



**PRELIMINARY**





**LOCATION PLAN**

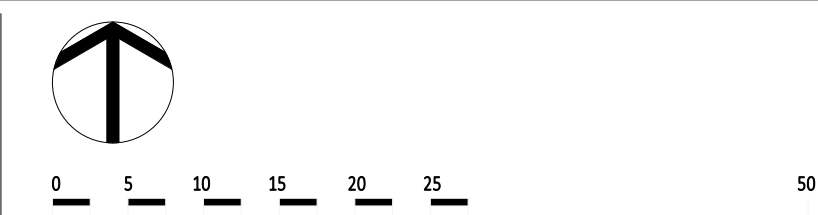
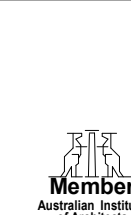
SCALE: 1 : 500



**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**

LOCATION : PART LOT 2076, Butler Boulevard, Butler  
 FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY

**PRELIMINARY**



DATE:	OCT 2023	PROJECT NUMBER	
REVISION:	6		<b>9056</b>
SHEET:	01		
SCALE:	1 : 500		

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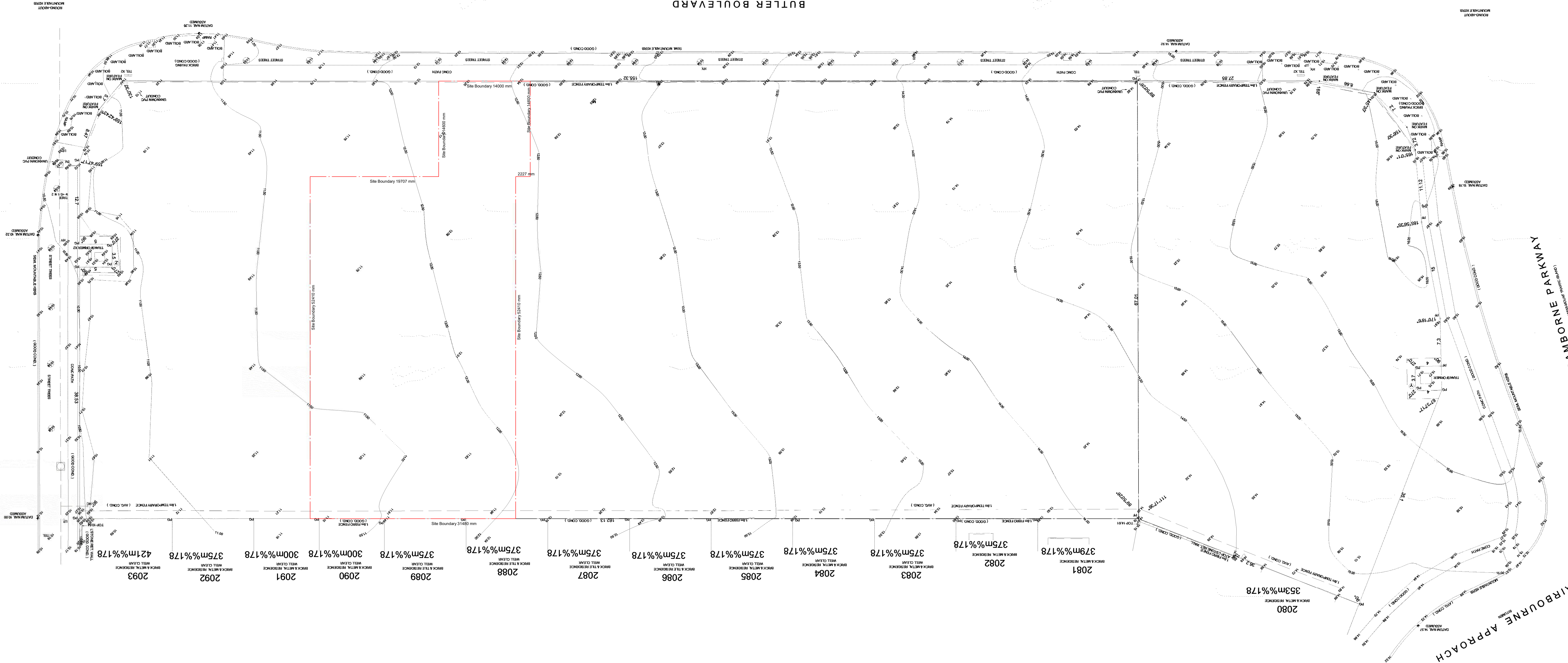


BUTLER BOULEVARD

CAMBORNE PARKWAY

FAIRBOURNE APPROACH

ULVERSTON WAY



**SITE SURVEY**

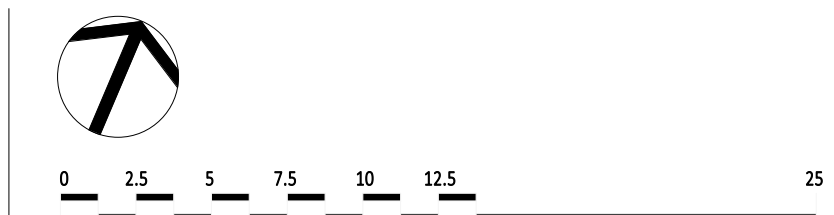
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**PRELIMINARY**



**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**

LOCATION : PART LOT 2076, Butler Boulevard, Butler  
FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY



DATE:	OCT 2023	PROJECT NUMBER	9056
REVISION:	6		
SHEET:	02		
SCALE:	1:250		

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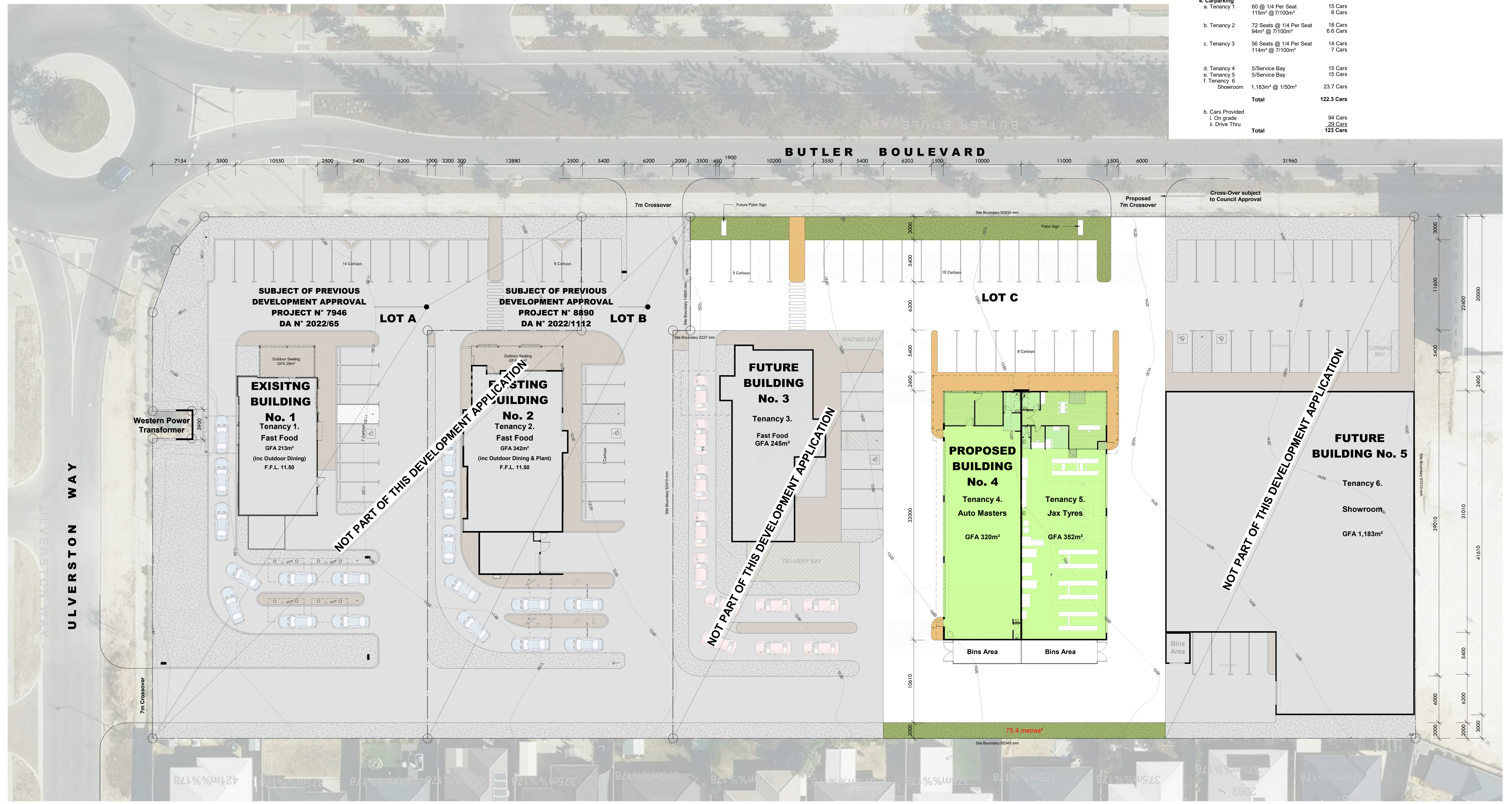
**SITE CRITERIA**

<b>1. Site Area</b>		<b>11,483.5m<sup>2</sup></b>
<b>2. Landscaping</b>	8% Of Soft Landscaping	<b>919m<sup>2</sup></b>
a. Required		
b. Provided Soft		<b>1,592m<sup>2</sup> (13.8%)</b>
<b>3. Floor Area (GFA)</b>		
a. Tenancy 1 - Fast Food		213m <sup>2</sup>
b. Tenancy 2 - Fast Food		342m <sup>2</sup>
c. Tenancy 3 - Fast Food		245m <sup>2</sup>
d. Tenancy 4 - Auto Service		320m <sup>2</sup>
e. Tenancy 5 - Auto Service		352m <sup>2</sup>
f. Tenancy 6 - Showroom		1,183m <sup>2</sup>
<b>Total</b>		<b>2,655m<sup>2</sup></b>
<b>4. Carparking</b>		
a. Tenancy 1	60 @ 1/4 Per Seat 115m <sup>2</sup> @ 7/100m <sup>2</sup>	15 Cars 8 Cars
b. Tenancy 2	72 Seats @ 1/4 Per Seat 94m <sup>2</sup> @ 7/100m <sup>2</sup>	18 Cars 6.6 Cars
c. Tenancy 3	56 Seats @ 1/4 Per Seat 114m <sup>2</sup> @ 7/100m <sup>2</sup>	14 Cars 7 Cars
d. Tenancy 4	5/Service Bay	15 Cars
e. Tenancy 5	5/Service Bay	15 Cars
f. Tenancy 6	Showroom	23.7 Cars
<b>Total</b>		<b>122.3 Cars</b>
b. Cars Provided		
i. On grade		94 Cars
ii. Drive Thru		29 Cars
<b>Total</b>		<b>123 Cars</b>

**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 Net 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.

**Net Floor Area - NFA**  
 A. Net 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.



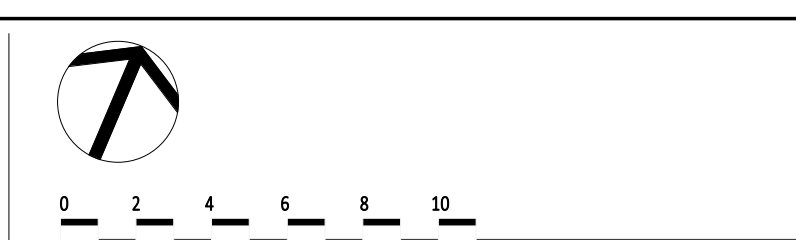
**SITE PLAN - STAGE 3**  
 SCALE: 1:200



**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**  
 LOCATION : PART LOT 2076, Butler Boulevard, Butler  
 FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY

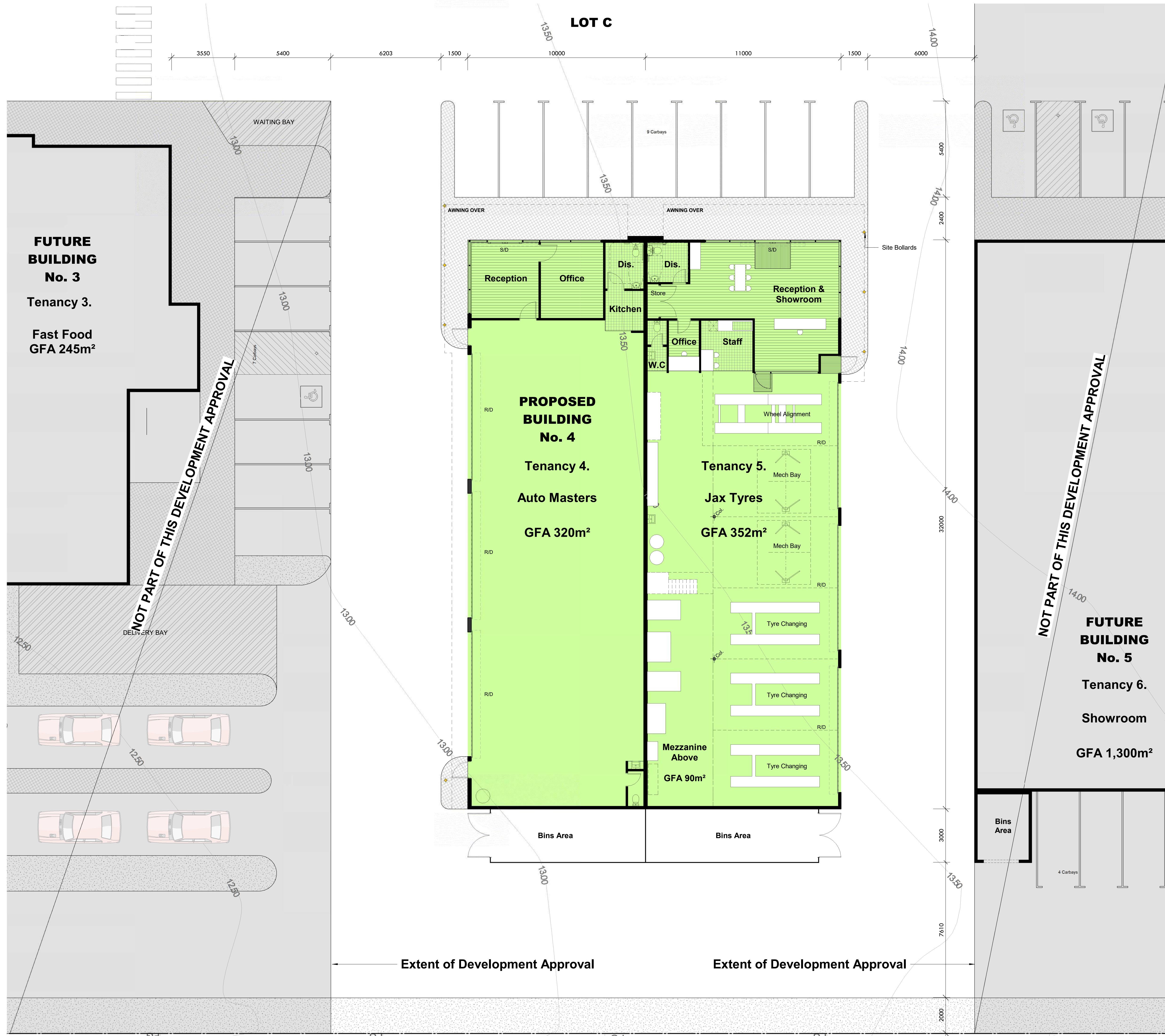
**PRELIMINARY**

DATE: OCT 2023 PROJECT NUMBER  
 REVISION: 6 **9056**  
 SHEET: 04  
 SCALE: As indicated



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**BUILDING 4 - GROUND FLOOR PLAN**

SCALE: 1 : 100

**PRELIMINARY**



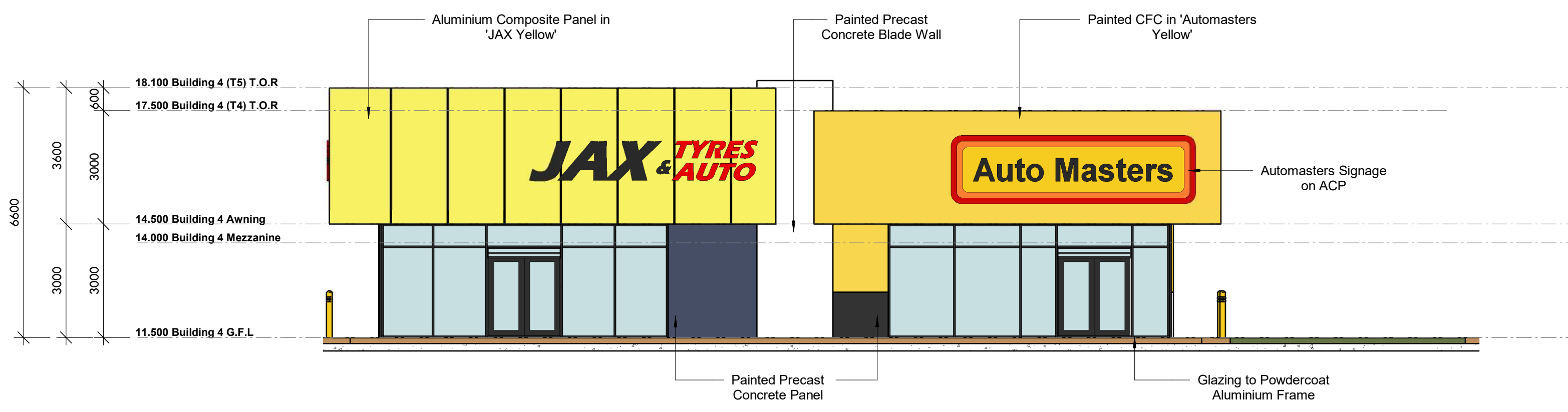
**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**  
LOCATION : PART LOT 2076, Butler Boulevard, Butler  
FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY



DATE: OCT 2023  
REVISION: 6  
SHEET: 05  
SCALE: 1 : 100

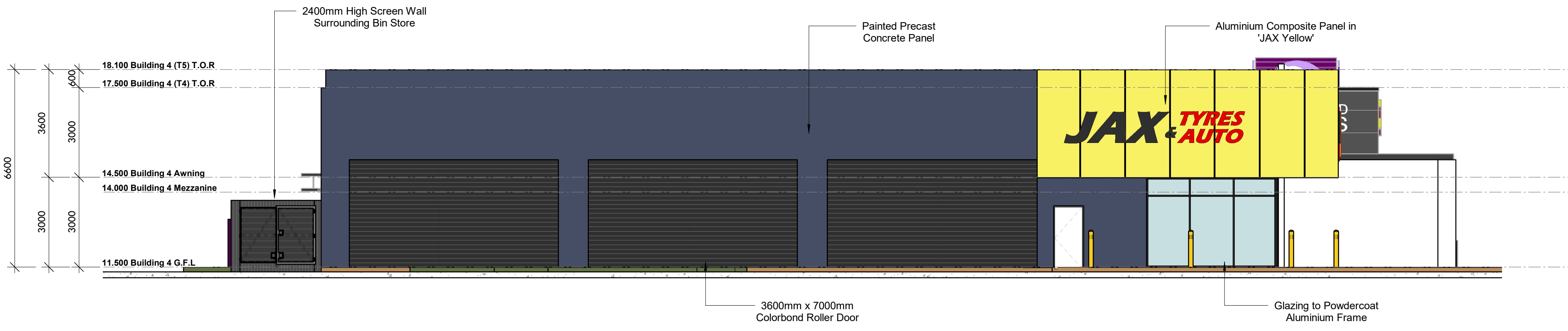
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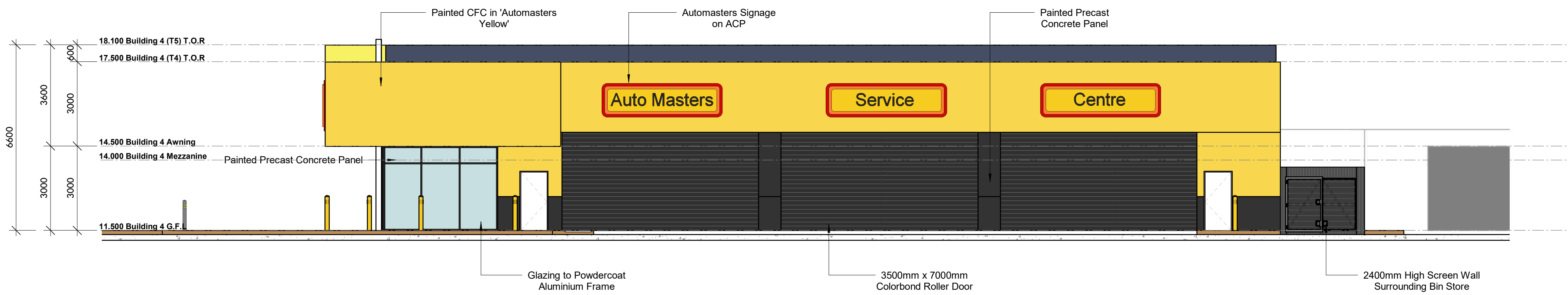
**BUILDING 4 - NORTH ELEVATION**

SCALE: 1 : 100



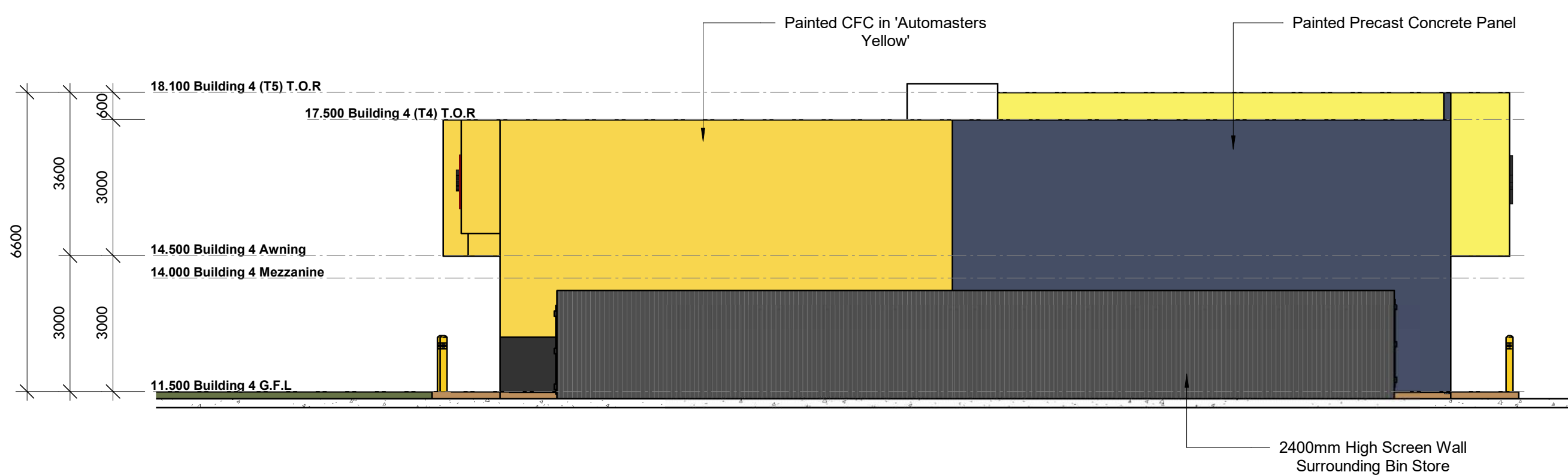
**BUILDING 4 - EAST ELEVATION**

SCALE: 1 : 100



**BUILDING 4 - WEST ELEVATION**

SCALE: 1 : 100



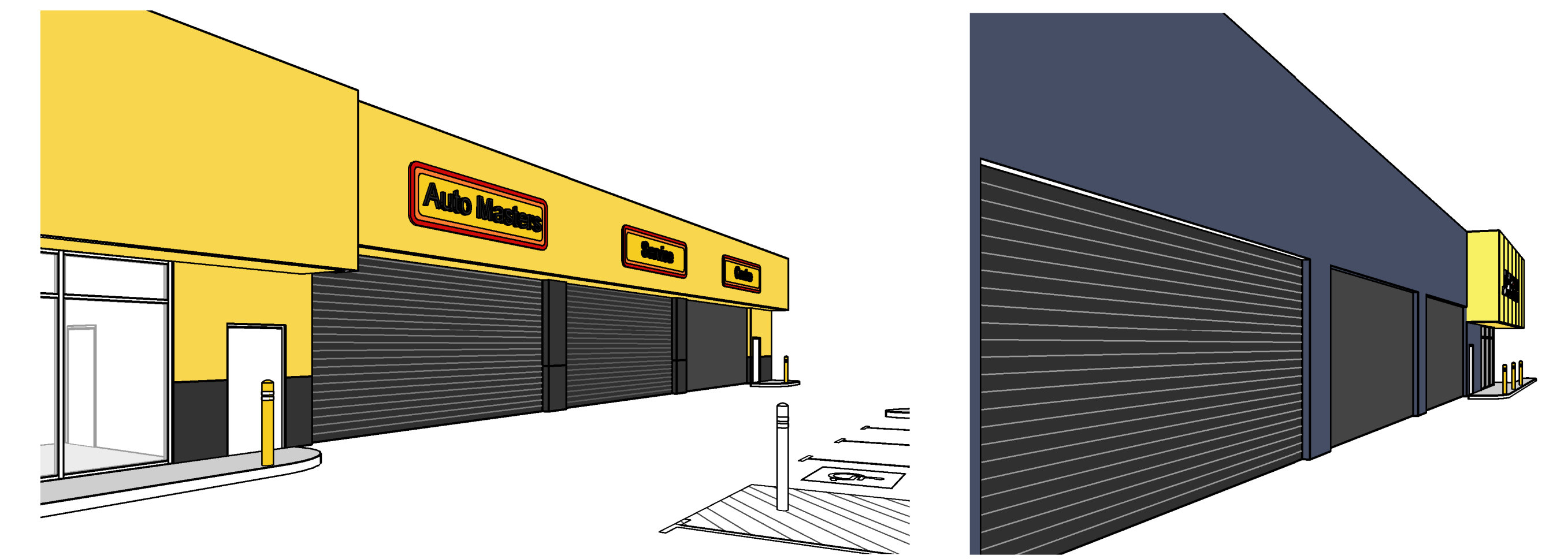
**BUILDING 4 - SOUTH ELEVATION**

SCALE: 1 : 100



**BUILDING 4 VIEW 1**

SCALE:



**BUILDING 4 VIEW 2**

SCALE:

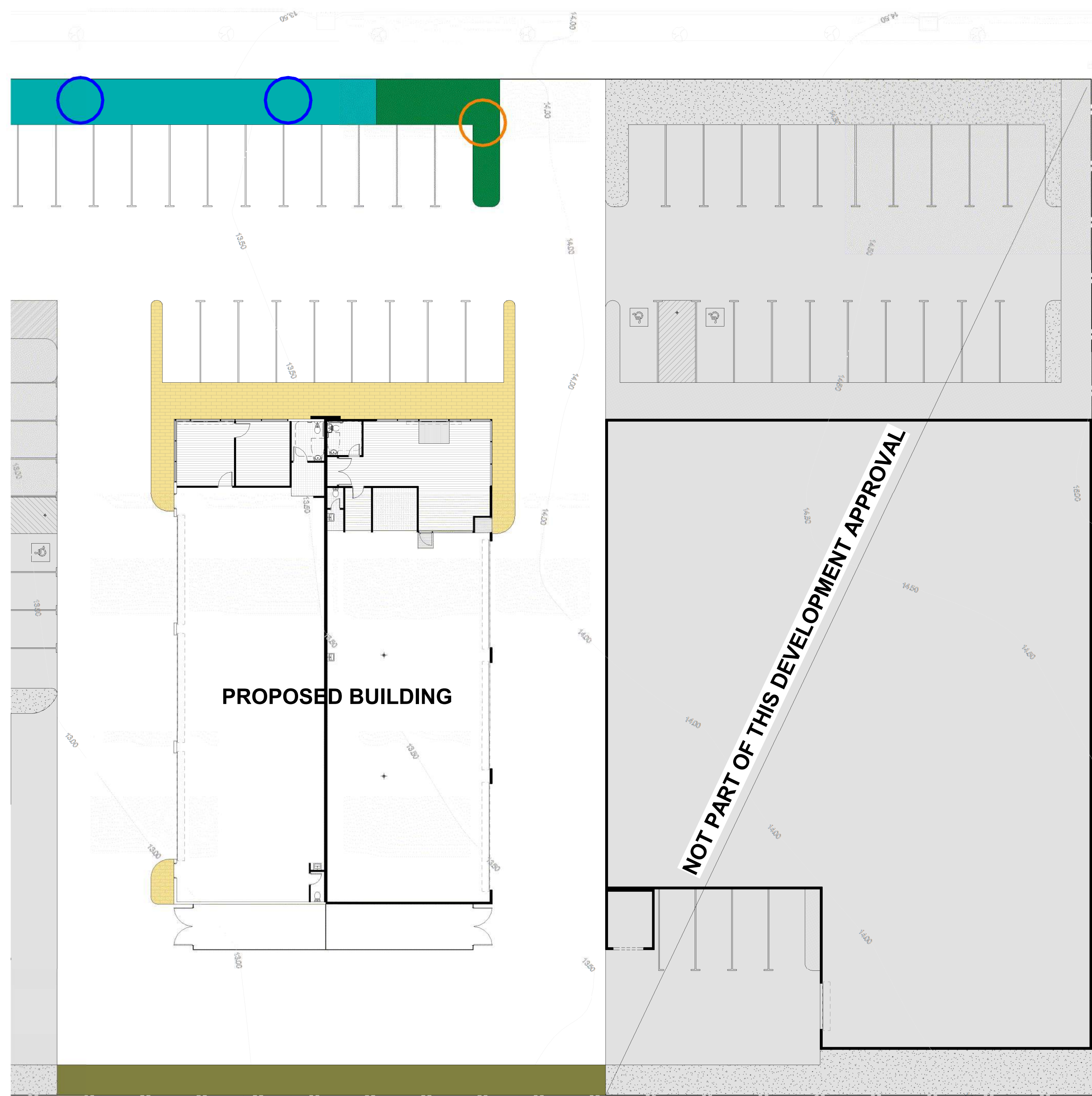
**BUILDING 4 VIEW 3**

SCALE:

**NOTE:**  
 1. Signage is not a part of this Development Application.  
 2. Signage will be by a separate Application.  
 3. Signage shown is indicative only.

**PRELIMINARY**





**LANDSCAPE PLAN**  
SCALE: 1 : 200

**LANDSCAPE LEGEND**

**PLANTING SCHEDULE**

Symbol	Description	Spacing	Size
	MIX 01 - Groundcovers	3 per sqm.	140mm
	MIX 02 - Low Hedging & Groundcovers	3 per sqm.	140mm
	MIX 03 - Low Shrubs & Groundcovers	3 per sqm.	140mm

**TREE SCHEDULE**

Symbol	Description	Spacing	Size
	TREE 01 - AGONIS FLEXUOSA	As shown	100L
	TREE 02 - CORYMBIA FICIFOLIA	As shown	100L
	TREE 03 - EUCALYPTUS TORQUATA	As shown	100L
	EXISTING TREE		

**PLANTING MIX 01**



**PLANTING MIX 02**



**PLANTING MIX 03**



**TREE**



**NOTES**

**1. Landscape Works**

- 1.1 Confirm set out of all trees and kerbs prior to commencement of works.
- 1.2 All areas are to be fine graded evenly to conform to kerb levels and surrounding finishes.
- 1.3 Final grading shall be provide consistently self draining falls to surfaces. Surfaces shall be free from depressions, irregularities and awkward and noticeable changes in grade. Generally, grades shall deviate in level no greater than 20mm in one linear metre.

**2. Soil Preparation**

- 2.1 Existing soil in planting areas shall be treated with soil wetting agent. Planted areas shall be spread with 50mm of approved standard soil conditioner that shall be ripped into existing soil to a min. depth of 200mm.
- 2.2 Turf areas shall be evenly spread w/50mm of medium texture general purpose garden soil, to comply with AS 2223-1978. rip into existing site soil to a depth of 50mm.

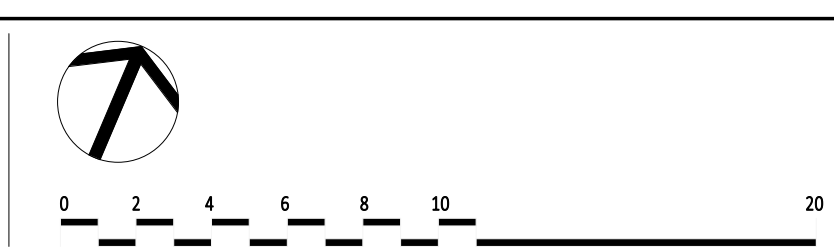
**3. Planting**

- 3.1 Planted areas shall be mulched with an organic mulch unless otherwise stated to a minimum depth of 100mm.
- 3.2 Advanced trees shall be staked w/ 3 x 85mm Dia CCA treated pine poles. Posts shall be painted black and installed to a min depth of 600mm. Trees shall be secured to poles w/ 3 x rubber ties.
- 3.3 Trees planted within 1000mm of boundary walls and/or parking areas shall be installed within 600mm depth nylax root barrier membrane. Membrane shall be installed as per manufacturers recommendations.

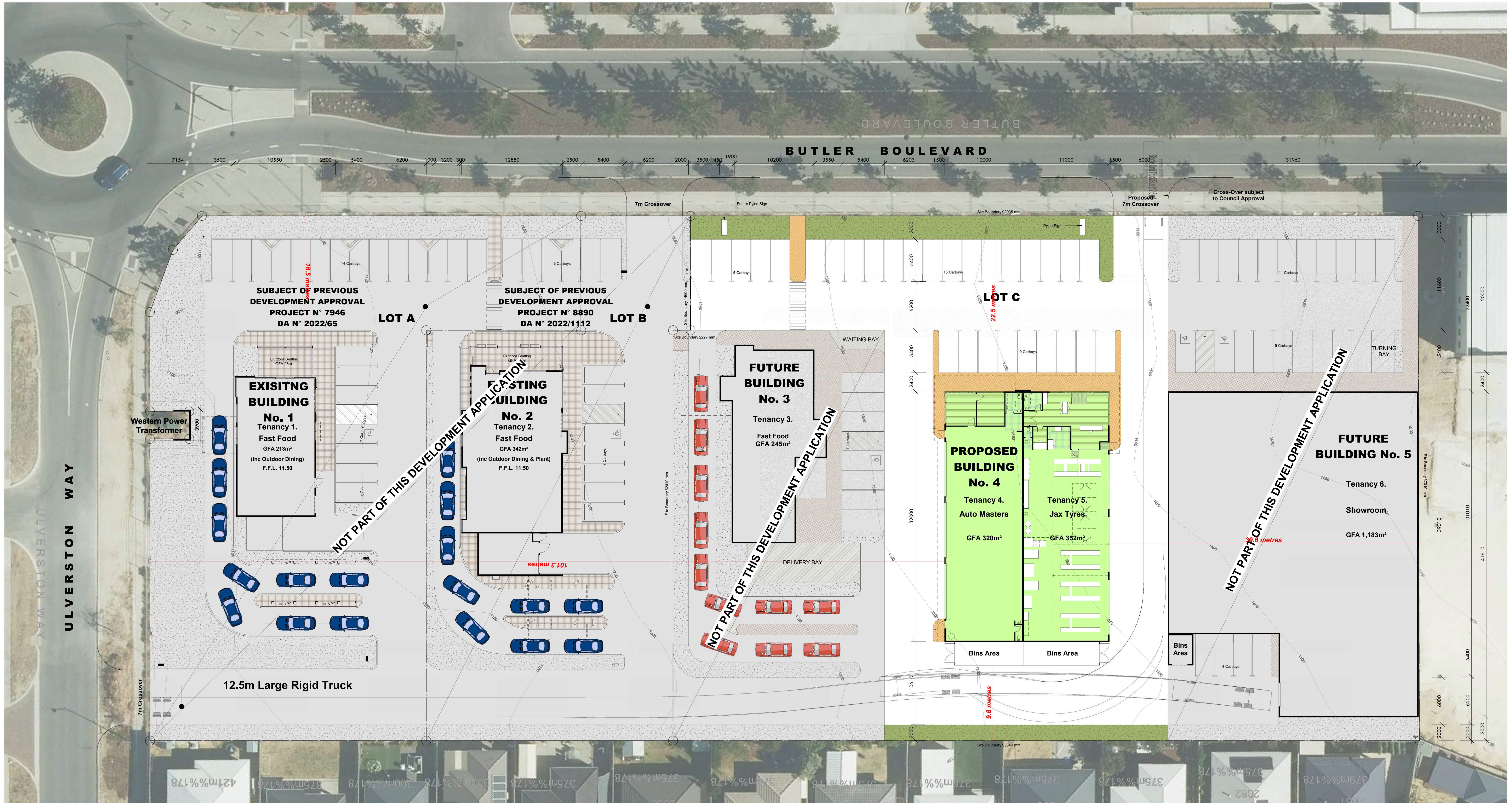
**4. Irrigation**

- 4.1 All planting and grassing to be irrigated via a fully automatic system from mains.
- 4.2 All turf to be irrigated via articulated risers. All shrubs to be irrigated w/ poly riser jets. All trees to be irrigated via bubblers.
- 4.3 Controller to be located in bin store unless otherwise directed.
- 4.4 System to overlap sufficiently to counteract wind blow and avoid drought shadow.
- 4.5 Sleeves beneath paved surfaces to be provided by others.
- 4.6 Irrigation system shall be dual program to allow turf and planting areas to be watered separately.

**PRELIMINARY**





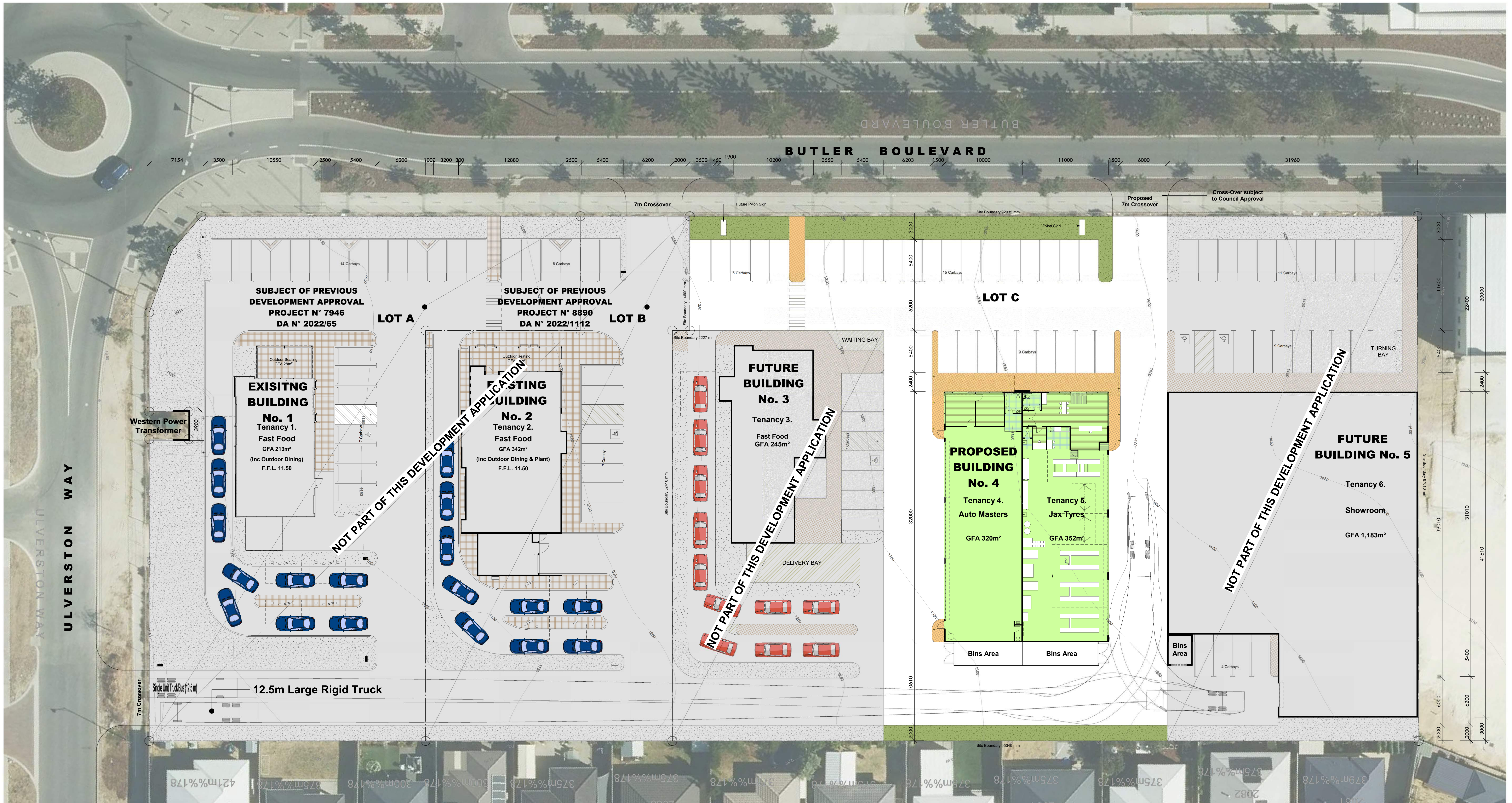


**SITE PLAN - TRUCK ENTRY BUTLER BOULEVARD**

SCALE: 1 : 200

**PRELIMINARY**





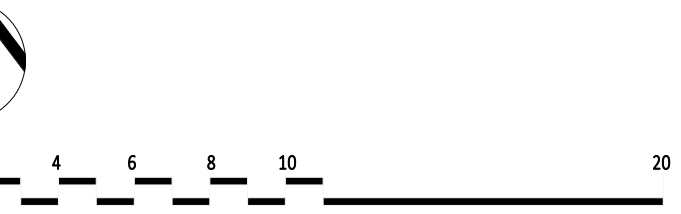
**SITE PLAN - TRUCK ENTRY ULVERSTON WAY**

SCALE: 1:200

**PRELIMINARY**

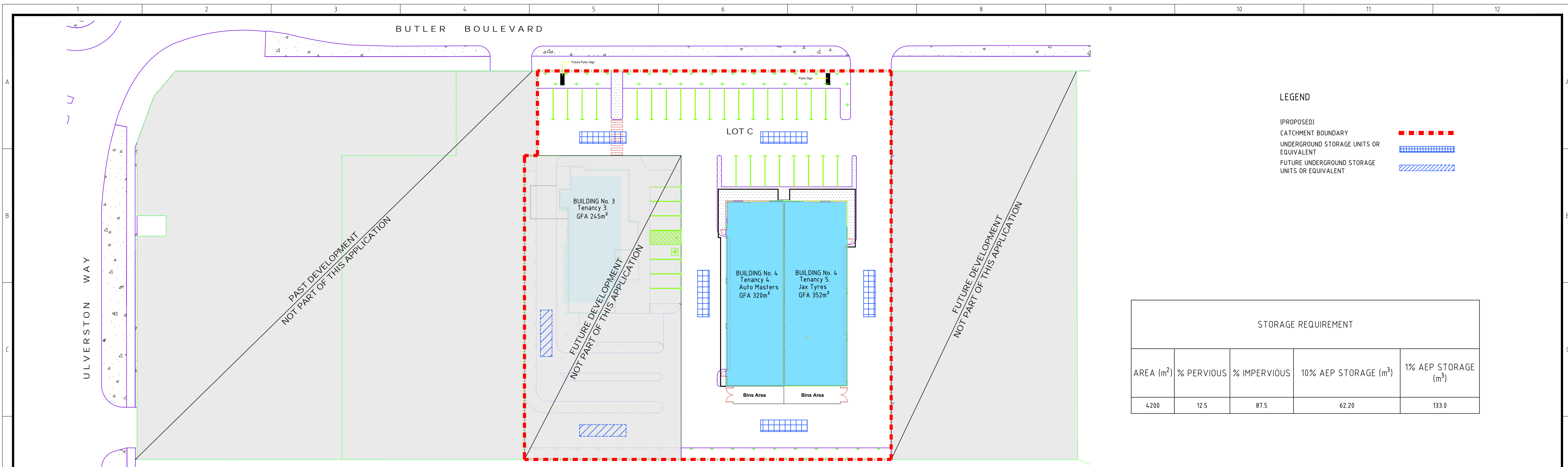


**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**  
LOCATION : PART LOT 2076, Butler Boulevard, Butler  
FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY



DATE: NOV 2023 PROJECT NUMBER  
REVISION: 6 **9056**  
SHEET: 04.2  
SCALE: 1:200  
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## Inputs

## Outputs

**ARI Data obtained from BOM IFD:** <http://www.bom.gov.au/cqi-bin/hydro/has/CDIRSWebBasic>  
 (please copy and paste data from above link into orange cells)

Location:	1 Year	2 Year	5 Year	10 Year	20 Year	50 Year	100 Year
Butler	68.2	75.6	101	119	138	166	189
5 mins	64.5	71.54	95.62	112.8	130.8	157.4	179
6 mins	49.7	55.3	74.1	87.9	102	123	139
10 mins	34.2	38	50.8	60.2	69.9	83.6	94.7
20 mins	26.9	29.9	39.8	47.1	54.7	65.3	74.1
30 mins	17.5	19.4	25.7	30.3	35.3	42.4	48.3
1 hour	11.2	12.3	16.3	19.4	22.7	27.6	31.8
2 hours	8.52	9.4	12.5	14.9	17.5	21.5	25
3 hours	5.32	5.87	7.85	9.44	11.2	14	16.4
6 hours	3.28	3.62	4.87	5.87	7	8.72	10.2
12 hours	2	2.21	2.95	3.52	4.14	5.09	5.92
24 hours	1.22	1.34	1.75	2.04	2.34	2.79	3.16
48 hours	0.915	1.01	1.29	1.48	1.66	1.95	2.17

Duration		Intensity	Flow In	Flow Out	Storage Required	Emptying time	System Check
		mm/hr	L/s	L/s	m <sup>3</sup>	hours (hrs)	
5	min	189	198.65	14.95	55.1	1.02	OK
6	min	179	188.14	14.95	62.4	1.16	OK
10	min	139	146.10	14.95	78.7	1.46	OK
20	min	94.7	99.54	14.95	101.5	1.89	OK
30	min	74.1	77.88	14.95	113.3	2.11	OK
1	Hr	48.3	50.77	14.95	129.0	2.40	OK
2	Hrs	31.8	33.42	14.95	133.0	2.47	OK
3	Hrs	25	26.28	14.95	122.4	2.27	OK
6	Hrs	16.4	17.24	14.95	49.5	0.92	OK
12	Hrs	10.2	10.72	10.72	0.0	0.00	OK
24	Hrs	5.92	6.22	6.22	0.0	0.00	OK
48	Hrs	3.16	3.32	3.32	0.0	0.00	OK
72	Hrs	2.17	2.28	2.28	0.0	0.00	OK

**Design Criteria**

- Select Design Storm Event ARI: 100 Year
- Infiltration Area Calculation: Base + 1/2 Sidewalls
- Infiltration Rate of Soil: 5 m/day
- Total Outlet Pipe(s) Design Discharge Rate: 0.00 l/s
- Area Hard (catchment area): 3676 m<sup>2</sup>
- Run Off Coefficient for Hard Area: 1
- Area - Soft: 524 m<sup>2</sup>
- Run Off Coefficient for Soft Area: 0.2

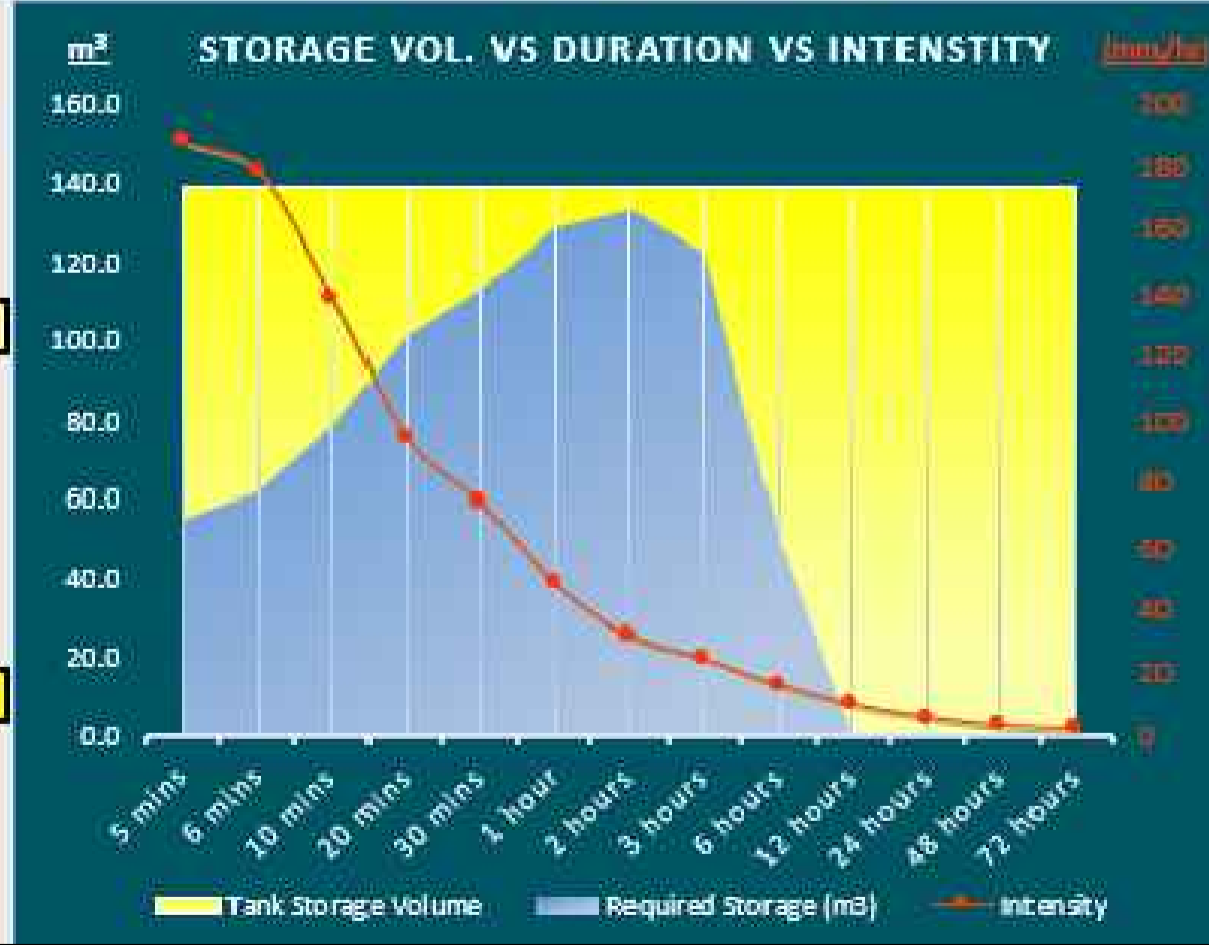
5.79E-05 m/s (include all outlet pipes in figure)

**Tank Arrangement**

- Single or Double Layer System: Single Layer System
- Arches / Row: 18
- No. of Rows: 9
- Rock Bedding Thickness (Hf): 0.15 m
- Arch Rock Cover Layer Thickness (Hc): 0.15 m
- Drainage Stone Porosity: 40%

**100 Year ARI Event STORAGE REQUIRED**

- Total no. of Chambers: 162 Chambers
- Overall Tank Height: 0.980 m
- Overall Tank Length: 18.600 m
- Overall Tank Width: 12.240 m
- Tank Infiltration Area: 258.26 m<sup>2</sup>
- Total Infiltration Volume: 1291.30 m<sup>3</sup>/day
- Total Storage Volume in Chambers: 83.6 m<sup>3</sup>
- Total Storage Volume in Rock: 55.5 m<sup>3</sup>
- Tank Storage Volume: 139.1 m<sup>3</sup>
- Excavation Volume: 223.1 m<sup>3</sup>
- Drainage Rock Volume: 139.5 m<sup>3</sup>



SURVEY METADATA		COPYRIGHT OF ALL THIS DRAWING IS RESERVED BY THE CONSULTANT. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS OR DOCUMENTS RELATING TO THE PROJECT FOR ACCURATE COORDINATION OF SERVICES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SITE CHECKING ALL DIMENSIONS BEFORE PREPARATION OF WORKING DRAWINGS OR COMMENCEMENT OF WORK. THIS DRAWING IS THE PROPERTY OF THE CONSULTANT AND SHALL BE RETURNED UPON REQUEST.					CLIENT: SHIMAL REALSTAR PTY LTD		PROJECT: PROPOSED DEVELOPMENT BUTLER BOULEVARD BUTLER		TITLE: STORMWATER DESIGN FOR DEVELOPMENT APPROVAL		SHEET SIZE: A1		
REVISION	DESCRIPTION	DESIGN	DRAWN	CHECKED	DATE	SCALE: AS SHOWN	DRAWING NUMBER: 17245-CI-SK01	REVISION: A							





# Transport Impact Statement

Project: Proposed Auto Service Development  
Part Lot 2076, 40 Butler Boulevard, Butler

Client: Ennis Advisory

Author: Liomar De Leon

Date: 9<sup>th</sup> November 2023

Shawmac  
Document #: 2310019-TIS-001

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Document Status: Client Review

Version	Prepared By	Reviewed By	Approved By	Date
A	Liomar De Leon	P. Nguyen	P. Nguyen	09/11/2023

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File Reference: \\shaw-svr\NewData\Jobs Active 2023\T&T - Traffic & Parking\Ennis\_40 Butler Blvd, Butler Stage 3\_TIS\_2310019\3. Documents\3.2 Reports\Ennis\_40 Butler Blvd, Butler Stage 3\_TIS - Rev A.docx





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## 1. Introduction

---

### 1.1. Proponent

Shawmac Pty Ltd has been commissioned by Ennis Advisory to prepare a Transport Impact Statement (TIS) for a proposed auto service 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 a central 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 (October 2023)





---

## 2. Proposed Development

---

### 2.1. Land Use

The proposed application is the development of Stage 3 of the overall site. Stage 3 includes the construction of a single building in the centre of the site with two separate auto service tenants.

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

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."

*Motor Vehicle Repairs* is listed as a permitted use within Precinct C and so the proposed development is consistent with the intent of the area.



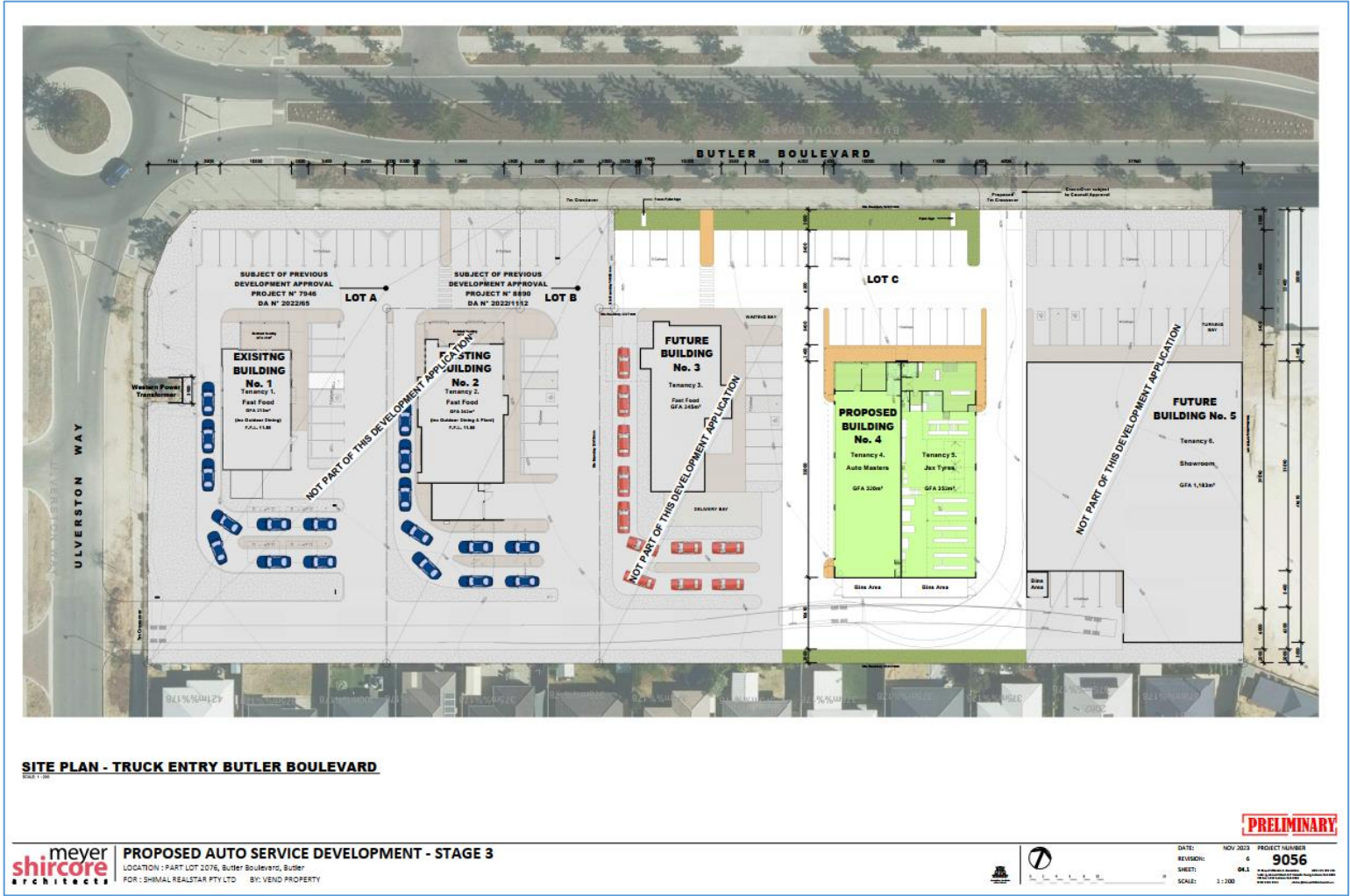


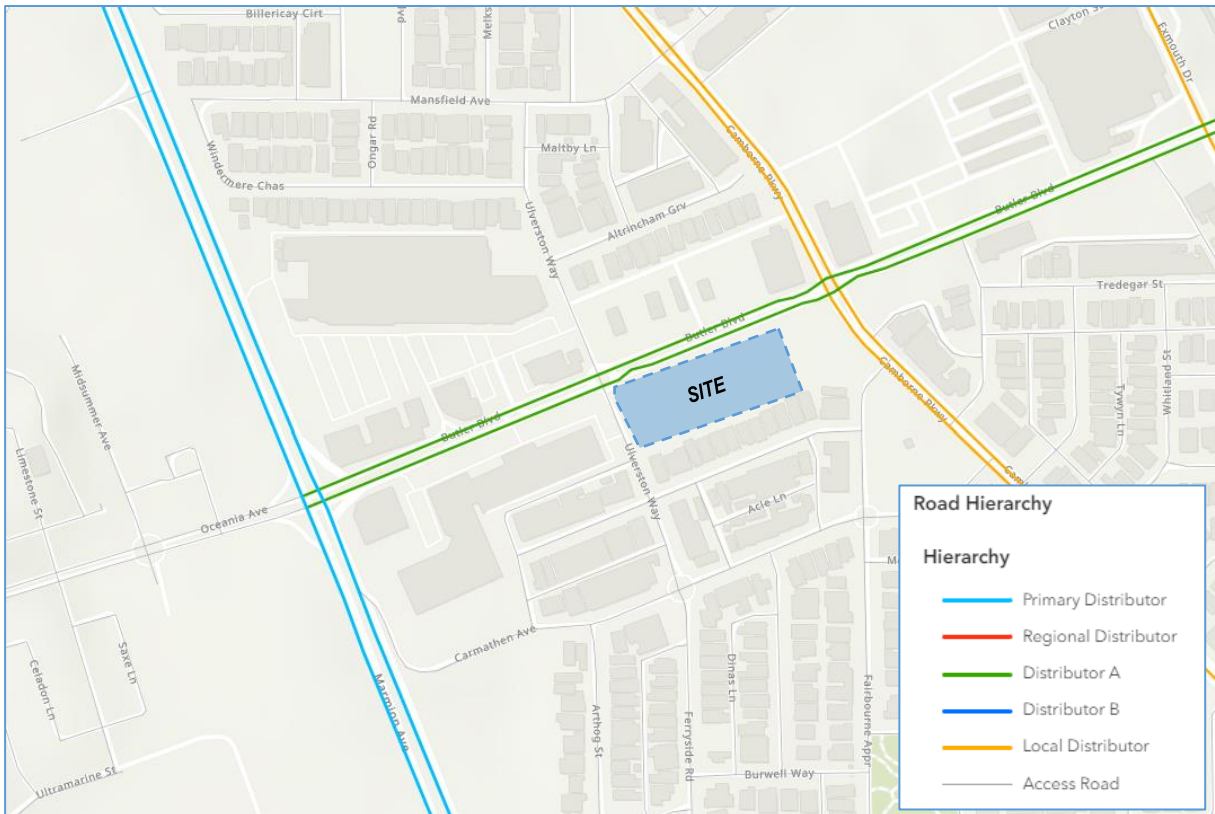
Figure 3: Site Layout



### 3. Traffic Management on Frontage Streets

#### 3.1. Road Network 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**.



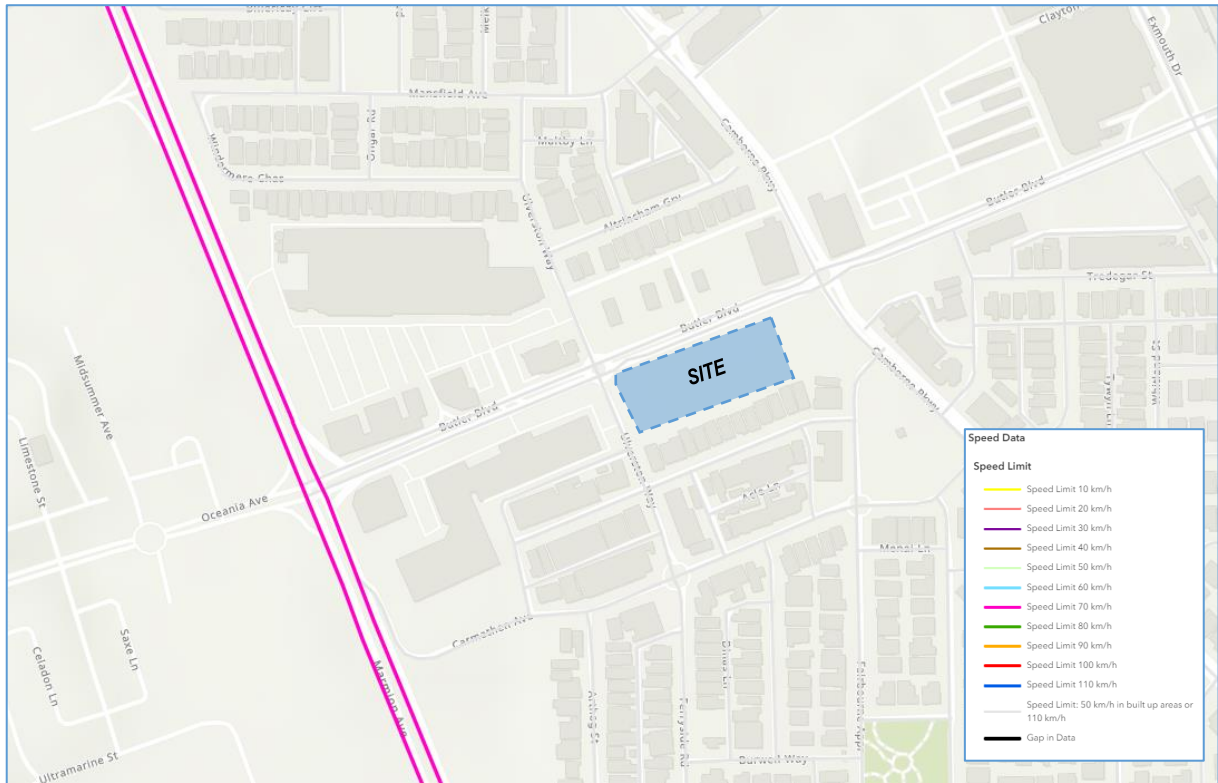
**Figure 4: Existing Road Network Hierarchy**

As shown, Butler Boulevard is classified as a Distributor A.



### 3.2. Speed Limit

The speed limit of the existing local road network is shown in **Figure 5**.



**Figure 5: Existing Speed Limits**

As shown, Butler Boulevard and other roads surrounding the site are operating under a 50km/h speed limit as it is located within built-up area.



## 4. Vehicle Access and Parking

### 4.1. Access

Vehicle access for the proposed Stage 3 development is on Butler Boulevard via a new 7m crossover and will be restricted to left-in/left-out (LILO) due to the existing central median.

The proposed access arrangement is shown in **Figure 6**.

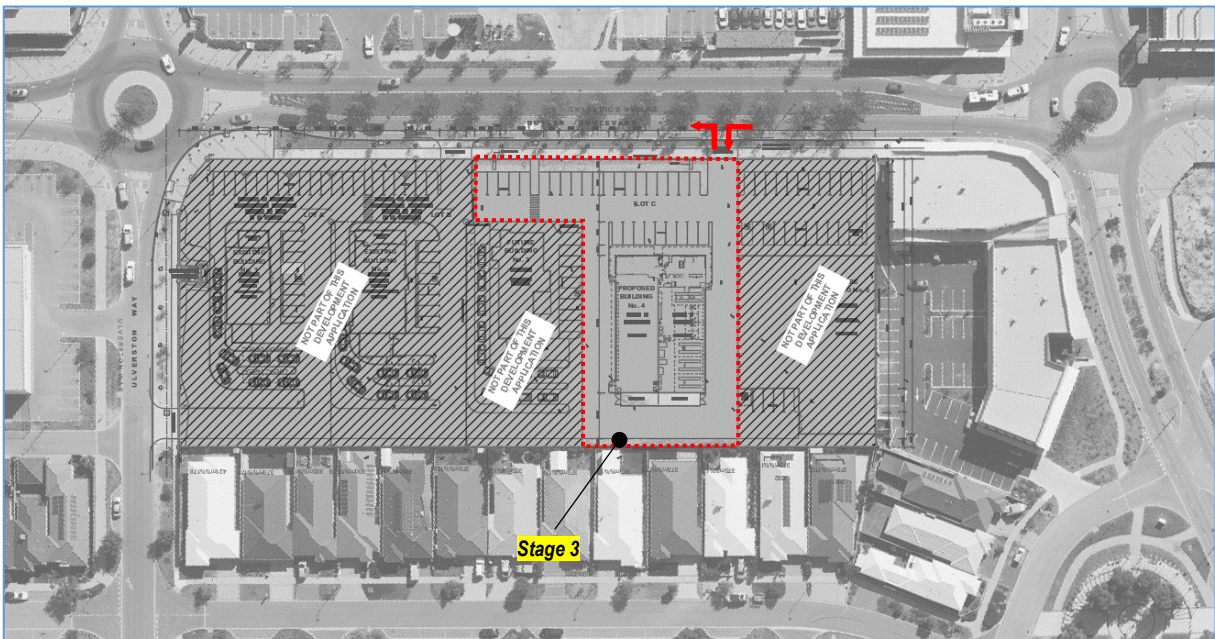
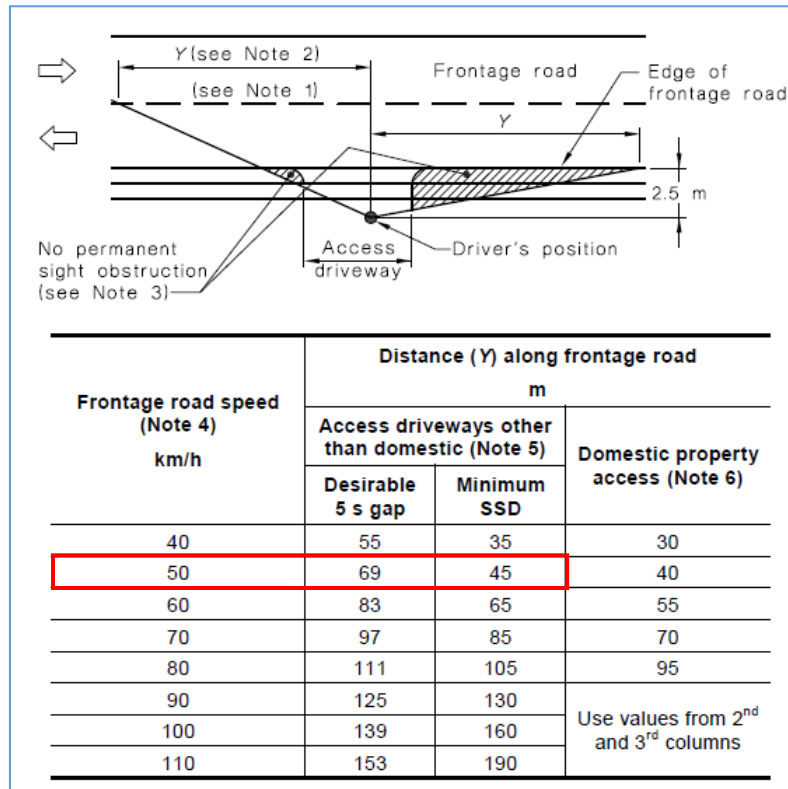


Figure 6: Proposed Access Arrangement



#### 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**.

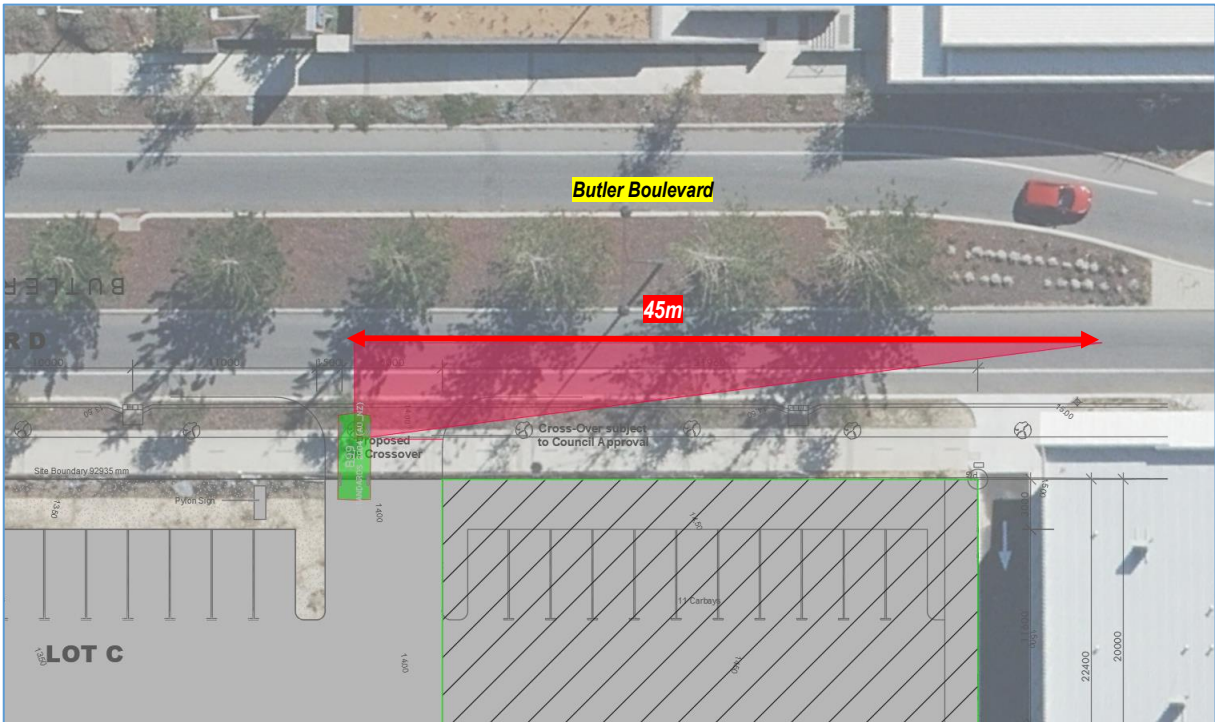


**Figure 7: Sight Distance Requirements**

Based on the 50km/h speed limit along Butler Boulevard, the minimum required sight distance is 45 metres.

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





**Figure 8: Sight Distance Check – Butler Boulevard**

As shown, the minimum required sight distance is achieved towards the east. Vertically, the geometry of 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 in Precinct C of the Butler District Centre Activity Centre Structure Plan (ACSP) is 2 bays per 100m<sup>2</sup>.

The Stage 3 car parking requirements is summarised and calculated in **Table 1**.

**Table 1: Butler District Centre ACSP – Precinct C**

Land Use	Requirement	Quantum	Bays Required
Tenancy 4 (Auto Masters)	2 spaces per 100m <sup>2</sup>	320m <sup>2</sup>	7
Tenancy 5 (Jax Tyres)	2 spaces per 100m <sup>2</sup>	352m <sup>2</sup>	8
<b>Total – Minimum Required</b>			<b>15</b>
<b>Total – Provided (Stage 3)</b>			<b>29 spaces</b>

As shown, the stage 3 development is required to provide 15 car parking spaces. The layout for the auto service development for stage 3 provides 29 car parking spaces which satisfies the minimum parking requirements.

### 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 9**.



**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 9: 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 2**.

**Table 2: Minimum Parking Dimensions**

Bay Type	Dimension	AS2890.1 Requirement	Provided
90 Degree Bays (User Class 2)	Bay Width	2.5m	2.5m
	Bay Length	5.4m	5.4m
	Aisle Width	5.8m	6.2m

As shown, the parking layout complies with AS2890.1 requirements.





---

### 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 AutoTURN 11 using the Australian Standard 12.5m Heavy Rigid Vehicle (HRV) which is demonstrated in **Appendix B – Swept Path Analysis**.

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.





## 5. Traffic Volumes

### 5.1. Traffic Generation

The volume of traffic generated by the proposed development has been estimated using trip generation the Institute of Transportation Engineers (ITE) *Trip Generation*. The closest use is Automobile Care Centre – 942.

The trip generation is calculated in **Table 3**.

**Table 3: Trip Generation**

Land Use	Units	Quantity	Generation Rate			Number of Trips		
			Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
Automobile Care Center (942)	100m <sup>2</sup> GFA	6.72	17.87	3.05	3.78	120	20	25

As shown, the proposed development is predicted to generate approximately 120 vehicle trips per day including 20 trips during the AM peak hour and 25 during the PM peak hour.

According to the WAPC TIA guidelines, an increase of between 10 to 100 peak hour vehicles is considered to have a low to moderate impact and is generally deemed acceptable without requiring detailed capacity analysis.

The estimated 20 to 25 vehicles per hour is at the lower end of this range, so the development traffic is considered to have a low impact and can be accommodated within the existing capacity of the road network.





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## 7. Pedestrian and Cyclist Access

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### 7.1. Paths

The site currently has 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.

### 7.2. 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 in auto service 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.





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## 8. Public Transport Access

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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 provides access to the Joondalup Train Line as well as other bus services.

The existing public transport services are considered to be adequate.

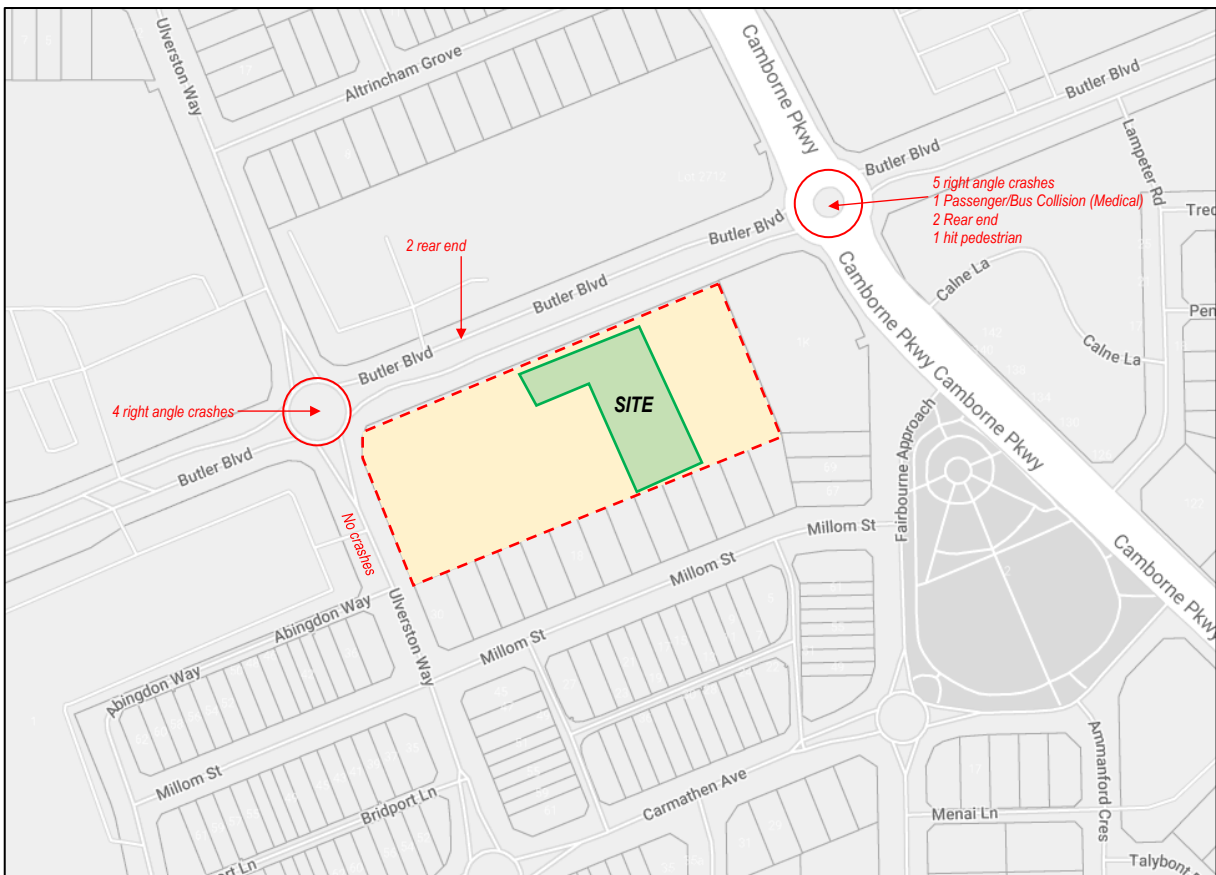


## 9. Site Specific Issues and Safety Issues

### 9.1. 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 2022 is shown in **Figure 10**.



**Figure 10: Crash History January 2018 to December 2022**

The volume and types of crashes appear to be typical of the road environment along Butler Boulevard. Of the 15 crashes recorded along the adjacent section of Butler Boulevard, only one crash was a casualty crash. The detailed crash history indicates that this incident involved a passenger on a bus being injured when the bus slowed down for another vehicle at the roundabout. This does not appear to suggest an issue on the road network.

The proposed development itself will generate a low amount additional traffic and there is no indication that the proposed development would increase the risk of crashes.



## 10. Conclusion

---

A Transport Impact Statement for the proposed auto service concluded the following:

- The proposed development is estimated to generate 20 to 25 vehicles trips during the peak hours which will have a low traffic impact.
- 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 the proposed 7m wide crossover on Butler Boulevard.
- The Stage 3 development requires a minimum of 15 car parking spaces to satisfy the Butler District Centre Activity Centre Structure Plan for Precinct C. The proposed Stage 3 provision of 29 spaces satisfies the minimum requirements.
- The parking layout complies with AS2890.1.
- A swept path assessment that the site layout allows adequate manoeuvrability for a 12.5m 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 auto service developments is 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 volume of additional traffic and there is no indication that the development would increase the risk of crashes unacceptably.





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## Appendix A – Development Plans

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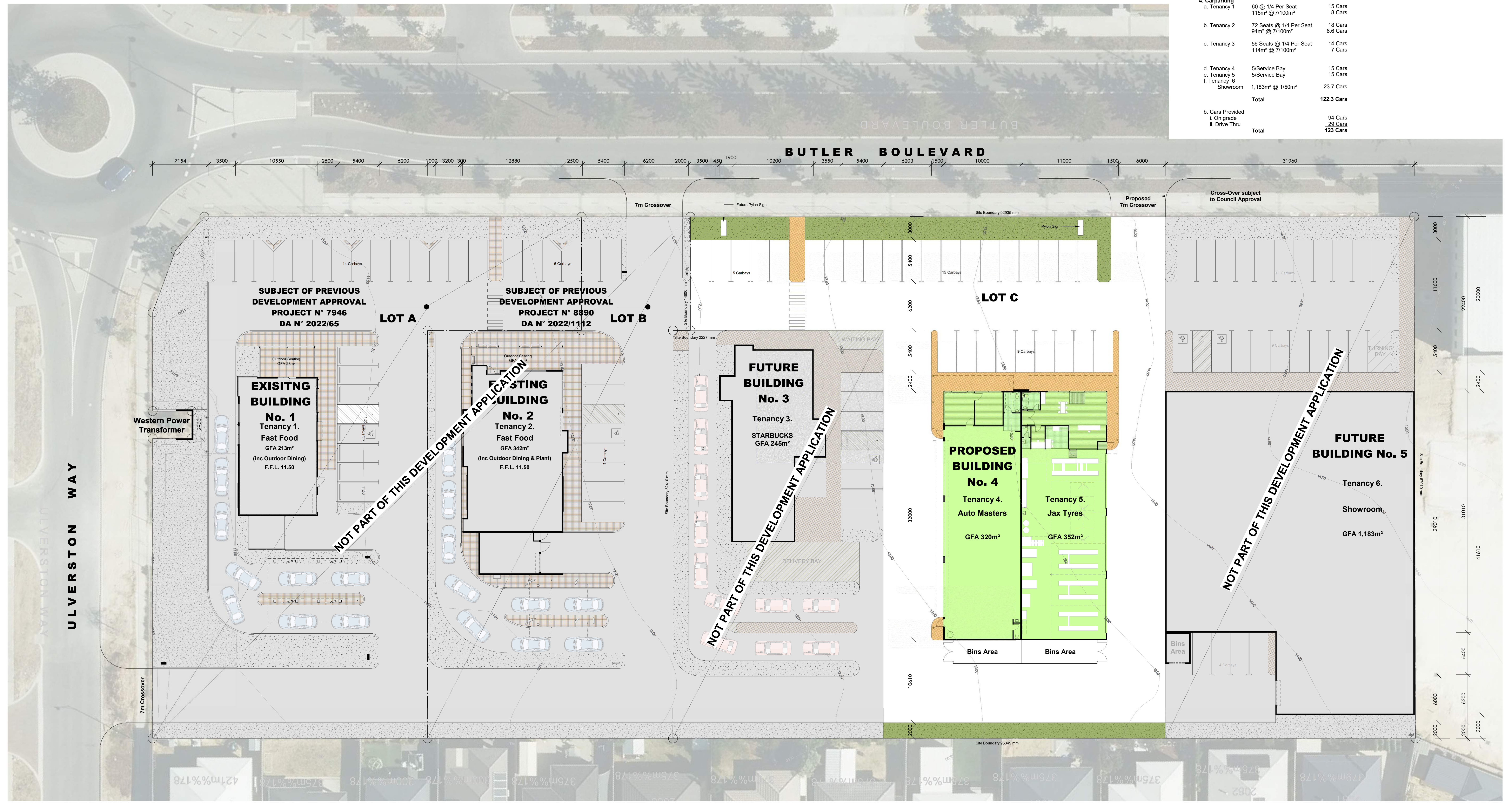
**SITE CRITERIA**

<b>1. Site Area</b>		<b>11,483.5m<sup>2</sup></b>
<b>2. Landscaping</b>	8% Of Soft Landscaping	<b>919m<sup>2</sup></b>
a. Required		
b. Provided Soft		<b>1,592m<sup>2</sup> (13.8%)</b>
<b>3. Floor Area (GFA)</b>		
a. Tenancy 1 - Fast Food		213m <sup>2</sup>
b. Tenancy 2 - Fast Food		342m <sup>2</sup>
c. Tenancy 3 - Starbucks		245m <sup>2</sup>
d. Tenancy 4 - Auto Service		320m <sup>2</sup>
e. Tenancy 5 - Auto Service		352m <sup>2</sup>
f. Tenancy 6 - Showroom		1,183m <sup>2</sup>
<b>Total</b>		<b>2,655m<sup>2</sup></b>
<b>4. Carparking</b>		
a. Tenancy 1	60 @ 1/4 Per Seat 115m <sup>2</sup> @ 7/100m <sup>2</sup>	15 Cars 8 Cars
b. Tenancy 2	72 Seats @ 1/4 Per Seat 94m <sup>2</sup> @ 7/100m <sup>2</sup>	18 Cars 6.6 Cars
c. Tenancy 3	56 Seats @ 1/4 Per Seat 114m <sup>2</sup> @ 7/100m <sup>2</sup>	14 Cars 7 Cars
d. Tenancy 4	5/Service Bay	15 Cars
e. Tenancy 5	5/Service Bay	15 Cars
f. Tenancy 6	Showroom	23.7 Cars
<b>Total</b>		<b>122.3 Cars</b>
b. Cars Provided		
i. On grade		94 Cars
ii. Drive Thru		29 Cars
<b>Total</b>		<b>123 Cars</b>

**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 Net 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.

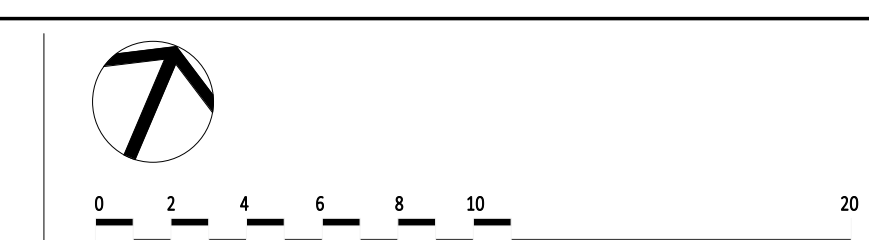
**Net Floor Area - NFA**  
 A. Net Floor Area of a Tenancy on this plan is defined as the area between external or tenancy dividing walls.  
 B. This area is inclusive of toilets if the toilets are exclusive to the Tenancy.



**SITE PLAN - STAGE 3**  
 SCALE: 1:200



**PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3**  
 LOCATION : PART LOT 2076, Butler Boulevard, Butler  
 FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY



DATE: OCT 2023 PROJECT NUMBER  
 REVISION: 6 **9056**  
 SHEET: 04  
 SCALE: As indicated

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 PO Box 1294 Subiaco WA 6004  
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**PRELIMINARY**



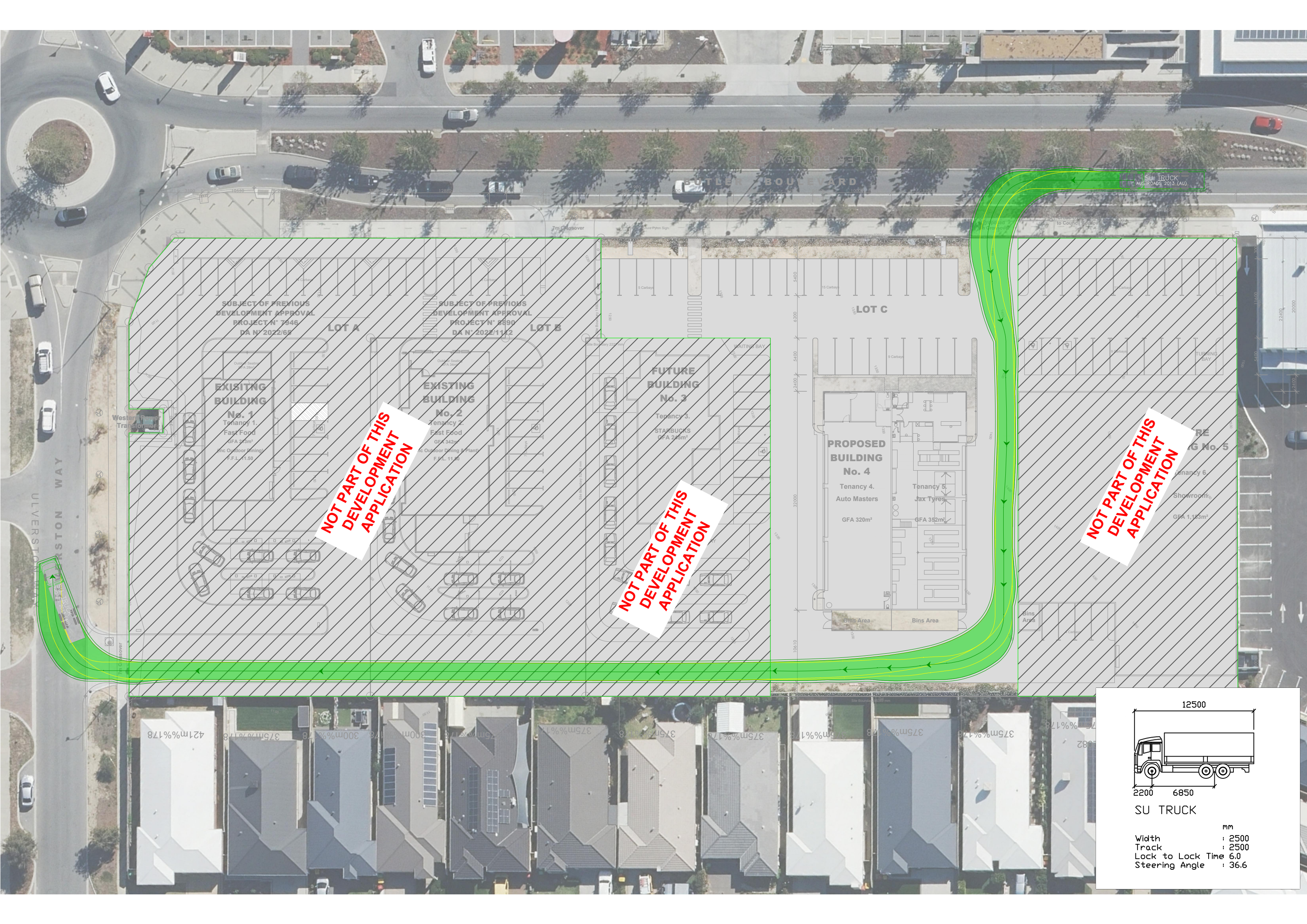


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## Appendix B – Swept Path Analysis

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SUBJECT OF PREVIOUS DEVELOPMENT APPROVAL PROJECT N° 7946 DA N° 2022/65

SUBJECT OF PREVIOUS DEVELOPMENT APPROVAL PROJECT N° 8890 DA N° 2022/112

LOT C

EXISTING BUILDING No. 1 Tenancy 1. Fast Food GFA 233m<sup>2</sup> (inc Outdoor Dining) F.F.L. 11.50

EXISTING BUILDING No. 2 Tenancy 2. Fast Food GFA 342m<sup>2</sup> (inc Outdoor Dining & Plant) F.F.L. 11.50

FUTURE BUILDING No. 3 Tenancy 3. STARBUCKS GFA 245m<sup>2</sup>

PROPOSED BUILDING No. 4 Tenancy 4. Auto Masters GFA 320m<sup>2</sup>

Tenancy 5. Jax Tyres GFA 352m<sup>2</sup>

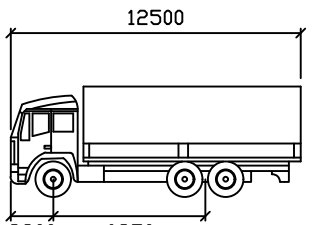
REG No. 5

Tenancy 6. Showrooms GFA 1,143m<sup>2</sup>

**NOT PART OF THIS DEVELOPMENT APPLICATION**

**NOT PART OF THIS DEVELOPMENT APPLICATION**

**NOT PART OF THIS DEVELOPMENT APPLICATION**



SU TRUCK

- Width : 2500 mm
- Track : 2500 mm
- Lock to Lock Time : 6.0
- Steering Angle : 36.6



Appendix C  
Acoustic Report



# Environmental Noise Assessment - Proposed Auto Service Development

**Lot 2076 Butler Boulevard, Butler WA**

**Reference: 23098358-01**

Prepared for:  
Shimal Realstar Pty Ltd



## Reference: 23098358-01

### Lloyd George Acoustics Pty Ltd

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Date	Rev	Description	Author	Verified
14-Nov-23	0	Issued to Client	Matt Nolan	Terry George



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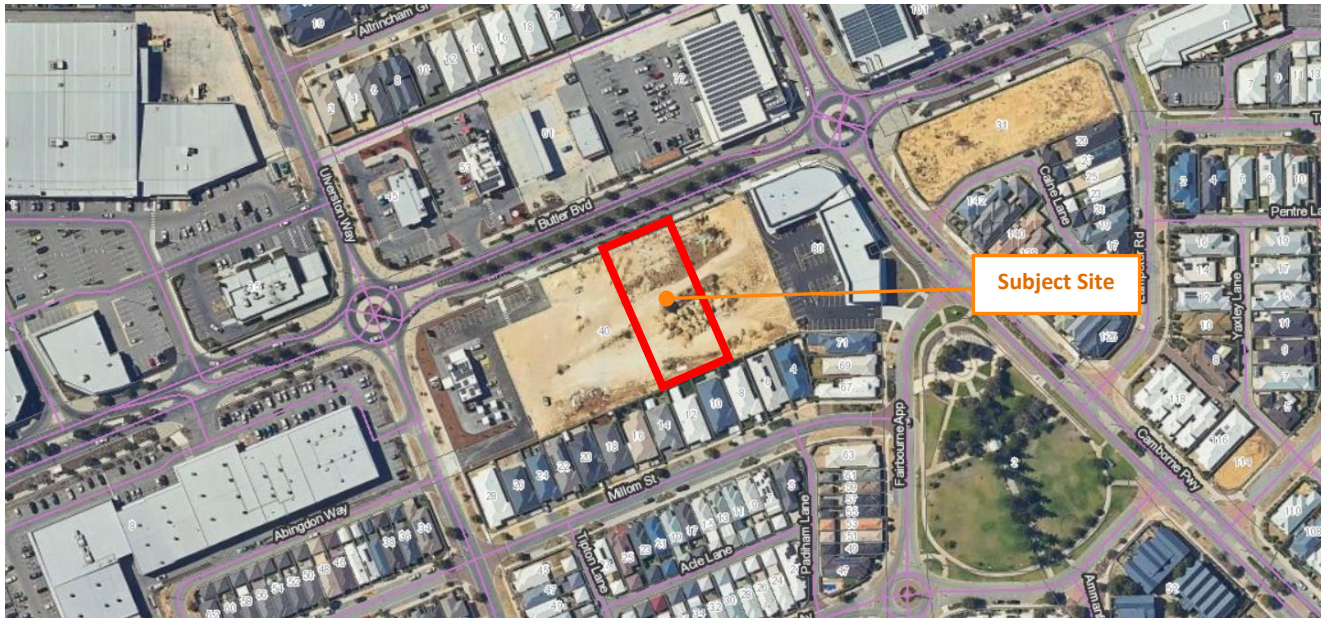
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## 1. INTRODUCTION

Lloyd George Acoustics was engaged by Shimal Realstar Pty Ltd to undertake an environmental noise assessment for a proposed Auto Service Development that includes an Auto Masters and Jax Tyres located at Lot 2076 Butler Boulevard, Butler WA - refer *Figure 1-1*. The proposed floor plan is shown in *Figure 1-2*.



**Figure 1-1: Subject Site Location (Source: DPLH PlanWA)**

The proposed Auto Service Development will be open Monday to Friday, 7.30am to 6.00pm and Saturdays from 8.00am to 12.00pm. With regard to noise emissions, consideration is given to noise from tools, air conditioning, exhaust fans and closing car doors at neighbouring properties, against the prescribed standards of the *Environmental Protection (Noise) Regulations 1997*.

*Appendix C* contains a description of some of the terminology used throughout this report.



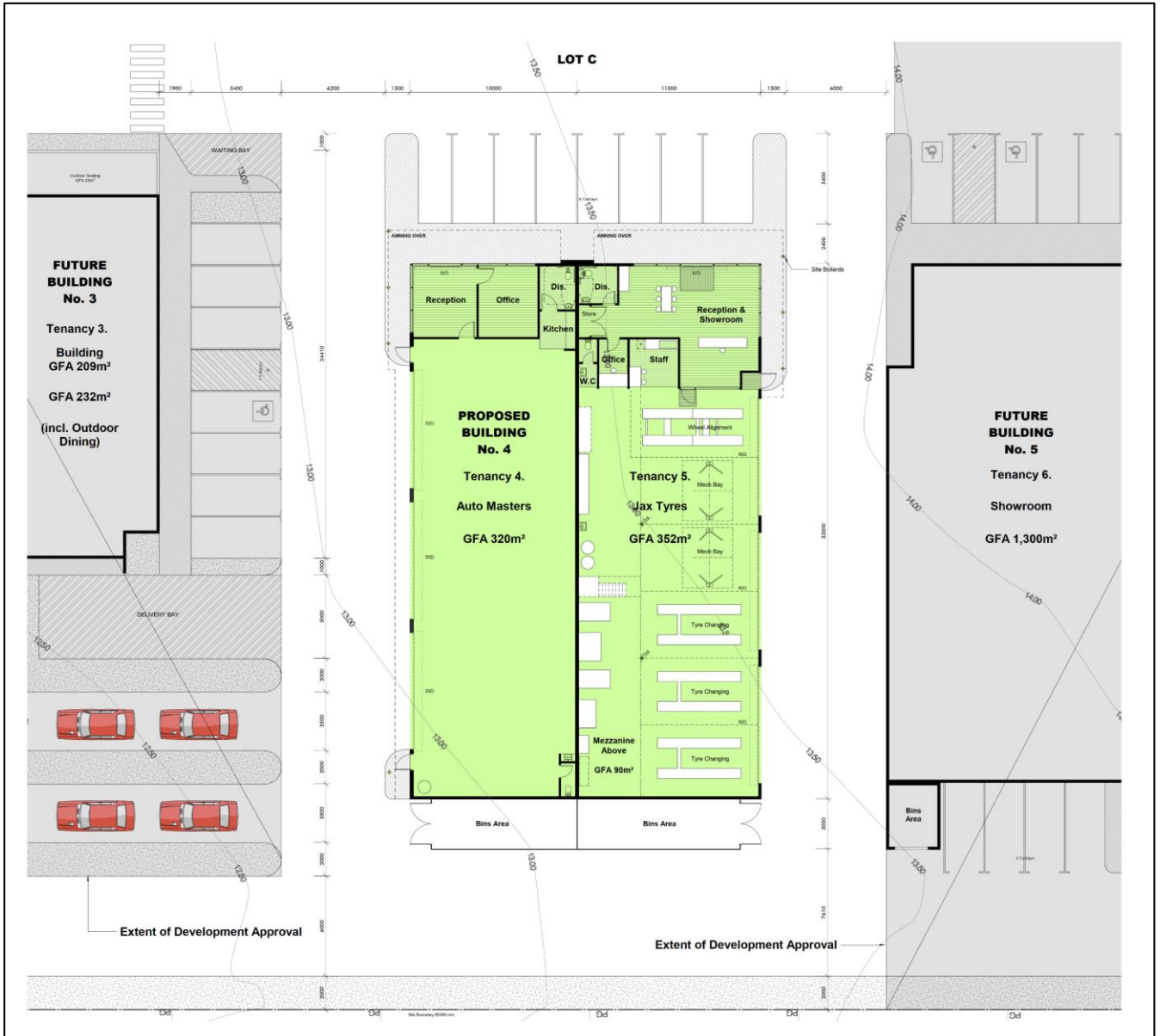


Figure 1-2: Floor Plan (Source: Meyer Shircore Architects)



## 2. CRITERIA

Environmental noise in Western Australia is governed by the *Environmental Protection Act 1986*, through the *Environmental Protection (Noise) Regulations 1997* (the Regulations).

### 2.1. Regulations 7, 8 & 9

This group of regulations provide the prescribed standard for noise as follows:

#### **“7. Prescribed standard for noise emissions**

- (1) *Noise emitted from any premises or public place when received at other premises –*
- (a) *must not cause, or significantly contribute to, a level of noise which exceeds the assigned level in respect of noise received at premises of that kind; and*
  - (b) *must be free of –*
    - (i) *tonality; and*
    - (ii) *impulsiveness; and*
    - (iii) *modulation,**when assessed under regulation 9.*
- (2) *For the purposes of subregulation (1)(a), a noise emission is taken to significantly contribute to a level of noise if the noise emission ... exceeds a value which is 5 dB below the assigned level at the point of reception.”*

Tonality, impulsiveness and modulation are defined in regulation 9 (refer *Appendix C*). Under regulation 9(3), “Noise is taken to be free of the characteristics of tonality, impulsiveness and modulation if -

- (a) *the characteristics cannot be reasonably and practicably removed by techniques other than attenuating the overall level of noise emission; and*
- (b) *the noise emission complies with the standard prescribed under regulation 7(1)(a) after the adjustments in the table [Table 2-1] ... are made to the noise emission as measured at the point of reception.”*

**Table 2-1 Adjustments Where Characteristics Cannot Be Removed**

Where Noise Emission is Not Music*			Where Noise Emission is Music	
Tonality	Modulation	Impulsiveness	No Impulsiveness	Impulsiveness
+ 5 dB	+ 5 dB	+ 10 dB	+ 10 dB	+ 15 dB

\* These adjustments are cumulative to a maximum of 15 dB.

The assigned levels (prescribed standards) for all premises are specified in regulation 8(3) and are shown in *Table 2-2*. The  $L_{A10}$  assigned level is applicable to noises present for more than 10% of a representative assessment period, generally applicable to “steady-state” noise sources. The  $L_{A1}$  is for short-term noise sources present for less than 10% and more than 1% of the time. The  $L_{Amax}$  assigned level is applicable for incidental noise sources, present for less than 1% of the time.



**Table 2-2 Baseline Assigned Levels**

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
Noise sensitive premises: highly sensitive area <sup>1</sup>	0700 to 1900 hours Monday to Saturday (Day)	45 + influencing factor	55 + influencing factor	65 + influencing factor
	0900 to 1900 hours Sunday and public holidays (Sunday)	40 + influencing factor	50 + influencing factor	65 + influencing factor
	1900 to 2200 hours all days (Evening)	40 + influencing factor	50 + influencing factor	55 + influencing factor
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	35 + influencing factor	45 + influencing factor	55 + influencing factor
Noise sensitive premises: any area other than highly sensitive area	All hours	60	75	80
Commercial Premises	All hours	60	75	80
Industrial and Utility Premises	All hours	65	80	90

1. *highly sensitive area* means that area (if any) of noise sensitive premises comprising —

- (a) a building, or a part of a building, on the premises that is used for a noise sensitive purpose; and
- (b) any other part of the premises within 15 metres of that building or that part of the building.

The influencing factor (IF), in relation to noise received at noise sensitive premises, has been calculated as 7 dB, as determined in *Appendix B*. *Table 2-3* shows the assigned levels including the influencing factor and transport factor at the receiving locations.



**Table 2-3 Assigned Levels**

Premises Receiving Noise	Time Of Day	Assigned Level (dB)		
		L <sub>A10</sub>	L <sub>A1</sub>	L <sub>Amax</sub>
+7 dB IF Noise sensitive premises: highly sensitive area <sup>1</sup>	0700 to 1900 hours Monday to Saturday (Day)	52	62	72
	0900 to 1900 hours Sunday and public holidays (Sunday)	47	57	72
	1900 to 2200 hours all days (Evening)	47	57	62
	2200 hours on any day to 0700 hours Monday to Saturday and 0900 hours Sunday and public holidays (Night)	42	52	62
Commercial Premises	All hours	60	75	80

It must be noted the assigned levels above apply outside the receiving premises and at a point at least 3 metres away from any substantial reflecting surfaces.

The assigned levels are statistical levels and therefore the period over which they are determined is important. The Regulations define the Representative Assessment Period (RAP) as “a period of time of not less than 15 minutes, and not exceeding 4 hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission”. An inspector or authorised person is a person appointed under Sections 87 & 88 of the *Environmental Protection Act 1986* and include Local Government Environmental Health Officers and Officers from the Department of Water Environmental Regulation. Acoustic consultants or other environmental consultants are not appointed as an inspector or authorised person. Therefore, whilst this assessment is based on a 4-hour RAP, which is assumed to be appropriate given the nature of the operations, this is to be used for guidance only.

## 2.2. Regulation 3

### “3. Regulations do not apply to certain noise emissions

(1) Nothing in these regulations applies to the following noise emissions –

(a) Noise emissions from the propulsion and braking systems of motor vehicles operating on a road;”

The car park is considered a road and therefore vehicle noise (propulsion and braking) is not assessed. Noise from vehicle car doors however are assessed, since these are not part of the propulsion or braking system.



## 2.3. Regulation 14A

### **“14A. Waste Collection and Other Works**

*(2) Regulation 7 does not apply to noise emitted in the course of carrying out class 1 works if –*

- (a) The works are carried out in the quietest reasonable and practicable manner; and*
- (b) The equipment used to carry out the works is the quietest reasonably available;*

*class 1 works means specified works carried out between -*

- (a) 0700 hours and 1900 hours on any day that is not a Sunday or a public holiday; or*
- (b) 0900 hours and 1900 hours on a Sunday or public holiday.*

*specified works means -*

- (a) The collection of waste; or*
- (b) The cleaning of a road or the drains for a road; or*
- (c) The cleaning of public places, including footpaths, cycle paths, car parks and beaches;”*

In the case where specified works are to be carried out outside of class 1, a noise management plan is to be prepared and approved by the CEO.



### 3. METHODOLOGY

Computer modelling has been used to predict the noise emissions from the development to all nearby receivers. The software used was *SoundPLAN 8.2* with the ISO 9613 algorithms (ISO 17534-3 improved method) selected, as they include the influence of meteorological conditions. Input data required in the model are listed below and discussed in *Section 3.1* to *Section 3.4*:

- Meteorological Information;
- Topographical data;
- Ground Absorption; and
- Source sound power levels.

#### 3.1. Meteorological Conditions

Meteorological information utilised is provided in *Table 3-1* and is considered to represent worst-case conditions for noise propagation. At wind speeds greater than those shown, sound propagation may be further enhanced, however background noise from the wind itself and from local vegetation is likely to be elevated and dominate the ambient noise levels.

**Table 3-1: Modelling Meteorological Conditions**

Parameter	Day (7.00am to 7.00pm)
Temperature (°C)	20
Humidity (%)	50
Wind Speed (m/s)	Up to 5
Wind Direction*	All

\* The modelling package allows for all wind directions to be modelled simultaneously.

Alternatives to the above default conditions can be used where one year of weather data is available and the analysis considers the worst 2% of the day and night for the month of the year in which the worst-case weather conditions prevail (source: *Draft Guideline on Environmental Noise for Prescribed Premises*, May 2016). In most cases, the default conditions occur for more than 2% of the time and therefore must be satisfied.

#### 3.2. Topographical Data

Topographical data was adapted from publicly available information (e.g. *Google*) in the form of spot heights.

Surrounding existing buildings were also incorporated in the noise model, as these can provide noise shielding as well as reflection paths. Single storey buildings are modelled with a height of 3.5 metres and any double storey buildings identified assumed to be 7.0 metres in height with receivers 1.4 metres above ground.

The future buildings to the east and west have been included within the assessment, as well as commentary (based on the noise contour maps) on whether the noise levels are likely compliant at these future building locations.



The area is mixed-use in nature with the boundary fencing assumed to be *Colorbond* based on *Streetview*. Whilst *Colorbond* fencing is 1.8 metres high, it is modelled as 1.6 metres high to take into account the lightweight nature of the product and potential lesser acoustic performance of a denser product.

Figure 3-1 shows a 2D overview of the noise model with the location of all relevant receivers identified.

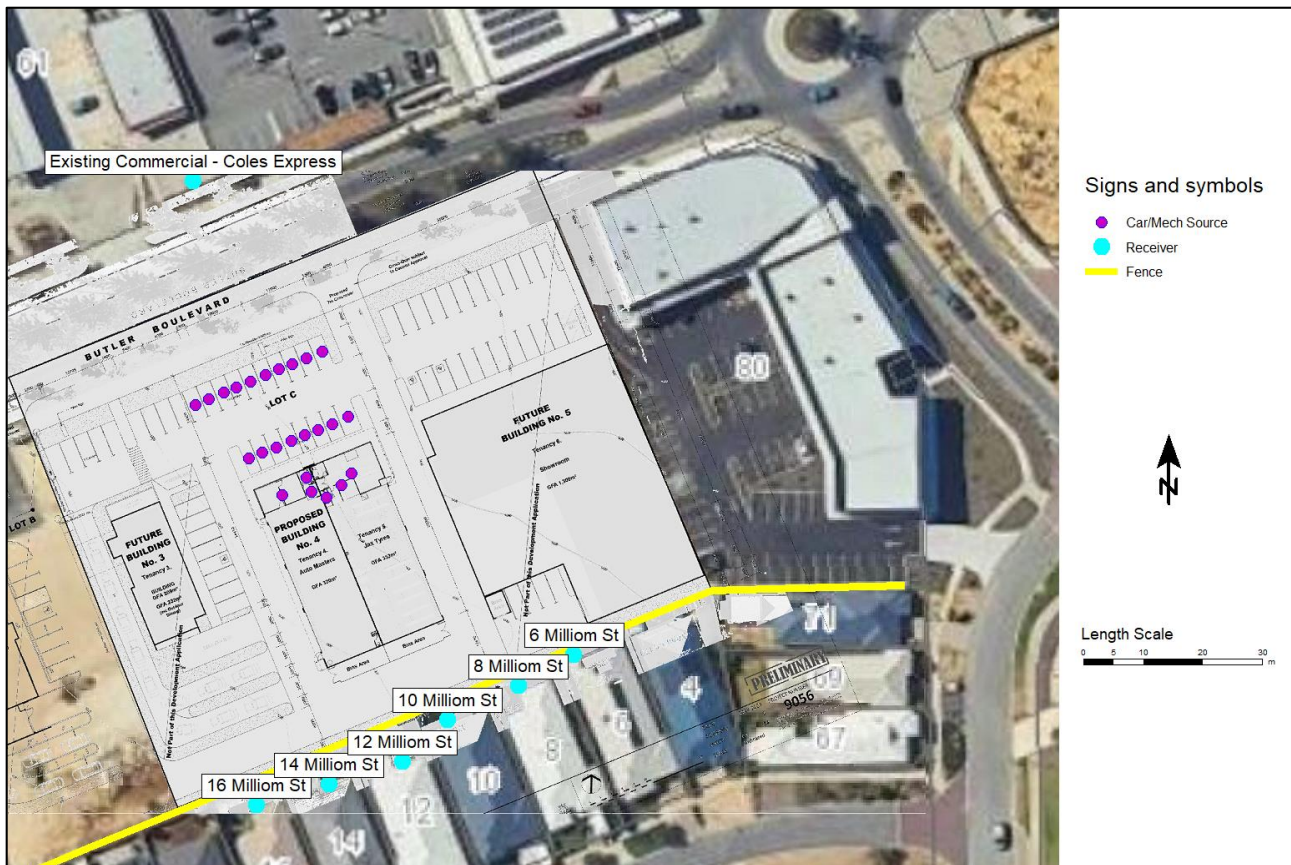


Figure 3-1: Overview of Noise Model

### 3.3. Ground Absorption

The ground absorption has been assumed to be 0.1 (10%) for the roads and 0.5 (50%) elsewhere, noting that 0.0 represents hard reflective surfaces such as water and 1.0 represents absorptive surfaces such as grass.



### 3.4. Source Sound Levels

The source sound power levels used in the modelling are provided in *Table 3-2*.

**Table 3-2: Source Sound Power Levels, dB**

Description	Octave Band Centre Frequency (Hz)								Overall dB(A)
	63	125	250	500	1k	2k	4k	8k	
General Operations, Roller Door Break Out Noise (each), dB L <sub>10</sub>	61	68	68	72	73	72	69	60	<b>78</b>
Electric Impact Wrench Roller Door Break Out Noise, dB L <sub>max</sub>	103	102	99	100	91	89	85	-	<b>100</b>
AC Plant, double fan unit (each), L <sub>10</sub>	72	74	68	69	63	61	53	47	<b>70</b>
Kitchen Exhaust Fan, L <sub>10</sub>	50	64	61	70	69	66	62	50	<b>73</b>
General Exhaust Fans (each), L <sub>10</sub>	60	65	62	63	60	61	56	53	<b>67</b>
Car Doors Closing, dB L <sub>max</sub>	71	74	77	81	80	78	72	61	<b>84</b>

The following is noted in relation to *Table 3-2*:

- The roller door openings of the proposed Auto Service Development are approximately 7 metres wide and 3.5 metres high;
- The impact wrench sources were modelled as a point source located 1.2 metres above ground level in both the Auto Masters and Jax Tyres. The software was then used to calculate the break out noise from the roller doors based on the size of the doors;
- Medium sized (double fan) outdoor units were deemed appropriate with two modelled as point sources 0.5 metres above roof level (one located at the centre of each office).
- Other mechanical plant includes one exhaust fan and one kitchen exhaust fan above each tenancy. These were modelled as point sources approximately 0.5 metres above roof level and above the area serviced.
- Amplified music e.g. radios are played at low volume and therefore does not significantly contribute; and
- Car doors closing were modelled as point sources located 1 m above car park level.



## 4. RESULTS AND ASSESSMENT

The noise levels were predicted for various scenarios:

- Normal Operations ( $L_{A10}$ ) – the proposed Auto Service Development operations include various noise sources such as workers' voices, various hand tools, vehicle engines and mechanical plant on the roof. All roller doors were assumed to be fully open.
- Normal Operations ( $L_{Amax}$ ) – maximum break out noise from an impact wrench used in both the Auto Masters and Jax Tyres warehouse. All roller doors were assumed to be fully open.
- Car Doors Closing ( $L_{Amax}$ ) – car doors closing in the car park.

### 4.1. Normal Operations ( $L_{A10}$ )

The results for the  $L_{A10}$  Normal Operations Scenario are provided in *Table 4-1*. A noise contour plot is also provided in *Figure 4-1* showing noise levels at ground floor.

**Table 4-1: Normal Operations ( $L_{A10}$ ) Predicted Levels and Assessment, dB(A)**

Receiver	Normal Operations (excluding Mechanical Plant)	Mechanical Plant	Total	Assigned Level	Assessment
6 Milliom St	40	28	40	52	Complies
8 Milliom St	43	26	43	52	Complies
10 Milliom St	31	24	32	52	Complies
12 Milliom St	32	24	33	52	Complies
14 Milliom St	43	25	43	52	Complies
16 Milliom St	41	27	41	52	Complies
Existing Commercial - Coles Express	31	32	34	60	Complies

Noise from the  $L_{A10}$  normal operations are predicted to comply at all nearest receivers during the day period. Noise levels one metre from the future commercial buildings located to the east and west are also predicted to be compliant.

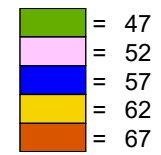
Tonality may be present for the mechanical plant, although as these noise levels are significantly below the other operations, no adjustments have been included. It is noted that compliance would also be achieved during the day period if this + 5 dB penalty was included.



**Figure 4-1  $L_{A10}$  Normal Operations Noise Contour Plot (1.4m AGL), dB**



**Predicted Noise level**



**Legend**

- Receiver
- ★ Car/Mech Source
- Fence



Scale 1:600



Project No: 23098358  
 Consultant: MN  
 Date: 14/11/2023  
 Algorithm: ISO 9613  
 SoundPLAN Version: 8.2



**Lloyd George Acoustics**  
 PO Box 717  
 HILLARYS WA 6923  
 (08) 9401 7770



## 4.2. Normal Operations ( $L_{Amax}$ )

The results for the  $L_{Amax}$  Normal Operations Scenario are provided in *Table 4-2*. A noise contour plot is also provided in *Figure 4-2* showing noise levels at ground floor. Impact wrench or 'rattle guns' are commonly used in service centres for various tasks and these generate short duration impact type of noise regardless of how these tools are powered (e.g. pneumatic or battery powered). An adjustment of + 10 dB is included for impulsiveness, since this may be present for such noise sources.

**Table 4-2: Normal Operations ( $L_{Amax}$ ) Predicted Levels and Assessment, dB(A)**

Receiver	Normal Operations	Total Adjusted	Assigned Level	Assessment
6 Milliom St	47	57	<b>72</b>	<i>Complies</i>
8 Milliom St	49	59	<b>72</b>	<i>Complies</i>
10 Milliom St	35	45	<b>72</b>	<i>Complies</i>
12 Milliom St	38	48	<b>72</b>	<i>Complies</i>
14 Milliom St	47	57	<b>72</b>	<i>Complies</i>
16 Milliom St	46	56	<b>72</b>	<i>Complies</i>
Existing Commercial - Coles Express	34	44	<b>80</b>	<i>Complies</i>

Noise from the  $L_{Amax}$  normal operations are predicted to comply at all nearest receivers during the day period.

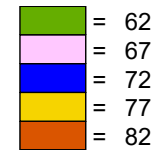
Noise levels one metre from the future commercial buildings located to the east and west are also predicted to be compliant.



**Figure 4-2  $L_{Amax}$  Normal Operations Noise Contour Plot (1.4m AGL), dB**



**Predicted Noise level**



**Legend**

- Receiver
- ✱ Car/Mech Source
- Fence



Scale 1:600



Project No: 23098358  
 Consultant: MN  
 Date: 14/11/2023  
 Algorithm: ISO 9613  
 SoundPLAN Version: 8.2



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### 4.3. Car Door Closing Noise

Predicted and assessed noise levels for car doors closing during the day period are provided in *Table 4-3* being the maximum noise level from the worst-case car bay for each receiver. An adjustment of + 10 dB is included for impulsiveness, since this may be present for such noise sources. A noise contour plot is also provided in *Figure 4-3* showing noise levels at ground floor.

**Table 4-3: Car Door Closing Noise Predicted Levels and Assessment, dB  $L_{Amax}$**

Receiver	Car Door	Total Adjusted	Assigned Level	Assessment
6 Milliom St	25	35	<b>72</b>	<i>Complies</i>
8 Milliom St	35	45	<b>72</b>	<i>Complies</i>
10 Milliom St	25	35	<b>72</b>	<i>Complies</i>
12 Milliom St	24	34	<b>72</b>	<i>Complies</i>
14 Milliom St	35	45	<b>72</b>	<i>Complies</i>
16 Milliom St	36	46	<b>72</b>	<i>Complies</i>
Existing Commercial - Coles Express	45	55	<b>80</b>	<i>Complies</i>

Noise from car doors is predicted to comply at all nearest receivers during the day period.

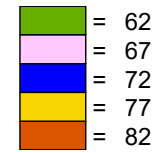
Noise levels one metre from the future commercial buildings located to the east and west are also predicted to be compliant.



**Figure 4-3  $L_{Amax}$  Car Door Noise Contour Plot (1.4m AGL), dB**



**Predicted Noise level**



**Legend**

- Receiver
- ✱ Car/Mech Source
- Fence



Scale 1:600



Project No: 23098358  
 Consultant: MN  
 Date: 14/11/2023  
 Algorithm: ISO 9613  
 SoundPLAN Version: 8.2



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## 5. CONCLUSION

The predicted noise from the proposed Auto Service Development located at Lot 2076 Butler Boulevard, Butler WA is considered to be compliant during the day period based off the methodology used within the report.



## Appendix A – Development Plans

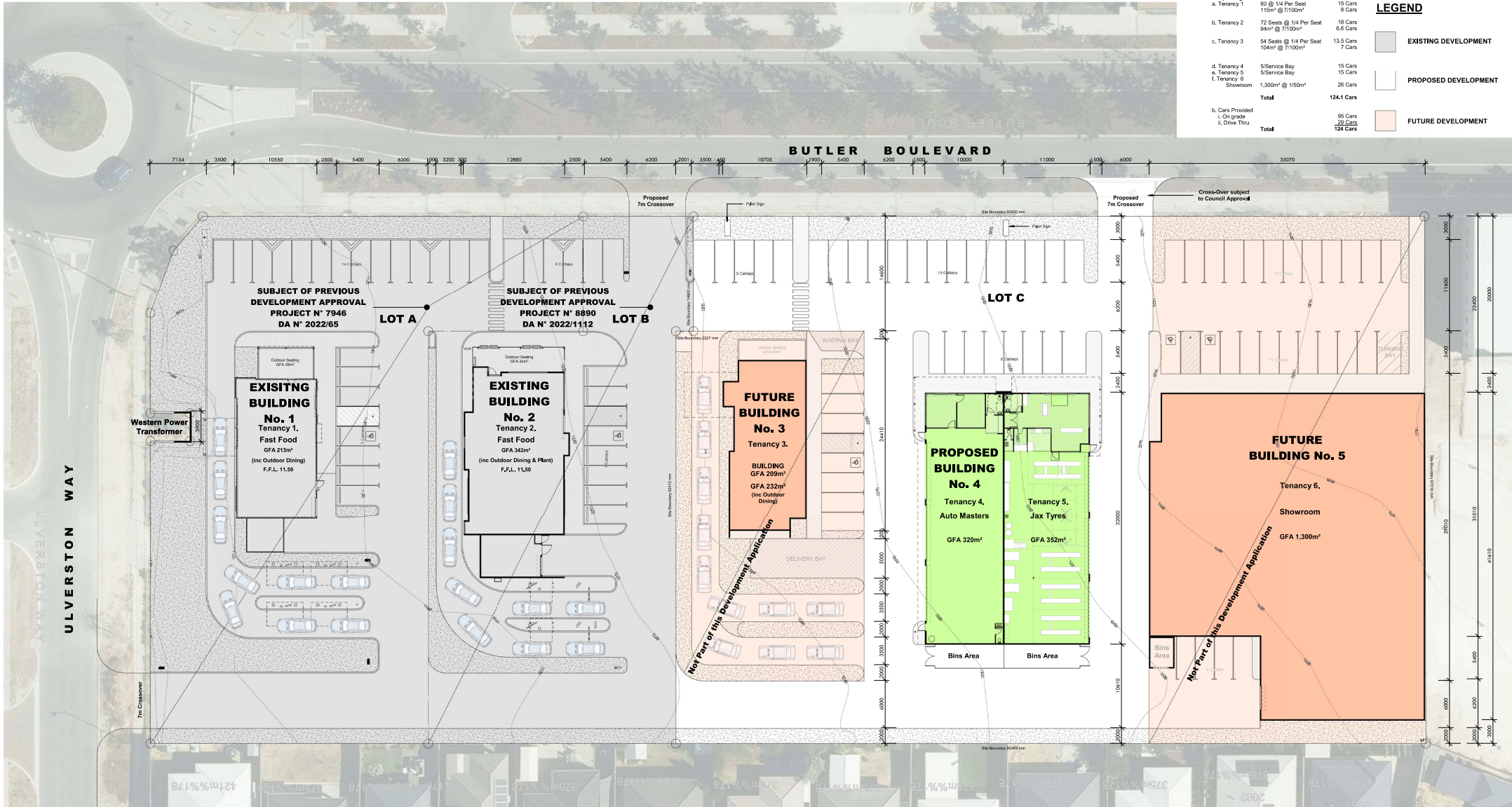


### SITE CRITERIA

1. Site Area	11,483.57	
2. Landscaping		
a. Required	8% Of Soft Landscaping 919m <sup>2</sup>	
b. Provided Soft	1,678m <sup>2</sup> (14.6%)	
3. Floor Area (GFA)		
a. Tenancy 1 - Fast Food	213m <sup>2</sup>	
b. Tenancy 2 - Fast Food	342m <sup>2</sup>	
c. Tenancy 3 - Fast Food	232m <sup>2</sup>	
d. Tenancy 4 - Auto Service	320m <sup>2</sup>	
e. Tenancy 5 - Auto Service	352m <sup>2</sup>	
f. Tenancy 6 - Showroom	1,300m <sup>2</sup>	
<b>Total</b>	<b>2,759m<sup>2</sup></b>	
4. Carparking		
a. Tenancy 1	60 @ 1/4 Per Seat 115m <sup>2</sup> @ 7/1100m <sup>2</sup>	15 Cars 8 Cars
b. Tenancy 2	72 Seats @ 1/4 Per Seat 94m <sup>2</sup> @ 7/1100m <sup>2</sup>	18 Cars 6.6 Cars
c. Tenancy 3	54 Seats @ 1/4 Per Seat 104m <sup>2</sup> @ 7/1100m <sup>2</sup>	13.5 Cars 7 Cars
d. Tenancy 4	5/Service Bay	15 Cars
e. Tenancy 5	5/Service Bay	15 Cars
f. Tenancy 6	Showroom 1,300m <sup>2</sup> @ 1/150m <sup>2</sup>	26 Cars
<b>Total</b>		<b>124.1 Cars</b>
b. Cars Provided		
i. On grade		85 Cars
ii. Drive Thru		29 Cars
<b>Total</b>		<b>124 Cars</b>

### LEGEND

- EXISTING DEVELOPMENT
- PROPOSED DEVELOPMENT
- FUTURE DEVELOPMENT



### SITE PLAN - STAGE 3

SCALE: 1:500



### PROPOSED AUTO SERVICE DEVELOPMENT - STAGE 3

LOCATION : PART LOT 2075, Butler Boulevard, Butler  
FOR : SHIMAL REALSTAR PTY LTD BY: VEND PROPERTY

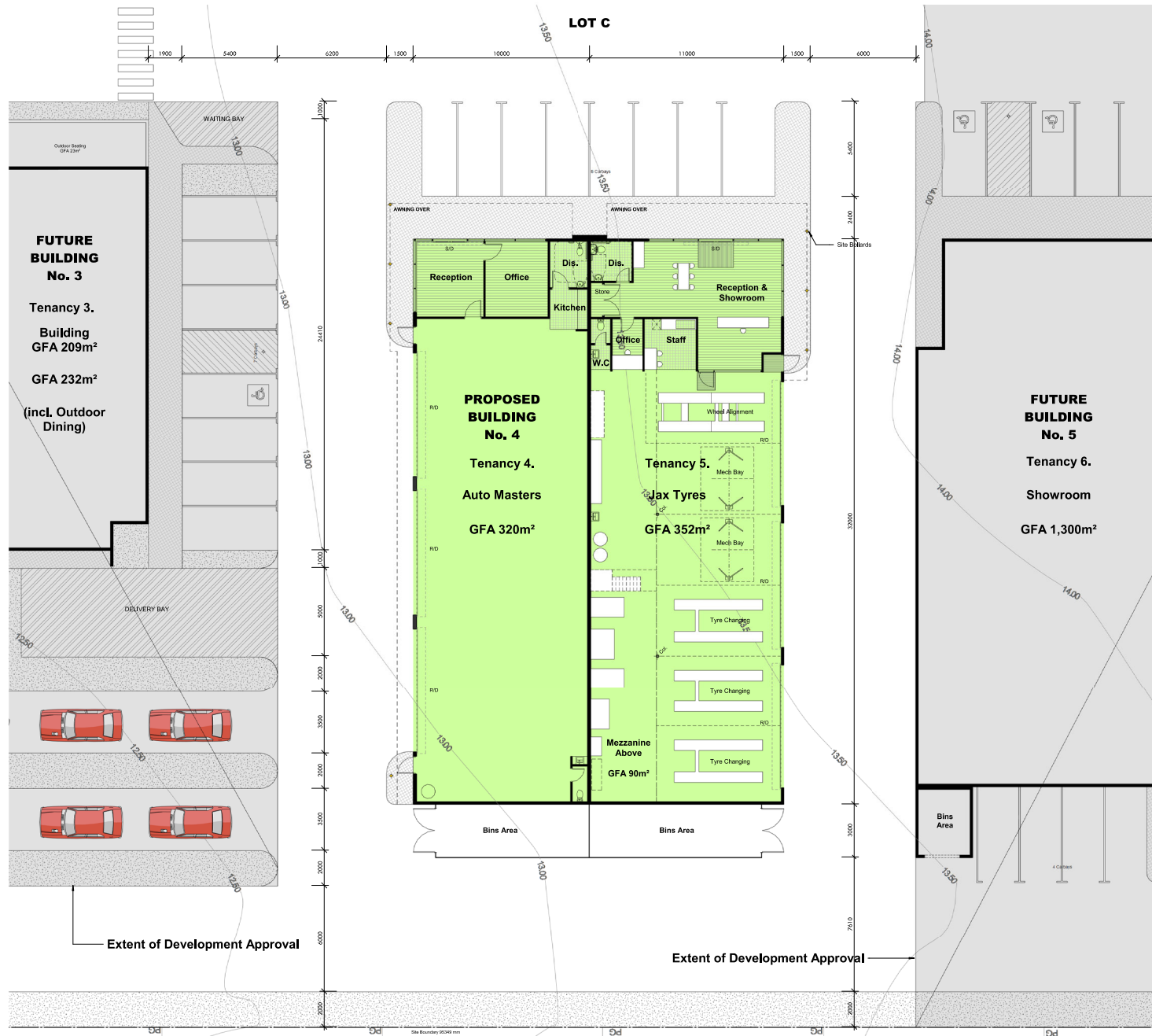
**PRELIMINARY**



DATE:	MAR 2023	PROJECT NUMBER	9056
REVISION:	5		
SHEET:	AS 04		
SCALE:	indicated		

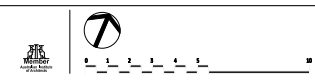
© Meyer Shircore Architects 2023. All rights reserved.  
Site 3, Green Field 1071 Roberts Road, Gullbarr WA 6058  
PO Box 129 Gullbarr WA 6058  
08 9385 8311 | info@mshircore.com.au





**BUILDING 4 - GROUND FLOOR PLAN**  
 SCALE: 1:100

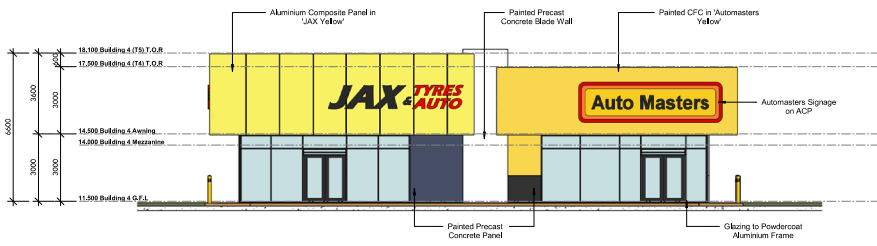
**PRELIMINARY**



DATE:	MAR 2023	PROJECT NUMBER:	9056
REVISION:	5		
SHEET:	05		
SCALE:	1:100		

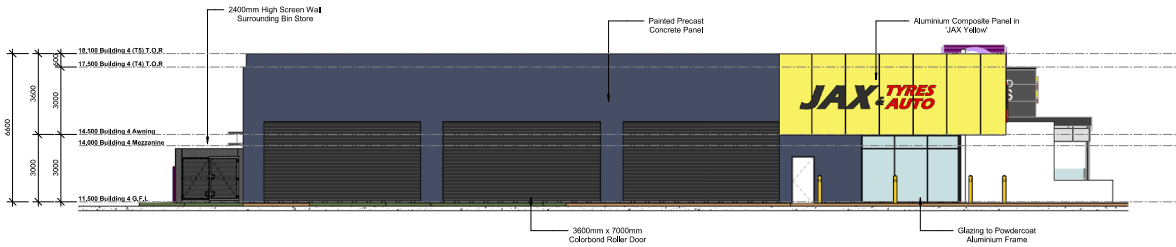
© Meyer Shircore Architects. All rights reserved. 0491 511 199 (HQ)  
 Suite 3, Ground Floor, 107 Tooleyn Road, Gullah, WA 6208  
 PO Box 1299, Subiaco, WA 6008  
 08 9382 8511 | info@mshircore.com.au





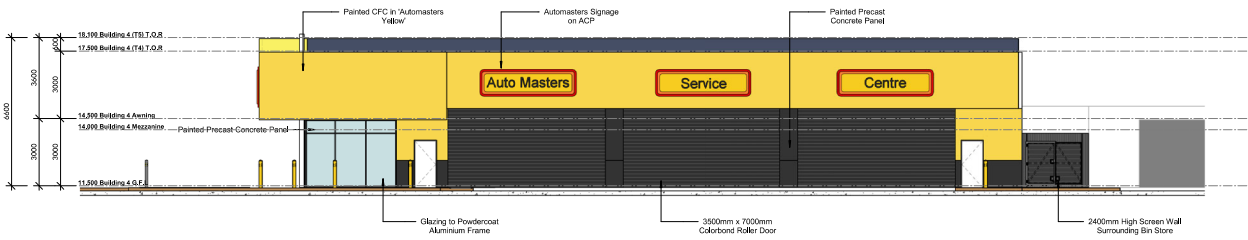
**BUILDING 4 - NORTH ELEVATION**

SCALE: 1:100



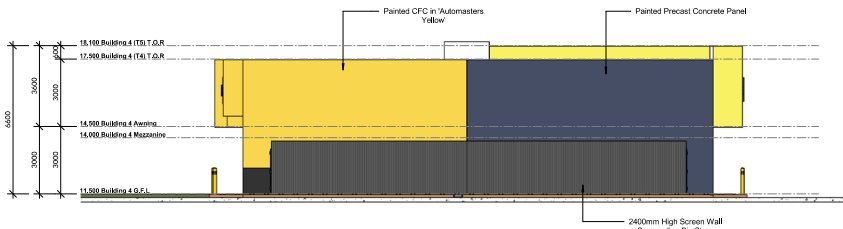
**BUILDING 4 - EAST ELEVATION**

SCALE: 1:100



**BUILDING 4 - WEST ELEVATION**

SCALE: 1:100



**BUILDING 4 - SOUTH ELEVATION**

SCALE: 1:100



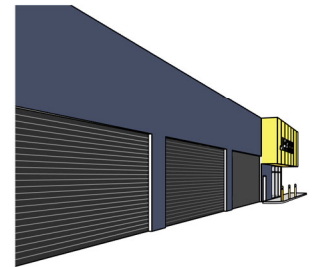
**BUILDING 4 VIEW 1**

SCALE:



**BUILDING 4 VIEW 2**

SCALE:



**BUILDING 4 VIEW 3**

SCALE:

**NOTE:**

1. Signage is not a part of this Development Application.
2. Signage will be by a separate Application.
3. Signage shown is indicative only.

**PRELIMINARY**



## Appendix B – Influencing Factor Calculation



The assigned levels combine a baseline assigned level with an influencing factor, with the latter increasing the assigned level on the basis of the existence of significant roads and commercial or industrial zoned land within an inner circle (100 metre radius) and an outer circle (450 metre radius) of the noise sensitive premises. The calculation for the influencing factor is:

$$= \frac{1}{10} (\% \text{ Type A}_{100} + \% \text{ Type A}_{450}) + \frac{1}{20} (\% \text{ Type B}_{100} + \% \text{ Type B}_{450})$$

where :

% Type A<sub>100</sub> = the percentage of industrial land within  
a 100m radius of the premises receiving the noise

% Type A<sub>450</sub> = the percentage of industrial land within  
a 450m radius of the premises receiving the noise

% Type B<sub>100</sub> = the percentage of commercial land within  
a 100m radius of the premises receiving the noise

% Type B<sub>450</sub> = the percentage of commercial land within  
a 450m radius of the premises receiving the noise

+ Transport Factor (maximum of 6 dB)

= 2 for each secondary road (6,000 to 15,000 vpd) within 100m

= 2 for a major road (> 15,000 vpd) within 450m

= 6 for a major road within 100m

The nearest noise sensitive premise used within the assessment is identified as 14 Millom Street, Butler.

Table B-1 shows the percentage of industrial and commercial land within the inner (100 metre radius) and outer (450 metre radius) circles of the noise sensitive premises.

**Table B-1: Percentage of Land Types within 100m and 450m Radii**

Receiver	Land Type	Within 100m	Within 450m
14 Millom St	Type A - Industrial and Utility	0	0
	Type B – Commercial	37	22





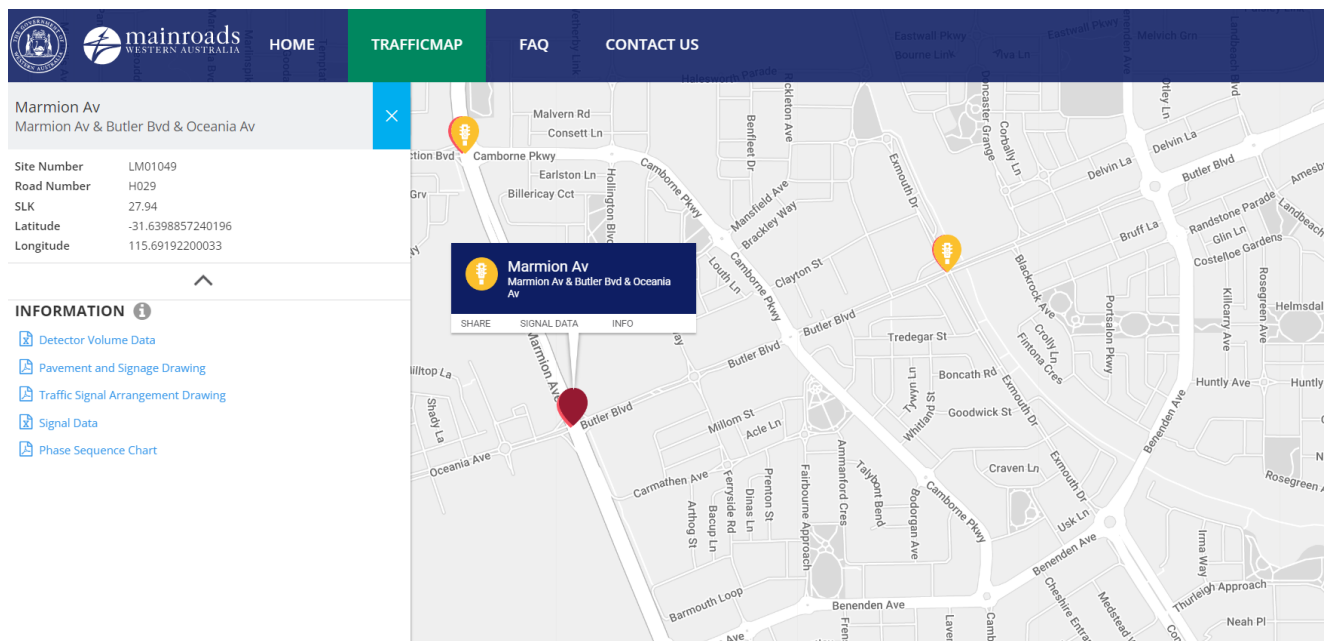
**Figure B-1: Land Types within 100m and 450m Radii**



From the Detector Volume Data provided by the Main Roads WA Traffic Map (refer *Figure B-2*), *Table B-2* shows the relevant roads and their traffic counts within the inner (100 metre radius) and outer (450 metre radius) circles.

**Table B-2: Relevant Roads within 100m and 450m Radii**

Receiver	Within 100m		Within 450m
	Major Road (+ 6 dB)	Secondary Road (+ 2 dB)	Major Road Not Within 100m (+ 2 dB)
14 Millom St	-	Butler Boulevard (8,915 2023 #LM01049)	Marmion Avenue (34,799 2023 #LM01049)



**Figure B-2: MRWA Published Traffic Data**

*Table B-3* combines the percentage land types and Transport Factor to calculate the influencing factor.

**Table B-3: Influencing Factor Calculation, dB**

Receiver	Industrial Land	Commercial Land	Transport Factor	Total
14 Millom St	0	2.9	4.0	7

The influencing factor calculated in *Table B-3* is combined with those baseline assigned levels of *Table 2-2*, resulting in the project assigned levels provided in *Table 2-3*.



## Appendix C – Terminology



The following is an explanation of the terminology used throughout this report:

- **Decibel (dB)**

The decibel is the unit that describes the sound pressure levels of a noise source. It is a logarithmic scale referenced to the threshold of hearing.

- **A-Weighting**

An A-weighted noise level has been filtered in such a way as to represent the way in which the human ear perceives sound. This weighting reflects the fact that the human ear is not as sensitive to lower frequencies as it is to higher frequencies. An A-weighted sound level is described as  $L_A$ , dB.

- **Sound Power Level ( $L_w$ )**

Under normal conditions, a given sound source will radiate the same amount of energy, irrespective of its surroundings, being the sound power level. This is similar to a 1kW electric heater always radiating 1kW of heat. The sound power level of a noise source cannot be directly measured using a sound level meter but is calculated based on measured sound pressure level at known distances. Noise modelling incorporates source sound power levels as part of the input data.

- **Sound Pressure Level ( $L_p$ )**

The sound pressure level of a noise source is dependent upon its surroundings, being influenced by distance, ground absorption, topography, meteorological conditions etc. and is what the human ear actually hears. Using the electric heater analogy above, the heat will vary depending upon where the heater is located, just as the sound pressure level will vary depending on the surroundings. Noise modelling predicts the sound pressure level from the sound power levels taking into account ground absorption, barrier effects, distance etc.

- **$L_{ASlow}$**

This is the noise level in decibels, obtained using the A-frequency weighting and the S (slow) time weighting. Unless assessing modulation, all measurements use the slow time weighting characteristic.

- **$L_{AFast}$**

This is the noise level in decibels, obtained using the A-frequency weighting and the F (fast) time weighting. This is used when assessing the presence of modulation.

- **$L_{APeak}$**

This is the greatest absolute instantaneous sound pressure level in decibels using the A-frequency weighting.

- **$L_{Amax}$**

An  $L_{Amax}$  level is the maximum A-weighted noise level during a particular measurement.

- **$L_{A1}$**

The  $L_{A1}$  level is the A-weighted noise level exceeded for 1 percent of the measurement period and is considered to represent the average of the maximum noise levels measured.



- **L<sub>A10</sub>**

The L<sub>A10</sub> level is the A-weighted noise level exceeded for 10 percent of the measurement period and is considered to represent the “intrusive” noise level.

- **L<sub>A90</sub>**

The L<sub>A90</sub> level is the A-weighted noise level exceeded for 90 percent of the measurement period and is considered to represent the “background” noise level.

- **L<sub>Aeq</sub>**

The equivalent steady state A-weighted sound level (“equal energy”) in decibels which, in a specified time period, contains the same acoustic energy as the time-varying level during the same period. It is considered to represent the “average” noise level.

- **One-Third-Octave Band**

Means a band of frequencies spanning one-third of an octave and having a centre frequency between 25 Hz and 20000 Hz inclusive.

- **Representative Assessment Period**

Means a period of time not less than 15 minutes, and not exceeding four hours, determined by an inspector or authorised person to be appropriate for the assessment of a noise emission, having regard to the type and nature of the noise emission.

- **L<sub>Amax</sub> assigned level**

Means an assigned level, which, measured as a L<sub>ASlow</sub> value, is not to be exceeded at any time.

- **L<sub>A1</sub> assigned level**

Means an assigned level, which, measured as a L<sub>ASlow</sub> value, is not to be exceeded for more than 1 percent of the representative assessment period.

- **L<sub>A10</sub> assigned level**

Means an assigned level, which, measured as a L<sub>ASlow</sub> value, is not to be exceeded for more than 10 percent of the representative assessment period.



---

- **Tonal Noise**

A tonal noise source can be described as a source that has a distinctive noise emission in one or more frequencies. An example would be whining or droning. The quantitative definition of tonality is:

- the presence in the noise emission of tonal characteristics where the difference between -
  - (a) the A-weighted sound pressure level in any one-third octave band; and
  - (b) the arithmetic average of the A-weighted sound pressure levels in the 2 adjacent one-third octave bands,

is greater than 3 dB when the sound pressure levels are determined as  $L_{Aeq,T}$  levels where the time period T is greater than 10% of the representative assessment period, or greater than 8 dB at any time when the sound pressure levels are determined as  $L_{A\ Slow}$  levels.

This is relatively common in most noise sources.

- **Modulating Noise**

A modulating source is regular, cyclic and audible and is present for at least 10% of the measurement period. The quantitative definition of modulation is:

- a variation in the emission of noise that —
  - (a) is more than 3 dB  $L_{A\ Fast}$  or is more than 3 dB  $L_{A\ Fast}$  in any one-third octave band; and
  - (b) is present for at least 10% of the representative assessment period; and
  - (c) is regular, cyclic and audible.

- **Impulsive Noise**

An impulsive noise source has a short-term banging, clunking or explosive sound. The quantitative definition of impulsiveness means:

- a variation in the emission of a noise where the difference between  $L_{Apeak}$  and  $L_{Amax}$  is more than 15 dB when determined for a single representative event.

- **Major Road**

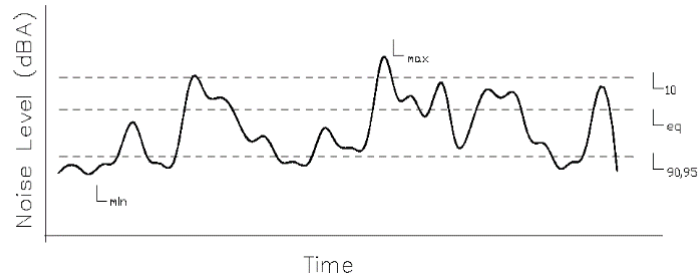
Is a road with an estimated average daily traffic count of more than 15,000 vehicles.

- **Secondary / Minor Road**

Is a road with an estimated average daily traffic count of between 6,000 and 15,000 vehicles.



• **Chart of Noise Level Descriptors**



• **Austrroads Vehicle Class**

VEHICLE CLASSIFICATION SYSTEM	
AUSTRROADS	
<b>LIGHT VEHICLES</b>	
1	BIKE COP, VAN, WAGON, 4WD, MOPED, Motorcycle
2	BIKE, TOWING TAXI, COACH, BUS
<b>HEAVY VEHICLES</b>	
3	TWO AXLE TRUCK OR BUS *2 axle
4	THREE AXLE TRUCK OR BUS *3 axle, 2 axle groups
5	FOUR (or FIVE) AXLE TRUCK *4 (or 5) axle, 2 axle groups
6	THREE AXLE ARTICULATED *3 axle, 3 axle groups
7	FOUR AXLE ARTICULATED *4 axle, 3 or 4 axle groups
8	FIVE AXLE ARTICULATED *5 axle, 3 or 4 axle groups
9	SIX AXLE ARTICULATED *6 axle, 3 or 4 axle groups
<b>LONG VEHICLES AND ROAD TRAINS</b>	
10	8 DOUBLE E or HEAVY TRUCK and TRAILER *7 or 8 axle, 4 axle groups
11	DOUBLE ROAD TRAIN *7 or 8 axle, 5 or 6 axle groups
12	SINGLE ROAD TRAIN *7 or 8 axle, 7 or 8 axle groups

• **Typical Noise Levels**

