



CAMBRAY CONSULTING

TRAFFIC ENGINEERING + TRANSPORT PLANNING



Herston Quarter Child Care Centre TRAFFIC IMPACT STATEMENT

*Prepared For Australian Unity
10 June 2022*

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2021/1171

Date: 29 June 2022



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1.0 Introduction

Cambray Consulting has been providing ongoing traffic and transport engineering advice to Australian Unity (AU) in relation to the Herston Quarter Site at Herston.

For this application, Cambray has been engaged by Australian Unity to assess and assist in the design development of the traffic arrangements for a proposed childcare centre to be relocated from its existing location to an alternate location within the Herston Quarter Priority Development Area (PDA) in Herston.

1.1 Development Overview

The development proposed to relocate the existing Lady Ramsay Child Care Centre from Bramston Terrace to 58 Bramston Terrace which will be accessed from Research Road. The proposed location for the Lady Ramsay Child Care Centre will be in the western section of the Herston Quarter Priority Development Area (PDA).

The Proposed Development Scheme for the Herston Quarter PDA indicate that the Lady Ramsay Child Care Centre site is located within development Precinct 4.

A copy of the development plans is included in **Appendix A**.

1.2 Limits of Report

This report takes into account the particular instructions and requirements of our client. Cambray Consulting has taken care in the preparation of this report, however it neither accepts liability nor responsibility whatsoever in respect of:

- Any use of this report by any third party;
- Any third party whose interests may be affected by any decision made regarding the contents of this report; and/or
- Any conclusion drawn resulting from omission or lack of full disclosure by the client, or the clients' consultants.

1.3 Safety in Design

Within our scope, we have identified safety in design issues and potential hazards, whenever reasonably practicable within our field of expertise. Due to our limited and upfront role on this project, it is not considered reasonably practicable to identify all potential hazards which may occur throughout the life of a project, including during detailed design and construction activities. It is strongly recommended that safety in design issues be reviewed during all ensuing design and construction stages of the project.

1.4 Qualifications

This report was prepared by:

- Andrew Douglas, Director – BE Civil (Hons), MSc Env Man, FIEAust, CPEng, **RPEQ 6691**; and
- John Dollisson, Senior Transport Engineer – BE Civil.



2.0 Context

2.1 Site Location

The Herston Quarter PDA, declared on 18th November 2016, is located at 300 Herston Road, Herston. It is located within the Brisbane City Council (Council) local government area.

The existing Lady Ramsay Childcare Centre is located on the corner of Bramston Terrace, Back Road and Fourth Avenue, on Lot 545 on SP289113, within the Herston Quarter PDA.

It is proposed to relocate this childcare centre within the same lot, adjacent to Research Road.

The site in relation to the surrounding road network is illustrated in **Figure 2.1**.



Figure 2.1 Indicative Site Location

©2020 Nearmap



2.2 Surrounding Road Network

Key characteristics of the adjacent road network are summarised in **Table 2.1**.

Table 2.1 Surrounding Road Network

Road	Jurisdiction	Hierarchy	Speed Limit
Bowen Bridge Road	Council	Arterial Road	60km/h
Butterfield Street		Neighbourhood Road	50km/h
Herston Road		District Road	60km/h
Bramston Terrace		Neighbourhood Road	50km/h
O'Connell Terrace		Suburban Road	60km/h
Garrick Terrace		Neighbourhood Road	40km/h

The following relevant roads are private roads within the Herston Quarter PDA area:

- Back Road;
- Fourth Avenue;
- Central Drive;
- Research Road;
- Western Road; and
- Service Road.

The following documents were also reviewed to identify potential future transport network projects which may impact the site:

- Brisbane City Plan 2014, Priority Infrastructure Plan;
- Brisbane Metro Business Case, May 2017, Brisbane City Council; and
- Inner City Bypass Upgrade Project Plan, December 2016.

Our review of these documents indicated that no identified transport projects are likely to directly impact the site or the proposed development.

2.3 Herston Quarter Priority Development Area – Planning Considerations

The Herston Quarter PDA, Interim Land Use Plan (ILUP) indicates that when planning and reviewing proposed development traffic and transport arrangements, the requirement of the following documents should be considered:

- Brisbane City Council's Brisbane City Plan 2014;
 - Traffic, Access, Parking and Servicing Planning Scheme Policy (TAPS PSP);
 - Traffic, Access, Parking and Servicing Code (TAPS Code);
- Austroads Guidelines; and
- Australian Standards AS2890 for Parking Facilities (AS2890).



3.0 Proposal

It is proposed to relocate the Lady Ramsay Childcare Centre (LRCCC) from its current location, on the corner of Back Road and Bramston Terrace, to Research Road.

The proposed childcare centre redevelopment plan is provided in **Appendix A** and an extract of the ground level plan provided in **Figure 3.1**.

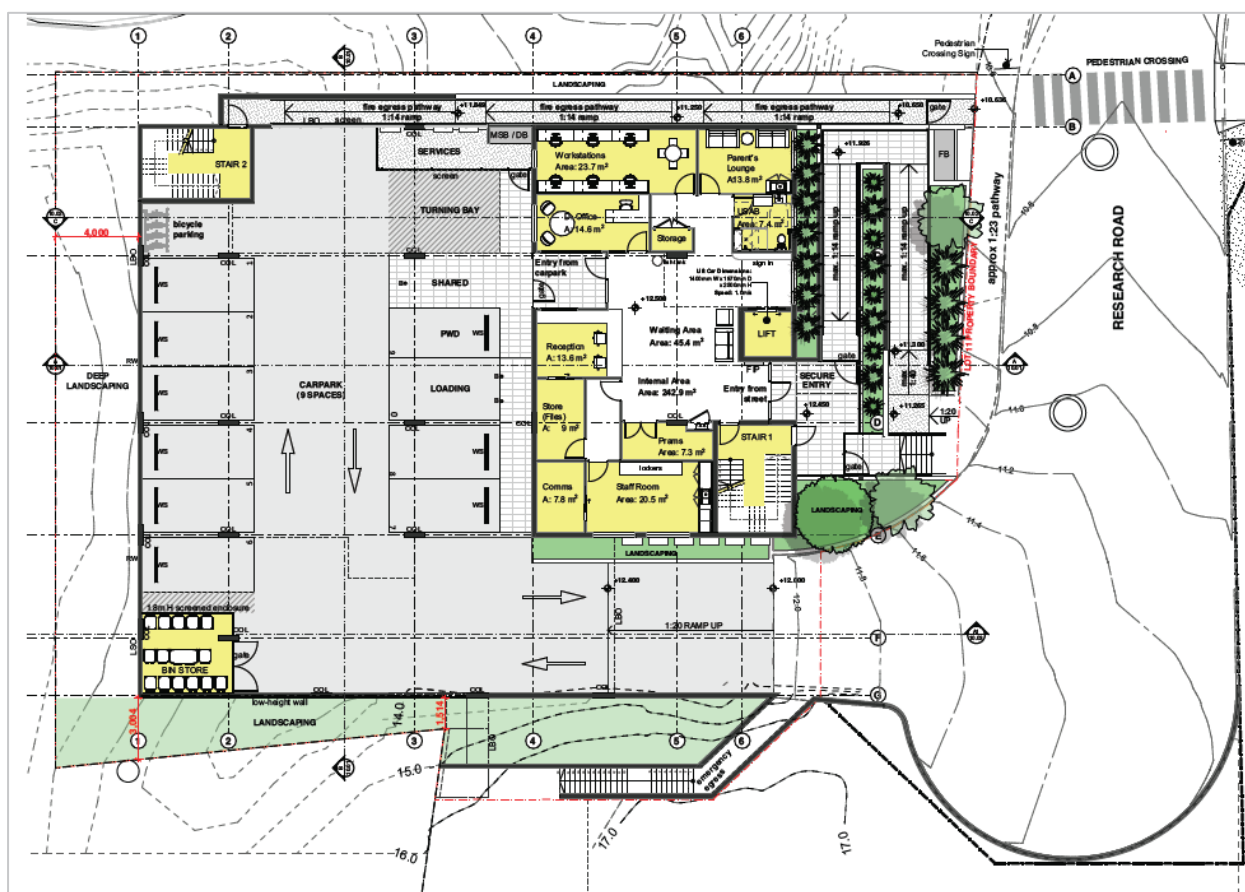


Figure 3.1 Proposed Childcare Centre Ground Level Plan

The proposed development is proposed yields are summarised in **Table 3.1**

Table 3.1 Proposed Development Yields

Land Use	Yield
Childcare (Ground Floor)	212m ²
Childcare (First Floor)	401m ²
Childcare (Second Floor)	315m ²
TOTAL	928m²

The site relocation in relation to its surroundings, including potential private road development, is illustrated in the Site Plan extract in **Figure 3.2**.

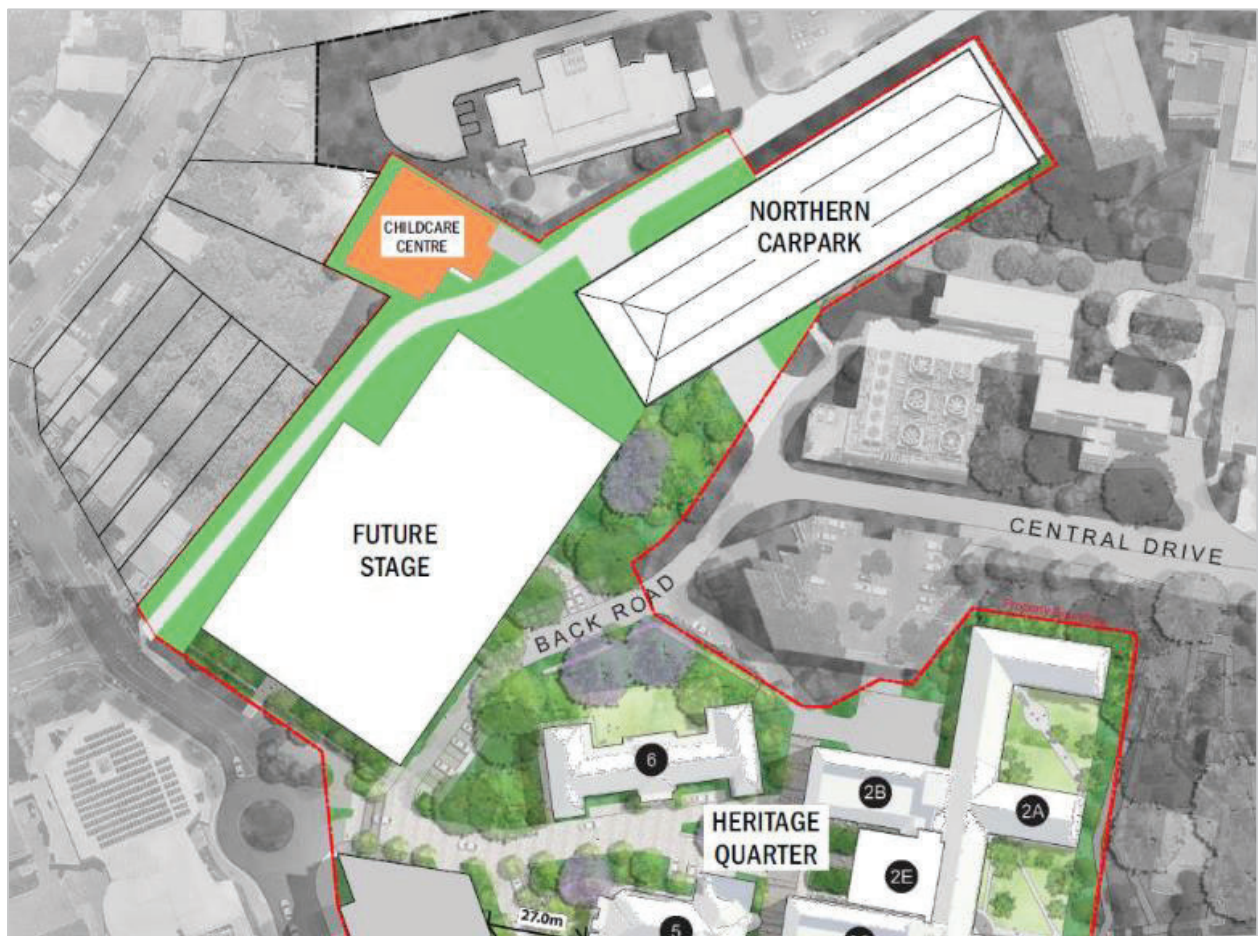


Figure 3.2 Proposed Site Plan

3.1 Proposed Access Arrangements

3.1.1 Site Access Overview

Vehicular access to the Childcare Centre from the wider road network will primarily be via the Butterfield Street / Garrick Terrace / Service Road roundabout. The specific site access arrangements for the relocated Lady Ramsay Childcare Centre is proposed to be via Research Road.

Some motorists would also utilise the Bramston Terrace / Back Road roundabout to access the Northern Carpark and walk along the proposed footpaths along Research Road to reach the proposed childcare centre



3.1.2 Child Care Access

Access to the development will be provided on the southern boundary via a turnaround bulb at the end of Research Road. The proposed turnaround bulb has been provided in order to not prejudice the future Stage 8 which may ultimately access Research Road directly to the south/east of the proposed site.

The access has been located appropriately for the following:

- Provides an area for heavy vehicles (up to 12.5m in length) to undertake a three (3) point manoeuvre to egress the area;
- Provides access for a fire appliance (fire truck) to the fire cabinet fronting the site;
- Provides an area for a refuse collection vehicle to manoeuvre to reverse into the site for collection;
- Is a minimum of 6.5m in width;
- Proposes a BCC Type B1 Driveway crossover or similar; and
- Is located as far as practicable from the proposed pedestrian crossing on the northern boundary which accesses the Northern Car Park.

Proposed site vehicular access arrangements are illustrated in **Figure 3.3**.

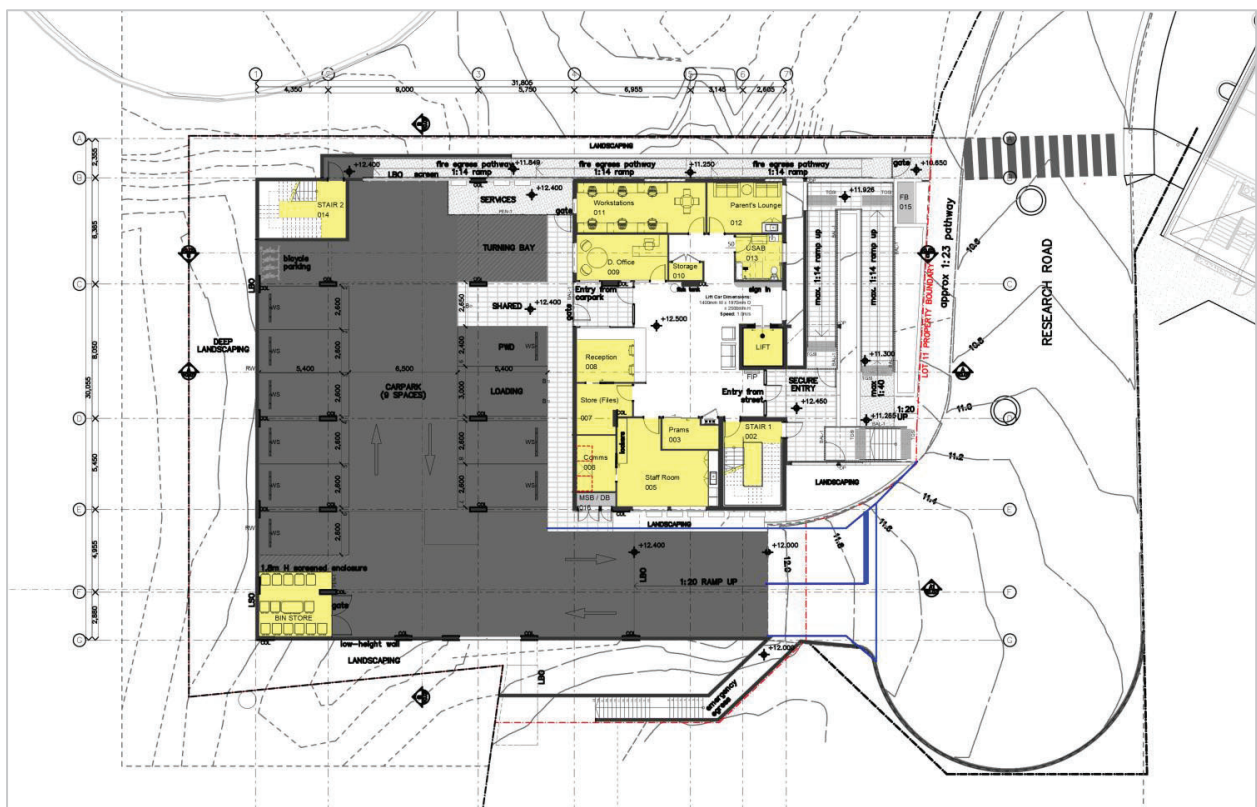


Figure 3.3 Access and Egress Ground Level Overview

The proposed crossover configurations generally comply with the TAPS PSP and/or AS2890.1 requirements. The proposed access arrangements are therefore considered to be appropriate from a traffic engineering perspective.



3.1.3 Sight Distance Review

A review of the sight distances to/from the proposed Childcare Centre access was undertaken against Council's TAPS PSP 4.5 *Sight Distance*, Australian Standards *Parking Facilities: Off-Street Parking* (AS2890.1) and Austroads *Guide to Road Design Part 4a* (AGRD4) to assess the required sight distance.

The speed of egressing the Childcare Centre access ramp may be in the order of 10km/h to 20km/h. Council's TAPS and AS2890.1 does not prescribe speeds under 50km/h. However, AS2890.1 Figure 3.2 draws the required sight distances required from AGRD4a Minimum Gap Sight Distance (MGSD).

Adopting the left turn movement from table 3.5 for 5 seconds, the MGSD for a design speed of 20km/h requires 28m.

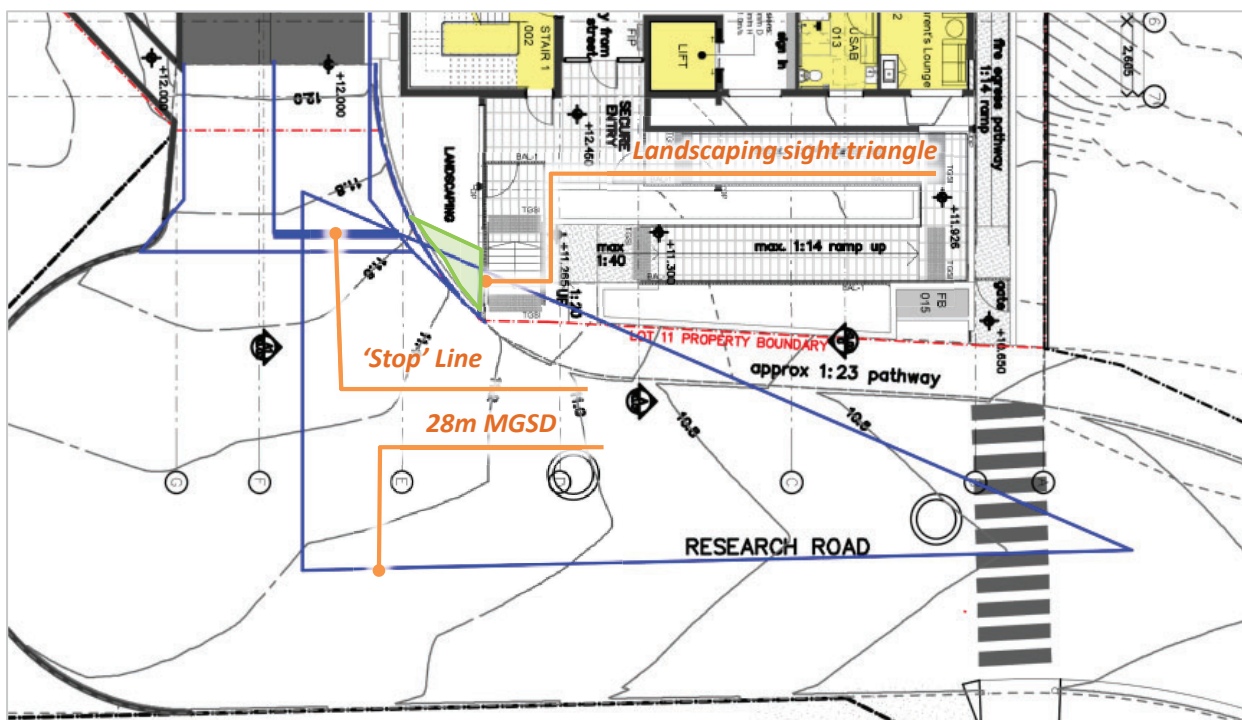
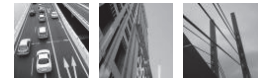


Figure 3.4 Sight lines from Childcare Centre Egress

Inclusion of a 'Stop' line for motorists egressing the Childcare Centre driveway is proposed to be incorporated into the turnaround bulb as illustrated in **Figure 3.4**. Based on the above, the sight distance, measured 2.5m from the turning bulb/'Stop' line, achieves 28m of sight distance.

Further, a small sight triangle on the corner of the landscaping is required to be kept clear to maintain MGSD. Only low growing vegetation / landscaping elements (wall, etc.) under 600mm in height should be planted.

Based on the above, and a review against Council's TAPS PSP 4.5 *Sight Distance Table 7*, AS2890.1 *Figure 3.2* and Austroads *Guide to Road Design Part 4a* determined that inclusion of a sight triangle in the landscaping and 'Stop' line from the Childcare Centre egress point achieves a sight distance of 28m for 20km/h design speed.



3.1.4 Future Stage 8 Access

The Future Stage 8 will be located between the end of the turnaround bulb of Research Road, Back Road and Bramston Terrace. The road width and turnaround bulb arrangement fronting the proposed development does not prejudice a connection and the capacity to service the Future Stage 8.

3.1.5 Pedestrian Access

The development proposes to provide pedestrian connections from the childcare centre to the Research Road footpath, which provides a DDA compliant ramp to the main entry and an additional ramp and set of stairs to shortcut the additional switchback of ramping.

Further, there is proposed to be a fire egress pathway highlighted along the northern boundary which is DDA compliant and access the bicycle racks adjacent to stair 2 within the car park area as required.

The proposed DDA pedestrian access arrangements are illustrated in **Figure 3.4**.

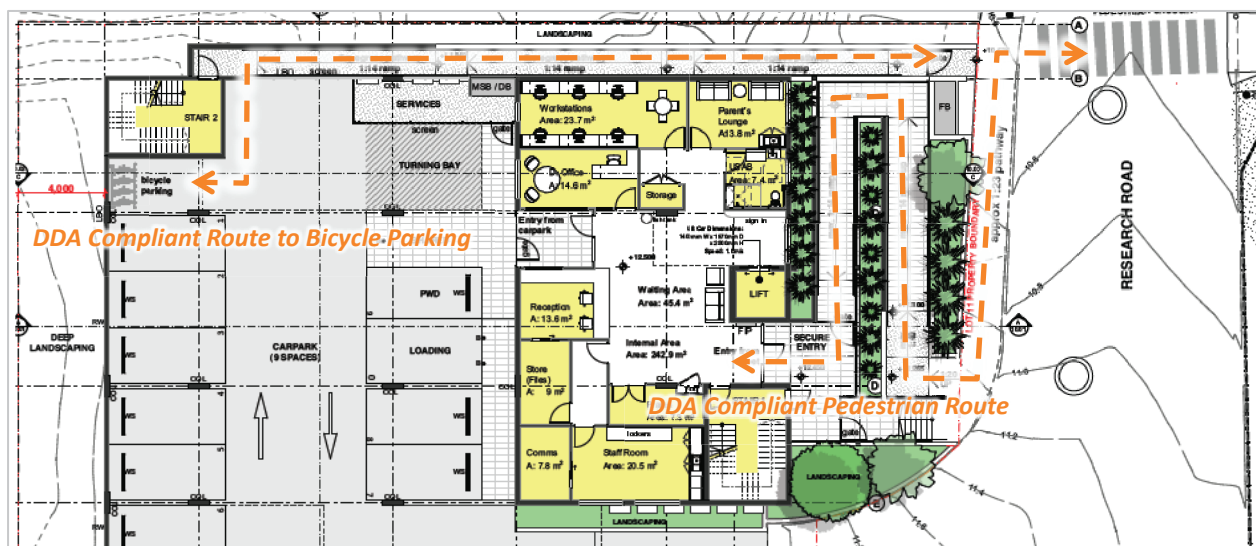


Figure 3.4 Proposed DDA Access

3.1.6 Pedestrian Access – Zebra Crossing

A 'zebra' crossing is proposed as a designated location for crossing Research Road south of the Northern Carpark (NCP) access and adjacent to the LRCCC northern property boundary. Research Road is proposed to terminate with a turning bulb (as discussed in **Section 3.1.2**) and a future connection may be required to the turning bulb for the potential Stage 8 development (**Section 3.1.4**).

A review was undertaken to determine if a 'zebra' crossing is warranted in the proposed location in accordance with Austroads *Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management* (AGTM6) which notes;

An important purpose behind creating crossing points is to concentrate the movements to selected locations

And further;

An exception to concentrating non-motorised movements to a specific location is the integrated facility where all road users share the same road space under a controlled environment.



The road past the NCP access is not proposed to be provided as a shared zone due to the requirements for heavy vehicles to manoeuvre, the limited access to public open spaces and the future connection to Stage 8.

Based on the review above, *Australasian Pedestrian Crossing Facility Selection Tool (crossing selection tool 2.2.1)* has been utilised to determine if a zebra crossing would be suitable for the proposed mid-block locality with no existing facilities.

The assessment has been undertaken utilising the following key geometric parameters as summarised in **Table 3.2** below.

Table 3.2 Adopted Parameters for Pedestrian Crossing Facility Selection Tool

Parameter	
Number of traffic directions	2
Posted Speed Limit	20km/h
Design Speed Limit	30km/h
Road Width at Crossing	Circa 9.5m
Parking/Shoulder	No

The potential traffic volume of both vehicles and pedestrians utilising the 'zebra' crossing is based off the potential occupancy of the LRCCC, which is summarised in **Table 3.3**.

Table 3.3 Proposed Occupancy of LRCCC

Age	No. of Places
Birth – 12 Months	8
12 to 24 Months	12
2 to 3 years	25
3 to 5 years	33
Total	78

Based on a first principles approach which all children arriving during the peak period with one (1) child per vehicle/Parent, the potential traffic volume may be as follows:

- Children 24 months and younger arrive by car (utilising internal car park drop off) equates to
 - 20 vehicles in;
 - 20 vehicles out;
- Children 2 years and older walked into the LRCCC after parent's park in the NCP equates to;
 - 116 crossing from NCP to LRCCC (58 Children and 58 Parents); and
 - 58 crossing from the LRCCC to NCP (parents only)

The above equates to a potential 40 vehicle movement and 174 pedestrian movements during a drop off/pick up period.

Up to 23 staff are required to provide childcare services along with, Refuse Collection Vehicle (RCV) and other deliveries which may provide a daily traffic in the order of 130 vehicles.

Further, a review of Queensland Globe crash history indicates no pedestrian injury crashes in the vicinity as indicated in **Figure 3.5**.



Figure 3.5 Queensland Globe Crash Data Screen Capture

Based on the above parameters and first principal review were input into the Crossing Selection Tool 2.2.1 which identified the proposed 'Zebra' crossing as a feasible facility. A copy of the output from the Crossing Selection Tool 2.2.1 can be found in **Appendix B**.

The 'Zebra' crossing is to be provided without kerb buildout to not prejudice future stage 8 requirements and based on Australasian Pedestrian Facility Selection Tool [V2.2]: Facility Feasibility figure 2 (**Figure 3.6**).

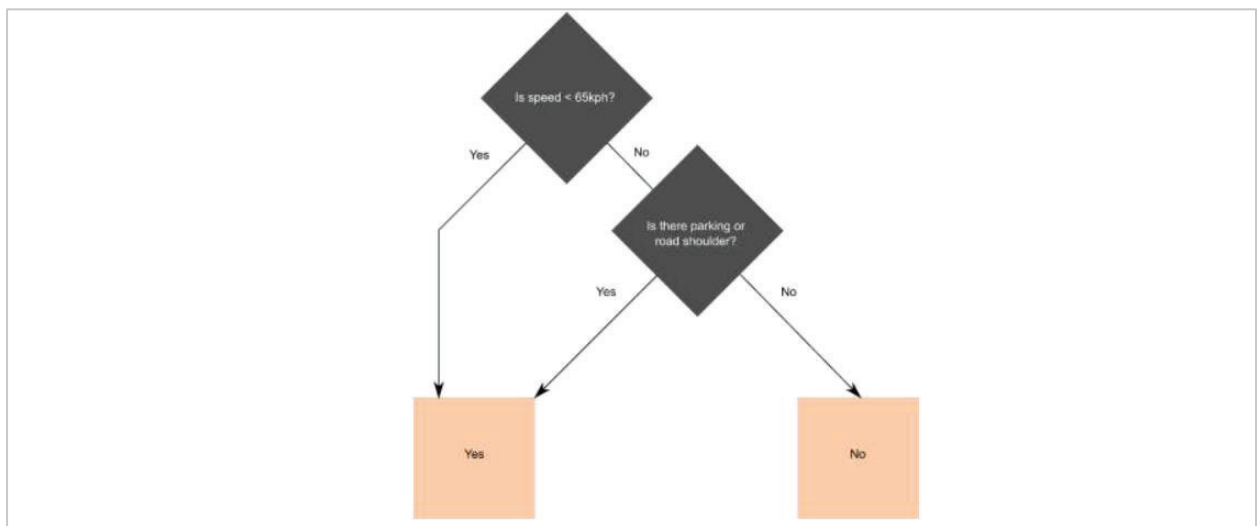


Figure 3.6 Kerb Extension Feasibility Decision Tree

A functional 'Zebra' crossing concept drawing which includes the proposed signs and line marking is included in **Appendix C**.



4.0 General Parking Review

The development plan illustrates provision of nine (9) onsite parking spaces, allocated as follows:

- Eight (8) general carparking bays; and
- One (1) carparking bay for persons with disabilities (PWD).

In addition, the childcare centre carpark area includes a van loading bay, which may be used for overflow carparking during periods of peak parking demand.

The Brisbane City Plan 2014, Transport, Access, Parking and Servicing (TAPS), Planning Scheme Policy (PSP) sets out required carparking provision rates for various land uses. It is noted that the development is located within the City Frame area which is identified in the Brisbane City Plan 2014, TAPS Code.

The proposed parking provision was reviewed against TAPS PSP requirements for uses other than multiple dwelling and rooming accommodation where within the City Frame. The results of our review are summarised in **Table 4.1**.

Table 4.1 Carparking Review – TAPS PSP

Land Use	Yield	Carparking Provision Rate	Maximum Required	Carparking Proposed	Acceptable
Childcare Centre	928m ² of GFA	Maximum 1 space per 100m ² of GFA	9	9	✓

4.1 Disability Parking Requirements

One (1) space is provided for persons with a disability (PWD), this supply exceeds 2% of total spaces supplied. The proposed provision therefore complies with TAPS PSP requirements.

4.2 Bicycle Parking

Bicycle parking racks are proposed to be provided at the childcare centre site for staff or visitor use. The development layout currently has provision of four (4) bicycle racks. These racks are to be located in the northern corner of the carpark area opposite the proposed end of aisle turning bay.

Based on a review against Table 21 of Council's TAPS PSP, no bicycle parking is formally required for childcare centre uses. The proposed bicycle parking provision is therefore considered appropriate to support the development.

4.3 Queue Provision

Queue provision at the driveway crossover was reviewed against the TAPS PSP which requires a one (1) vehicle queue based on the development's total carpark provision of nine (9) spaces.

Based on access geometry, the proposed queue provision is considered to be adequate from a traffic engineering perspective.



5.0 Servicing Arrangements

The proposed development plan has been configured to accommodate the movements of a van, as outlined in *Brisbane City Plan 2014, Transport, Access, Parking and Servicing Planning Scheme Policy* (TAPS PSP).

A service bay for a van has been provided in the carpark, and thus will not impact on carpark access and egress during loading / unloading. Further, a review of a Queensland Ambulance Service (QAS) vehicle has been undertaken to illustrate access within the car park is achievable during an emergency.

As demonstrated by the swept path assessment provided in **Appendix D**, the design vehicle is able to:

- Access the site in forward gear;
- Manoeuvre into position (to load / unload, wholly within the site boundary) whilst maintaining acceptable or greater clearances to obstructions; and
- Depart the site in a forward gear.

5.1.1 Refuse Collection

Refuse collection is proposed to be undertaken by a Council Rear Loading Refuse Collection Vehicle (BCC RCV) which utilises the proposed turning bulb fronting the site to undertake a reverse movement into the development which is in the order of 30m.

Council's Refuse planning scheme policy 4.2 *On-site Collection (Bulk Bins)* (Refuse PSP) Notes; *To maximise safety, the distance required for refuse collection vehicles to reverse on-site is minimised.* While the proposed movement distance may be longer than desirable, the benefits of the proposed location position, are as follows:

- The distance required to move the bulk bins are less than 5.0m as outlined in section 4.1 (11) Refuse PSP;
- The proposed RCV loading position does not require double handling of the bulk bins;
- Bulk bins remain in bulk bin store until collection, clear of vehicle traffic;
- Refuse collection will be undertaken on a flat surface (no appreciable gradient)
- The location of the RCV during loading improves sight lines between entering/egressing light vehicles;
- The reverse movement proposed is able to occur clear of pedestrians; and
- The collection of refuse is proposed to be undertaken outside of peak periods.

Figure 5.1 and **Figure 5.2** illustrates movements of B85 light vehicles during loading manoeuvres.

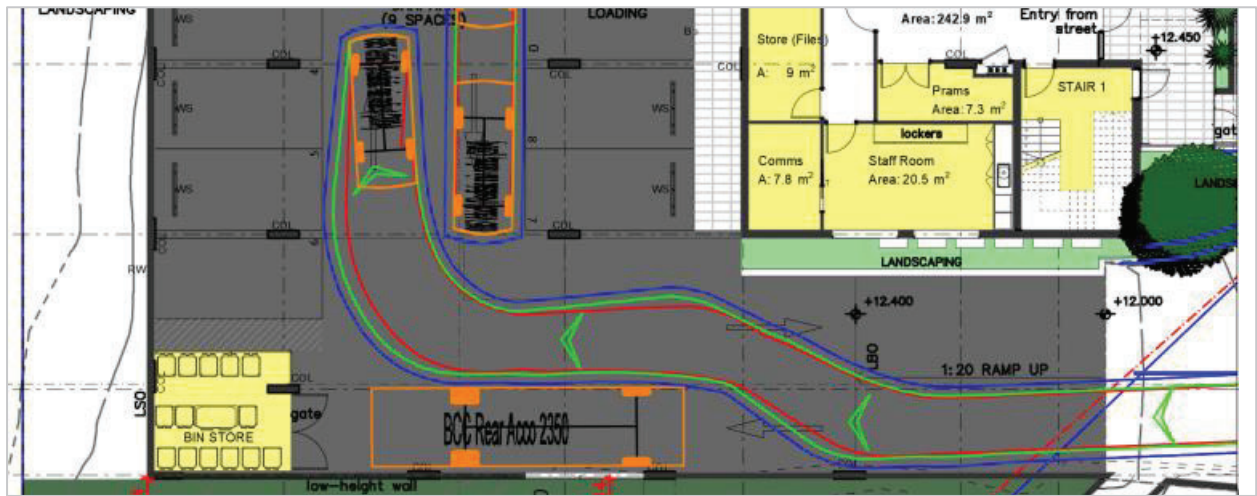


Figure 5.1 B85 Light Vehicle entering while RCV Loading

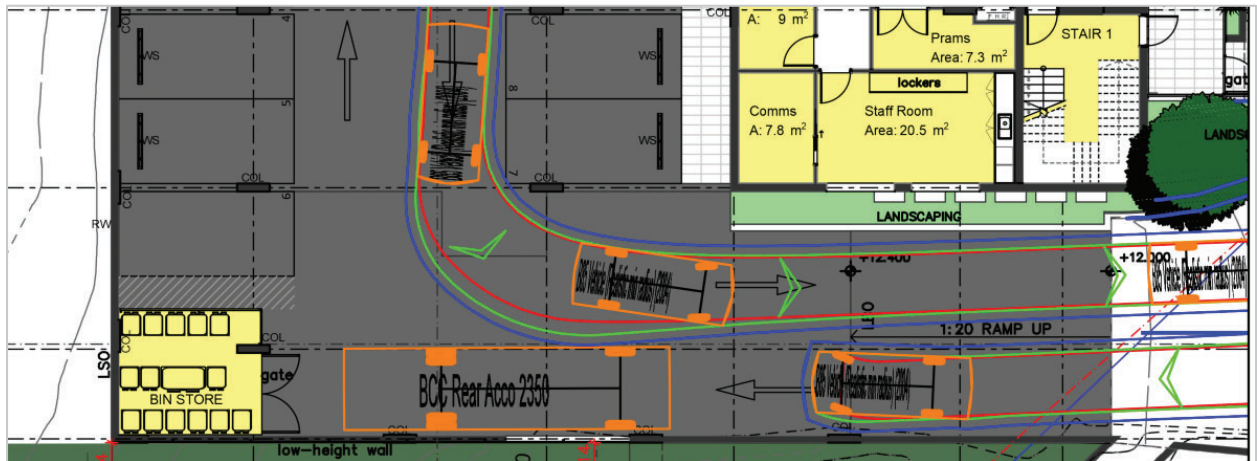


Figure 5.2 B85 Light Vehicle egressing while RCV Loading

In light of the above, the proposed servicing arrangement is considered to be appropriate from a traffic engineering perspective.



6.0 Geometric Configuration Review

The geometric elements of the childcare centre have been reviewed against:

- Brisbane City Council's *Transport, Access, Parking and Servicing Planning Scheme Policy* (TAPS PSP);
- AS2890.1: *Parking Facilities, Off-street Parking* (AS2890.1); and
- AS2890.2: *Parking Facilities, Off-street Commercial Vehicle Facilities* (AS2890.2).

The results are summarised in **Table 6.1**.

Table 6.1 Geometric Review

Parameter	Proposed	Recommended	Acceptable
Driveway grade within 6.0m of property boundary	1:20 (5%) for first 6.0m Min.	1:20 (5%) for first 6.0m	✓
Driveway Crossover	6.5m Type B1 or similar	6.5m Type B1	✓
Max. Grade Change (Internal Childcare)	1:20 (5%)	1:20 (5%)	✓
Max. Grade Change (Childcare Parking)	Less than 1:8 (12.5%)	1:8 (12.5%) (AS2890.1)	✓
Circulation road or ramp (Childcare)	1 in 8	Less than 1 in 6 (16.7%)	✓
Aisle Width (Servicing)	6.5m Min.	6.5m	✓
Aisle Width (Parking)	6.5m Min.	6.5m	✓
End Of Aisle	2.0m Min. (TAPS)	2.0m (TAPS)	✓
Ramp Width	6.2m Min.	6.2m	✓
Parking Spaces (Visitor)	2.6m x 5.4m	2.6m x 5.4m	✓
Parking Spaces (Staff)	2.6m x 5.4m Min.	2.4m x 5.4m	✓
PWD Parking Spaces	2.4m x 5.4m	2.4m x 5.4m	✓
PWD Shared Areas	2.4m x 5.4m	2.4m x 5.4m	✓
Parking Space (Van)	3.0m x 5.4m	3.0m x 5.4m	✓
Vertical Clearance (Car Parking)	4.0m Min.	2.3m (2.5m above PWD spaces)	✓
Vertical Clearance (Servicing)	4.0m Min.	3.6m (BCC Rear loading RCV Operational height)	✓

The site layout generally complies with Council's TAPS PSP and is considered acceptable from a traffic engineering perspective.



7.0 Traffic Impact Assessment

The net change in traffic demands as a result of the proposed development will be relatively minor and as such, a detailed traffic impact assessment (SIDRA) is not warranted in this instance.

Many trip-ends associated with the Child Care Centre will also be drop-in trips; for example, a motorist dropping off a child or children as part of a trip to a school and/or on the way to work as part of their regular commute.

The Australian Bureau of Statistics' latest issue of the *Childhood Education and Care*¹ document indicates that 78.8% of all children attending formal care present due to parent / carer work-related reasons. If all of these parents / carers dropped their child off as part of their regular commute to the hospital only 21.2% of generated trips would be potentially new.

The childcare centre is to replace the existing Lady Ramsay childcare centre within the same Herston Quarter precinct. Therefore, the proposed childcare centre is likely to result in little or no net additional trips beyond the campus.

The parents who use this childcare centre are also exclusively employees of the hospital or other health associated operations within the Herston area. It is reasonable to assume that the majority of parents dropping children off to this centre would therefore park a car in one of the local carparking structures (Butterfield Street, Bramston Terrace, Future Northern Carpark).

Accessing the childcare centre either prior to or after parking their car in a parking structure. To this end the traffic movements associated with these linked trips would be captured by an extent within the traffic impact assessments which were undertaken for the proposed Northern Carpark.

Based on the above the number of trips is associated with the proposed development is considered to be negligible in the context of the broader road network and likely would fall within the range of day-to-day traffic volume fluctuations. On this basis, the proposal is acceptable from a traffic impact viewpoint.

¹ 4402.0 – *Childhood Education and Care*, Australia, June 2014
<<http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/4402.0June%202014?OpenDocument>>



8.0 Summary & Recommendations

Key findings are summarised below:

- The proposed access / egress arrangements are considered acceptable from a traffic engineering perspective;
- The proposed carparking provisions are considered appropriate;
- The site can be adequately accessed and serviced by appropriate vehicles;
- The proposed general carparking areas generally comply with the Brisbane City Plan 2014 Transport, Access, Parking and Servicing Planning Scheme Policy or where applicable, the Australian Standards for Off-Street Parking (AS2890) Parts 1 and 2; and
- The traffic impacts associated with the development are not anticipated to have a significant impact on the adjacent road network.

We completed a review of the proposed development from a traffic perspective and believe it is generally in accordance with Council's requirements and safe engineering practice.

In light of the above, we recommend that the proposed reconfiguration of a lot be approved with reasonable and relevant conditions.

If you have any queries regarding the above, please do not hesitate to contact the undersigned on 07 3221 3503.

Yours faithfully,

Andrew Douglas

Director | Cambray Consulting Pty Ltd
BECivil (Hons) | MSc Env Man
FIEAust | CPEng | RPEQ 6691

APPENDIX A

Development Plans

- FHR Fire Hose Reel
LBO Line of Building Over
LRO Line of Roof Over
LSO Line of Slab Over
MSB Main Switchboard
R Riser - Indicative Location
RT-1 Metal Roof Sheetling
RW Retaining Wall
SCR Batten Screen
WS WheelStop - (concrete) to comply with AS.2890.1

FLOOR PLAN LEGEND

- B Bollard
BAL Balustrade
COL Structural Column
DB Distribution Board
DP Downpipe
DF Drinking Fountain
EG Eaves Gutter
FB Fire Booster

OUTDOOR PLAY CALCULATIONS				
Zone Name	Age Group	Minimum Area Req'd	Area Provided	Occupancy
Outdoor Play 1	0-3 yrs	140	150.42	20
Outdoor Play 2	0-3 yrs	175	180.40	25
Outdoor Play 3	2+ yrs	231	234.59	33
		546	565.40 m ²	78

ACTIVITY ROOM CALCULATIONS				
Home Story	Zone Name	Age Group	Minimum Area Req'd	Staff Ratio
First Floor	Activity Room 1	0-24 mths	26	1:4
	Activity Room 2	12-24 mths	39	1:4
	Activity Room 3	2-3 yrs	49	1:5
	Activity Room 4	2-3 yrs	33	1:5
Second Floor			147	10
	Activity Room 5	3-5 yrs	72	1:11
	Activity Room 6	3-5 yrs	36	1:11
			109.24 m ²	13
			204.76 m ²	



APPENDIX B

Crossing Selection Tool 2.2.1

Austroads



Australasian Pedestrian Crossing Facility Selection Tool [2.2.1]

Browse....

No file selected.

↑

Load a CSV File

OR fill in the form below

Project details

Project name:

AUU0121-01 - Lady Ramsay Ci

Project location:

Herston

Option/assessment number:

1

Date of assessment:

31-05-2022

Site information

Jurisdiction:

Queensland

Midblock or intersection?

Midblock

Existing facility

No facility

Crash information

Use crash model or crash history?

History

Years of crash history:

5

Number of pedestrian injury crashes:

0

Physical/environmental/Operational variables

Number of traffic directions:

Two

Centre treatment:

No treatment

Parking/shoulder:

No

Pedestrian visibility:

50 metres

Posted speed limit:

30 km/h

Approach speed (85th percentile):

30 km/h

Traffic volume (AADT):

130 veh/day

Peak sensitive pedestrian volume:

174 ped/hr

Peak non-sensitive pedestrian volume:

10 ped/hr

Estimated daily pedestrian volume:

348 ped/day

Direction 1

Flow:

Left to Right

Flow type:

Interrupted

Peak vehicle volume:

20 veh/hr

Traffic lanes:

1

Crossing distance:

4.75 metres

Direction 2

Flow:

Right to Left

Flow type:

Interrupted

Peak vehicle volume:

20 veh/hr

Traffic lanes:

1

Layout diagram

Site characteristics

Exposed crossing distance:

4.8 + 4.8 = 9.5 metres

Est. pedestrian crossing time (exposed):

9.4 seconds

Total peak hourly vehicle flow:

20 + 20 = 40 veh/hr

of 5

06/06/2022, 18:30

Average vehicle occupancy:

2

 pers/veh

Crossing distance:

4.75

 metres

Model parameters

Show/Hide

Walk speed of average sensitive pedestrians:

1

 m/s

Walk speed of average non-sensitive pedestrians:

1.2

 m/s

Average cost of pedestrian crashes:

\$

23015

Pedestrian value of delay:

\$

14.99

 /hr

Vehicle value of delay:

\$

31.34

 /hr

Pedestrian conversion factor:

0.6

Vehicle conversion factor:

0.4

Economic assessment parameters

Economic update factors

Evaluation days per annum:

250

Project lifetime:

30

 years

Discount rate:

7

 %

Base date:

2010-06

Travel time costs/savings:

1

Vehicle operating costs/savings:

1

Crash costs/savings:

1

Update factor to current date

Expected crash reduction factors

Platform	Kerb extensions	Median refuge	Kerb extensions with median refuge	Zebra only	Zebra with platform	Zebra with kerb extensions	Zebra with platform and kerb extensions	Zebra with median refuge	Zebra with kerb extensions and median refuge	Signals	Signals with kerb extensions	Grade separation
47 %	35 %	56 %	56 %	0 %	63 %	35 %	63 %	56 %	56 %	45 %	45 %	86 %

Calculate feasibility

[View the facility feasibility process \(PDF\) here](#)

☐ Automatically calculate when inputs are updated?

Feasible facilities

of 5

06/06/2022, 18:30

Suitable for site?		Built parameters	Construction cost	Annual maintenance cost	Show in final output? Select all/none /feasible
No facility *	N/a	No parameters	\$ 0 <>	\$ 0 <>	☒
Platform	☒ Yes	Vehicle negotiation speed: Please select.. ▾	\$ <>	\$ 0 <>	☒
Kerb extensions	☒ Yes	Total crossing distance: <> metres ?	\$ <>	\$ 0 <>	☒
Median refuge	☒ Yes	Direction 1 crossing distance: <> metres ? Median refuge width: <> metres ? Direction 2 crossing distance: <> metres ?	\$ <>	\$ 0 <>	☒
Kerb extensions with median refuge	☒ Yes	Direction 1 crossing distance: <> metres ? Median refuge width: <> metres ? Direction 2 crossing distance: <> metres ?	\$ <>	\$ 0 <>	☒
Zebra only	☒ Yes	No parameters	\$ <>	\$ 0 <>	☒
Zebra with platform ?	☒ Yes	Applies vehicle negotiation speed from Platform above	\$ <>	\$ 0 <>	☒
Zebra with kerb extensions	☒ Yes	Applies total crossing distance from Kerb extensions above	\$ <>	\$ 0 <>	☒

Zebra with platform and kerb extensions ?	✔ Yes		Applies vehicle negotiation speed from Platform and total crossing distance from Kerb extensions above	\$	\$	✔
Zebra with median refuge	✔ Yes		Applies distances and refuge width from Median refuge above	\$	\$	✔
Zebra with kerb extensions and median refuge	✔ Yes		Applies distances and refuge width from Kerb extensions with median refuge above	\$	\$	✔
Signals	⚠ Only as part of total CBD Traffic Management plan Road is two-lane two-way and max. of approach/posted speed < 45km/h	Signals activated by pedestrian call button? Cycle time: Percent of time in green pedestrian phase:	Please select seconds %	\$	\$	✔
Signals with kerb extensions	⚠ Only as part of total CBD Traffic Management plan Signals may not be suitable	Applies parameters from Signals above, plus: Total crossing distance:	metres	\$	\$	✔
Grade separation	⚠ Maybe Max. of approach/posted speed < 75km/h	No parameters		\$	\$	✔

Calculate assessment

✔

 File saved

AUU0121-01 - Lady Ramsay Child Care Centre_1_31-05-2022.csv has been saved to your default download directory.

↻ Reset all Fields

AUU0121-01 - Lady Ramsay Child Care Centri .csv

📄 Export CSV File

⬆ Back to top

Disclaimer

The Australasian Pedestrian Crossing Facility Selection Web Tool ("the tool") is freely provided by [Austroads](#) and is intended to help practitioners select an appropriate pedestrian crossing facility for a particular location. The tool is based on literature, and analytical and behavioural research coupled with a number of mathematical models. Its development is detailed in the Austroads report [Development of the Australasian Pedestrian Facility Selection Tool](#).

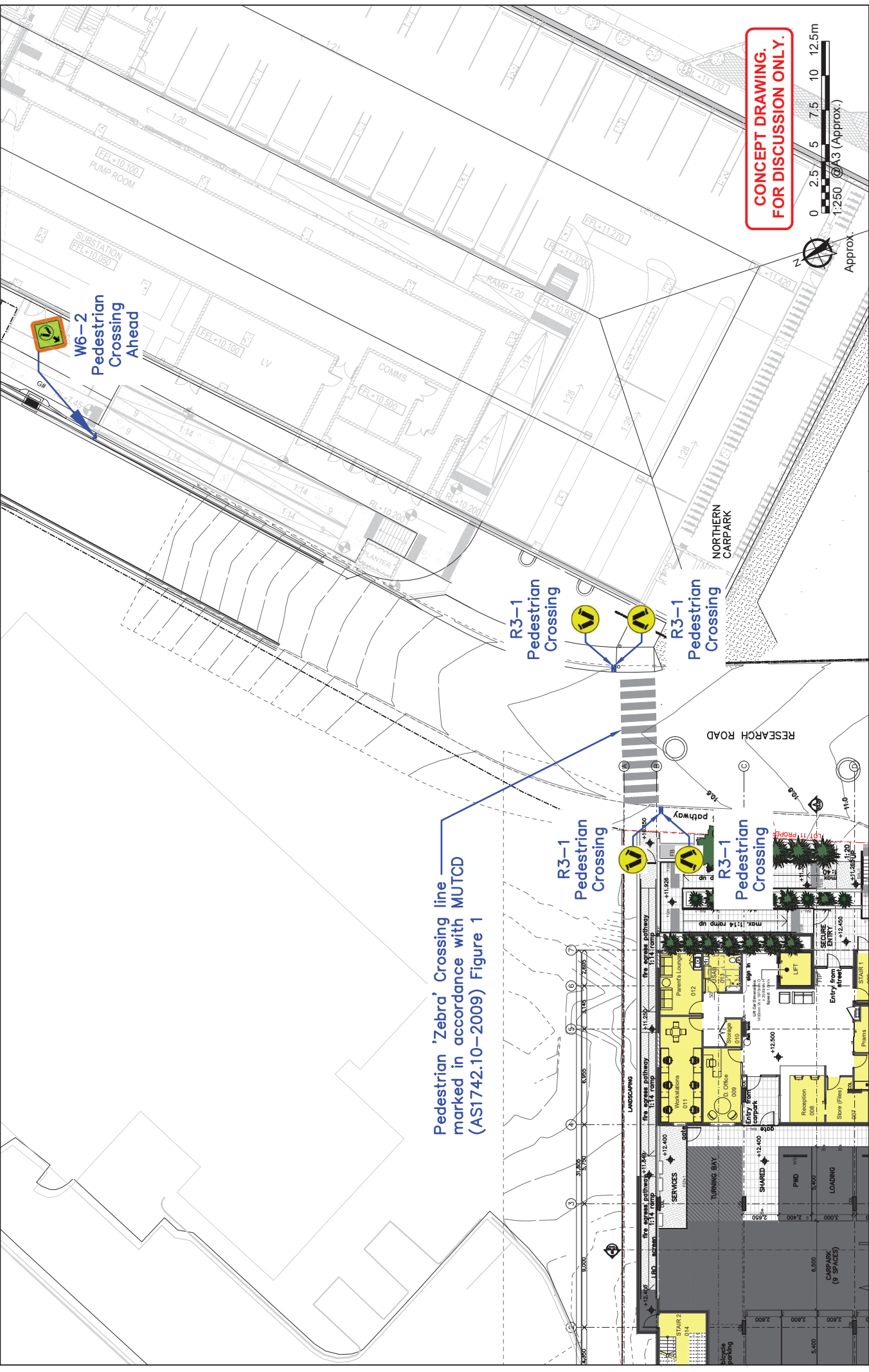
As with all mathematical models care must be taken to understand input limitations and background assumptions when interpreting the outputs. The tool does not replace professional engineering or planning advice and Austroads does not accept any responsibility regarding the tool. While we have endeavoured to ensure the information output by the tool is appropriate, we make no representations or warranties of any kind about the completeness, accuracy, reliability, suitability or availability with respect to the outputs. Any reliance you place on such information is strictly at your own risk and it is your responsibility to check all information output by the tool.

The tool should not be used to inform decision making in isolation when considering the form and location of pedestrian crossing facilities. Engineering judgement is required to consider the economic and other outputs produced by the tool alongside safety, mobility, social and environmental factors that are considered appropriate by the practitioner.

Version: [2.2.1](#)

APPENDIX C

Functional 'Zebra' Crossing Concept Drawing



Pedestrian 'Zebra' Crossing line marked in accordance with MUTCD (AS1742.10-2009) Figure 1

CONCEPT DRAWING.
FOR DISCUSSION ONLY.



 CAMPBAY consulting Traffic Engineering and Transport Planning Suite 2601, 21 Mary Street Brisbane Q 4000 t : 07 3221 3503 e : contact@campbay.com.au		DRAWING TITLE Lady Ramsay Child Care Redevelopment 'Zebra' Pedestrian Crossing Functional Signs and Line Marking Concept		JOB No. // DRAWING No. AUU0121-01 // SK07	
LOCATION Research Road, Herston, Brisbane Queensland		PRELIMINARY NOT FOR CONSTRUCTION		PREPARED FOR Discussion Only	
REV / DATE / AMENDMENT / ISSUE		DWG / CHK		DATE	
A / 06.06.22 / Preliminary Review - For Discussion		A.D.		06.06.2022	
				1:250	
DISCLAIMER This concept takes into account the instructions and requirements of our client. Campbell has taken care in preparing this concept, however, it is not a final design. It is not a guarantee of any kind, and it is not a warranty. It is not a contract. It is not a statement of fact. It is not a statement of opinion. It is not a statement of intent. It is not a statement of belief. It is not a statement of knowledge. It is not a statement of skill. It is not a statement of experience. It is not a statement of expertise. It is not a statement of authority. It is not a statement of responsibility. It is not a statement of liability. It is not a statement of ownership. It is not a statement of control. It is not a statement of influence. It is not a statement of power. It is not a statement of status. It is not a statement of position. It is not a statement of role. It is not a statement of function. It is not a statement of purpose. It is not a statement of goal. It is not a statement of objective. It is not a statement of outcome. It is not a statement of result. It is not a statement of achievement. It is not a statement of success. It is not a statement of failure. It is not a statement of loss. It is not a statement of gain. It is not a statement of benefit. It is not a statement of harm. It is not a statement of risk. It is not a statement of opportunity. It is not a statement of challenge. It is not a statement of obstacle. It is not a statement of problem. It is not a statement of solution. It is not a statement of answer. It is not a statement of question. It is not a statement of fact. It is not a statement of opinion. It is not a statement of intent. It is not a statement of belief. It is not a statement of knowledge. It is not a statement of skill. It is not a statement of experience. It is not a statement of expertise. It is not a statement of authority. It is not a statement of responsibility. It is not a statement of liability. It is not a statement of ownership. It is not a statement of control. It is not a statement of influence. It is not a statement of power. It is not a statement of status. It is not a statement of position. It is not a statement of role. It is not a statement of function. It is not a statement of purpose. It is not a statement of goal. It is not a statement of objective. It is not a statement of outcome. It is not a statement of result. It is not a statement of achievement. It is not a statement of success. It is not a statement of failure. It is not a statement of loss. It is not a statement of gain. It is not a statement of benefit. It is not a statement of harm. It is not a statement of risk. It is not a statement of opportunity. It is not a statement of challenge. It is not a statement of obstacle. It is not a statement of problem. It is not a statement of solution. It is not a statement of answer. It is not a statement of question.					

APPENDIX D

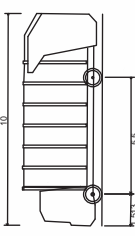
Swept Path Analysis



CONCEPT DRAWING.
FOR DISCUSSION ONLY.



BCC Rear Acco 2350
Overall Length 10,000m
Overall Width 2,500m
Overall Body Height 3,752m
Min Body Ground Clearance 0,304m
Track Width 2,500m
Wheelbase 3,048m
Kerb to Kerb Turning Radius 10,147m



DRAWING TITLE		LOCATION		JOB No. / DRAWING No.	
Lady Ramsay Child Care Redevelopment		Research Road, Herston, Brisbane Queensland		AUU0121-01 //	
Swept Path Assessment and Layout Review				SK01	
BCC Rear Loading Refuse Collection Vehicle (RCV)				NOT FOR CONSTRUCTION	
				PRELIMINARY	
				DATE	
				27.08.2021	
				DISCUSSION ONLY	
				PREPARED FOR	
				Discussion Only	



**CONCEPT DRAWING.
FOR DISCUSSION ONLY.**

0 2 4 6 8 10m
1:200 @A3 (Approx.)

- B99 Vehicle (Realistic min radius) (2004)
- Overall Length 5.200m
- Overall Width 1.940m
- Overall Body Height 0.978m
- Overall Wheelbase 3.050m
- Track Width 1.840m
- Lock to Lock Time 4.00s
- Kerb to Kerb Turning Radius 6.250m

REV	DATE	REVISION / ISSUE	DRAWN	CHECKED
A	27/08/21	Preliminary Review - For Discussion	J.D.	A.D.
B	27/08/21	Preliminary Review - Revision 1	J.D.	A.D.
C	27/08/21	Preliminary Review - Revision 2	J.D.	A.D.
D	27/08/21	Preliminary Review - Revision 3 - EDO Update	J.D.	A.D.

DRAWING TITLE
Lady Ramsay Child Care Redevelopment
Sweep Path Assessment and Layout Review
B99 Light Vehicle at Turn Around

LOCATION
Research Road,
Herston, Brisbane
Queensland

DRAWING NO. / DRAWING No.
AUU0121-01 // SK03
DATE
27.08.2021
PREPARED FOR
Discussion Only

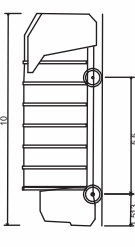


CONCEPT DRAWING.
FOR DISCUSSION ONLY.

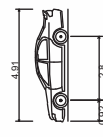


 CAMBRAYconsulting Traffic Engineering and Transport Planning Suite 2601, 21 Mary Street Brisbane Q 4000 t : 07 3221 3503 e : contact@cambray.com.au	DRAWING TITLE Lady Ramsay Child Care Redevelopment Swept Path Assessment and Layout Review BCC Rear Loading Refuse Collection Vehicle (RCV)	LOCATION Research Road, Herston, Brisbane Queensland	REV. DATE	AMENDMENT / ISSUE	DWN	CHK	JOB No. // DRAWING No. AUU0121-01 // SK06	PRELIMINARY NOT FOR CONSTRUCTION	Scale (A3) 1:200	DATE 27.08.2021	PREPARED FOR Discussion Only	
			A	27.06.21	Preliminary Review - For Discussion	J.D.						A.D.
			B	03.07.21	Preliminary Review - Revision N	J.D.						A.D.
			C	21.07.21	Preliminary Review - Revision P	J.D.						A.D.
			D	12.08.21	Preliminary Review - Revision S - EDO Update	J.D.						A.D.
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DRAWING TITLE	LOCATION
Lady Ramsay Child Care Redevelopment Swept Path Assessment and Layout Review BCC Rear Loading Refuse Collection Vehicle (RCV)	Research Road, Herston, Brisbane Queensland



BCC Rear Acco 2350
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Kerb Time
Kerb to Kerb Turning Radius



B85 Vehicle (2004)
Overall Length
Overall Width
Overall Body Height
Min Body Ground Clearance
Track Width
Lock to Lock Time
Kerb to Kerb Turning Radius



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