Transport Impact Statement

Project:	Proposed Fast Food Development 40 Butler Boulevard, Butler
Client:	Shimal Realstar c/- Meyer Shircore Architects
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Disclaimer

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1. Introduction

1.1. Proponent

Shawmac Pty Ltd has been commissioned by Meyer Shircore Architects on behalf of Shimal Realstar Pty Ltd to prepare a Transport Impact Statement (TIS) for a proposed fast food development in Butler.

This TIS has been prepared in accordance with the Western Australian Planning Commission (WAPC) *Transport Impact Assessment Guidelines Volume 4 – Individual Developments*. The assessment considers the following key matters:

- Details of the proposed development.
- Vehicle access and parking.
- Provision for service vehicles.
- Hours of operation.
- Daily traffic volumes and vehicle types.
- Traffic management on frontage streets.
- Public transport access.
- Pedestrian access.
- Cycle access and end of trip facilities.
- Site specific and safety issues.

1.2. Site Location

The site address is 40 (Lot 2076) Butler Boulevard in Butler. The development will occupy the western portion of the lot. The local authority is the City of Wanneroo.

The general site location is shown in Figure 1. An aerial view of the existing site is shown in Figure 2.

Figure 1: Site Location

Figure 2: Aerial View (May 2021)

2. Proposed Development

2.1. Land Use

The proposed development is a fast food outlet (Taco Bell) which includes a drive-through, an outdoor dining area and car parking.

The proposed site layout is shown in Figure 3 and the development plans are attached as Appendix A.

Figure 3: Site Layout

The site is located within Precinct C of the Butler District Centre Activity Centre Structure Plan Area which is described as "…a commercial gateway to the centre and allows for bulky goods, showrooms and other similar commercial uses at the edge of the centre, in close proximity to the high traffic environment of Marmion Avenue."

Drive Through Food Outlet is listed as a permitted use within Precinct C and so the proposed development is consistent with the intent of the area.

3. Traffic Management on Frontage Streets

3.1. Road Network

3.1.1. Existing Road Layout and Hierarchy

The layout and hierarchy of the existing local road network according to the Main Roads WA *Road Information Mapping System* is shown in Figure 4.

Figure 4: Existing Road Network Hierarchy

The speed limits are shown in Figure 5.

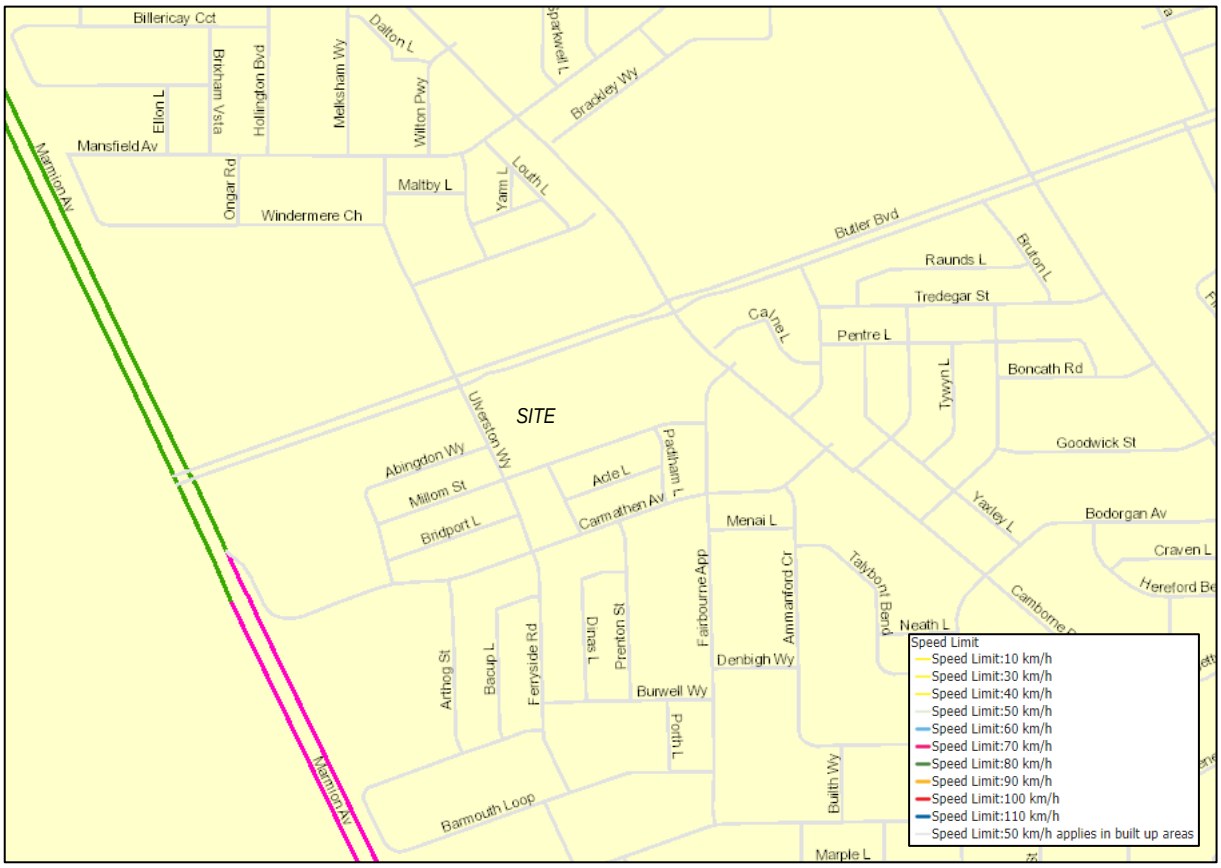


Figure 5: Existing Speed Limits

4. Vehicle Access and Parking

4.1. Access

Vehicle access is proposed via a new crossover on Ulverston Way and a new crossover on Butler Boulevard. The crossover on Butler Boulevard will be restricted to left-in / left-out (LILO) movements only due to the existing central median. The proposed access arrangement is shown in Figure 6.

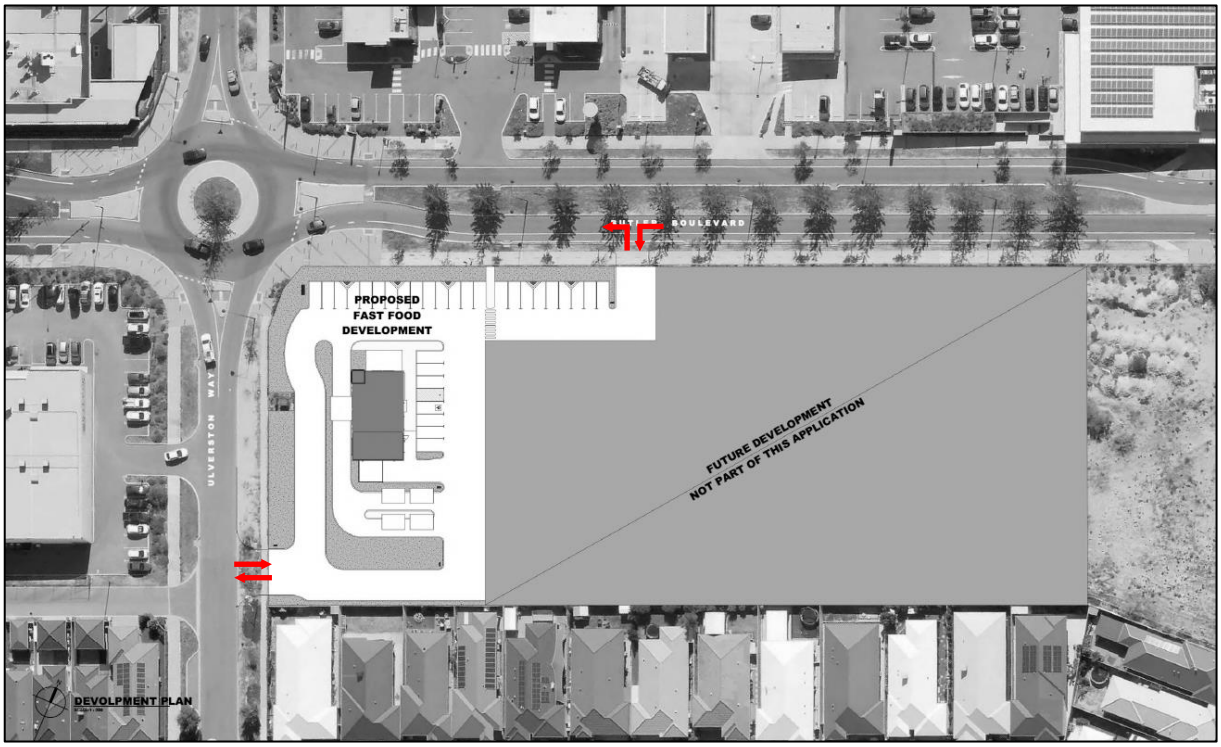
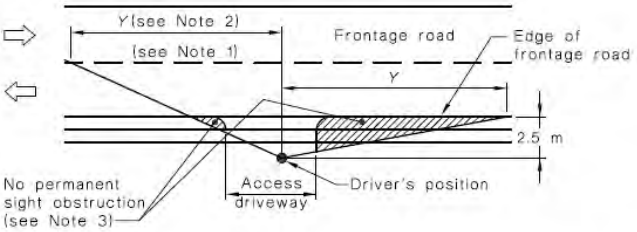


Figure 6: Proposed Access Arrangement

4.1.1. Sight Distance

Sight distance requirements from exit crossovers is defined in Figure 3.2 of Australian Standard AS2890.1-2004 *Parking facilities Part 1: Off street car parking* (AS2890.1) as shown in Figure 7.



Frontage road speed (Note 4) km/h	Distance (*Y*) along frontage road m		
	Access driveways other than domestic (Note 5)		Domestic property access (Note 6)
	Desirable 5 s gap	Minimum SSD	
40	55	35	30
50	69	45	40
60	83	65	55
70	97	85	70
80	111	105	95
90	125	130	Use values from 2nd and 3rd columns
100	139	160	
110	153	190	

Figure 7: Sight Distance Requirements

Based on the 50km/h speed limit along Butler Boulevard and Ulverston Way, the minimum required sight distance is 45 metres from each crossover.

The sight distance check is shown in Figure 8 and Figure 9. As the Butler Boulevard crossover is restricted to LILO movements only, sight distance is only required towards the east.

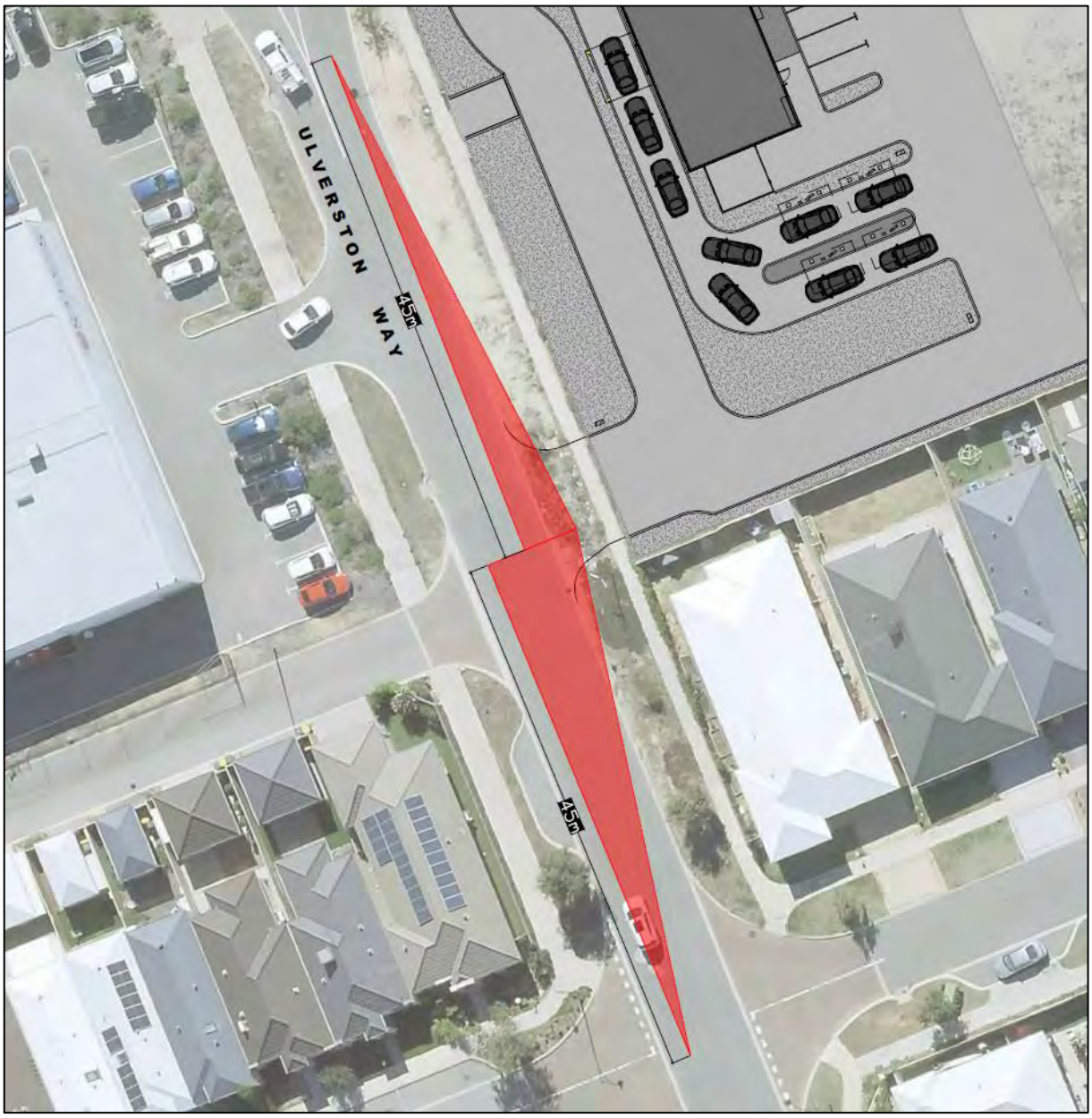


Figure 8: Sight Distance Check – Ulverston Way

Figure 9: Sight Distance Check – Butler Boulevard

As shown, the minimum required sight distance is achieved in all required directions at both crossovers.

Vertically, the geometry of Ulverston Way and Butler Boulevard is relatively flat with no major crests that impede sight distance.

4.2. Parking

4.2.1. Parking Provision

The car parking requirements for development within the City of Wanneroo are outlined in the City's District Planning Scheme. Fast food outlets require:

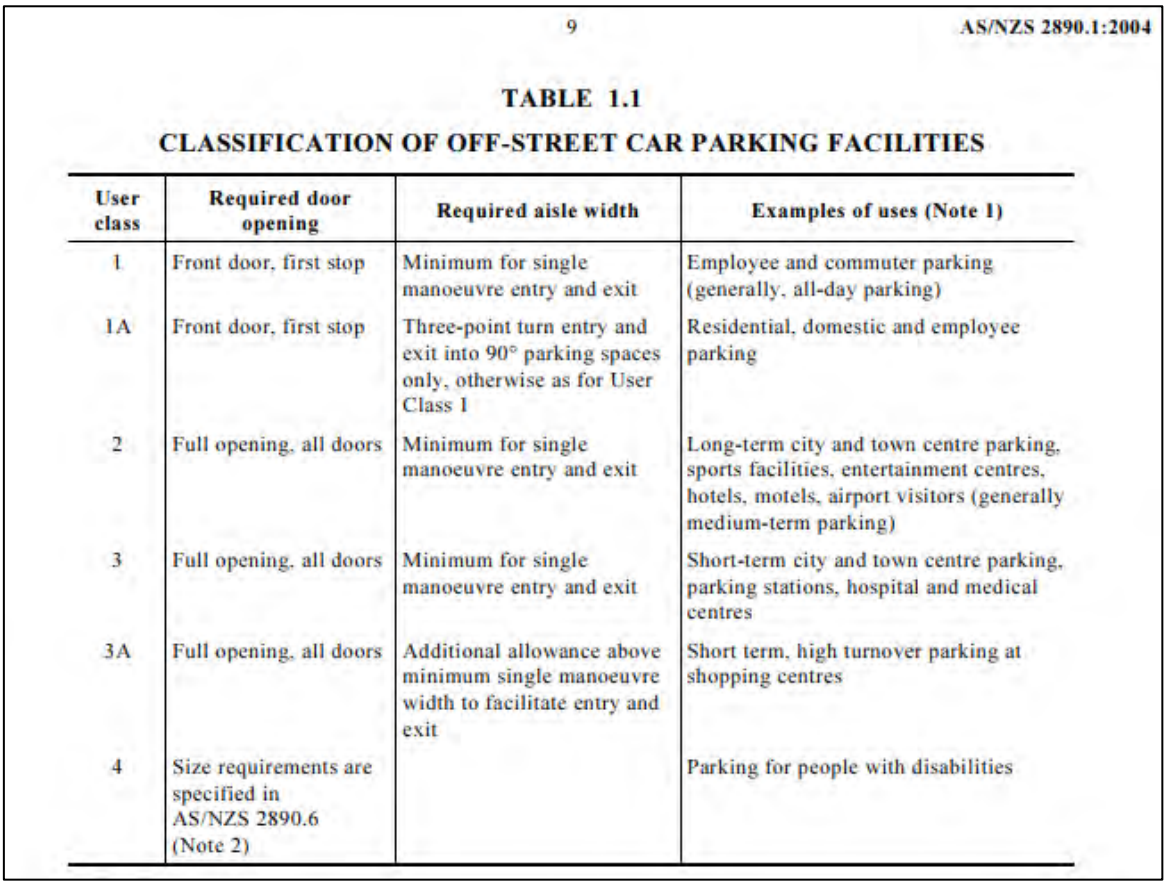
- 1 space per 4 guests in indoor and outdoor seated areas; plus
- 7 spaces per 100m^2 NLA for non-seated areas.
- Up to 50% of non-seated area parking may be located in drive through queue.

Based on the approximately seating capacity of 60 persons and approximately 115m^2 of non-seated area, the minimum parking requirement is therefore 23 parking spaces (15 for seated areas and 8 for non-seated areas). The development plans indicate that 39 bays (30 regular spaces and 9 drive through spaces) will be provided which exceeds the minimum requirement.

It is likely that once the remainder of the site is developed, parking between the adjacent uses could potentially be shared.

4.2.2. Parking Design

The parking layout will need to comply with the requirements of Australian Standard AS2890.1. The user class will depend on the purpose of the bay as detailed in Figure 10.



9 AS/NZS 2890.1:2004

TABLE 1.1

CLASSIFICATION OF OFF-STREET CAR PARKING FACILITIES

User class	Required door opening	Required aisle width	Examples of uses (Note 1)
1	Front door, first stop	Minimum for single manoeuvre entry and exit	Employee and commuter parking (generally, all-day parking)
1A	Front door, first stop	Three-point turn entry and exit into 90° parking spaces only, otherwise as for User Class 1	Residential, domestic and employee parking
2	Full opening, all doors	Minimum for single manoeuvre entry and exit	Long-term city and town centre parking, sports facilities, entertainment centres, hotels, motels, airport visitors (generally medium-term parking)
3	Full opening, all doors	Minimum for single manoeuvre entry and exit	Short-term city and town centre parking, parking stations, hospital and medical centres
3A	Full opening, all doors	Additional allowance above minimum single manoeuvre width to facilitate entry and exit	Short term, high turnover parking at shopping centres
4	Size requirements are specified in AS/NZS 2890.6 (Note 2)		Parking for people with disabilities

Figure 10: Classification of Parking Facilities

Most parking is expected to be medium term use and so the most appropriate class is User Class 2. The minimum required dimensions of the parking areas are outlined in Table 1.

Table 1: Minimum Parking Dimensions

Bay Type	Dimension	AS2890.1 Requirement
90 Degree Bays (User Class 2)	Bay Width	2.5m
	Bay Length	5.4m
	Aisle Width	5.8m

Based on the current site plan, all parking bays are 2.5m wide and 5.4m long which satisfy the minimum AS2890.1 requirements. The parking aisles vary in width from 6.2m to 8.5m which also comply with AS2890.1.

4.3. Provision for Service Vehicles

The development is expected to be serviced by waste collection vehicles and delivery vehicles. A swept path assessment has been undertaken to check the manoeuvrability of service vehicles to and from the plant area on the south side of the building. The assessment has been undertaken in Autodesk Vehicle Tracking using the Australian Standard 12.5m Heavy Rigid Vehicle (HRV). As shown in Figure 11, the site layout allows adequate manoeuvrability for these vehicles.

It is recommended that any service vehicle movements are scheduled outside of peak periods of traffic where possible to minimise the impact on other vehicles and to allow the heavy vehicles to use the full width of the circulating roads.

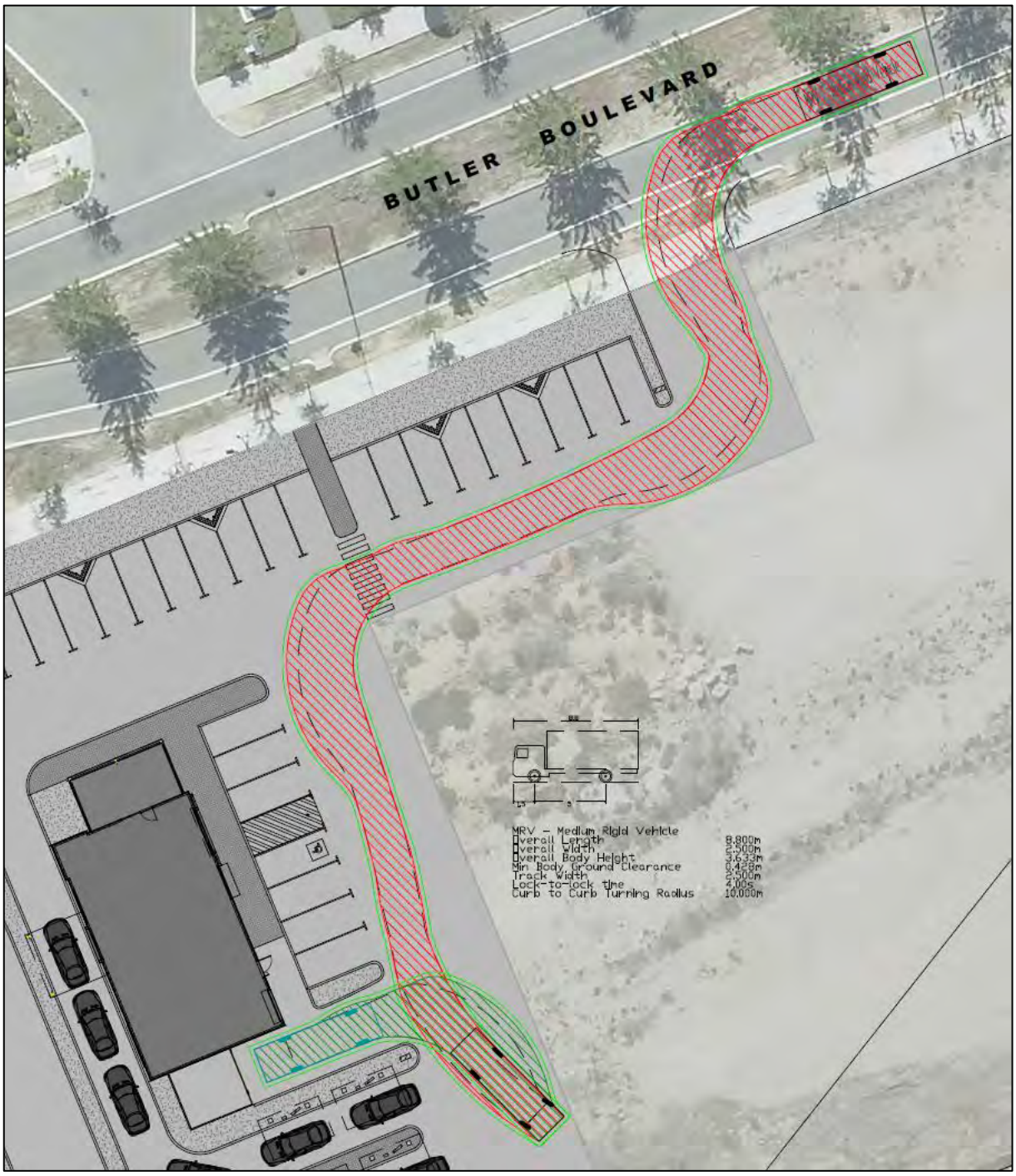


Figure 11: Waste Swept Path Analysis – Inbound

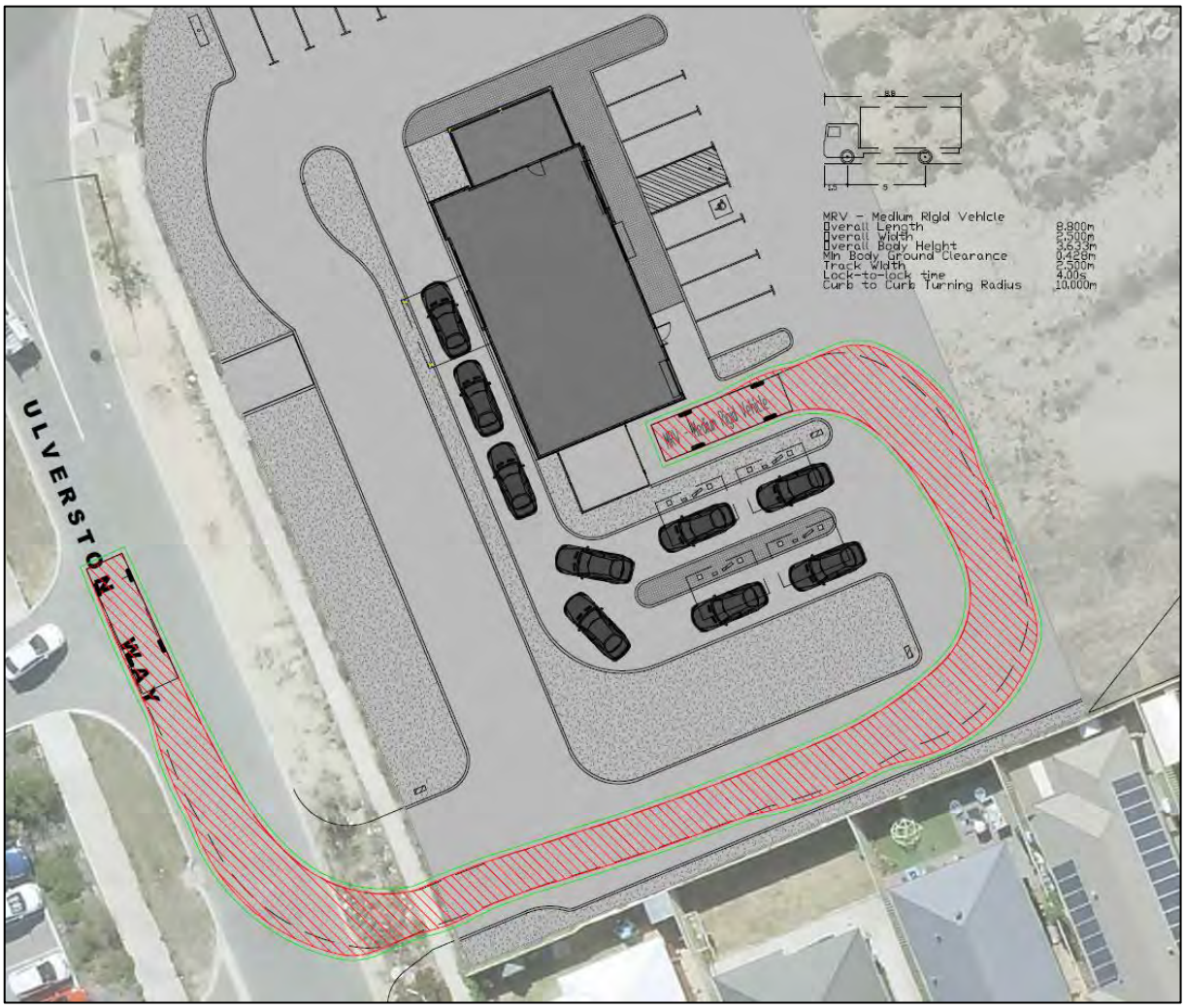


Figure 12: Waste Swept Path Analysis – Outbound

5. Traffic Volumes

The volume of traffic generated by the proposed fast food outlet has been estimated using trip generation rates from the *Trip Generation and Parking Demand Surveys of Fast Food Outlets Analysis Report* undertaken by Bitzios Consulting on behalf of the NSW Roads and Maritime Services (RMS). The study was undertaken in 2016 and included surveys of various drive through fast food outlets including McDonalds, KFC, Hungry Jacks, Red Rooster and Oporto.

The study did not include any Taco Bell outlets as they were not operating in Australia at the time. As a relatively new brand in Australia, the demand is unlikely to be similar to a McDonalds and so the trip rate for KFC has been used as this is the second highest traffic generator. The study provides methods for estimating the PM peak hour traffic generation rates as this is typically the peak period of combined development and background traffic. In this instance, Taco Bell will not be open during the morning peak hour and so the PM peak hour is the critical peak period.

The PM peak hour trip generation equation for a KFC is outlined below:

*Trip Generation = 92.73 – 0.354*GFA + 4.145*(drive through capacity) + 1.694*(outdoor seating)*

For the proposed Taco Bell the trip generation is calculated below:

Trip Generation = 92.73 – 0.354(213) + 4.145*(9) + 1.694*(18) = 85 vehicles per hour*

Based on the above, the proposed development is estimated to generate 85 vehicles trips during the PM peak hour.

It is also noted that a high proportion of vehicle trips to fast food developments are pass-by trips which are trip already only the road network. The proportion varies with the brand but is generally between 40% and 55%. If adopting the lower end of the range, then the number of new vehicle trips generated by the proposed development would be 51 vehicles per hour.

According to the TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally accepted as being acceptable without requiring detailed capacity analysis. The estimated 51 new vehicle trips during the PM peak hour is in the middle of this range and so the development traffic is considered to have a low to moderate impact.

6. Pedestrian and Cyclist Access

6.1. Paths

The site currently as excellent access for pedestrians and cyclists with paths or wide verges along both sides of most roads in the vicinity. There are also on-road cycle lanes along both sides of Butler Boulevard and a dual-use path along the south side.

The existing path network is assessed as being adequate.

6.2. Bicycle Parking

There are no specific bicycle parking requirements outlined in the City's Planning Scheme or the Butler Activity Centre Structure Plan.

The demand for bicycle parking to fast food developments are likely to be relatively low. However, it is recommended to consider including several bicycle racks to encourage any staff and customers that may consider cycling.

7. Public Transport Access

The site has good access to public transport. Existing services include:

- Transperth Bus Route 480 which operates between Clarkson Station and Butler Station via Marmion Avenue.
- Transperth Bus Route 482 which operates between Clarkson Station and Quinns Rocks via Mindarie.
- Transperth Bus Route 483 which operates between Clarkson Station and Alkimos via Merriwa and Butler Station.
- Transperth Bus Route 490 which operates between Butler Station and Two Rocks via Marmion Avenue.
- Transperth Bus Route 491 which operates between Butler Station and Yanchep via Marmion Avenue

The closest stops are located on Butler Boulevard east of Camborne Parkway approximately 200 metres east of the site.

The site is also located approximately 700 metres walking distance of Butler Station which provide access to the Joondalup Train Line as well as other bus services.

The existing public transport services are considered to be adequate.

8. Site Specific Issues and Safety Issues

8.1. Crash History

The crash history of the adjacent road network was obtained from the MRWA Reporting Centre. The search included the length of Butler Boulevard between Ulverston Way and Camborne Parkway and the length of Ulverston Way between Butler Boulevard and Millom Street.

A summary of the recorded incidents over the five-year period ending December 2020 is shown in Figure 13.

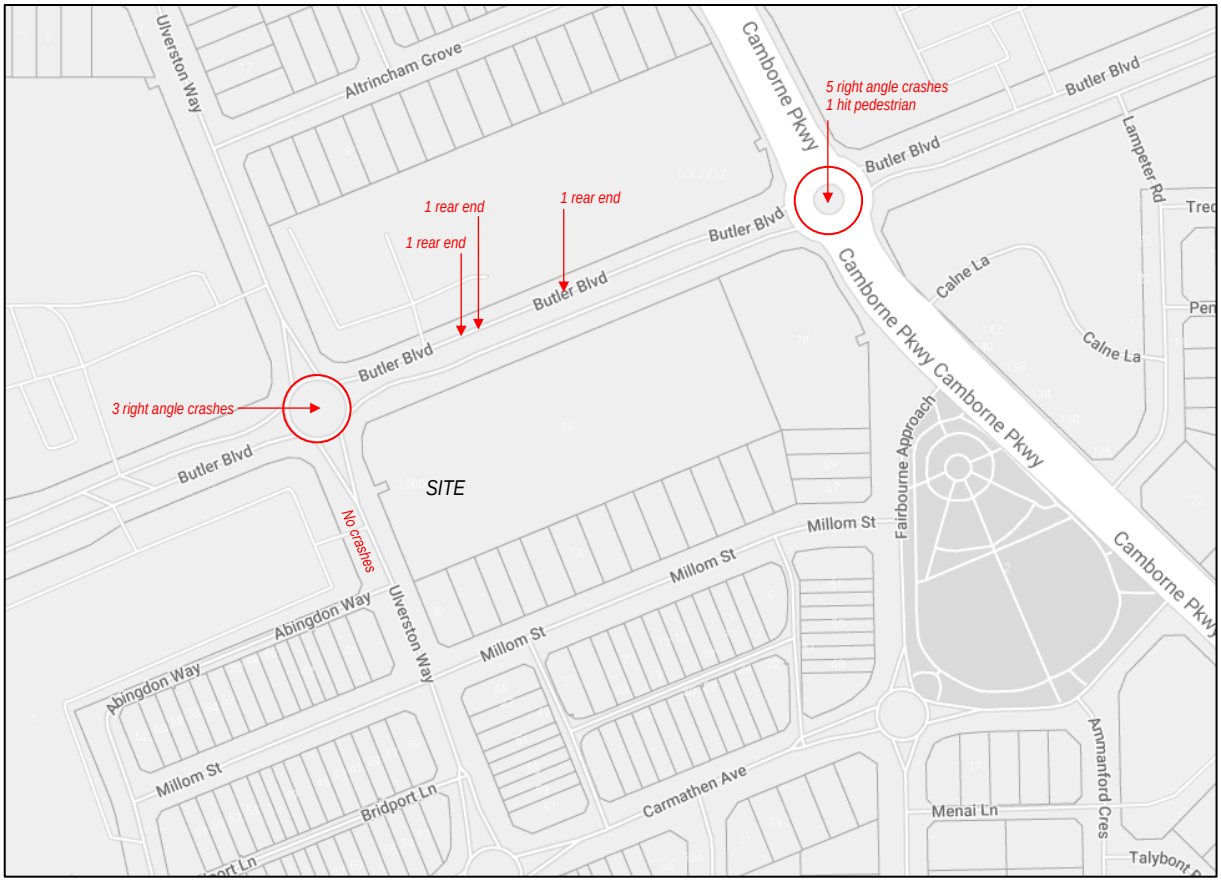


Figure 13: Crash History January 2016 to December 2020

The volume and types of crashes appear to be typical of the road environment along Butler Boulevard and there does not appear to be any major safety issue on the road network to be addressed. A review of the detailed crash history indicates that none of the recorded crashes were casualty crashes.

The proposed development itself will only generate a low to moderate volume of additional traffic and there is no indication that the development would increase the risk of crashes unacceptably.

9. Conclusion

A Transport Impact Statement for the proposed fast food development concluded the following:

- The proposed development is estimated to generate 85 vehicles trips during the PM peak hour including approximately 51 new vehicle trips.
- The existing road network will have sufficient capacity to accommodate the traffic generated by the development and no modifications are required.
- The minimum required sight distance is available from both proposed crossovers.
- The minimum parking requirement is 23 parking spaces (15 for seated areas and 8 for non-seated areas). The development plans indicate that 39 bays (30 regular spaces and 9 drive through spaces) will be provided which exceeds the minimum requirement.
- The parking layout complies with AS2890.1.
- A swept path assessment that the site layout allows adequate manoeuvrability for the likely service vehicles.
- The existing external path network is considered to be adequate.
- There are no specific bicycle parking requirements outlined in the City's Planning Scheme or the Butler Activity Centre Structure Plan. The demand for bicycle parking to fast food developments are likely to be relatively low. However, it is recommended to consider including several bicycle racks to encourage any staff and customers that may consider cycling.
- The existing public transport services are considered to be adequate.
- The crash history of the adjacent road network does not indicate any major safety issue on the road network. The proposed development itself will only generate a low to moderate volume of additional traffic and there is no indication that the development would increase the risk of crashes unacceptably.

Appendix A – Development Plans

PROPOSED FAST FOOD DEVELOPMENT

LOCATION:PART LOT 2076, Butler Boulevard, Butler

FOR:SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY

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DEC 2021
02
1 : 300 @ B1

7946

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Site Criteria

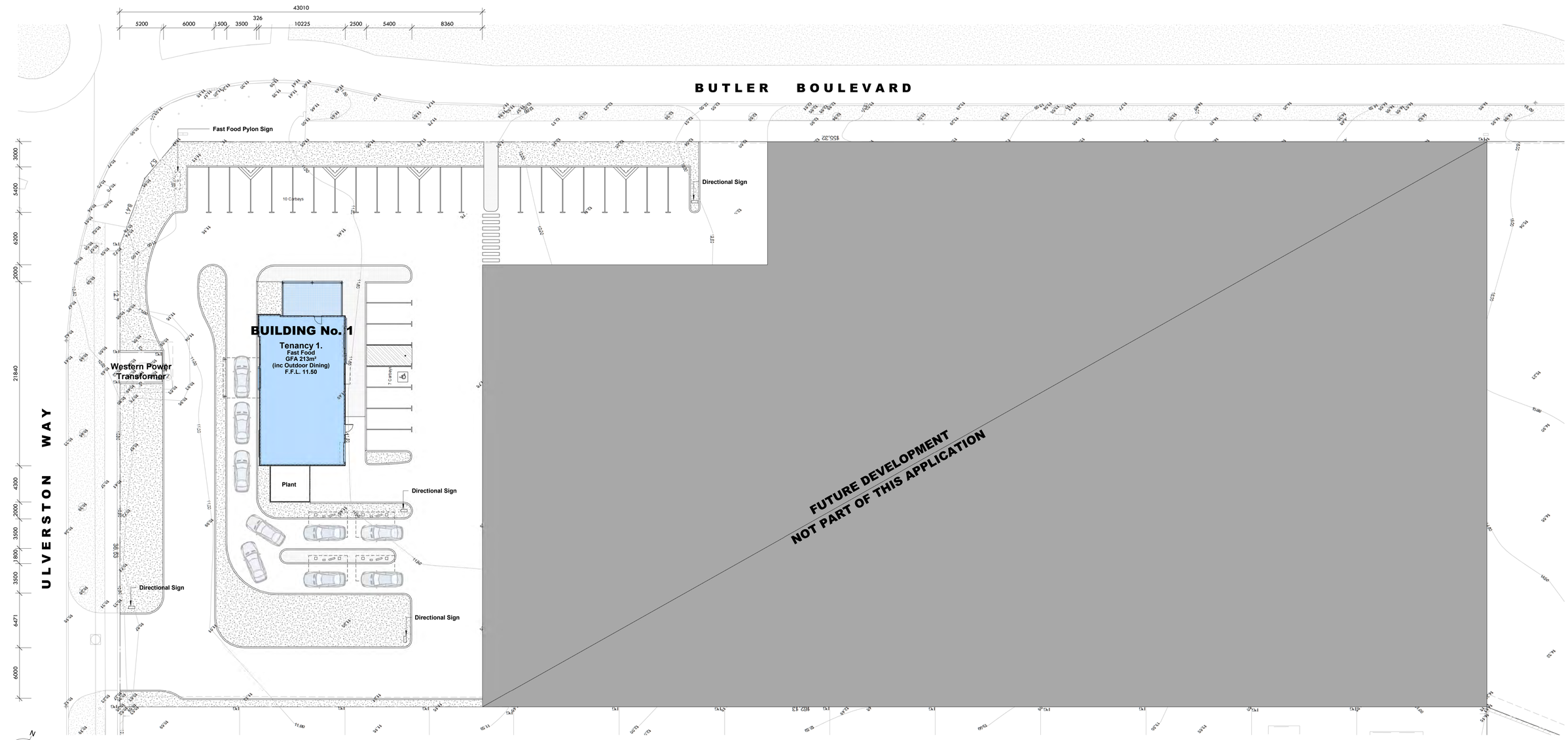
Part Lot 2076

1. Site Area	3,325m²
2. L/Scape	
a. Required 8%	266m²
b. Provided	
Soft L/Scape	711m² or 21.4% of Site
Hard L/Scape	133m² or 4% of Site
TOTAL	**844m² or 25.4% of Site**
3. Building 1 Floor Area	
a. Tenancy 1	213m²
4. Carparking	
Cars Required Floor Area	
a. Take-Away - 1/4 People seated area @ ~60	15 Cars
7/100m² Non-Seated area @ 115m²	8 Cars
TOTAL	**23 Cars**
Cars Provided - On Grade	30 Cars
Drive Thru	9 Cars
TOTAL	**39 Cars**

Landscaping
A. Hard Landscaping
Defined as paved walkways either open or covered.
B. Soft Landscaping
Defined as vegetative landscaping.

Gross Floor Area : GFA
A. All Floor Areas on this plan are shown as GROSS FLOOR AREA.
Unless otherwise noted as Nett Floor Area
B. Definition of Gross Floor Area is defined as:
i/ GROSS FLOOR AREA OF TENANCY:
Gross Floor Area of an individual Tenancy is defined as the area contained between the centre line of common tenancy walls and the outside edge of external walls.
ii/ GROSS FLOOR AREA OF A BUILDING:
Gross Floor Area of a Building is defined as the total area contained between the outside edge of external walls

Nett Floor Area : NFA
A. Nett Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.
B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.



N

PROPOSED FAST FOOD SITE PLAN
SCALE: 1 : 200

PROPOSED FAST FOOD DEVELOPMENT
LOCATION:PART LOT 2076, Butler Boulevard, Butler
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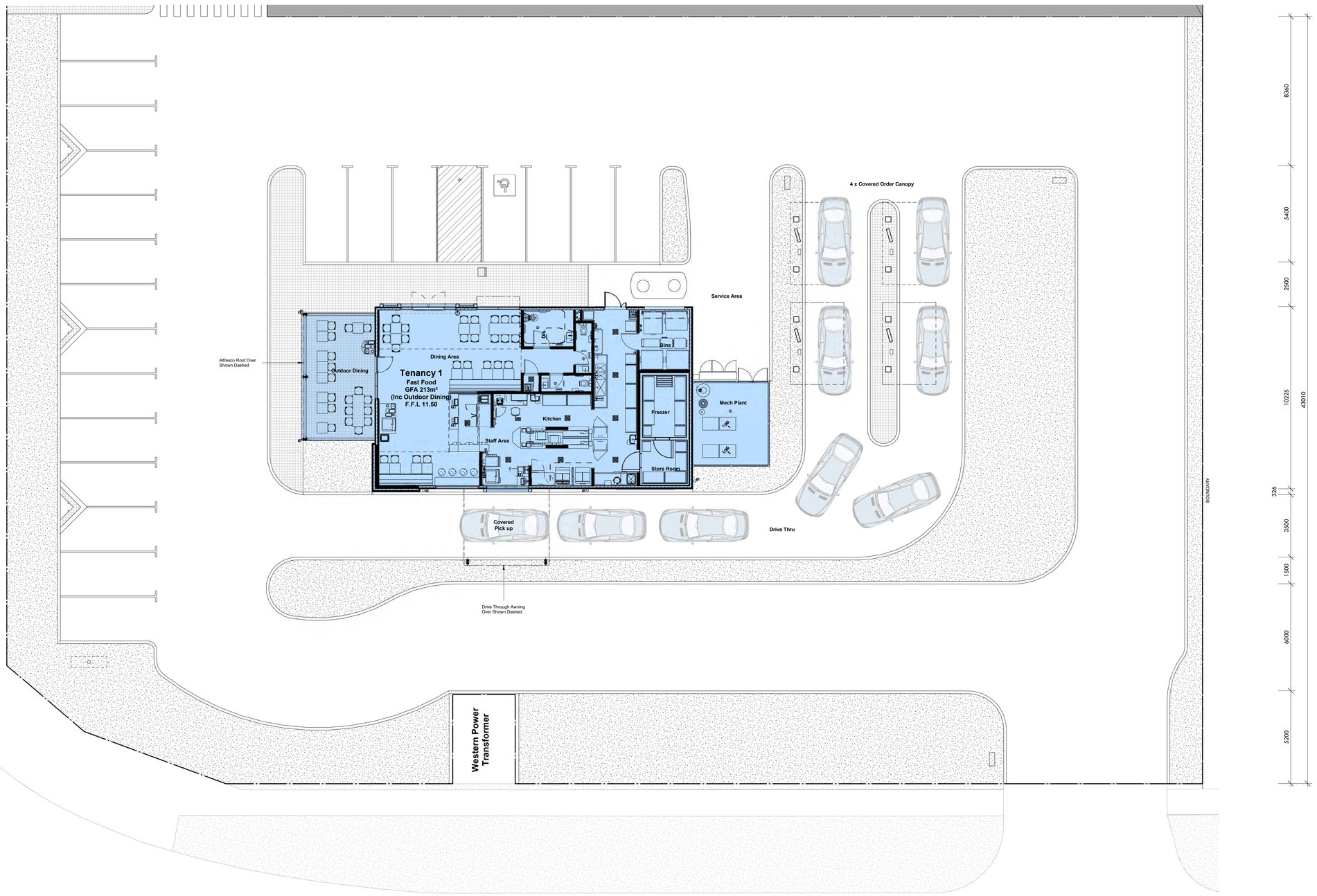

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PROPOSED FAST FOOD FLOOR PLAN

SCALE: 1 : 100

PROPOSED FAST FOOD DEVELOPMENT

LOCATION:PART LOT 2076, Butler Boulevard, Butler

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