 M²

Kitchenette

After Hours Entry 7M²

Chair Store 19 M²

Consult 9 M²

Hall 1

OPERABLE WALL

Youth 71 M²

MP 2 70 M²

MP 1 53 M²

Inter-view 9 M²

Foyer 23 M²

Gallery

Outdoor

PWD

Unisex 20 M²

Hall 2

Meeting 13 M²

Reception 13 M²

Office 101 M²

Viewing 32 M²

Switch 6 M²

Store 7 M²

Comms. 9 M²

UNISEX 16 M²

Battery Store 16 M²

MP Store 16 M²

Gymnastics 703 M²

Plant

MP 3 210 M²

Store

Store

FHR

Floor Plan

SCALE1:200

1 2 3 4 5 10 15 20 Meters @ 1:100

General Notes
The Builder shall check all dimensions and levels on site prior to construction.
Notify any errors, discrepancies or omissions to the architect.
Drawings shall not be used for construction purposes until issued for construction.
Do not scale drawings.

PROPOSED
PCYC - Aura
AT
Revelry Road - Aura

FOR
PCYC Qld

RevID	ChID	Change Name	Date
SD 01			20/05/2024
SD 02			13/06/2024
SD 03			3/07/2024
SD 04			27/08/2024
SD 05			18/12/2024
SD 06			18/02/2025
DA 01			13/03/2025
DA 02			16/04/2025

DRAWING TITLE :
Floor Plan

Tait Morton Johnston pty ltd
ARCHITECTS
P (07)3202 4400
E admin@tmjarchitects.com.au
A 13 Warwick Road, Ipswich, Q

ISSUE	DRAWN BY :	CHECKED BY :	SHEET
DA	CP	PJ	A1

DRAWING NUMBER	REVISION	JOB NUMBER
A102	DA 02	1557-1

Plot Date: 14/05/2025

Appendix B: Parking Calculation Details

Table 1: Gymnastics Class Parking Demands by Peak Period

Class Type	Time / Day	Students per Class	Students per Car	% Adults that stay to watch class	% Students that are dropped off	% of Vehicles on site					Parking Demands					Drop-off / Pick-up Demands
						15 to 30mins after class end	0 to 15mins prior to class start	During Class	0 to 15mins after class end	15 to 30mins after class end	15 to 30mins prior to class start	0 to 15mins prior to class start	During Class	0 to 15mins after class end	15 to 30mins after class end	
Little n Active	Between 9:00am & 12:00pm Monday to Friday	12	1.25	100%	0%	30%	100%	100%	100%	10%	3	10	10	10	1	0
Gymnastics - 8	Between 3:30pm & 5:30pm Monday to Friday	8	1.25	30%	30%	0%	100%	30%	100%	10%	0	5	2	5	1	2
Gymnastics -10	Between 5:30pm & 8:00pm Monday to Friday	10	1.25	15%	50%	0%	100%	15%	100%	10%	0	4	2	4	1	4
Little n Active	Between 8:00am & 11:00am Saturday	12	1.25	100%	0%	30%	100%	100%	100%	10%	3	10	10	10	1	0
Gymnastics - 8	Between 8:00am & 12:00pm Saturday	8	1.25	30%	30%	0%	100%	30%	100%	10%	0	5	2	5	1	2
Gymnastics -10	Between 12:00pm & 3:00pm Saturday	10	1.25	15%	50%	0%	100%	15%	100%	10%	0	4	2	4	1	4

Table 2: Parking Demands - Weekdays 4:30pm to 5:30pm

Class Type	Class Time	Number of Simultaneous Classes	15min Period Ending				Max
			4:45 PM	5:00 PM	5:15 PM	5:30 PM	
Gymnastics - 8	3:30pm to 4:30pm	7	35	7	0	0	
Gymnastics - 8	4:30pm to 5:30pm	6	12	12	12	12	
Gymnastics -10	5:30pm to 6:30pm	1	0	0	0	4	
Total Parking Demands			**47**	**19**	**12**	**16**	**47**

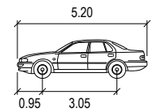
Table 3: Parking Demands - Saturdays 10:00am to 11:00am

Class Type	Class Time	Number of Simultaneous Classes	15min Period Ending				Max
			10:15 AM	10:30 AM	10:45 AM	11:00 AM	
Little n Active	9:00am to 10:00am	1	10	1	0	0	
Little n Active	10:00am to 11:00am	1	10	10	10	10	
Gymnastics - 8	9:00am to 10:00am	5	25	5	0	0	
Gymnastics - 8	10:00am to 11:00am	5	10	10	10	10	
Gymnastics - 8	11:00am to 12:00pm	5	0	0	0	25	
Total Parking Demands			**55**	**26**	**20**	**45**	**55**

Appendix C: Swept Path Diagrams

Notes:

Vehicle Clearance (300mm)



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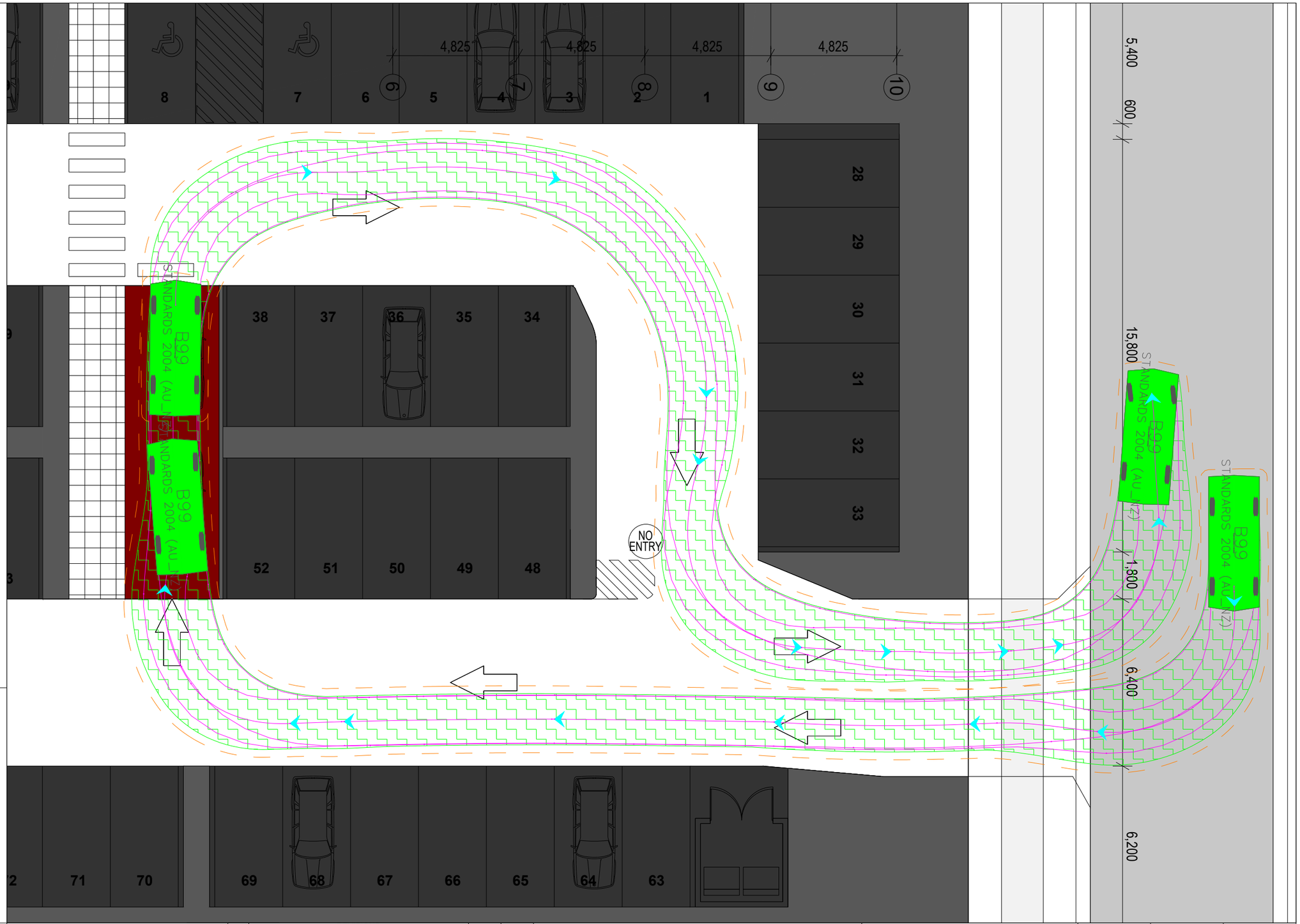
Steering Angle	: 38.0

DESIGN VEHICLE



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Sydney
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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project: Caloundra PCYC
Traffic Impact Assessment

Title: Kiss n Drop Circulation

Design	Drawn	Checked
J.I	J.I	M.D

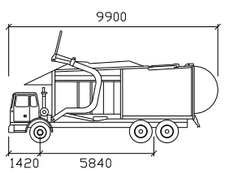
CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	1	001

Notes:

Vehicle Clearance (300mm)



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mm

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Track	: 2500
Lock to Lock Time	6.0
Steering Angle	: 35.8

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project: Caloundra PCYC
Traffic Impact Assessment

Title: Kiss n Drop Circulation

Design	Drawn	Checked
J.I	J.I	M.D

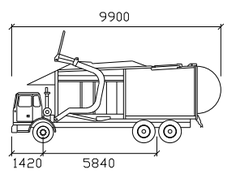
CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	2	001

Notes:

Vehicle Clearance (300mm)



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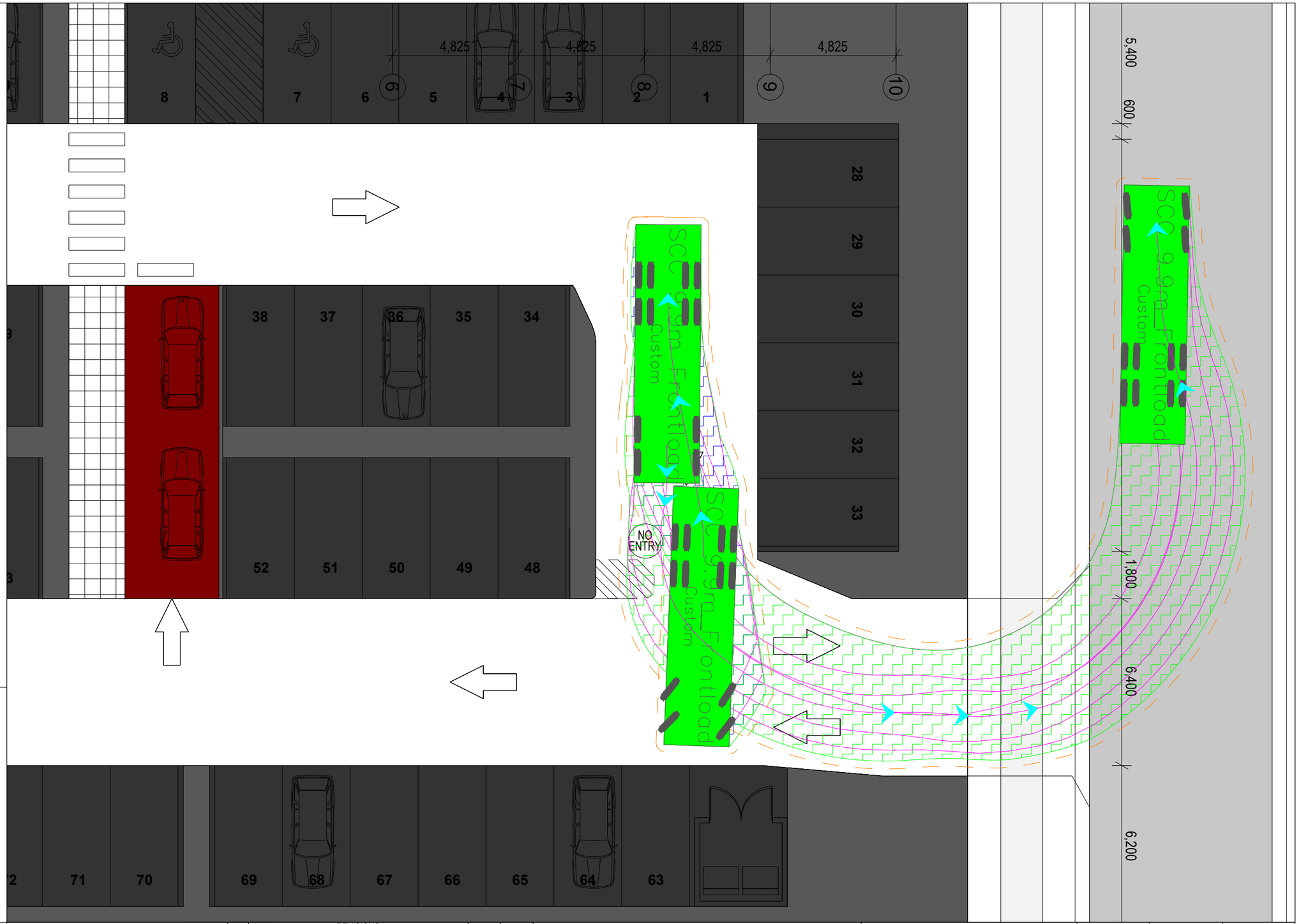
DESIGN VEHICLE



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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project: Caloundra PCYC
Traffic Impact Assessment

Title: Kiss n Drop Circulation

Design	Drawn	Checked
J.I	J.I	M.D

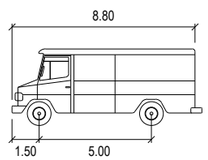
CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	3	001

Notes:

Vehicle Clearance (300mm)



MRV

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Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

DESIGN VEHICLE

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

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Project: Caloundra PCYC
Traffic Impact Assessment

Title: MRV Servicing Ingress

Design	Drawn	Checked
J.I	J.I	M.D

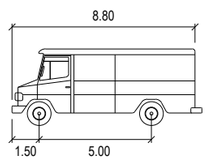
CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	4	001

Notes:

Vehicle Clearance (300mm)



MRV

	meters
Width	: 2.50
Track	: 2.50
Lock to Lock Time	: 6.0
Steering Angle	: 38.7

DESIGN VEHICLE

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 2 4 6 8 10 12 1:250

Project: Caloundra PCYC
Traffic Impact Assessment

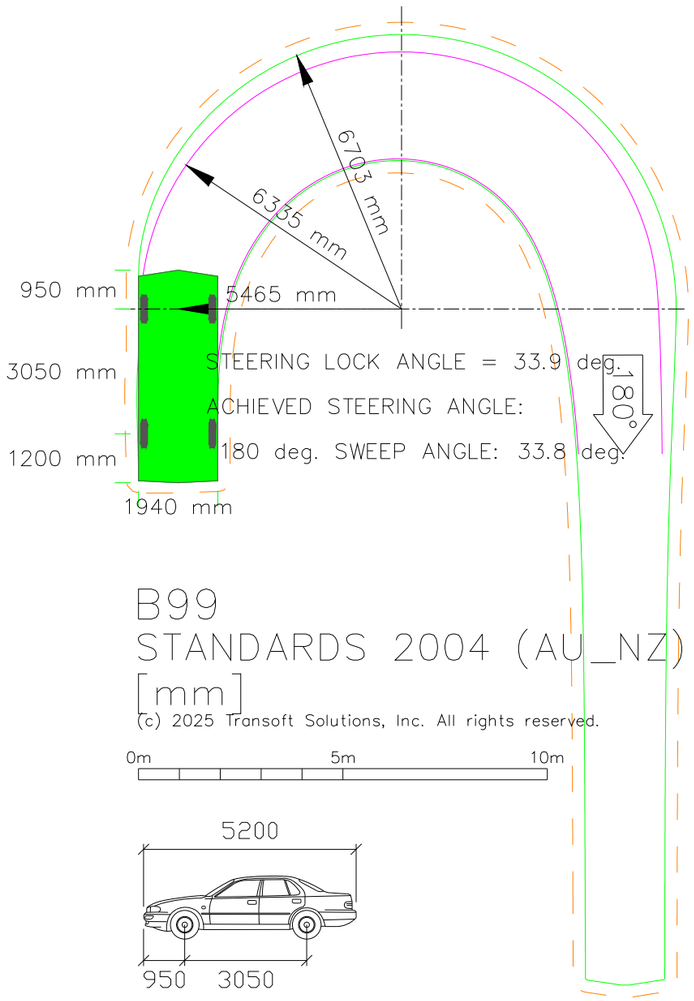
Title: MRV Servicing Egress

Design	Drawn	Checked
J.I	J.I	M.D

CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	5	001



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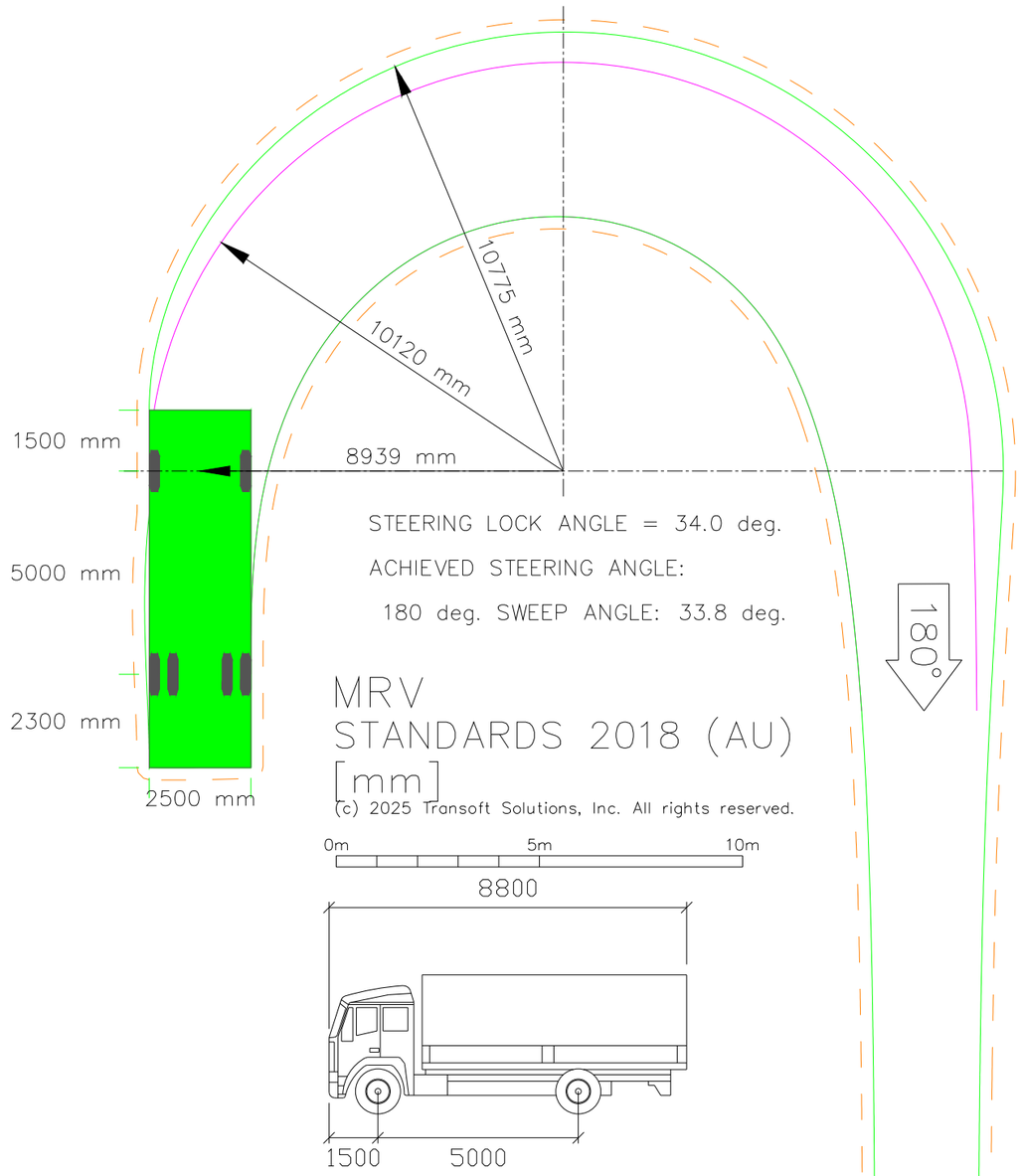

MRV
STANDARDS 2018 (AU)
[mm]

MRV

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

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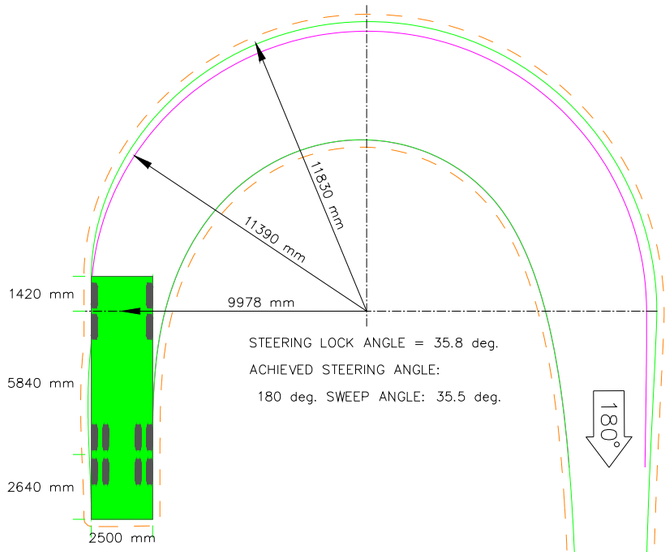
Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 1 2 3 4 5 6 7 1:150

Project: Caloundra PCYC Traffic Impact Assessment	Design: J.I	Drawn: J.I
	CONCEPT ONLY	Checked: M.D
Title: Vehicle Template	Project Number: P6951	Sheet Number: 6
	Date: 22.05.2025	Issue: 001



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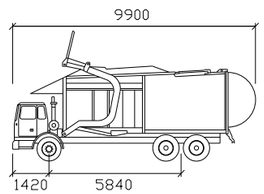
Custom
[mm]

0m 5m 10m



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Width	: 2500
Track	: 2500
Lock to Lock Time	6.0
Steering Angle	: 35.8

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Issue	REVISIONS Revisions/Descriptions	Drawn	Date
001	Swept Path Diagrams	J.I	22.05.2025

Scale @ A3 0 2 4 6 8 10 12 1:250

Project: Caloundra PCYC
Traffic Impact Assessment

Title: Vehicle Template

Design	Drawn	Checked
J.I	J.I	M.D

CONCEPT ONLY

Date: 22.05.2025

Project Number	Sheet Number	Issue
P6951	7	001

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