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Proposed Child Care Centre

Lot 9074 Granfell Way, Byford

Transport Impact Statement

PREPARED FOR:
Lady Bug Nine Pty Ltd

September 2021

Document history and status

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Project: Lot 9074 Granfell Way, Byford

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1 Introduction

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Lady Bug Nine Pty Ltd with regard to a proposed child care centre (CCC) to be located at Lot 9074 Granfell Way, Byford, in the Shire of Serpentine Jarrahdale.

The subject site is located at the south east corner of the intersection of Gordon Way and Granfell Way in Byford. The subject site is currently vacant which is bounded by Gordin Way to the west, Granfell Way to the north, Marchant Way to the east and a vacant land to the south as shown in **Figure 1**.

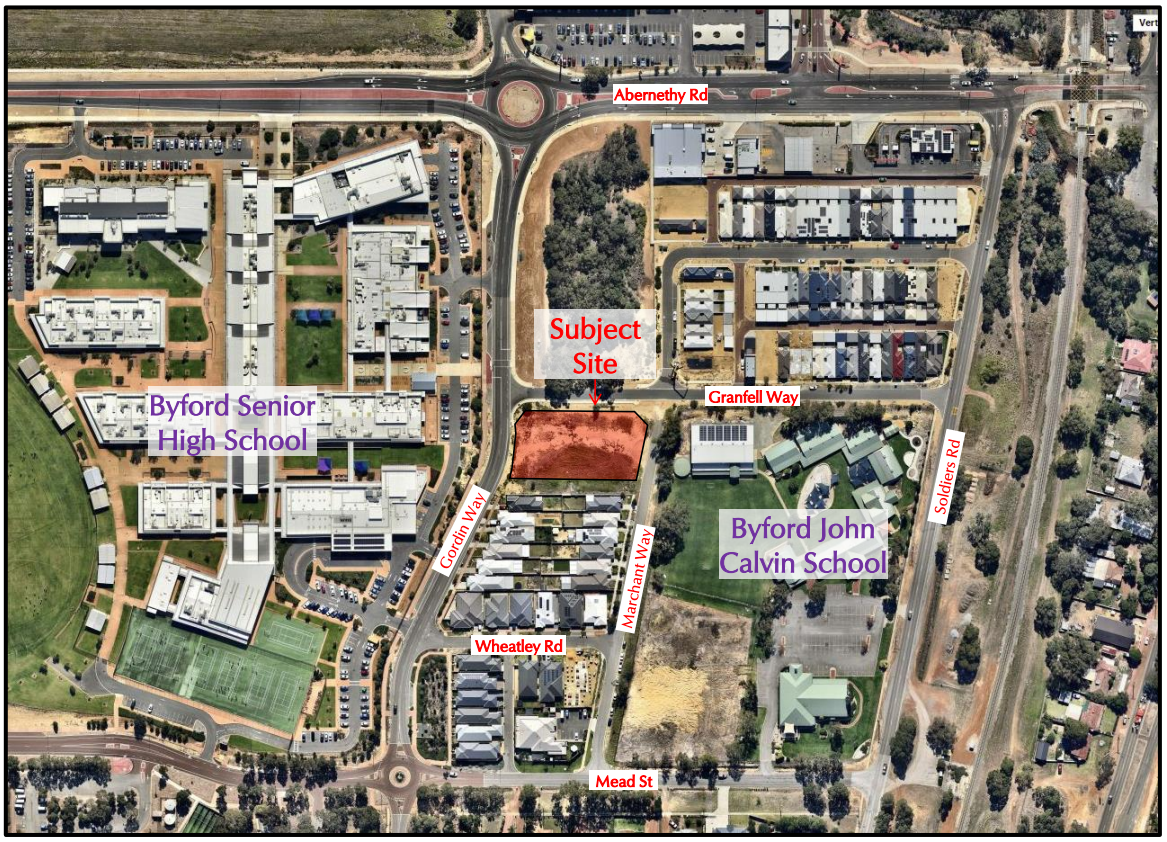


Figure 1: Location of the subject site

Vehicular access to the subject site is proposed via a single full movement crossover on Marchant Way. Merchant Way is currently not connected to Granfell Way but as part of the approved subdivision (WAPC ref 157775), Merchant Way will formally connect to Granfell Way and constructed as a T-intersection.

As shown in **Figure 1**, Byford Senior High School and Byford John Calvin School are located to the west and east of the subject site.

The Transport Impact Assessment Guidelines (WAPC, Vol 4 – Individual Developments, August 2016) states: *"A Transport Impact Statement is required for*

those developments that would be likely to generate moderate volumes of traffic[1] *and therefore would have a moderate overall impact on the surrounding land uses and transport networks".*

Section 6.2 of Transcore's report provides details of the estimated trip generation for the proposed development. Accordingly, as the total peak hour vehicular trips are estimated to be less than 100 trips, a Transport Impact Statement is deemed appropriate for this development.

Key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns and parking demand and supply.

[1] *Between 10 and 100 vehicular trips per hour*

2 Proposed Development

The development proposal is for a childcare centre (hereafter CCC) at the subject site which has been designed to accommodate up to 106 children and 15 staff.

As the part of the proposed development, vehicular access to the subject site is provided via a single full movement crossover on Marchant Way which leads directly to the car parking area as shown in **Figure 2**. Merchant Way is currently not connected to Granfell Way but as part of the approved subdivision (WAPC ref 157775), Merchant Way will formally connect to Granfell Way and constructed as a T-intersection.

According to the development plan provided in **Appendix A**, the proposed development provides a total of 25 bays on site (inclusive of one ACROD bay). In addition, a total of four on street parking bays are proposed along southern side of Granfell Way and one on street bay is proposed along western side of Merchant Way.

Accordingly, the proposed development provides a total of 30 car parking bays. In order to ensure efficient vehicular circulation within the car park, one turning bay is provided at the south western corner of the car parking area.

It is recommended that the on-street parking is signed posted as being restricted to 15 mins only during peak periods between 7AM – 9AM and 3PM - 6PM to ensure efficient use of the bays during the child care centre peak drop off/pick up periods.

Pedestrian access to the proposed development is available from the external footpath network on Granfell Way abutting the subject site.

A bin store is provided at the south-western corner of the CCC building. Deliveries and waste collection will be accommodated within site.

A copy of the proposed development plan is included for reference in **Appendix A.**

3 Vehicle Access and Parking

3.1 Access

Vehicular access and egress to the subject site would be via the proposed full movement crossover on Marchant Way to the east of the subject site that leads directly to the car parking area as shown in **Figure 2**.

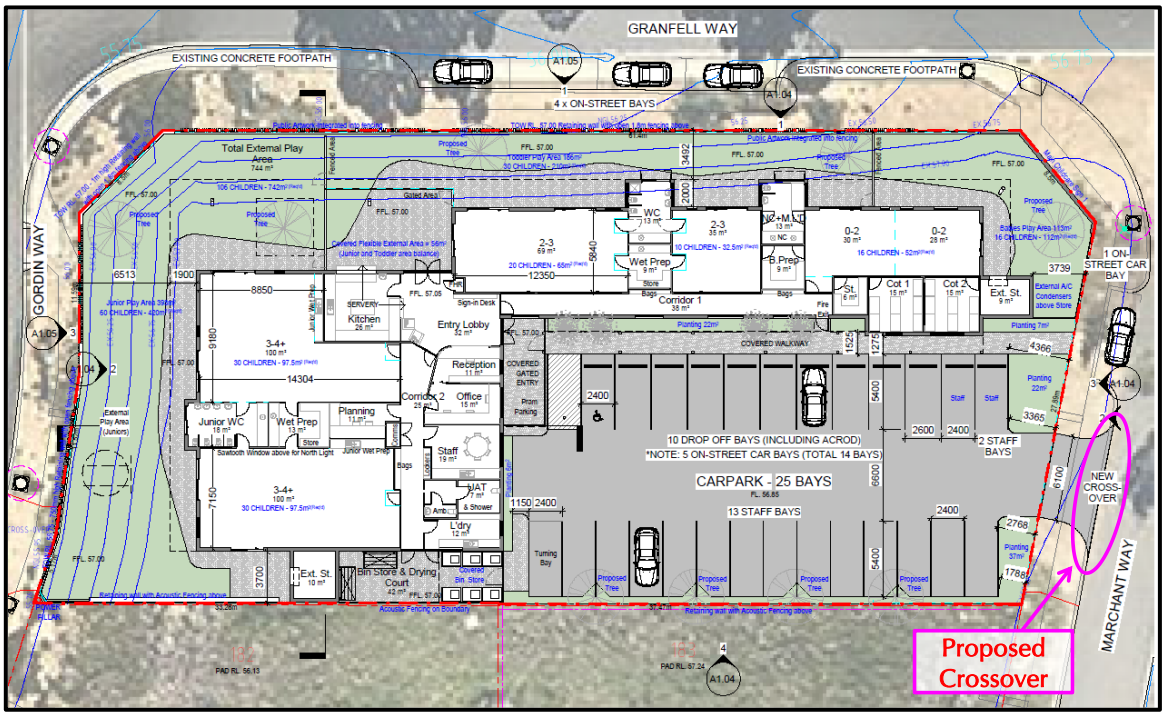


Figure 2: Proposed development crossover

3.2 Parking Supply and Demand

According to the Shire of Serpentine – Jarrahdale Draft Local Planning Scheme No.3 (WAPC approval imminent and replace LSP2), the parking provision applicable to the proposed CCC is:

- 1 per 10 children accommodated under maximum occupancy; and,
- 1 bay per employee with a minimum of 3 spaces.

The proposed CCC accommodates up to 106 children and 15 staff. Based on the Shire's Draft Local Planning Scheme No.3, the proposed CCC requires the parking provision of 26 bays.

The proposed development provides a total of 30 bays (25 bays on site + 5 bays on street) which meets and exceeds the requirement of the Shire's Policy and is sufficient to cater for the needs of the proposed CCC.

It is recommended that the on-street parking is signed posted as being restricted to 15 mins only during peak periods between 7AM – 9AM and 3PM - 6PM to ensure efficient use of the bays during the child care centre peak drop off/pick up periods.

4 Provision for Service Vehicles

A bin storage area is located at the south western corner of the CCC building as shown in development plan in Appendix A.

Waste collection and deliveries will take place within the site. The waste collection truck will be able to enter the site via Marchant Way crossover in forward gear, pull up near the bin store to collect the waste and then turn around within the site and exit the site via same crossover in forward gear.

Turn path analysis carried out for 8.0m waste collection truck in Appendix A shows satisfactory circulation within the site.

It is expected that the child care centre will generate a small volume of additional service vehicle traffic primarily associated with the deliveries for the child care centre. It is recommended that smaller vehicles such as vans should be used for the deliveries.

The onsite service and waste collection will take place when the facility is closed or outside peak operating periods to ensure the car parking area is available for safe manoeuvring, loading and unloading activities with no disturbance to the operation of the centre.

5 Hours of Operation

The proposed child care centre is proposed to operate during weekdays between 6:30AM to 6:30PM Monday to Friday.

6 Daily Traffic Volumes and Vehicle Types

6.1 Existing Development Trip Generation

The subject site is currently vacant land and doesn't generate any traffic.

6.2 Proposed Development Trip Generation

In order to establish an accurate traffic generation rate for the proposed child care centre, traffic count surveys undertaken by Transcore at similar centres in the Perth metropolitan area were sourced.

Discussions with the respective centre managers revealed that the peak drop-offs and pick-ups for each of these centres occur between the hours of 7:00AM– 10:00AM and 3:00PM–6:00PM.

From the total number of children at each of the centres on the surveyed days, the following average generation rates were established for the morning and afternoon surveyed periods:

- 7:00AM–10:00AM: 1.58 trips per child (52% in / 48% out); and,
- 3:00PM–6:00PM: 1.67 trips per child (47% in / 53% out).

From this information, the traffic generation rate for the combined period of 7:00AM–10:00AM and 3:00PM–6:00PM was calculated as 3.25 trips per child. To convert this figure to a daily generation rate, this figure was increased to 3.5 trips per child to account for any trips outside of the surveyed times. It was assumed that the daily in and out split for vehicle trips was 50/50.

Furthermore, the following peak hour generation rates were established from the surveys for the Child Care Centres:

- AM peak hour: 8:00AM – 9:00AM: 0.75 trips per child (52% in / 48% out); and,
- PM peak hour: 3:00PM – 4:00PM: 0.60 trips per child (55% in/ 45% out);

Comparison of the six-hour generation rates and the peak hour generation rates confirms that the distribution of traffic from these centres is spread over the peak periods and that full concentration of traffic does not occur in the peak hour. The AM peak hour represents 47% of the 3-hour AM peak period traffic generation and the typical school PM and road network PM peak hours represent 36% and 29% of the 3-hour PM peak period traffic generation, respectively. As such, childcare centres operate quite differently to schools as their peak period is spread out.

Accordingly, the following number of trips was estimated for the proposed child care centre, assuming a maximum scenario of 106 children being present (i.e. centre at full capacity):

- AM peak hour: 80 trips generated (42 in / 38 out);
- PM peak hour: 64 trips generated (36 in / 28 out); and,
- Daily traffic generation: 371 trips generated (185 in / 186 out).

6.3 Traffic Flow

Considering that all access to the site is available via Marchant Way, it is apparent that all the estimated development-generated traffic would arrive/depart to and from the site via Marchant Way. As with similar centres, an overwhelming majority of patrons would originate from within the local area with only a marginal number of patrons arriving from afar.

Hence, based on the general spatial distribution of existing and future residential developments in the immediate area, permeability of the local road network and the assumption that all traffic attracted to the proposed child care centre would arrive/depart via Marchant Way, the child care centre's traffic distribution adopted for this analysis is as follows:

- 35% to/from Granfell Way west;
- 25% to/from Granfell Way east; and,
- 40% to/from Marchant Way south.

Figure 3 illustrates trip generation and traffic distribution over the local road network for the proposed Centre.

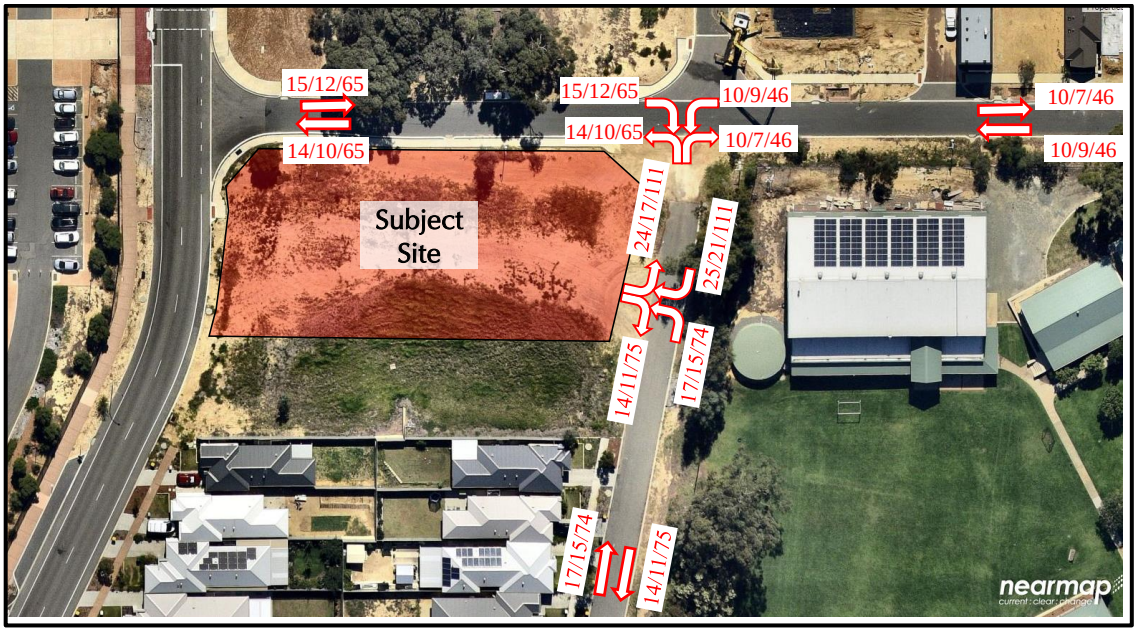


Figure 3: Estimated traffic movements for the subject site

AM Peak/PM Peak/Total daily trips

6.4 Impact on Surrounding Roads

The WAPC Transport Impact Assessment Guidelines (2016) provides guidance on the assessment of traffic impacts:

"As a general guide, an increase in traffic of less than 10 per cent of capacity would not normally be likely to have a material impact on any particular section of road but increases over 10 per cent may. All sections of road with an increase greater than 10 per cent of capacity should therefore be included in the analysis. For ease of assessment, an increase of 100 vehicles per hour for any lane can be considered as equating to around 10 per cent of capacity. Therefore, any section of road where development traffic would increase flows by more than 100 vehicles per hour for any lane should be included in the analysis."

The proposed development will not increase traffic flows anywhere near the quoted WAPC threshold to warrant further detailed analysis. As detailed in Section 6.2, the proposed development will not increase traffic on any lanes on the surrounding road network by more than 100vph, therefore the impact on the surrounding road network is not significant.

7 Traffic Management on the Frontage Streets

Gordin Way, west of the subject site, is constructed as a single carriageway, two lane road as shown in **Figure 4**. Pedestrian paths are provided on both sides of the road except on the eastern side of this section of road adjacent to the subject site. It features on street cycle lanes on both sides of the road and indented parking bays on western side of the road in the vicinity of the subject site.

The Byford Senior High School - Transport Assessment prepared by Transcore in November 2011 indicates that Gordin Way (south of Abernethy Rd) is expected to carry about 2,600 vehicles per day (vpd) with 520 vehicles per hour (vph) during AM peak period.

Figure 4: Northbound view along Gordin Way

Granfell Way, north of the site, is constructed as a 6.0m wide, two-lane undivided road with indented parking bays along northern side of the road. It features concrete footpaths on various sections on both sides of the road. It forms T-intersections with Gordin Way to the west and Soldiers Road to the east.

Marchant Way, east of the site, is constructed as a single carriageway, two lane undivided road with pedestrian path on the western side of the road as shown in **Figure 5**. Merchant Way is currently not connected to Granfell Way but as part of the approved subdivision (WAPC ref 157775), Merchant Way will formally connect to Granfell Way as a T-intersection. Merchant Way currently connects with Mead Street as a T-intersection to the south.

Figure 5: Southbound view along Marchant Way

Gordin Way, **Granfell Way** and **Marchant Way** are all classified as an Access Roads in accordance with Main Roads WA Functional Road Hierarchy and operate under default built up area speed limit of 50km/h. A 40km/h school zone speed limit also applies on these roads adjacent to the subject site.

8 Public Transport Access

Existing public transport services in the vicinity of the subject site are shown in **Figure 6**.

The subject site has direct access to bus service 254 which runs along Gordin Way fronting the site. This bus route provides service between Byford area and Armadale Train station. The nearest bus stop is located on Gordin Way approximately 45m walking distance from the proposed development. The bus stop is accessible by existing path network.

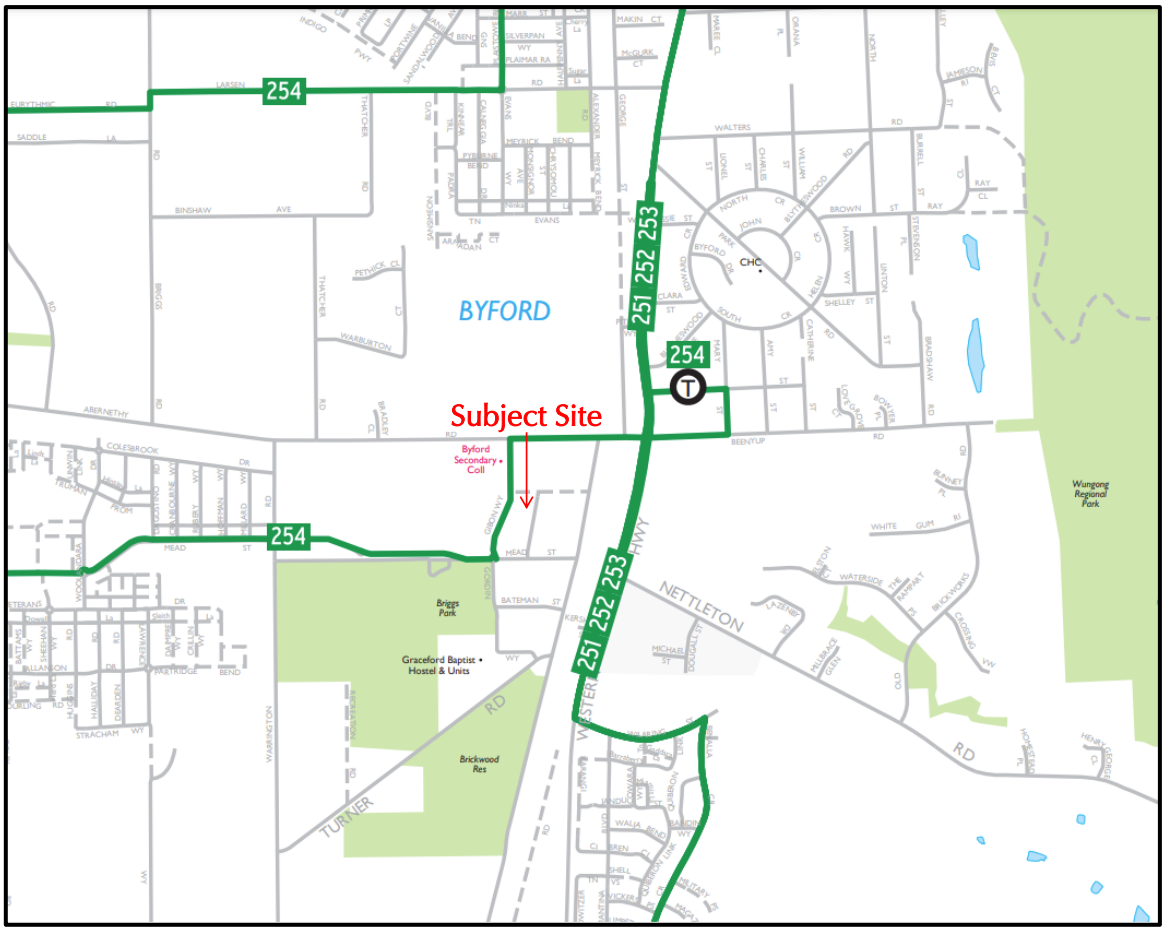


Figure 6: Public transport services (Transperth Maps)

9 Pedestrian Access

Pedestrian access to the proposed development is available via external footpath network on the surrounding road network.

10 Cycle Access

The Perth Bicycle Network Map is illustrated in **Figure 7.** This map has been prepared in 2016 which shows that cyclists do not have a formal access to the subject site. Since that Bike Map was prepared, on street cycle lanes now are in place on both sides of Gordin Way.

Abernethy Road which is located approximately 150m north of the subject site is classified as a good road riding environment.

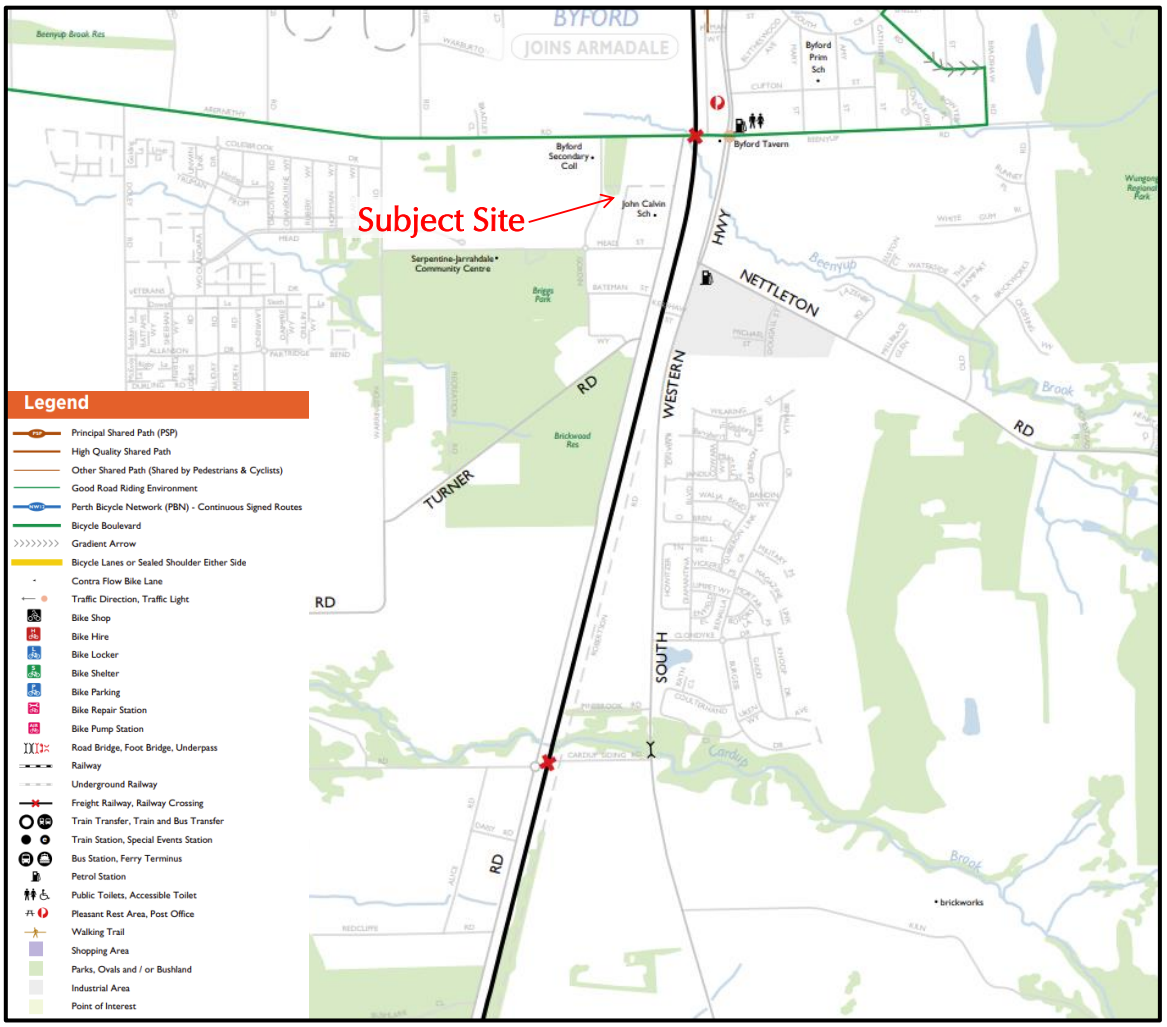


Figure 7: Extract from Perth Bicycle Network (Department of Transport)

11 Site Specific Issues

No site-specific issues have been identified for the proposed child care centre.

12 Safety Issues

No particular safety issues have been identified for the proposed child care centre.

13 Conclusions

This Transport Impact Statement (TIS) has been prepared by Transcore on behalf of Lady Bug Nine Pty Ltd with regard to a proposed child care centre to be located at Lot 9074 Granfell Way, Byford in the Shire of Serpentine-Jarrahdale.

Vehicular access to the proposed child care centre would be via a full movement crossover on Marchant Way which leads directly to the car parking area. Merchant Way is currently not connected to Granfell Way but as part of the approved subdivision (WAPC ref 157775), Merchant Way will formally connect to Granfell Way as a T-intersection.

The proposed development has been designed to cater for 106 children with a total of 15 staff members.

The subject site is presently vacant land. The site features good connectivity with the existing road, pedestrian and cyclist network and public transport coverage through existing bus service operating in the proximity of the site.

Based on the Shire's Draft Local Planning Scheme No.3, the proposed CCC requires the parking provision of 26 bays. The proposed development will provide a total of 30 parking bays (inclusive of 25 bays on site and 5 on street bays) which meets and exceeds the requirement of the Shire's policy and is sufficient to cater the needs of the proposed CCC. It is recommended that the proposed on-street parking bays are signed posted as being restricted to 15 mins only during peak periods between 7AM – 9AM and 3PM - 6PM to ensure efficient use of the bays during the child care centre peak drop off/pick up periods.

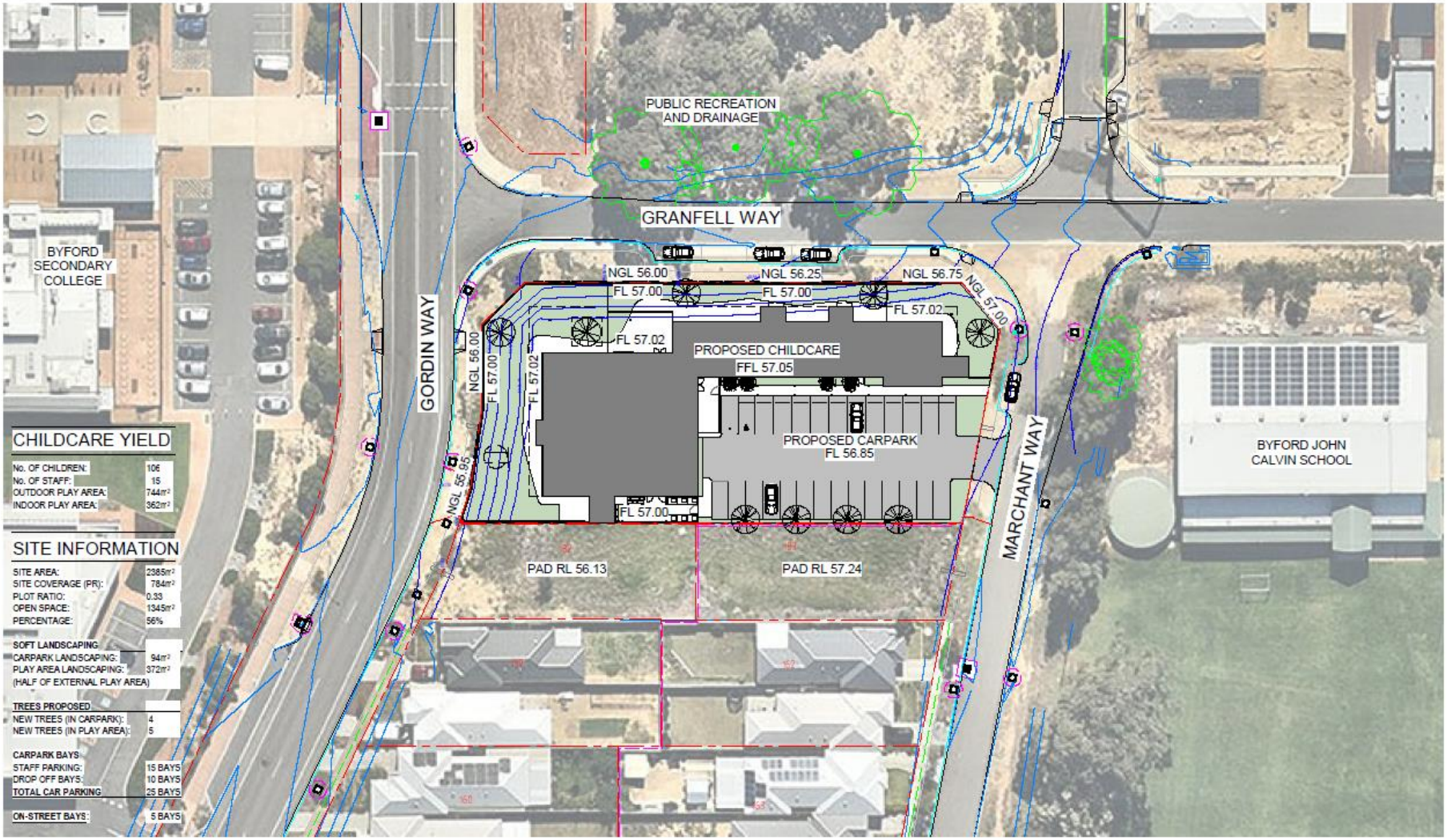
The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is relatively low and as such would not have a significant impact on the surrounding road network.

Deliveries and waste collection activities will be accommodated within the site. Turn path analysis undertaken for 8.0m waste collection truck in **Appendix B** confirms satisfactory circulation within the site.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed child care centre.

Appendix A

PROPOSED DEVELOPMENT PLANS



PHA
PETER HOBBS ARCHITECTS
17/210 BAGOT RD, SUBIACO 6008 WA, (08) 9388 1681

NO	REVISION	DATE
A	Issue for Comment	16.06.2021
B	Plan Flipped	17.06.2021
C	Revised Plan_For Comment	13.08.2021
D	Issued to Planner	24.08.2021

Client: JARRA PROPERTY
Project Name: BYFORD CHILDCARE
Job Number: 2106
Address: GRANFELL WAY, BYFORD

Drawing Title: SITE PLAN
Drawn by: Author
Checked by: Checker
Scale @ A3: 1 : 500
Revision Date: 16.06.2021
Revision: D
Drawing Number: A1.01

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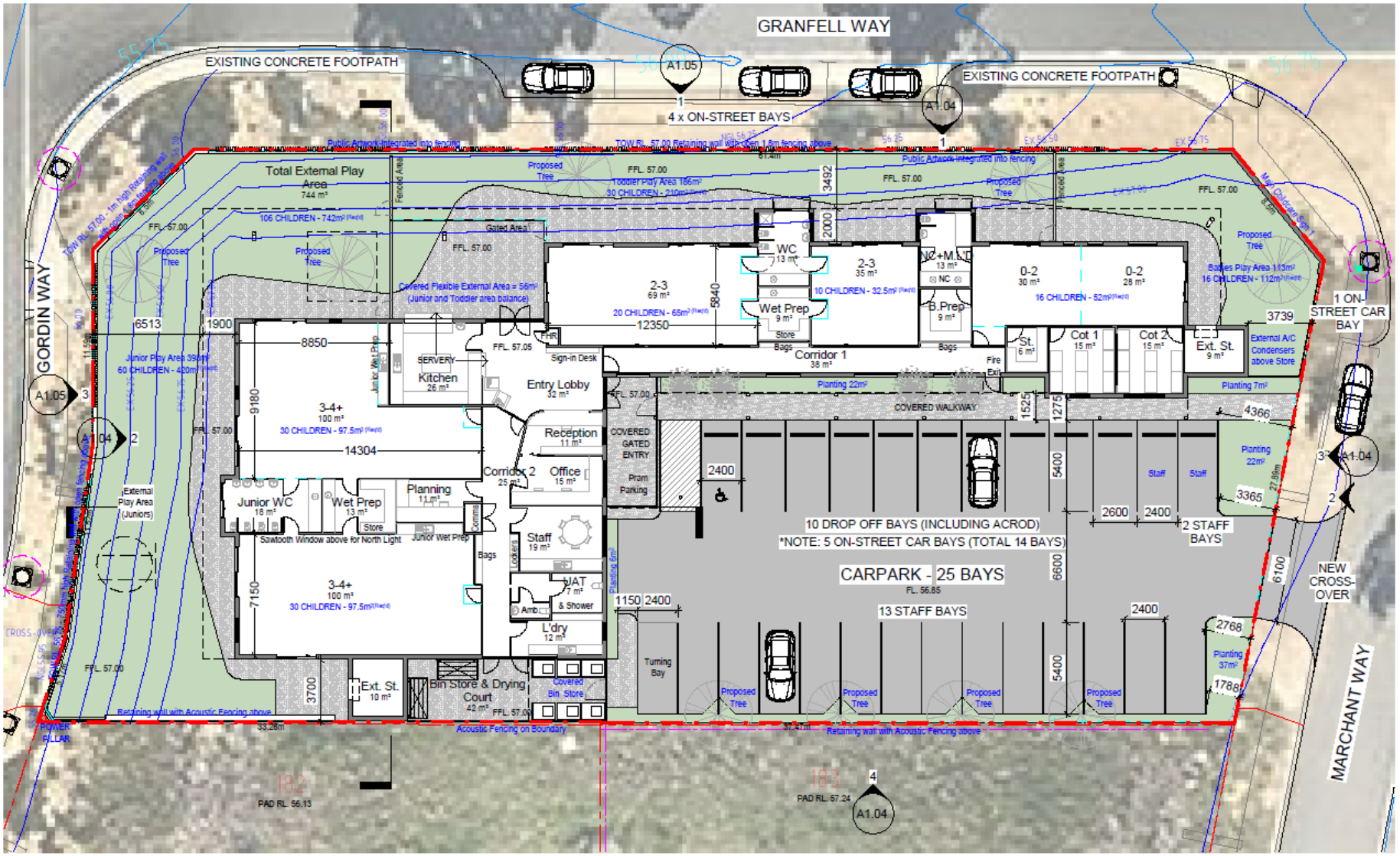

PHA
PETER HOBBS ARCHITECTS
17/210 BAGOT RD, SUBIACO 6008 WA, (08) 9388 1691

NO	REVISION	DATE
B	Issue for Comment	16.06.2021
C	Plan Flipped	17.06.2021
D	Revised to 106 Child	16.07.2021
E	Revised Plan	10.08.2021
F	Revised Plan_For Comment	13.08.2021
G	Issued to Planner	19.08.2021
H	Issued to Planner	24.08.2021

Client:
JARRA PROPERTY

Project Name:
BYFORD CHILDCARE

Job Number:
2106

Address:
GRANFELL WAY, BYFORD

Drawing Title:
GROUND FLOOR PLAN

Drawn by:	Checked by:	Scale @ A3
IG	PH	1 : 200
Revision Date:	Revision:	Drawing Number:
26.05.2021	H	A1.02

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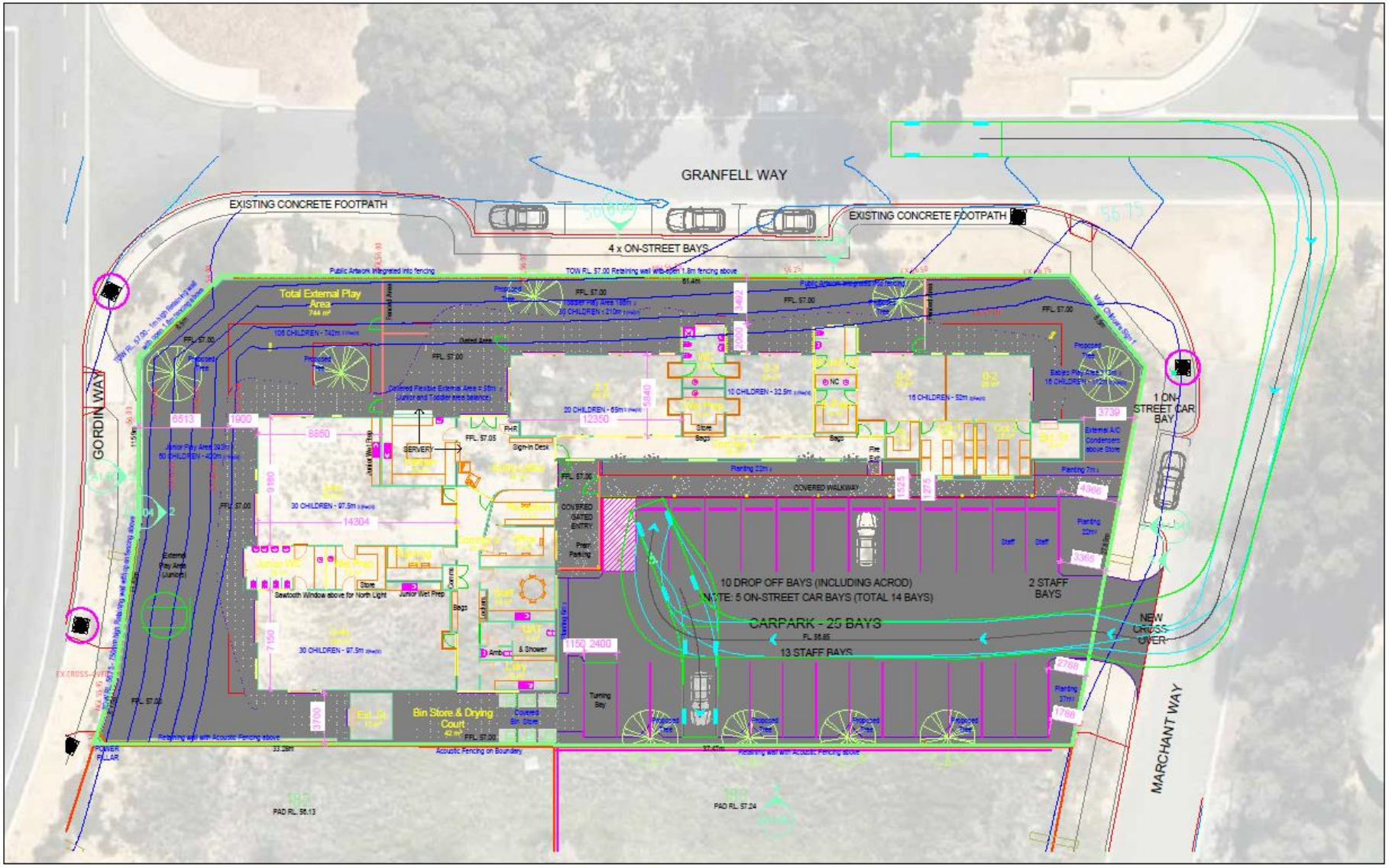
Appendix B

TURN PATH ANALYSIS



Lot 9074 Granfell Way, Byford
8.0m Waste Truck
Truck Entry

LEGEND
Vehicle Body
Wheel Path

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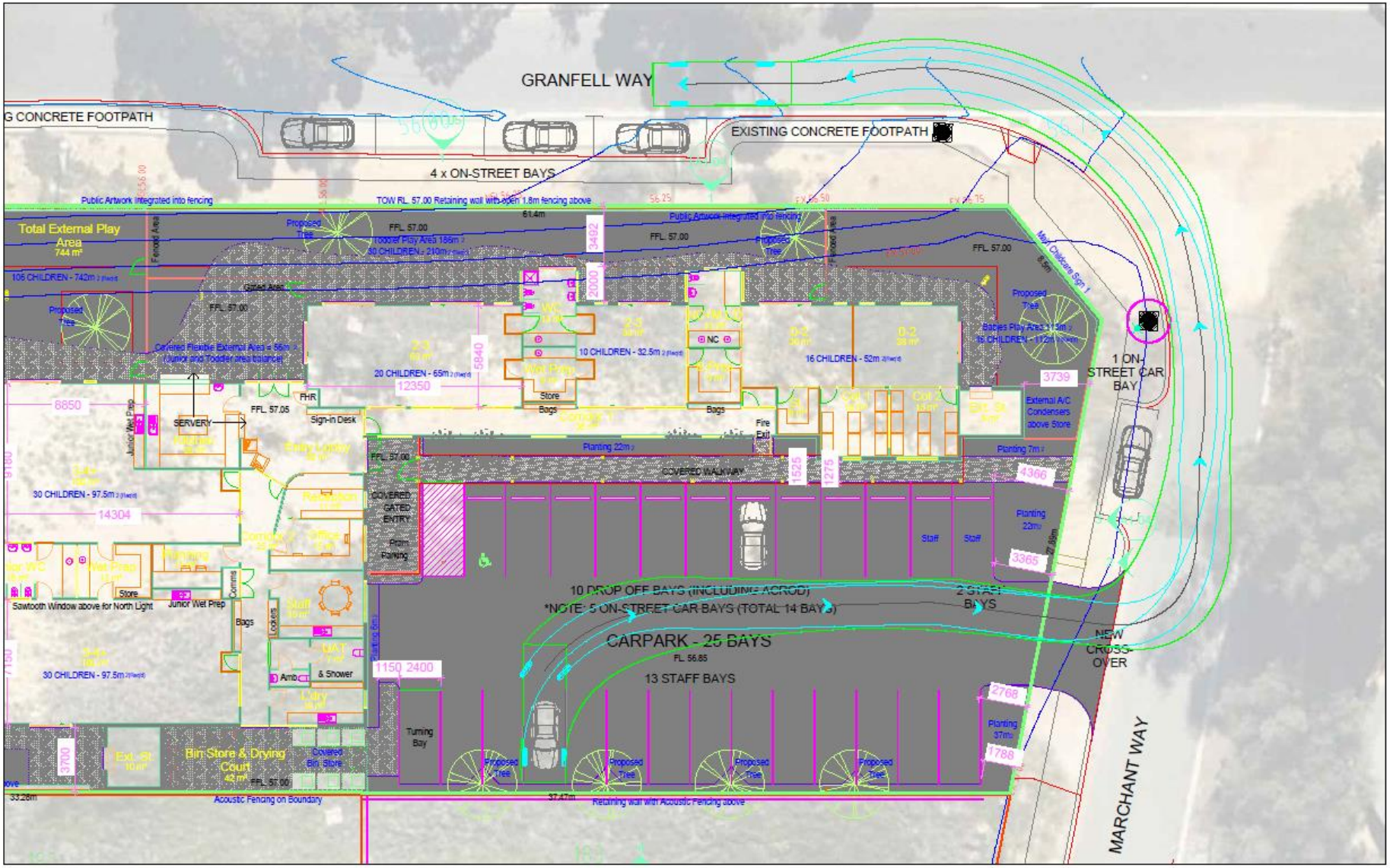

Lot 9074 Granfell Way, Byford

8.0m Truck Exit

Truck Exit

LEGEND

Vehicle Body

Wheel Path

t21.177.sk05a

26/08/2021

Scale: 1:200 @ A3

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