Transport Impact Statement

RAC Ningaloo Reef Resort, Coral Bay

Project Ref : 301250930/CW1200459

26 June 2023

Rev B

Prepared for:

Architectus Australia Pty Ltd

Prepared by:

Stantec Australia Pty Ltd

Revision	DATE	Description	Author	Reviewed by	Approved by
A	09 June 2023	For Issue	LL	DH	RJC
B	26 July 2023	Minor Update	LL	DH	RJC

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Prepared by _____
Lovely Lal

Reviewed by _____
Desmond Ho

Approved by _____
Ray Cook

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1.0 INTRODUCTION

1.1 BACKGROUND

Stantec has been commissioned by Architectus Australia Pty Ltd ('the Client') on behalf of RAC Tourism Assets Pty Ltd to prepare a Transport Impact Statement (TIS) for the proposed redevelopment of Ningaloo Reef Resort ('the Site') located at 1 Robinson Street in Coral Bay, under the jurisdiction of Shire of Carnarvon.

This report aims to assess the impact of the development upon the adjacent road network. The report will focus on traffic operations, circulation and car parking requirements.

This TIS has been prepared in accordance with the *Western Australian Planning Commission (WAPC) Transport Impact Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016)* and the checklist is included in **Appendix A.**

2.0 SITE LOCATION

2.1 SITE LOCATION AND CONTEXT

The Site is located to the far western end of Robinson Street. The site is bounded by vacant land and a caravan village to the east, the road reserve of Banksia Drive loop road to the south, vacant land and the ocean to the west. **Figure 2-1** shows an aerial image of the Site.

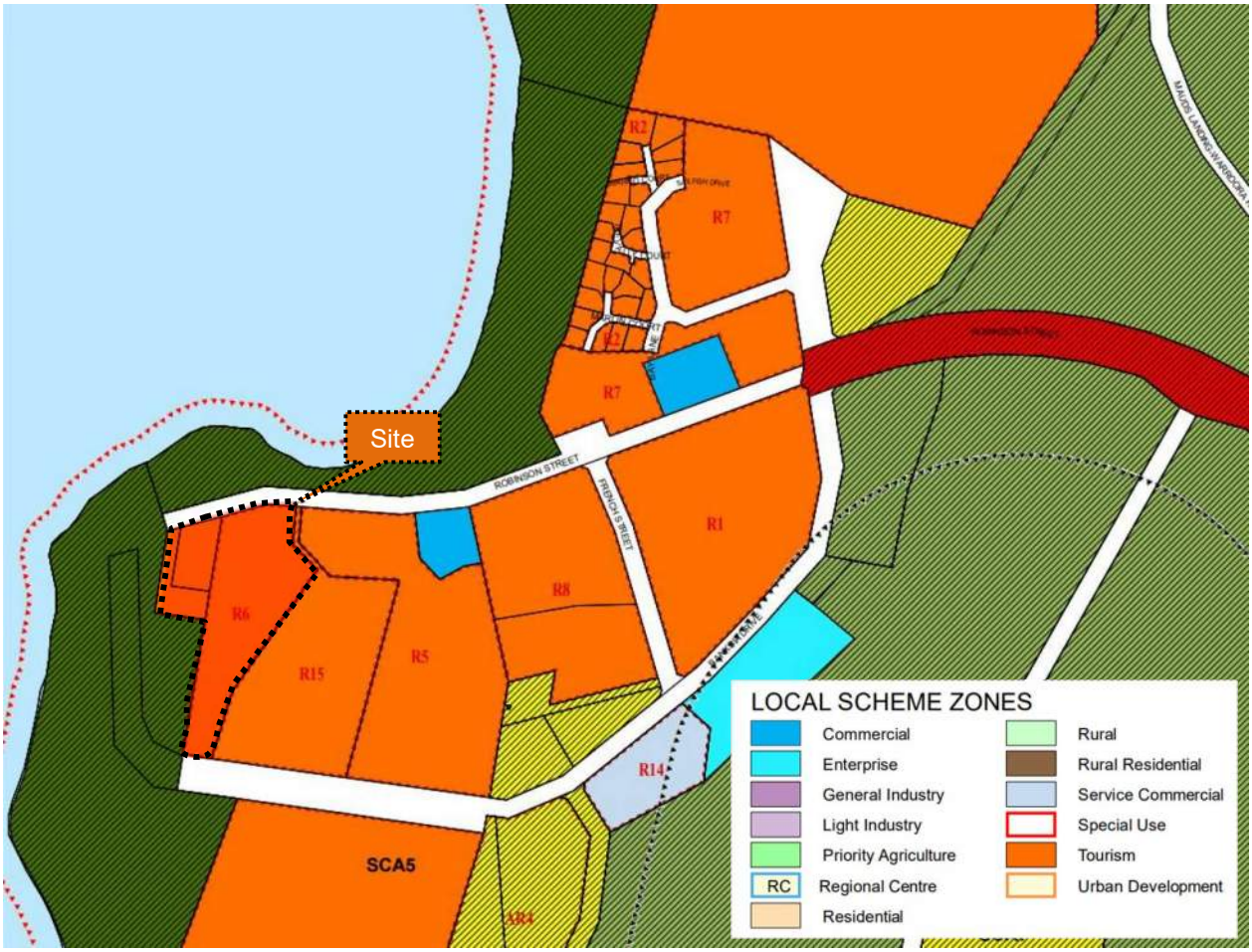
Figure 2-1 Aerial Image of Site

Source: MetroMap (2023)

2.2 SURROUNDING LAND USES

Pursuant to the provision of the *Shire of Carnarvon Local Planning Scheme No. 13*, the Site is zoned *'Tourism'"* as shown in **Figure 2-2**.The Site is surrounded by Foreshore to the west and other Tourism landuses to the east.

Figure 2-2 Zoning Map



Source: Shire of Carnarvon Local Planning Scheme No. 13

2.3 EXISTING ROAD NETWORK

Road Classifications are defined in the Main Roads Functional Hierarchy as follows:

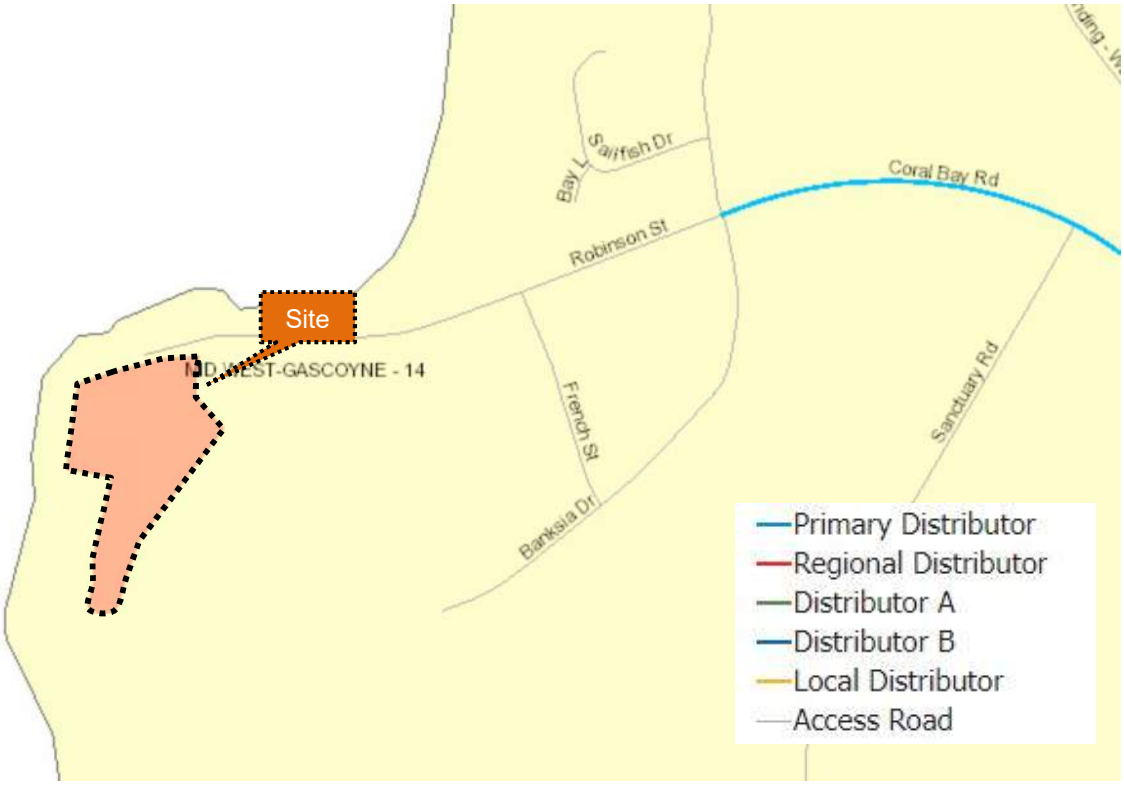
- **Primary Distributors (light blue):** Form the regional and inter-regional grid of Main Roads WA traffic routes and carry large volumes of fast-moving traffic. Some are strategic freight routes and all are National or State roads. They are managed by Main Roads.
- **Regional Distributors (red):** Roads that are not Primary Distributors, but which link significant destinations and are designed for efficient movement of people and goods within and beyond regional areas. They are managed by Local Government.
- **District Distributor A (green):** These carry traffic between industrial, commercial and residential areas and connect to Primary Distributors. These are likely to be truck routes and provide only limited access to adjoining property. They are managed by Local Government.
- **District Distributor B (dark blue):** Perform a similar function to District Distributor A but with reduced capacity due to flow restrictions from access to and roadside parking alongside the adjoining property. These are often older roads with traffic demand in excess of what was originally intended. District Distributor A and B roads run between land-use cells and not through them, forming a grid that would ideally be around 1.5 kilometres apart. They are managed by Local Government.
- **Local Distributors (orange):** Carry traffic within a cell and link District Distributors at the boundary to access roads. The route of the Local Distributor discourages through traffic so that the cell formed by the grid of District Distributors only carries traffic belonging to or serving the area. These roads should accommodate buses but discourage trucks. They are managed by Local government.
- **Access Roads (grey):** Provide access to abutting properties with amenity, safety and aesthetic aspects having priority over the vehicle movement function. These roads are bicycle and pedestrian-friendly. They are managed by Local government.

The surrounding road network is further described in **Table 2-1** and **Figure 2-3** shows the hierarchy as per the Main Roads WA Road Information Mapping System.

Table 2-1 Road Network Classification

Street Names	Road Hierarchy		Road Network			
	Road Hierarchy	**Jurisdiction**	**No. of Lanes**	**No. of Footpaths**	**Width (m)**	**Posted Speed (km/h)**
Robinson Street	Primary Distributor /Access Road	MRWA/Local Government	2	2 (between Banksia Drive and French St)	6.0m	110 (east of Sanctuary road) 80 (between Banksia Dr and Sanctuary Rd) 50 (westwards from Banksia Drive to the site frontage)
Banksia Drive	Access Road	Local Government	2	0	8.13m	50

Figure 2-3 Road Hierarchy



Source: MRWA Information Mapping (2023)

2.4 EXISTING KEY INTERSECTIONS

The following describes the intersections in close proximity to the proposed development:

- **Banksia Drive/Robinson Street Intersection** is located to the northeast of the site. The intersection is a 4 legged priority controlled intersection as illustrated in **Figure 2-4.**

Figure 2-4 Robinson Street / Banksia Drive Intersection

Source: Metromap

2.5 EXISTING TRAFFIC VOLUMES

The existing traffic volumes for the surrounding road network were sourced from Main Road WA Traffic Map and Shire of Carnarvon. It should be noted that traffic volumes are seasonal and will be higher during peak times of the year. The existing average daily traffic volumes are summarised in **Table 2-2.**

Table 2-2 Traffic Volumes

Road Name	Source	Year	Average Weekday Daily Traffic Volume	Heavy Vehicle %
Coral Bay Road (West of Minilya Exmouth Rd)	Main Roads Traffic map	2022/23	568	18.1%
Robinson Street (Near Bill's Bar)	Shire of Carnarvon	2020	343	-
Robinson Street (Near Resort Car Park)	Shire of Carnarvon	2020	187	-

2.6 FUTURE ROAD NETWORK CHANGES

Stantec contacted Shire of Carnarvon and was advised that there are no future plans for changes to land use in the future, other than Lot 10 that is currently under development for holiday accommodation. Banksia Drive currently extends up to Lot 10 and the Shire of Carnarvon has advised that there are no further plans for any extension in the near future. The Coral Bay Settlement Structure Plan indicates that there are opportunities for the extension of Banksia Drive to loop around the existing settlement and hook back into Robinson Street as shown in **Figure 2-5.**

Figure 2-5 Coral Bay Sociocultural Conditions

Source: Coral Bay Settlement Structure Plan

2.7 CRASH ASSESSMENT

A crash assessment for the surrounding road network of the Site has been completed using the Main Roads WA Reporting Centre. The assessment covers all the recorded accidents over 5 years between 1 January 2018 and 31 December 2022 and the results are summarised in **Table 2-3** to **Table 2-5**. **Figure 2-6** shows the locations of the crashes and their severity.

Table 2-3 Total Crashes

TOTAL CRASHES						
Type of Crash (RUM Code)	**Fatal**	**Hospital**	**Medical**	**Major Property Damage**	**Minor Property Damage**	**Total Crashes**
Sideswipe Same Direction	-	-	-	-	1	1
Hit Pedestrian	-	-	-	-	1	1
Total	**-**	**-**	**-**	**-**	**2**	**2**

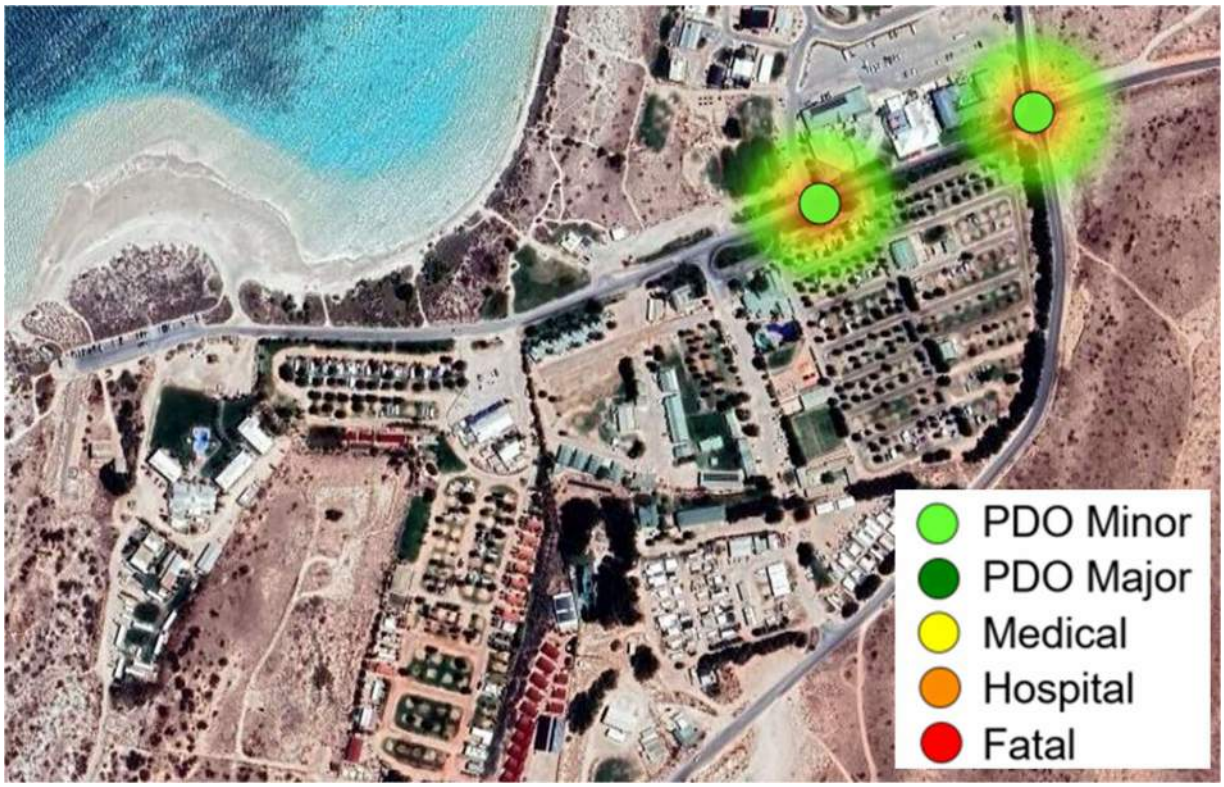
Table 2-4 Intersection Crashes

INTERSECTION CRASHES						
Type of Crash (RUM Code)	**Fatal**	**Hospital**	**Medical**	**Major Property Damage**	**Minor Property Damage**	**Total Crashes**
Robinson St - Coral Bay Rd & Banksia Dr	-	-	-	-	1	1
Total	**-**	**-**	**-**	**-**	**1**	**1**

Table 2-5 Midblock Crashes – The Crescent

MIDBLOCK CRASHES – The Crescent						
Type of Crash (RUM Code)	**Fatal**	**Hospital**	**Medical**	**Major Property Damage**	**Minor Property Damage**	**Total Crashes**
Robinson St	-	-	-	-	1	1
Total	**-**	**-**	**-**	**-**	**1**	**1**

Figure 2-6 Crash Locations



Source: Maps.co

From the crash assessment conducted above, the following is concluded:

- A total of 2 crashes was recorded on the surrounding road network in the vicinity of the site;
- All 2 crashes resulted in minor property damage.

Overall, it is expected that the proposed development is unlikely to have any impact on the safety in the area.

3.0 PUBLIC TRANSPORT FACILITIES

3.1 EXISTING PUBLIC TRANSPORT FACILITIES

There are no public transport services and facilities in Coral Bay.

4.0 PEDESTRIAN/CYCLE NETWORKS FACILITIES

4.1 EXISTING PEDESTRIAN/CYCLE NETWORKS

Coral Bay is a tourism destination due to its proximity to the Ningaloo Reef. Vehicle dependency by visitors is considered low as the 'walk-ability' radius of the town is approximately 350m. The existing footpath and shared path network within Coral Bay are poor. There is an existing 1.5m – 1.8m footpath along the northern side of Robinson Street between Banksia Drive and Bills Bay Beach.

4.2 FUTURE PEDESTRIAN/CYCLE NETWORK FACILITIES

4.2.1 Coral Bay Bicycle Path

The Shire of Carnarvon has successfully sourced funding from the Department of Transport (WA) – 'Western Australian Bicycle Network' (WABN) grant program to deliver safe, connected and convenient pedestrian and cycling facilities.

French Street is a partially open road reserve between Robinson Street and Banksia Drive and the strategic intent is to develop French Street as a shared -use zone starting at Robinson Street (intersection of Robinson and French Street), along French Street, westwards along Banksia Drive then along Monck Head Drive and terminating at the Boat Ramp. The new path offers an excellent opportunity to promote 'Cycling tourism' and enhance this area. This shared path was designed for pedestrian and cyclist use and was anticipated to be completed by June 2023.

Figure 4-1 indicates the proposed bicycle (shared) path.

Figure 4-1 Proposed Bicycle Shared Path

Source: Shire of Carnarvon

5.0 PROPOSED DEVELOPMENT

The proposed redevelopment consists of the following components:

- 93 Accommodation units comprising of:
  - 1 B/R Guest Accommodation – 61 units
  - 2 B/R Guest Accommodation – 20 units
  - 3 B/R Guest Accommodation – 9 units
  - 2 B/R Staff Accommodation – 2 units
  - 3 B/R Staff Accommodation – 1 units
- Clubhouse (bar/ restaurant /dining) – 610.3 sqm
- Conference Room 1 – 68 sqm
- Conference Room 2 – 60 sqm
- Conference Room 3 – 38.6 sqm
- Parking for guests, staff, coaches and boat trailers.
- 95 Guest parking Bays
- 12 Staff Parking Bays
- 4 EV Charging Bays
- 5 Boat Bays
- 2 Bus Bays
- 4 Drop Off Bays

The layout of the proposed development at the Site is shown in **Figure 5-1**. Please note, larger versions are included in **Appendix B.**

Figure 5-1 Proposed Development

Source: Architectus Australia Pty Ltd

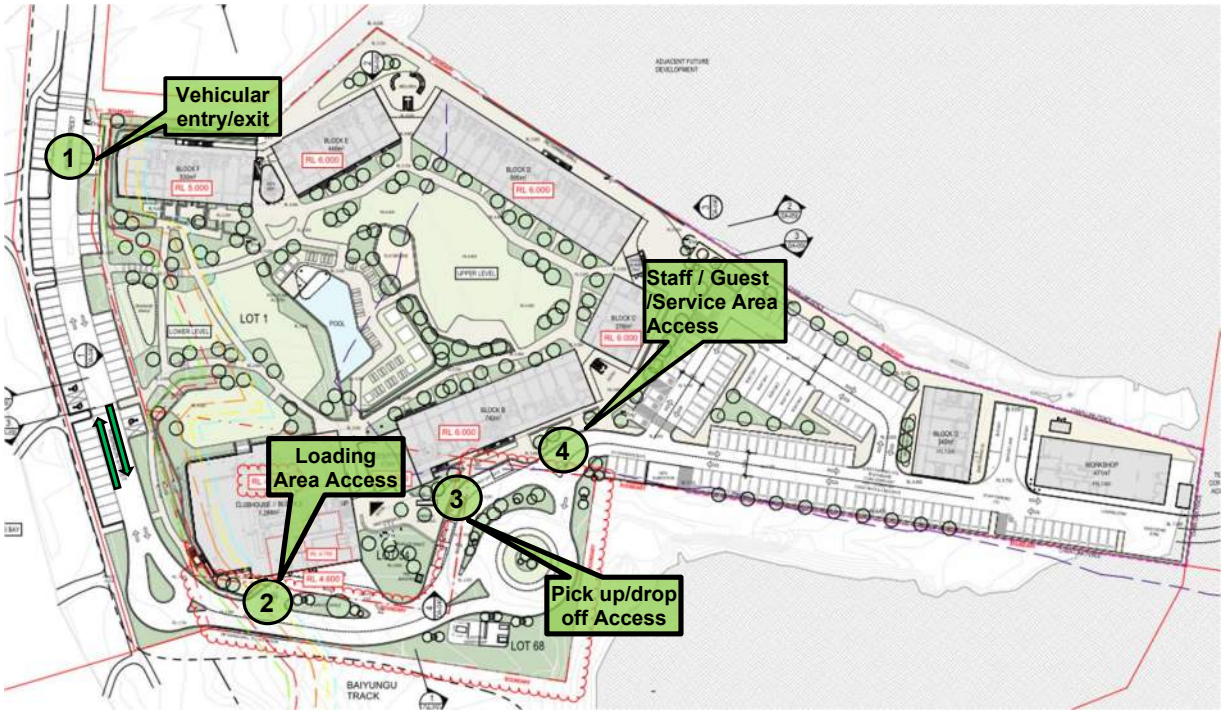
5.1 ACCESS ARRANGEMENTS

5.1.1 Site Access

Vehicle access for the overall site is proposed via Robinson Street as shown in **Figure 5-2**. Robinson Street currently terminates in the vicinity of proposed access point.

- Access 1 : Heavy vehicle and Light Vehicles (Entry / Exit)
- Access 2: Service Vehicle Access (Waste Truck + MRV + 12.5m HRV)
- Access 3: Pick-up Drop-off Area
- Access 4: Staff / Guest Accommodation / Service Vehicle Access

Figure 5-2 Access Arrangements



Source: Architectus Australia Pty Ltd

5.1.2 Provision for Service /Waste Vehicles

5.1.2.1 Waste Collection

Waste collection is proposed to be collected near the loading zone area accessed via Robinson Street. It is anticipated that the existing private waste contractors will continue to service the resort. Most of the waste at the site will be created in the clubhouse restaurant area. The Waste Consultant recommends that the main bin store be housed in the back-of-house restaurant area. The workshop will house bins from the workshop and accommodation\housekeeping. **Figure 5-3** shows the proposed waste collection points. A 10m waste truck will be used for waste collection and the swept path is shown in **Figure 5-4** and **Figure 5-5.**

Figure 5-3 Waste Collection Points

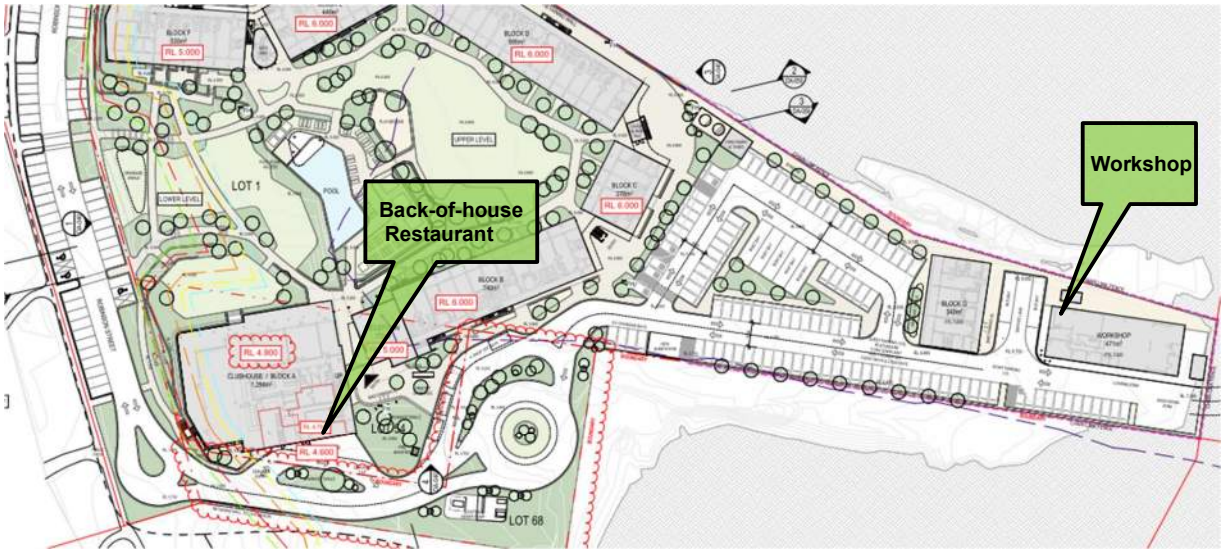


Figure 5-4 Waste Truck Swept Path - Circulation

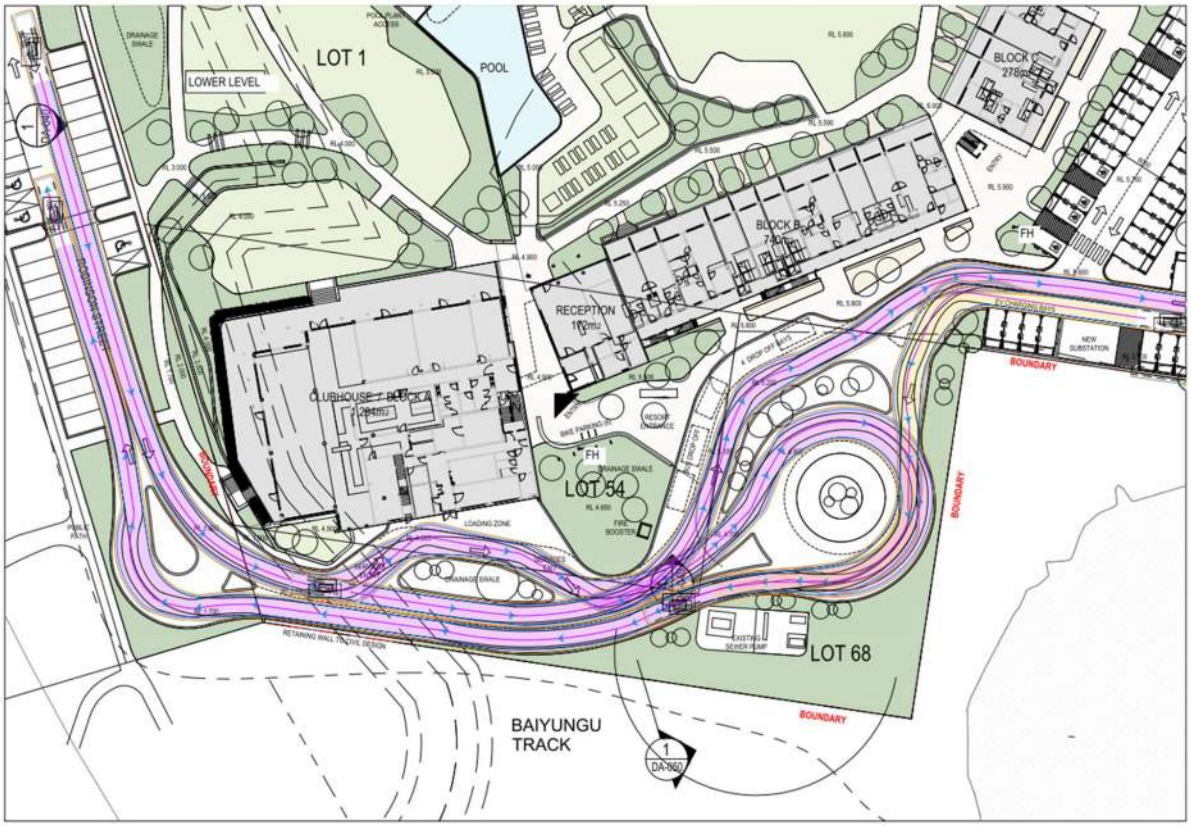
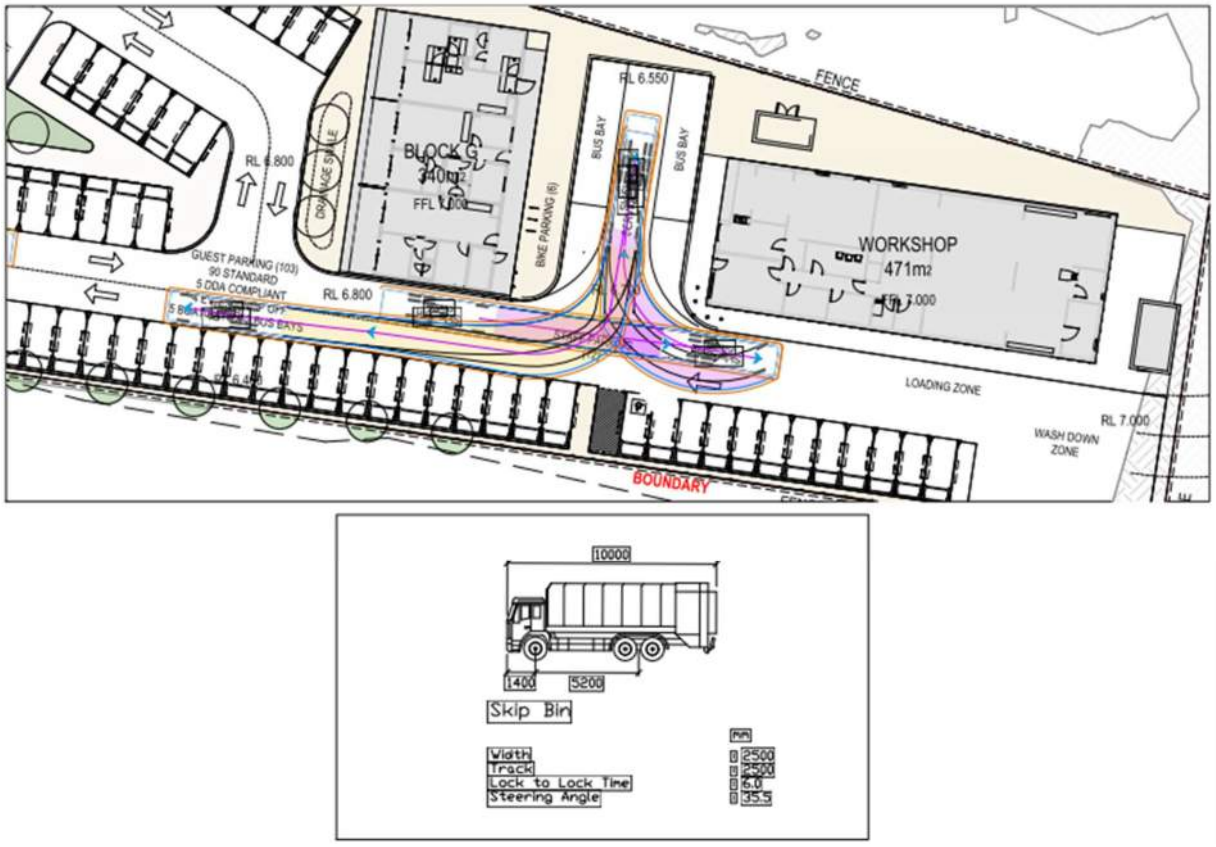


Figure 5-5 Waste Truck Swept Path – Parking near Workshop Area



5.1.2.2 Service Vehicles

A loading bay is proposed near the Services area at the back of the Clubhouse facility and an additional loading bay and turnaround area is proposed near the proposed workshop facility. A 12.5m HRV vehicle is anticipated to be the largest vehicle that will service the workshop facility.

However, it should be noted that two large vehicles will not be able to pass each other on the bend of the access road leading to the workshop facility as shown in **Figure 5-7**. It is expected that it is unlikely that either two heavy vehicles or a heavy vehicle and B85/B99 vehicle would pass each other simultaneously at this location given the anticipated low frequency of service vehicles and servicing expected to occur during the off-peak hours. It should be noted that the median island located near the entry to the staff / guest accommodation parking area is proposed to be flush / mountable kerb which would allow the HRV vehicle to manoeuvre adequately through the site.

Figure 5-6 to **Figure 5-8** illustrates the MRV and HRV design vehicle swept paths in the vicinity of the loading areas located at the proposed clubhouse and workshop facilities.

Figure 5-6 MRV Swept Path

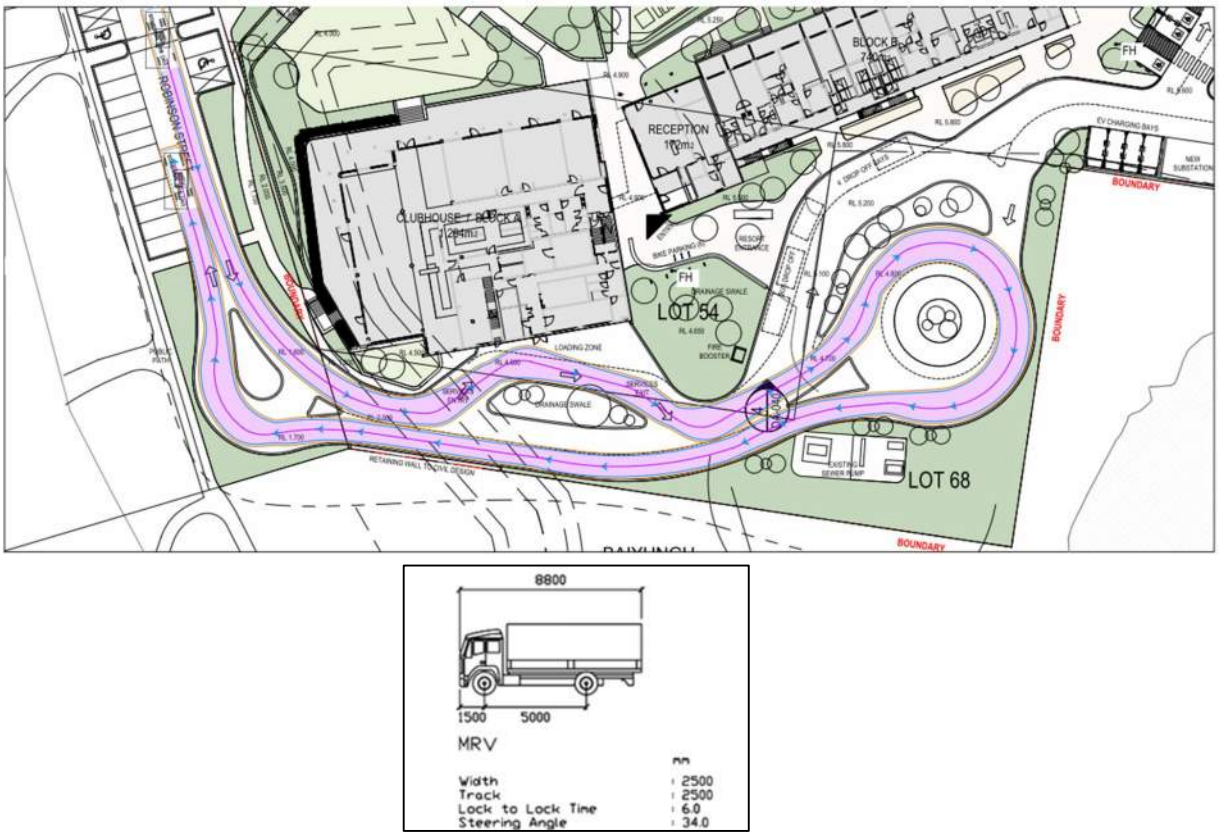


Figure 5-7 HRV Swept Path - Circulation

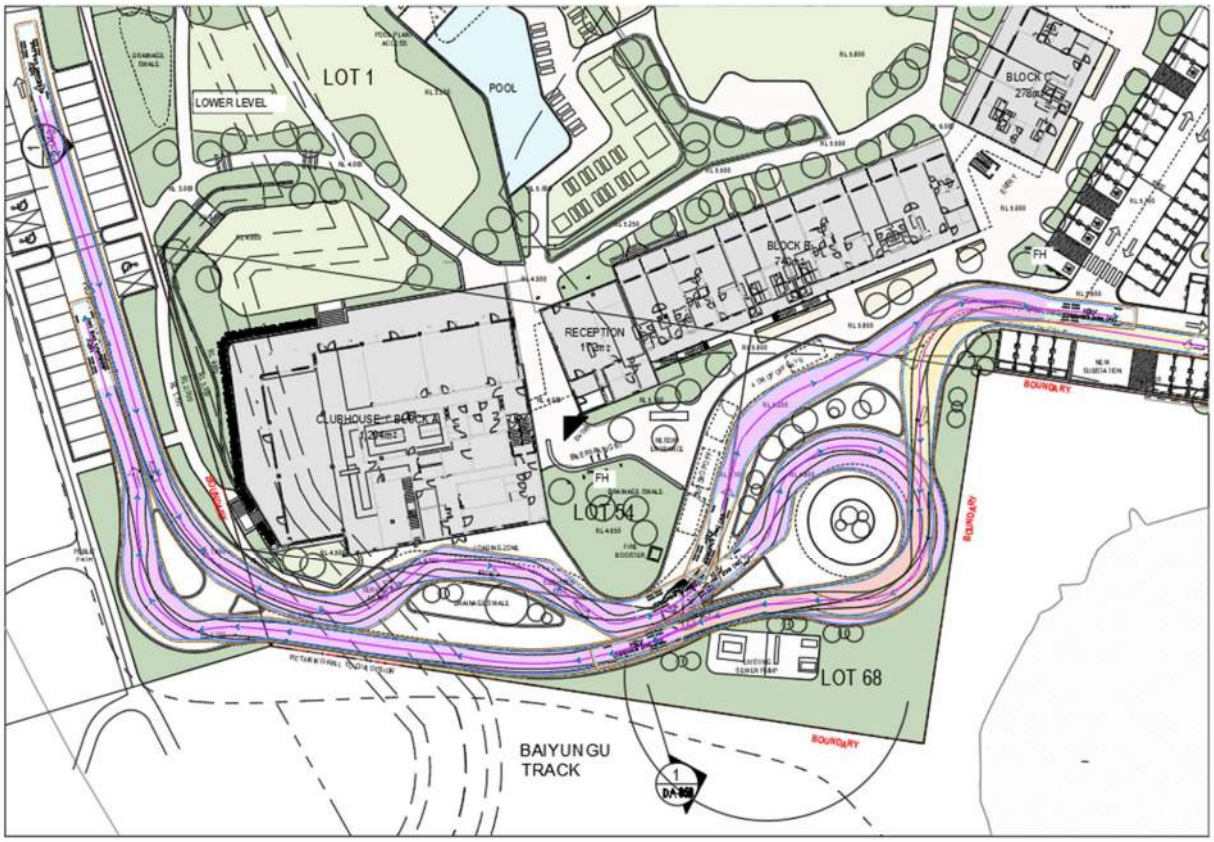
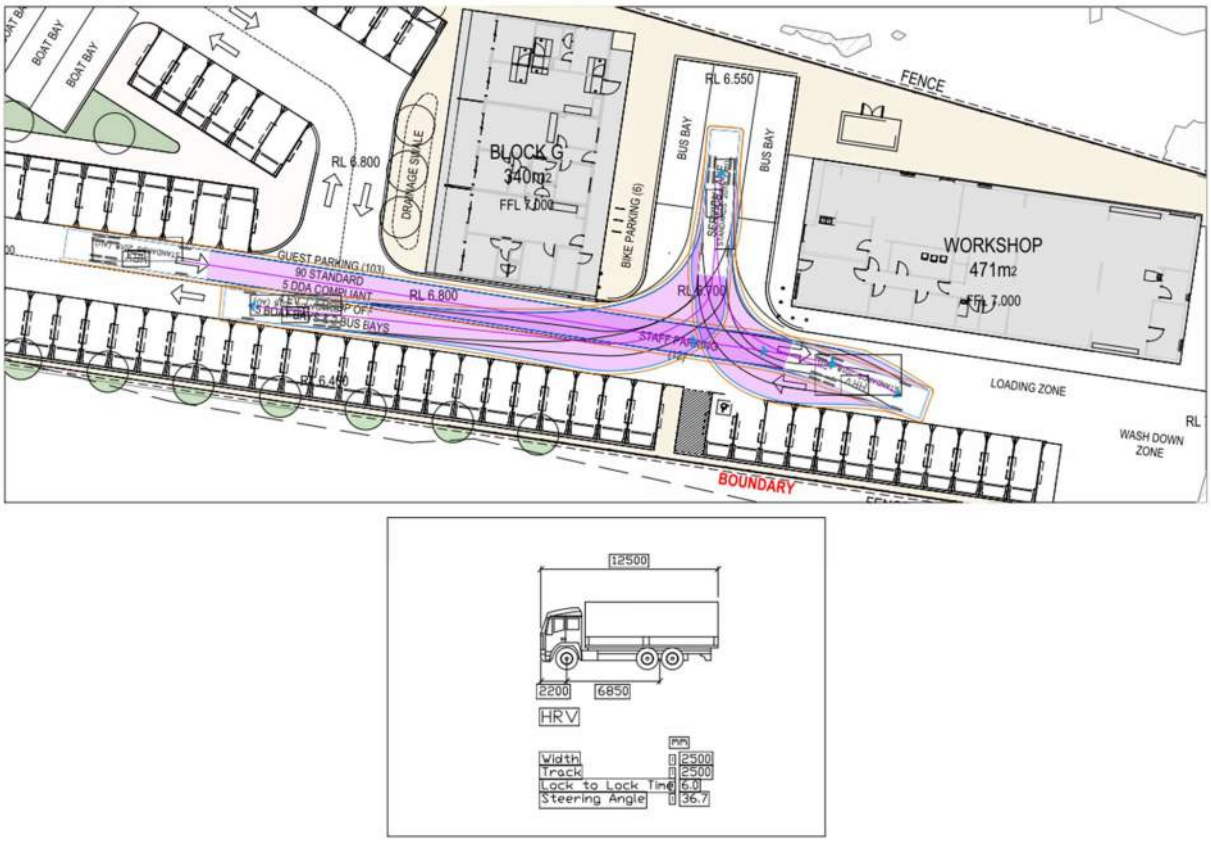


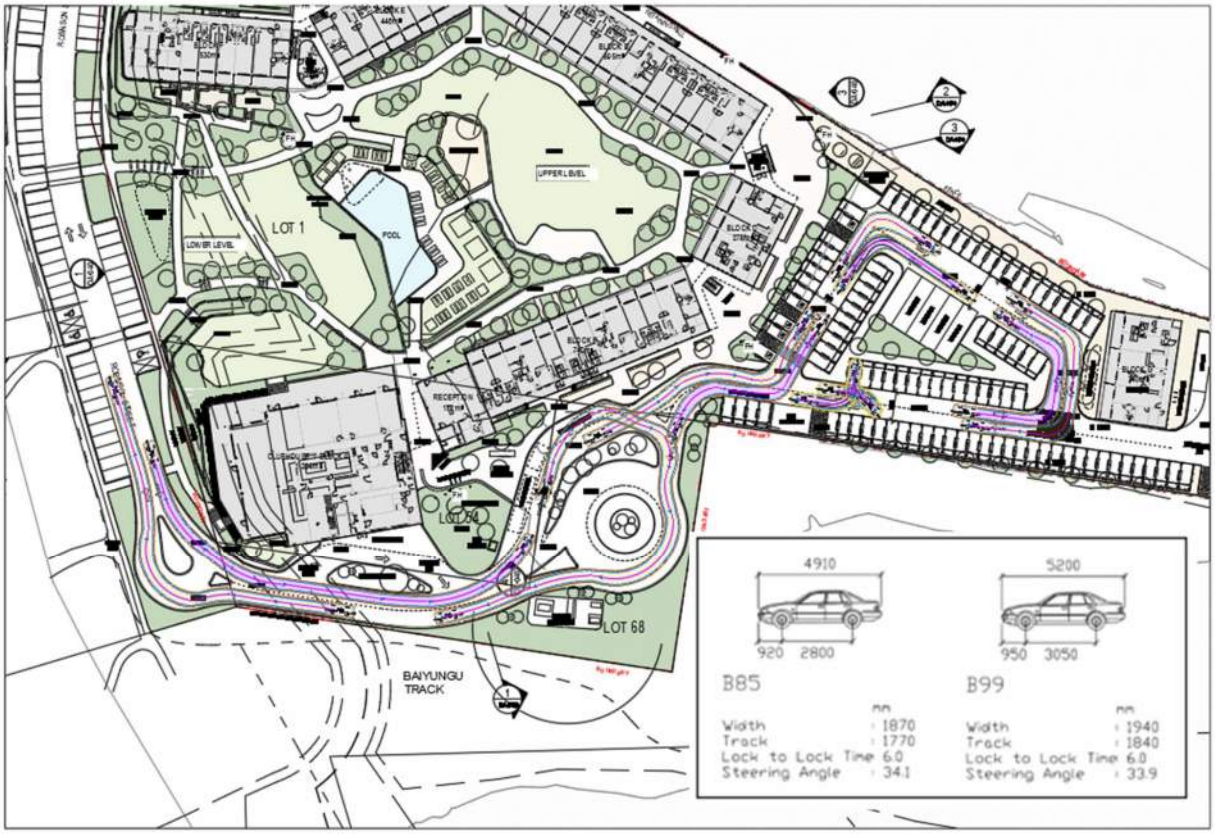
Figure 5-8 HRV Loading Area (in the vicinity of the proposed Workshop)



5.1.3 B85 & B99 Swept Paths

A swept path analysis was undertaken for B85/B99 passenger vehicles and is illustrated in **Figure 5-9**. The analysis shows that the design vehicles are able to adequately enter and exit the parking bays and manoeuvre around the site.

Figure 5-9 B85 & B99 Swept Path



5.1.4 Bus Swept Paths

A swept path analysis was undertaken for a 10m bus and is illustrated in **Figure 5-10** and **Figure 5-11**. The analysis shows that the bus is able to adequately enter and exit the bus parking zone and the site. Detailed swept paths are provided in **Appendix C**.

Figure 5-10 Bus Swept Path - Circulation

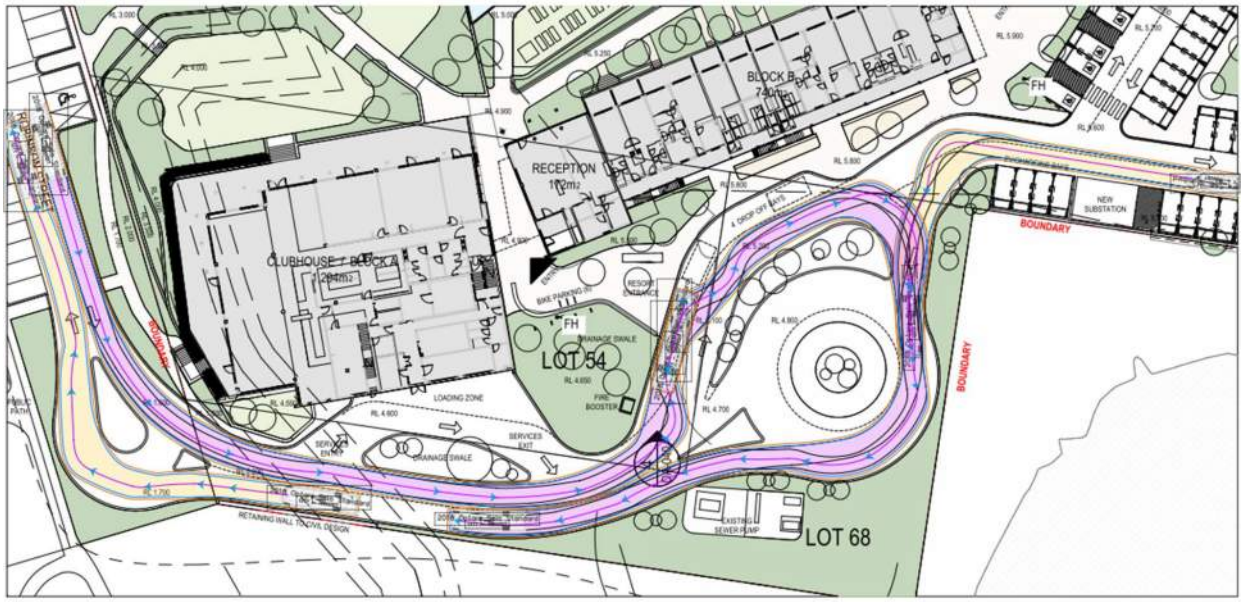
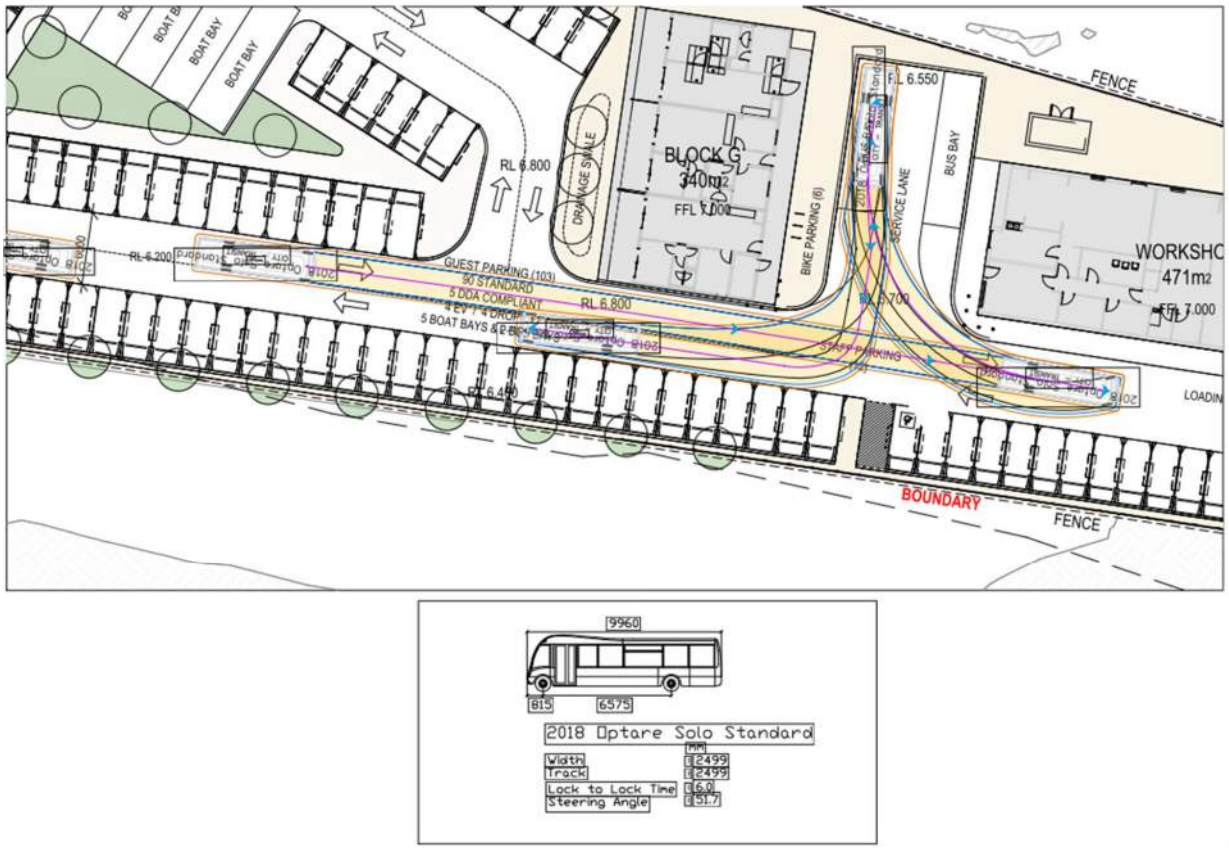


Figure 5-11 Bus Swept Path - Parking(in the vicinity of the proposed Workshop)

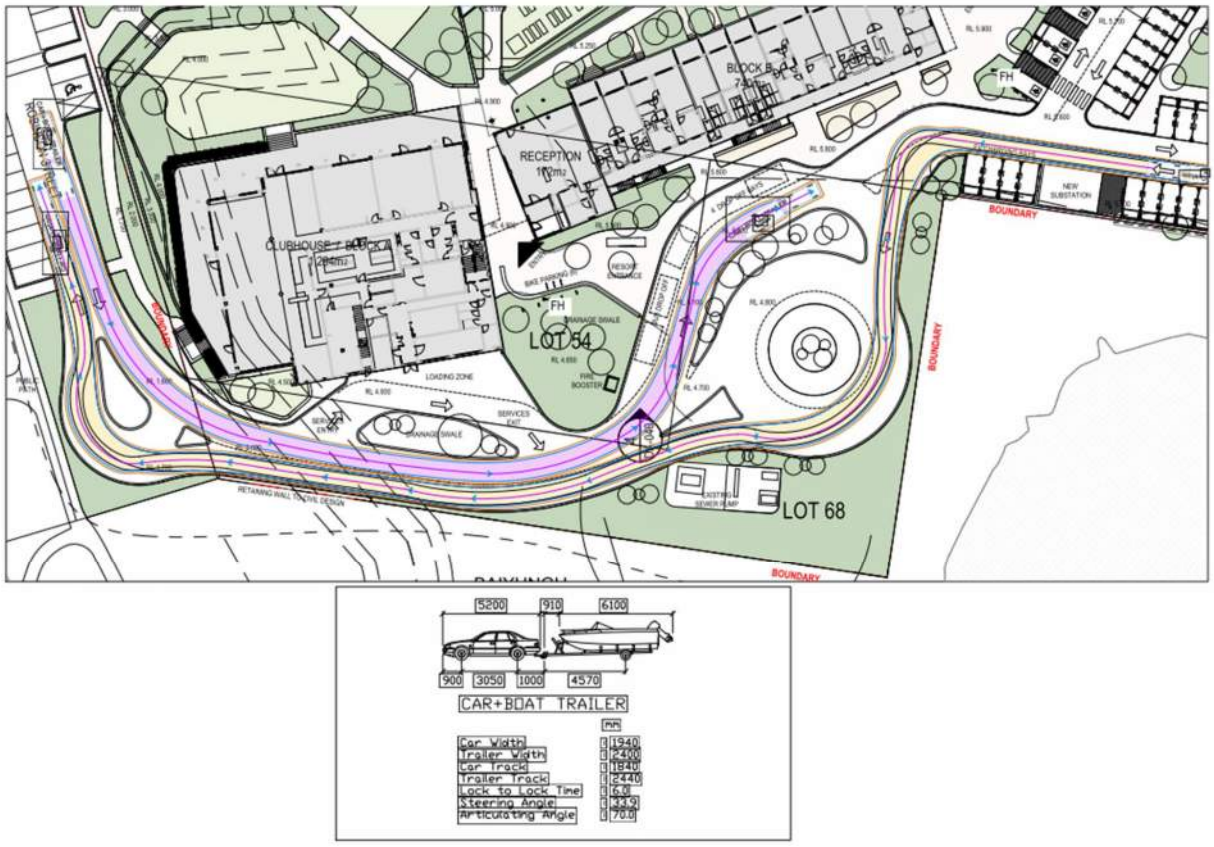


5.1.5 Car + Boat Trailer Swept Paths

A swept path analysis was undertaken for a car and boat trailer vehicle and is illustrated in **Figure 5-12** and **Figure 5-13**. The analysis shows that this design vehicle is able to adequately enter and exit the parking bays and the site. Detailed swept paths are provided in **Appendix C**.

Figure 5-12 Car + Boat Trailer Parking

Figure 5-13 Car + Boat Trailer Circulation



5.2 TRAFFIC GENERATION

The trip generation for the proposed development is based on a first principles approach as the number of trips will vary depending on the time of the year. The estimated trips to be generated is based on the worst case scenario and is considered to be robust.

It is assumed that the hotel accommodation will always be full. It should be noted that guests are expected to not enter and depart within the same peak period. For the purposes of this assessment, it has been assumed that 50% of the hotel trips will occur during the AM peak which will mainly be guests checking out of the hotel and the remaining 50% would be checking in during the PM peak period.

The client has advised that the Bar/Restaurant facility can accommodate 60 visitors per day in addition to the hotel guests. For a robust assessment, it is assumed that 30 of those trips will occur during the AM peak and the remaining 30 during the evening peak. The Function room facility will be utilised mainly for conferences and parties, and it is assumed that this facility would either be used by the guests staying at the resort or the anticipated trips for these activities will fall outside the peak hour periods and hence was not considered in trip generation calculations. **Table 5-1** summarises the estimated trips to be generated by the proposed development.

Table 5-1 Trip Generation

Trip Type	Yield	AM Peak		PM Peak	
		IN	OUT	IN	OUT
Accommodation Units (Guests)	90	-	45	45	-
Visitors (Bar/Restaurant)	60	15	15	15	15
Total		**75**		**75**	

The proposed development is expected to generate approximately 75 vehicles during the AM peak hour and 75 vehicles during the PM peak hour periods.

According to WAPC Transport Impact Assessment Guidelines, developments generating between 10 and 100 trips during the peak hour falls under the ‘moderate impact’ category and is not considered to have any substantial impact on the surrounding road network.

6.0 PARKING

6.1 PARKING REQUIREMENTS AND PROVISION

The car parking requirements as per the Shire of Carnarvon Local Planning Scheme No.13 is shown in **Table 6-1.**

Table 6-1 Car Parking Requirements

Land Use	Min Requirement	Yield	Bays Required	Bays Provided (within the Site boundary)	Bays Provided (outside the Site Boundary)
Tourist Accommodation	1 bay per bedroom or accommodation	93 Units	93	Guest Bays – 95 Staff Bays – 12 EV Charging Bays – 4 Boat Bays – 5	20 bays
	+ 1 bay per 15 sqm NLA of floorspace other than used for accommodation purposes	776.9 sqm NLA	52		
Total			**145 bays**	**136 bays**	

The development proposes to provide 111 car bays within the site boundary resulting in a short fall of 34 bays. However, it should be noted around 20 new public car parking bays are proposed on Robinson Street, an additional 4 pick up and drop off bays and 5 boat/trailer parking bays are to be provided by the proposed development. 2 Bus parking bays are also proposed within the subject site.

In respect of parking demand created by the proposal, given the nature of the proposed development and particularly its context, there is considerable justification for variation from the requirements stipulated in the Shire's scheme. In the first instance, the "clubhouse" element of the resort is effectively incidental to the balance of the resort. It is an essential element of any contemporary resort of this nature and, it follows, will be substantially patronised by guests of the resort (i.e.no additional parking demand will be generated).

Those patrons from outside the resort are highly unlikely to drive. Almost all of the Coral Bay settlement is within 500m (or approx. 5 min walk) of the resort. As a holiday destination, it is considered unlikely that patrons will drive to the clubhouse given the short distances and appeal of wining and dining without the concern of driving back to their accommodation. Additionally, as a family destination, it is unlikely that parking demand of one bay per bedroom will be realised. Two-bedroom units are most likely to cater for families (i.e. arriving with one car), reducing overall parking demand.

Under clause 31.1 of the Shire's scheme, the Shire may vary parking requirements stipulated. In this instance the following variations are considered justified:

- No parking requirements for the clubhouse element of the resort
- One bay for one and two-bedroom accommodation in the resort
- *Two bays for three-room accommodation in the resort*

7.0 SUMMARY

This Transport Impact Statement outlines the transport aspects of the proposed development focusing on traffic operations, access and provision of car parking. Included are discussions regarding pedestrian, cycle, and public transport considerations.

This statement has been prepared in accordance with the *WAPC Transport Assessment Guidelines for Developments: Volume 4 – Individual Developments (2016).*

The following is concluded for the proposed development:

- The proposal is for the redevelopment of Ningaloo Reef Resort located in Coral Bay;
- The redevelopment consists of 93 accommodation units (90 for guests and 3 for staff) and 776.9 sqm of Clubhouse facilities;
- There is no public transport services or facilities available in Coral Bay;
- The development is expected to generate approximately 75 vehicles in the AM peak hour and 75 vehicles in the PM peak hour. According to WAPC Transport Impact Assessment Guidelines, developments generating between 10 and 100 trips during the peak hour falls under the 'moderate impact' category and is not considered to have any substantial impact on the surrounding road network;
- The proposed development will be providing 111 car bays within the site boundary resulting in a shortfall of 34 bays as per Shire of Carnarvon Local Planning scheme No.13. It should be noted around 20 new public car parking bays is proposed on Robinson Street, an additional 4 pick up and drop off bays and 5 boat/trailer parking bays are to be provided by the proposed development.

  In addition, existing public parking bays are also available along Robinson Road;
- Swept path analysis indicates that all design vehicles can adequately manoeuvre through the proposed site.

Overall, it is considered unlikely that the proposed development will result in any material impact to the surrounding road network.

APPENDICES

Appendix A WAPC CHECKLIST

Item	Status	Comments/Proposals
Proposed development		
proposed land use	Section 5	
existing land uses	Section 2	
context with surrounds	Section 2	
Vehicular access and parking		
access arrangements	Section 5	
public, private, disabled parking set down / pick up	N/A	
Service vehicles (non-residential)		
access arrangements	Section 5	
on/off-site loading facilities	Section 5	
Service vehicles (residential)	Section 5	
Rubbish collection and emergency vehicle access	Section 5	
Hours of operation (non-residential only)	Section 5	
Traffic volumes		
daily or peak traffic volumes	Section 2	
type of vehicles (e.g. cars, trucks)	N/A	
Traffic management on frontage streets	N/A	
Public transport access		
nearest bus/train routes	Section 3	
nearest bus stops/train stations	Section 3	
pedestrian/cycle links to bus stops/train station	Section 4	
Pedestrian access/facilities		
existing pedestrian facilities within the development (if any)	Section 4	
proposed pedestrian facilities within development	Section 4	
existing pedestrian facilities on surrounding roads	Section 4	
proposals to improve pedestrian access	Section 4	
Cycle access/facilities		
existing cycle facilities within the development (if any)	Section 4	
proposed cycle facilities within the development	Section 4	
existing cycle facilities on surrounding roads	Section 4	

proposals to improve cycle access	N/A	
Site specific issues	N/A	
Safety issues		
identify issues	N/A	
remedial measures	N/A	

Appendix B SITE PLANS

1 DA-040 SITE PLAN - PROPOSED
SCALE: 1 : 500

LEGEND

- SITE BOUNDARY
- EXISTING CADASTRAL BOUNDARY
- CHAIN LINK FENCE
- PROPOSED TREE / SHRUB
- LANDSCAPING
- POOL
- FH FIRE HYRANT
- VEHICULAR FLOW

DEVELOPMENT SUMMARY

LOT 1	18,407m²
LOT 54	3,025m²
LOT 68	2,530m²
TOTAL	**23,962m²**

*NOTE LOT AMALGAMATION SUBJECT TO SEPARATE APPLICATION

No. OF GUEST ROOMS	**90**
No. OF STAFF ACCOMMODATION	**3**
DEVELOPMENT FOOTPRINT	
CLUBHOUSE / BLOCK A	1,294m²
RECEPTION	172m²
BLOCK B	740m²
BLOCK C	278m²
BLOCK D	895m²
BLOCK E	446m²
BLOCK F	530m²
BLOCK G	340m²
ANCILLARY	98m²
WORKSHOP	471m²
TOTAL DEVELOPMENT FOOTRPINT	**5,264m²**
CARBAYS	
GUEST BAYS	95
STAFF BAYS	12
EV CHARGING BAYS	4
DROP OFF BAYS	4
BOAT BAYS	5
BUS BAYS	2
TOTAL	**122**

REFER TO LANDSCAPE CONSULTANT DRAWING FOR LANDSCAPE DESIGN

REFER TO CIVIL CONSULTANT DRAWING FOR CIVIL DESIGN

DRAWING COLOUR CODED - PRINT ALL COPIES IN COLOUR

REV	DATE	BY	APPD	AMENDMENT
A	21/07/23	CD		ISSUE FOR DEVELOPMENT APPLICATION

PLOT DATE: 21/07/2023 4:30:28 PM

CONSULTANT
architectus™
Adelaide
Brisbane
Melbourne
Perth
Sydney
Architectus Perth
QV1 Upper Plaza West
250 St. Georges Terrace
Perth WA 6000
T (61 8) 9412 8355
perth@architectus.com.au
ABN 90 131 245 684

CONSULTANT PROJECT NUMBER	
210037	
DESIGNED	DATE
CJ / MT	20/07/23
CHECKED	DATE
CJ	20/07/23
APPROVED	DATE
BP	20/07/23
PROJECT MANAGER	DATE
MB	20/07/23

LEGEND
- SITE BOUNDARY
- HORIZONTAL SHORELINE DATUM (HSD) 3.4m AHD CONTOUR
- COASTAL HAZARD LINE - 2022 PLANNING HORIZON
- COASTAL HAZARD LINE - 2047 PLANNING HORIZON
- COASTAL HAZARD LINE - 2062 PLANNING HORIZON
- COASTAL HAZARD LINE - 2072 PLANNING HORIZON
- COASTAL HAZARD LINE - 2122 PLANNING HORIZON

RAC Parks & Resorts For the better

JL
RAC APPROVED
APPROVED DATE

SCALE (A1)	As indicated
DATUM	
HORIZONTAL	EXM94
VERTICAL	AHD
RAC PROJECT MANAGER	J. LOURENS

PROJECT
RAC NINGALOO REEF RESORT

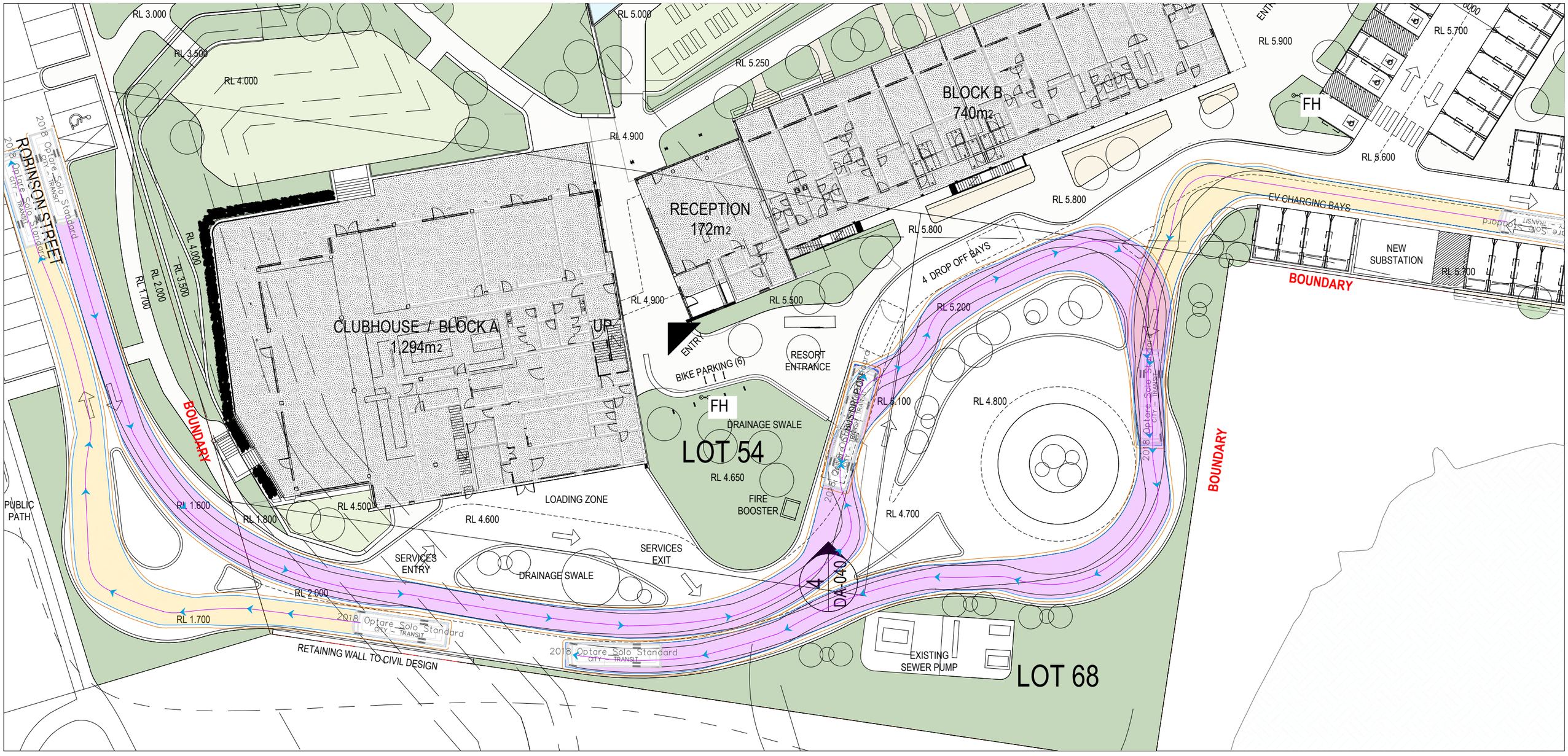
TITLE
SITE PLAN - PROPOSED
1 ROBINSON ST,
CORAL BAY WA 6701

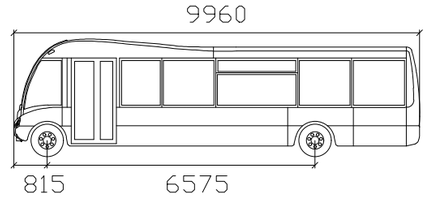
DRAWING No CRB-003-BLD-DA-014

REV A

A1

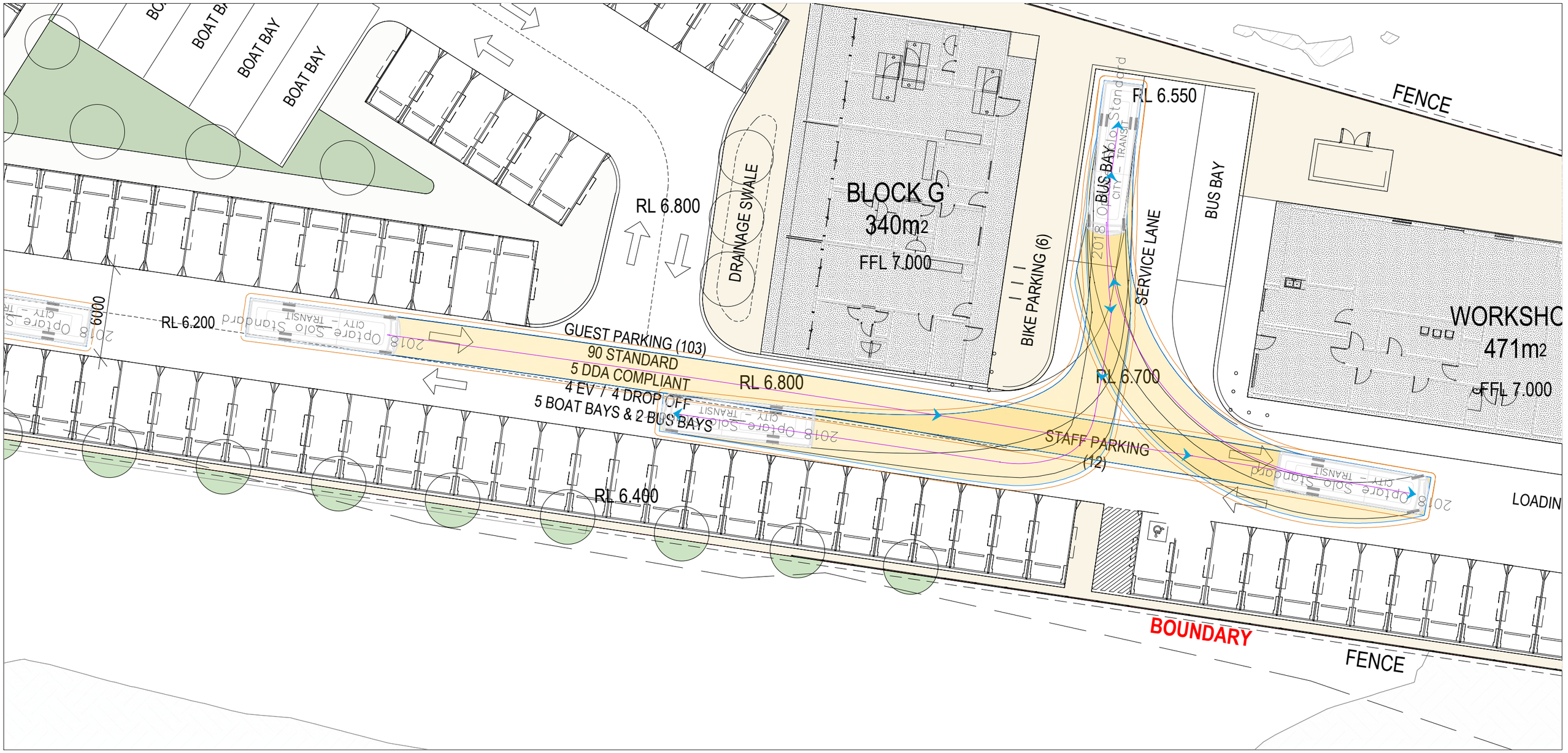
Appendix C SWEPT PATH

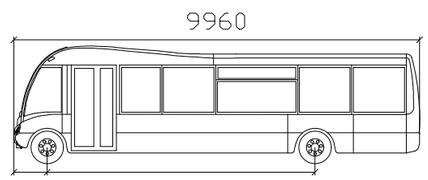




2018 Optare Solo Standard

	mm
Width	: 2499
Track	: 2499
Lock to Lock Time	: 6.0
Steering Angle	: 51.7





2018 Optare Solo Standard

	mm
Width	: 2499
Track	: 2499
Lock to Lock Time	: 6.0
Steering Angle	: 51.7

LOT 1

LOWER LEVEL

DRAINAGE SWALE

POOL PLANT ACCESS

POOL

RL 3.500

RL 4.000

RL 3.000

RL 3.500

RL 4.000

RL 5.000

RL 4.900

RL 5.250

RL 5.500

RL 5.590

RL 5.800

RL 6.000

BLOCK C
278m2

ENTRY

RL 5.900

6000

RL 5.700

FH

BLOCK B
740m2

RL 5.600

RL 5.800

EV CHARGING BAYS

NEW SUBSTATION

RL 5.700

BOUNDARY

RECEPTION
172m2

RL 5.800

4 DROP OFF BAYS

RL 5.200

RL 4.900

RL 5.500

ENTRY

BIKE PARKING (6)

RESORT ENTRANCE

CLUBHOUSE / BLOCK A
1,294m2

UP

RL 4.000

RL 3.500

RL 2.000

RL 1.700

BOUNDARY

FH

DRAINAGE SWALE

LOT 54

RL 4.650

FIRE BOOSTER

BUS DROP OFF

RL 5.100

RL 4.800

RL 4.700

BOUNDARY

PUBLIC PATH

RL 1.600

RL 1.800

RL 4.500

RL 4.600

LOADING ZONE

SERVICES ENTRY

SERVICES EXIT

DRAINAGE SWALE

RL 2.000

RL 1.700

RETAINING WALL TO CIVIL DESIGN

EXISTING SEWER PUMP

LOT 68

BOUNDARY

BAIYUNGU TRACK

1
DA-050

1
DA-040

1
DA-040

FENCE

RL 6.550

BUS BAY

BUS BAY

SERVICE LANE

BLOCK G
340m2
FFL 7.000

BIKE PARKING (6)

DRAINAGE SWALE

RL 6.800

GUEST PARKING (103)
90 STANDARD
5 DDA COMPLIANT
4 EV / 4 DROP OFF
5 BOAT BAYS & 2 BUS BAYS

RL 6.800

RL 6.700

STAFF PARKING
(12)

WORKSHOP
471m2
FFL 7.000

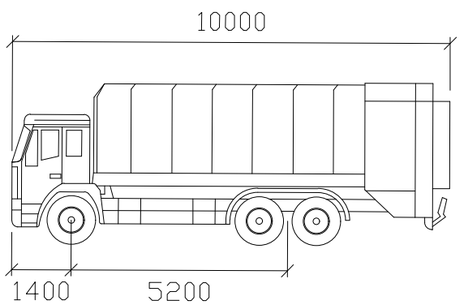
LOADING ZONE

RL 6.400

RL 7.000

WASH DOWN
ZONE

BOUNDARY



Skip Bin

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 35.5

LOT 1

LOWER LEVEL

DRAINAGE SWALE

POOL PLANT ACCESS

POOL

RL 3.500

RL 5.800

BLOCK C
278m2

RL 6.000

RL 5.590

RL 5.500

RL 5.000

RL 4.000

RL 3.000

RL 3.500

RL 4.000

RL 5.250

BLOCK B
740m2

ENTRY

RL 5.900

6000

RL 5.700

FH

RL 4.900

RL 5.600

RECEPTION
172m2

RL 5.800

HRV STANDARDS 2002 (AU)

EV CHARGING BAYS

RL 5.800

4 DROP OFF BAYS

NEW SUBSTATION

RL 5.700

BOUNDARY

RL 5.200

RL 4.900

RL 5.500

CLUBHOUSE / BLOCK A UP
1,294m2

ENTRY

RESORT ENTRANCE

BIKE PARKING (6)

BUS DROP OFF

RL 5.100

RL 4.800

FH

DRAINAGE SWALE

LOT 54

RL 4.650

FIRE BOOSTER

RL 4.700

HRV STANDARDS 2002 (AU)

HRV STANDARDS 2018 (AU)

LOADING ZONE

RL 1.600

RL 1.800

RL 4.500

RL 4.600

SERVICES ENTRY

SERVICES EXIT

DRAINAGE SWALE

RL 2.000

RL 1.700

HRV STANDARDS 2018 (AU)

1 DA-040

EXISTING SEWER PUMP

LOT 68

RETAINING WALL TO CIVIL DESIGN

BOUNDARY

BOUNDARY

BOUNDARY

PUBLIC PATH

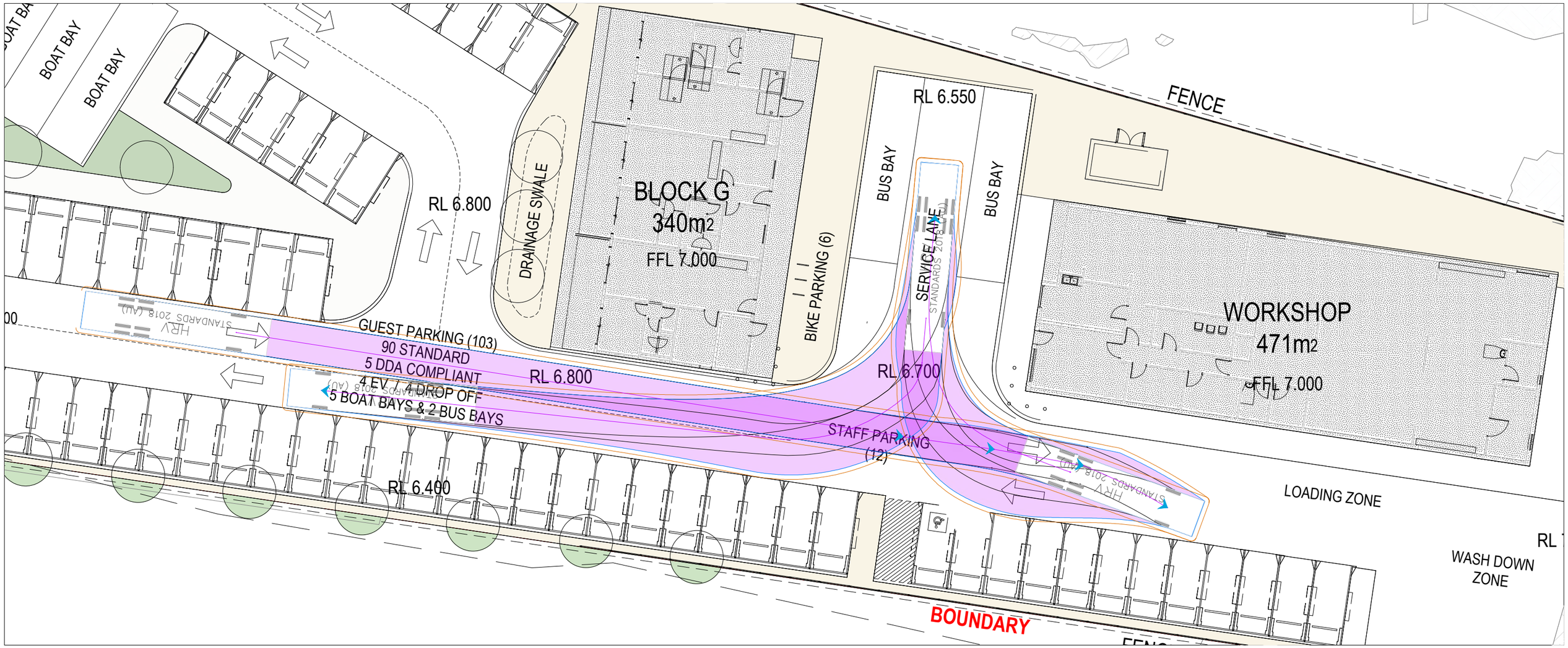
ROBINSON STREET

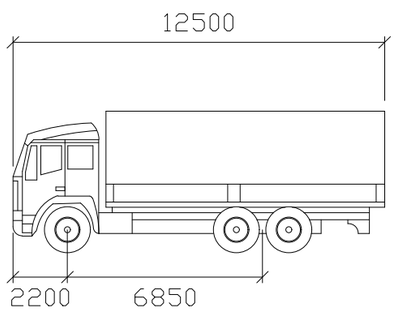
HRV STANDARDS 2018 (AU)

1 DA-040

BAIYUNGU TRACK

1 DA-050





HRV

	mm
Width	: 2500
Track	: 2500
Lock to Lock Time	: 6.0
Steering Angle	: 36.7

ROBINSON STREET

STANDARDS 2018 (AU)

MRV

RL 3.500

RL 4.000

RL 4.900

RL 5.250

BLOCK B
740m2

FH

RL 5.600

RL 5.800

EV CHARGING BAYS

NEW SUBSTATION

BOUNDARY

RECEPTION
172m2

RL 5.800

4 DROP OFF BAYS

RL 4.000

RL 3.500

RL 2.000

RL 1.700

CLUBHOUSE / BLOCK A
1,294m2

RL 4.900

RL 5.500

RL 5.200

ENTRY

BIKE PARKING (6)

RESORT ENTRANCE

BOUNDARY

FH

DRAINAGE SWALE

LOT 54

RL 4.650

BUS DROP OFF

RL 5.100

RL 4.800

PUBLIC PATH

RL 1.600

RL 1.800

RL 4.500

LOADING ZONE

FIRE BOOSTER

RL 4.700

RL 4.600

SERVICES ENTRY

SERVICES EXIT

DRAINAGE SWALE

RL 2.000

RL 1.700

DA-040

RETAINING WALL TO CIVIL DESIGN

EXISTING SEWER PUMP

LOT 68

BOUNDARY

BAIYUNGU

8800

1500 5000

MRV

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

ROBINSON STREET

BLOCK E
446m2

BLOCK F
530m2

BLOCK D
895m2

RETAINING WALL

LOT 1

LOWER LEVEL

UPPER LEVEL

PLAYGROUND

POOL

POOL PLANT ACCESS

DRAINAGE SWALE

BLOCK C
278m2

GUEST LAUNDRY
19m2

FIRE PUMPS & TANKS

FENCE

BUNDING

BOUNDARY

BLOCK B
740m2

BLOCK G
340m2

FFL 5.000

BUS BAY

BIKE PARKING (6)

STAFF PARKING (12)

RECEPTION
172m2

ENTRY

CLUBHOUSE / BLOCK A
1,294m2

RESORT ENTRANCE

BIKE PARKING (6)

BUS DROP OFF

4 DROP OFF BAYS

EV CHARGING BAYS

NEW SUBSTATION

BOAT BAY

GUEST PARKING (103)
90 STANDARD
5 DDA COMPLIANT
4 EV / 4 DROP OFF
5 BOAT BAYS & 2 BUS BAYS

LOT 54

FIRE BOOSTER

LOADING ZONE

SERVICES ENTRY

SERVICES EXIT

DRAINAGE SWALE

PUBLIC PATH

RETAINING WALL TO CIVIL DESIGN

EXISTING SEWER PUMP

LOT 68

BAIYUNGU TRACK

1 DA-040

2 DA-040

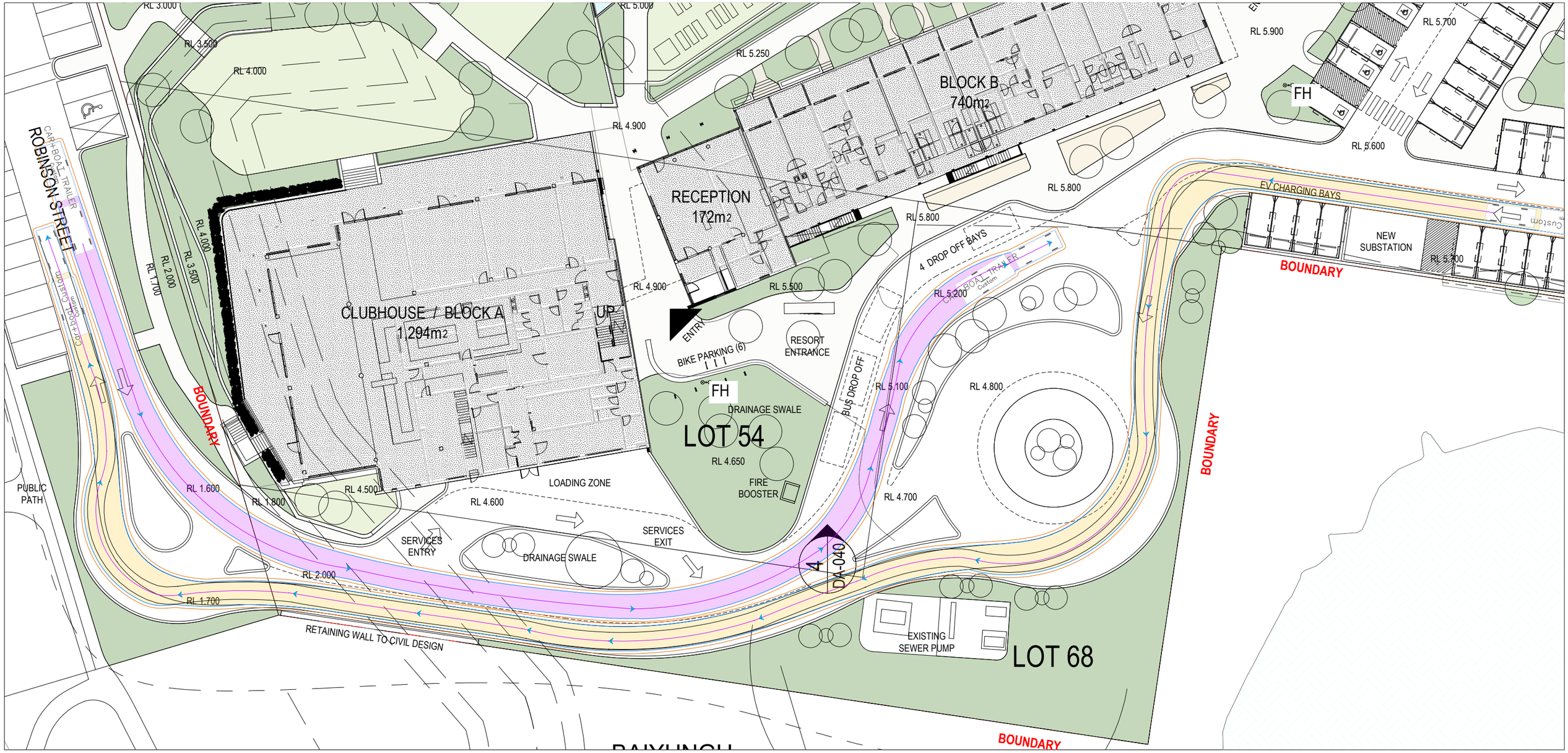
3 DA-040

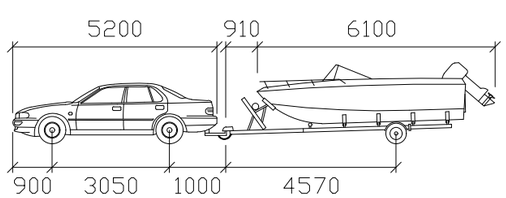
4 DA-040

1 DA-050

2 DA-050

3 DA-050

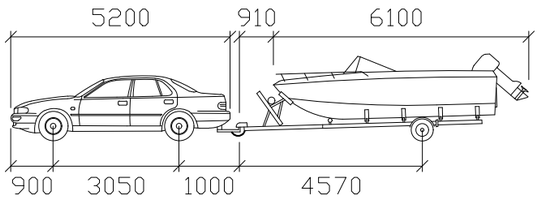




CAR+BOAT TRAILER

mm

Car Width	: 1940
Trailer Width	: 2400
Car Track	: 1840
Trailer Track	: 2440
Lock to Lock Time	: 6.0
Steering Angle	: 33.9
Articulating Angle	: 70.0



CAR+BOAT TRAILER

mm

Car Width	:	1940
Trailer Width	:	2400
Car Track	:	1840
Trailer Track	:	2440
Lock to Lock Time	:	6.0
Steering Angle	:	33.9
Articulating Angle	:	70.0

FIRE PUMPS & TANKS

FENCE

BUNDING

BOUNDARY

RL 5.850

RL 6.000

RL 6.100

RL 5.700

RL 6.800

RL 6.200

RL 6.400

2500

8000

6000

6000

BOAT BAY

BOAT BAY

BOAT BAY

BOAT BAY

CAR+BOAT TRAILER Custom

DRAINAGE SWALE

BLOCK G
340m2
FFL 7.000

GUEST PARKING (103)
90 STANDARD
5 DDA COMPLIANT
4 EV / 4 DROP OFF
5 BOAT BAYS & 2 BUS BAYS