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**73-75 Maritime Drive, Jindalee**  
Proposed Mixed-Use Development

**TRANSPORT IMPACT STATEMENT**



Prepared for:  
**DTG Developments**

February 2024

# 73-75 Maritime Drive, Jindalee

Prepared for: DTG Developments  
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# 1 Introduction

This Transport Impact Statement has been prepared by **Urbii** on behalf of **DTG Developments** with regards to the proposed residential development, located at **73-75 Maritime Drive, Jindalee**.

The subject site is situated on the western side of Maritime Drive, as shown in Figure 1. The site is presently vacant and is primarily surrounded by residential land uses (Figure 2). Public car parking for beach access and a beachfront café are located nearby to the south.

It is proposed to develop the site into a mixed-use development, delivering 11 apartments, 16 townhouses and a GP (medical) clinic.

The key issues that will be addressed in this report include the traffic generation and distribution of the proposed development, access and egress movement patterns, car parking and access to the site for alternative modes of transport.



Figure 1: Subject site





**Figure 2: Existing site**

Source: Google Streetview Image dated March 2020

## 2 Scope of work

The WAPC *Transport Assessment Guidelines 2016* identifies the proposed development as being “Moderate Impact” (Figure 3). A Transport Impact Statement (TIS) has been prepared to support a robust Development Application and to assist the City with demonstration of traffic impact.

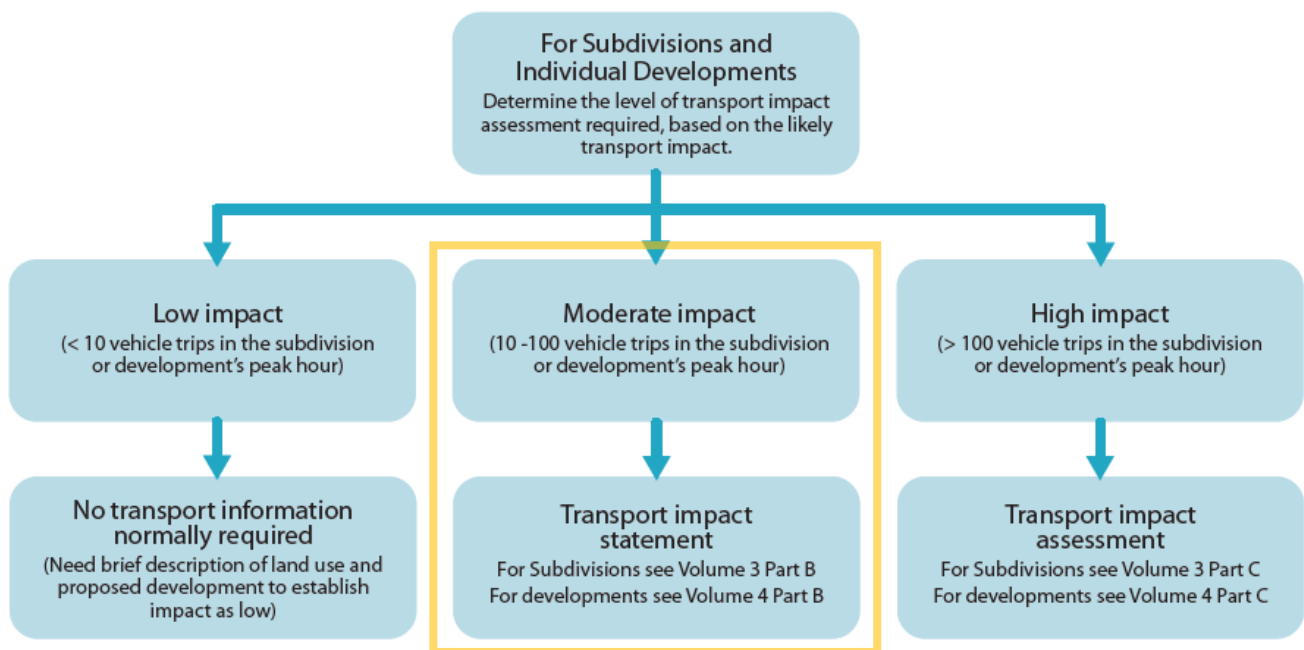


Figure 3: WAPC Transport Assessment Guidelines – reporting requirements

## 3 Proposed development

**The proposal for the subject site is for a mixed-use development, comprising:**

- 11 x 2-Bed apartment dwellings;
- 16 x townhouse dwellings;
- GP (medical) clinic (approximately 305m<sup>2</sup> GFA);
- 56 onsite car parking spaces;
- 9 on-street parking spaces;
- Bicycle parking; and,
- Bin storage.

Vehicle access to the site is proposed via two crossovers on Maritime Drive, with an internal circulation roadway connecting between both crossovers. Waste will be collected via verge collection on Maritime Drive and the internal roadway.

People walking and cycling will access the development from the external path network near the site.

The proposed development plans are included for reference in Appendix A.



# 4 Vehicle access and parking

## 4.1 Vehicle access

**The proposed vehicular access arrangements have been reviewed for efficient and safe traffic circulation.**

Vehicle access to the site is via two crossovers on Maritime Drive, as shown in Figure 4. An internal circulation roadway connects between both crossovers, to provide internal vehicle access to townhouse parking garages and other parking spaces. The internal circulation roadway employs a variety of road surface textures and colours to calm the speed of motorised traffic. Space for walking is level with space for motorised traffic, to make the internal road easy to cross and to create opportunities for flexible use of the space by residents.

The proposed access arrangements are comparable with the approved Local Structure Plan, which shows two access points on Maritime Drive and on-street parking between crossovers (Appendix B).



**Figure 4: Proposed vehicle access**

## 4.2 Parking requirements

### 4.2.1 Apartment parking

Reference was made to Residential Design Codes for applicable apartment parking requirements. The subject site is Location B and the following parking rates apply:

**Table 1: SPP 7.3 R-Codes: Residential parking requirements**

Table 3.9 Parking ratio

Parking types		Location A	Location B
Car parking <sup>1</sup>	1 bedroom dwellings	0.75 bay per dwelling	1 bay per dwelling
	2+ bedroom dwellings	1 bay per dwelling	1.25 bays per dwelling
	Visitor	1 bay per four dwellings up to 12 dwellings 1 bay per eight dwellings for the 13th dwelling and above	
Bicycle parking <sup>1</sup>	Resident	0.5 space per dwelling	
	Visitor	1 space per 10 dwellings	
Motorcycle/ Scooter parking <sup>2</sup>	Developments exceeding 20 dwellings provide 1 motorcycle/scooter space for every 10 car bays		
<sup>1</sup> Calculations of parking ratios shall be rounded up to the next whole number. <sup>2</sup> For each five motorcycle/scooter parking bays provided in accordance with Table 3.9, car parking bays may be reduced by one bay.  <b>Definitions:</b> <b>Location A:</b> within 800m walkable catchment of a train station and/or 250m of a transit stop (bus or light rail) of a high-frequency route and/or within the defined boundaries of an activity centre. <b>Location B:</b> not within Location A.			

The parking requirements for the apartments are presented in Table 2. A total of 17 car parking bays and 8 bicycle parking spaces are required.

**Table 2: Apartment parking requirements**

Land use	Quantity	Car bays	Short term bicycle	Long term bicycle
Residential	11	14		6
Residential visitor	11	3	2	
Total		17	2	6

### 4.2.2 Townhouse parking

Each townhouse is provided with a double-parking garage to park two vehicles. Four visitor bays are also required. Bicycles are stored within each individual townhouse (for example in the garage).

### 4.2.3 GP Clinic parking

Based on information provided to Urbii, the GP clinic requires a total of 5 car parking spaces.

### 4.3 Parking supply

The following car parking allocation is proposed:

- 14 car bays allocated to apartment residents (on-site).
- 32 parking spaces allocated to townhouse residents (16 x double-parking garages).
- 7 residential visitor parking spaces (on-site).
- 3 parking bays allocated to the GP clinic (including 1 x ACROD bay) on-site.
- 9 on-street parking spaces for the shared use of residential and GP clinic visitors.

A total of 65 parking spaces are provided for the development. The proposed car parking supply is more than sufficient to meet the needs of the development.



## 5 Provision for service vehicles

The proposed development is mostly residential in nature and will not generate significant delivery and other service vehicle traffic. Waste will be collected on designated days. Waste bins for the residential apartments and GP clinic will be collected from the verge on Maritime Drive. Waste bins for the townhouses will be collected via the internal access road.

Swept path analysis was undertaken for a waste truck, to confirm the truck can circulate through the internal road. The swept path analysis is presented in Appendix C.

## 6 Hours of operation

**For most mixed-use developments, the peak traffic hours typically coincide with the weekday AM and PM peak hours on the surrounding road network.**

In the Perth Metropolitan Area, the weekday AM peak hour typically occurs sometime between 7am to 9am and the weekday PM peak hour occurs between 4pm to 6pm. The peak hours for the proposed development are anticipated to coincide at around these times.

The GP clinic is expected to operate between 9:00am and 5:00pm, Monday to Friday and on Saturday mornings.



# 7 Daily traffic volumes and vehicle types

## 7.1 Traffic generation

The traffic volume that will be generated by the proposed development has been estimated using trip generation rates derived with reference to the following sources:

- Roads and Traffic Authority of New South Wales *Guide to Traffic Generating Developments (2002)*; and
- RTA TDT 2013/ 04a.

The trip generation rates adopted are detailed in Table 3.

**Table 3: Adopted trip rates for traffic generation**

Land use	Trip rate source	Daily rate	AM rate	PM rate	AM-in	AM-out	PM-in	PM-out
Residential	RTA NSW - Medium density residential building	5	0.5	0.5	25%	75%	65%	35%
GP Clinic	RTA NSW - Medical Centre	1.04	0.104	0.088	50%	50%	50%	50%

The estimated traffic generation of the proposed development is detailed in Table 4. The proposed development is estimated to generate a total of 454 vehicles per day (vpd), with 46 and 41 vehicles per hour (vph) generated during the AM and PM peak hours, respectively.

These trips include both inbound and outbound vehicle movements. It is anticipated that most of the vehicle types would be passenger cars and SUVs.

**Table 4: Traffic generation – Weekday AM and PM peak hours**

Land use	Quantity	Daily Trips	AM Trips	PM Trips	AM Peak Trips		PM Peak Trips	
					IN	OUT	IN	OUT
Residential	27	135	14	14	4	10	9	5
GP Clinic	305	317	32	27	16	16	14	13
<b>Total</b>		<b>452</b>	<b>46</b>	<b>41</b>	<b>20</b>	<b>26</b>	<b>23</b>	<b>18</b>

## 7.2 Impact on surrounding roads

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

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

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The proposed change of use of development will increase traffic flows on adjacent roads to the site but will not warrant further analysis by the quoted WAPC threshold of +100vph. Therefore, the impact on the surrounding road network is minor.



## 8 Traffic management on the frontage roads

**Information from online mapping services, Main Roads WA, Local Government, and/or site visits was collected to assess the existing traffic management on frontage roads.**

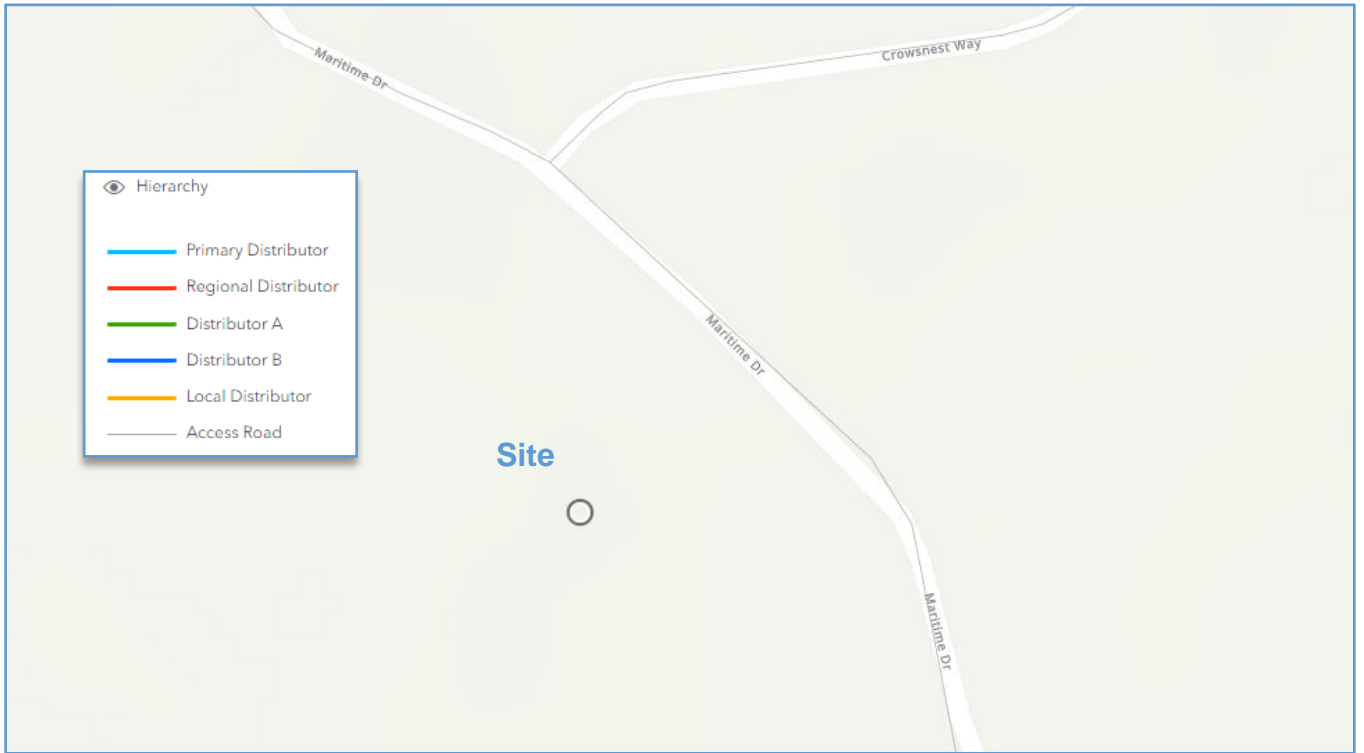
### 8.1.1 Maritime Drive

**Maritime Drive** near the subject site is an approximately 7m wide, two-lane undivided road with on-street parking on both sides.

Maritime Drive is classified as an *Access* road in the Main Roads WA road hierarchy (Figure 5) and operates under a built-up area speed limit of 50km/h (Figure 6). Access roads are the responsibility of Local Government and are typically for the provision of vehicle access to abutting properties (Figure 7).

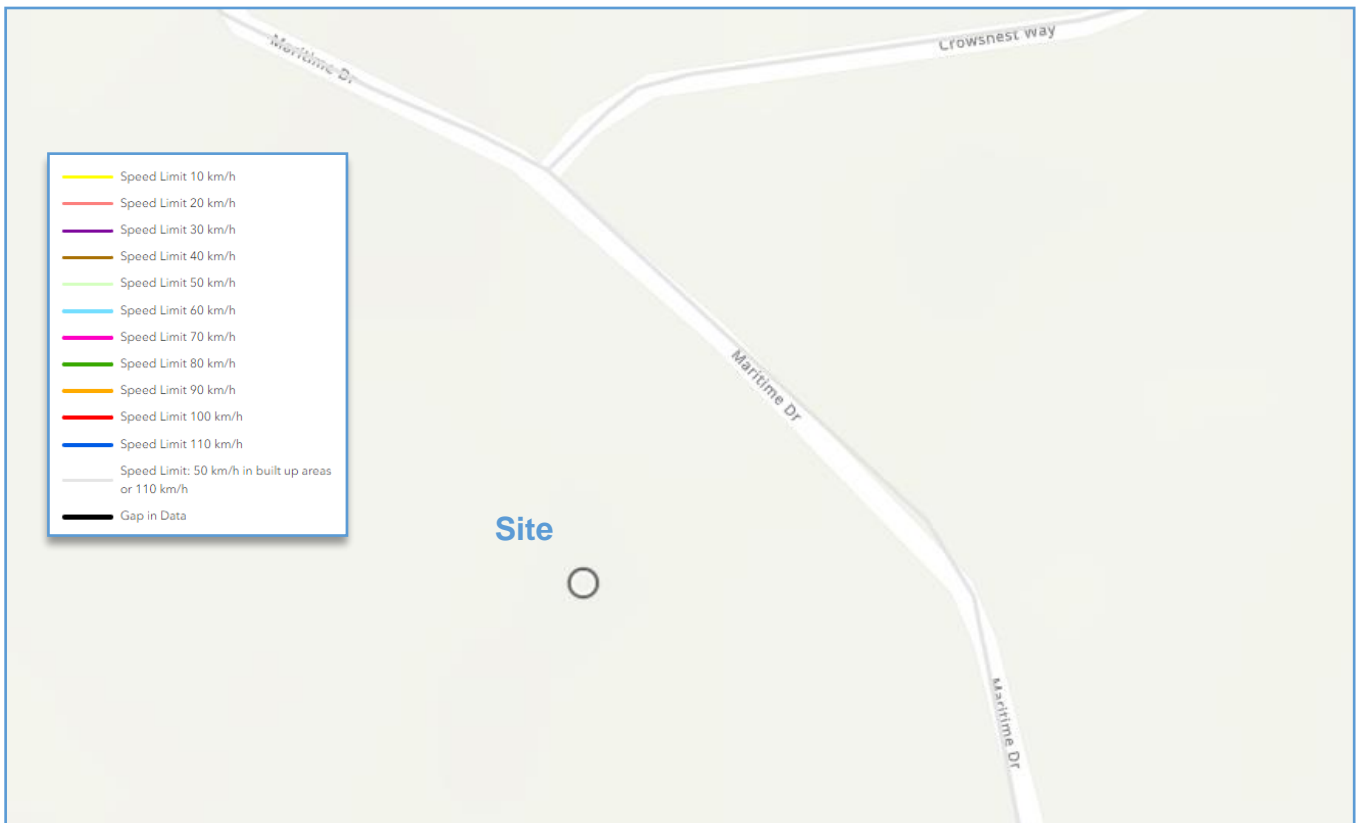
The City of Wanneroo has advised that no traffic data is available at the time of preparation of this report.





**Figure 5: Main Roads WA road hierarchy plan**

Source: Main Roads WA Road Information Mapping System (RIM)



**Figure 6: Main Roads WA road speed zoning plan**

Source: Main Roads WA Road Information Mapping System (RIM)

**ROAD HIERARCHY FOR WESTERN AUSTRALIA  
ROAD TYPES AND CRITERIA (see Note 1)**

CRITERIA	PRIMARY DISTRIBUTOR (PD) (see Note 2)	DISTRICT DISTRIBUTOR A (DA)	DISTRICT DISTRIBUTOR B (DB)	REGIONAL DISTRIBUTOR (RD)	LOCAL DISTRIBUTOR (LD)	ACCESS ROAD (A)
<i>Primary Criteria</i>						
1. Location (see Note 3)	All of WA incl. BUA	Only Built Up Area.	Only Built Up Area.	Only Non Built Up Area. (see Note 4)	All of WA incl. BUA	All of WA incl. BUA
2. Responsibility	Main Roads Western Australia.	Local Government.	Local Government.	Local Government.	Local Government.	Local Government.
3. Degree of Connectivity	High. Connects to other Primary and Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	High. Connects to Primary and/or other Distributor roads.	Medium. Minor Network Role Connects to Distributors and Access Roads.	Low. Provides mainly for property access.
4. Predominant Purpose	Movement of inter regional and/or cross town/city traffic, e.g. freeways, highways and main roads.	High capacity traffic movements between industrial, commercial and residential areas.	Reduced capacity but high traffic volumes travelling between industrial, commercial and residential areas.	Roads linking significant destinations and designed for efficient movement of people and goods between and within regions.	Movement of traffic within local areas and connect access roads to higher order Distributors.	Provision of vehicle access to abutting properties
<i>Secondary Criteria</i>						
5. Indicative Traffic Volume (AADT)	In accordance with Classification Assessment Guidelines.	Above 8 000 vpd	Above 6 000 vpd.	Greater than 100 vpd	Built Up Area - Maximum desirable volume 6 000 vpd. Non Built Up Area – up to 100 vpd.	Built Up Area - Maximum desirable volume 3 000 vpd. Non Built Up Area – up to 75 vpd.
6. Recommended Operating Speed	60 – 110 km/h (depending on design characteristics).	60 – 80 km/h.	60 – 70 km/h.	50 – 110 km/h (depending on design characteristics).	Built Up Area 50 - 60 km/h (desired speed) Non Built Up Area 60 – 110 km/h (depending on design characteristics).	Built Up Area 50 km/h (desired speed). Non Built Up Area 50 – 110 km/h (depending on design characteristics).
7. Heavy Vehicles permitted	Yes.	Yes.	Yes.	Yes.	Yes, but preferably only to service properties.	Only to service properties.
8. Intersection treatments	Controlled with appropriate measures e.g. high speed traffic management, signing, line marking, grade separation.	Controlled with appropriate measures e.g. traffic signals.	Controlled with appropriate Local Area Traffic Management.	Controlled with measures such as signing and line marking of intersections.	Controlled with minor Local Area Traffic Management or measures such as signing.	Self controlling with minor measures.
9. Frontage Access	None on Controlled Access Roads. On other routes, preferably none, but limited access is acceptable to service individual properties.	Prefer not to have residential access. Limited commercial access, generally via service roads.	Residential and commercial access due to its historic status. Prefer to limit when and where possible.	Prefer not to have property access. Limited commercial access, generally via lesser roads.	Yes, for property and commercial access due to its historic status. Prefer to limit whenever possible. Side entry is preferred.	Yes.
10. Pedestrians	Preferably none. Crossing should be controlled where possible.	With positive measures for control and safety e.g. pedestrian signals.	With appropriate measures for control and safety e.g. median/islands refuges.	Measures for control and safety such as careful siting of school bus stops and rest areas.	Yes, with minor safety measures where necessary.	Yes.
11. Buses	Yes.	Yes.	Yes.	Yes.	Yes.	If necessary (see Note 5)
12. On-Road Parking	No (emergency parking on shoulders only).	Generally no. Clearways where necessary.	Not preferred. Clearways where necessary.	No – emergency parking on shoulders – encourage parking in off road rest areas where possible.	Built Up Area – yes, where sufficient width and sight distance allow safe passing. Non Built Up Area – no. Emergency parking on shoulders.	Yes, where sufficient width and sight distance allow safe passing.
13. Signs & Linemarking	Centrelines, speed signs, guide and service signs to highway standard.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs, guide and service signs.	Centrelines, speed signs and guide signs.	Speed and guide signs.	Urban areas – generally not applicable. Rural areas - Guide signs.
14. Rest Areas/Parking Bays	In accordance with Main Roads' Roadside Stopping Places Policy.	Not Applicable.	Not Applicable.	Parking Bays/Rest Areas. Desired at 60km spacing.	Not Applicable.	Not Applicable.

**Figure 7: Road types and criteria for Western Australia**

Source: Main Roads Western Australia D10#10992

## 9 Public transport access

Information was collected from Transperth, PTA and site visits to assess the existing public transport access to and from the site.

The subject site has access to the following bus service within walking distance:

- Bus Route 482: Clarkson Stn - Butler Stn via Marmion Av & Santa Barbara Pde.

Public transport services provide a viable alternative mode of transport for residents, staff and visitors of the proposed development. The closest bus stop is located within 500m walking distance to the east on Jindalee Boulevard (Figure 8).

Bus services provide excellent coverage and connectivity to the rail network. The public transport network plan is shown in Figure 9.

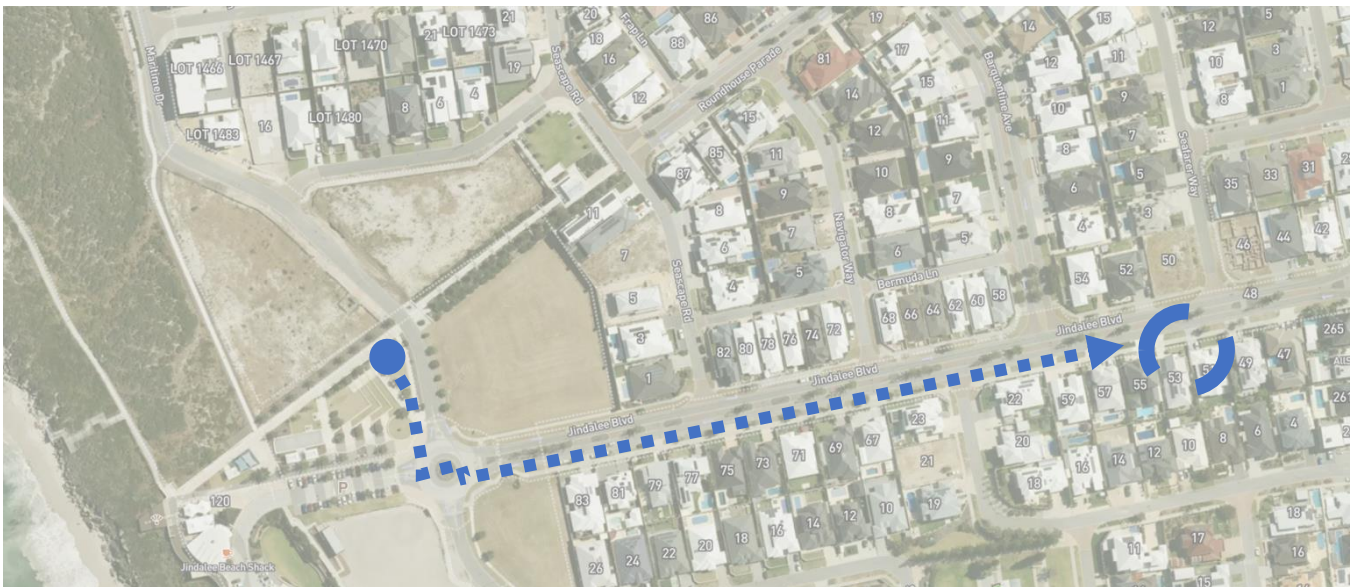


Figure 8: Closest bus stops serving the proposed development



# 10 Pedestrian access

Information from online mapping services, Main Roads WA, Local Government, and site visits was collected to assess the pedestrian access for the proposed development.

## 10.1 Pedestrian facilities and level of service

A footpath is provided along the western boundary (rear) of the site. A footpath is also provided from Seascapes Road to the beachfront café. This footpath runs past the southern boundary of the site.

Pedestrian crossing facilities including kerb ramps and refuge islands are provided for crossing at nearby intersections, which promotes improved access for bicycles, wheelchairs, and prams.

The WAPC Transport Impact Assessment Guidelines for Developments (2016) provide warrants for installing pedestrian priority crossing facilities. This is based on the volume of traffic as the key factor determining if pedestrians can safely cross a road. The guidelines recommend pedestrian priority crossing facilities be considered once the peak hour traffic exceeds the volumes detailed in Table 5.

The traffic volumes in this table are based on a maximum delay of 45 seconds for pedestrians, equivalent to Level of Service E. The pedestrian crossing facilities on adjacent roads near the site are sufficient and within the traffic volume thresholds.

**Table 5: Traffic volume thresholds for pedestrian crossings**

Broad cross-section	Maximum traffic volumes providing safe pedestrian gap
2-lane undivided	1,100 vehicles per hour
2-lane divided (with refuge)	2,800 vehicles per hour
4-lane undivided*	700 vehicles per hour
4-lane divided (with refuge)*	1,600 vehicles per hour

The proposed development includes provision of a footpath on the western side of Maritime Drive, across the frontage of the subject site. The footpath links with existing footpaths in the locality. There is also provision of footpaths and walk crossings internally, with internal connections to the external path network.



# 11 Bicycle access

Information from online mapping services, Department of Transport, Local Government, and/or site visits was collected to assess bicycle access for the proposed development.

## 11.1 Bicycle network

The Department of Transport Perth Bicycle Network Map (see Figure 10) shows the existing cycling connectivity to the subject site. A shared path is provided on the southern boundary of the site, which connects to the broader cycling network. There is also a coastal recreational path accessible to the west.

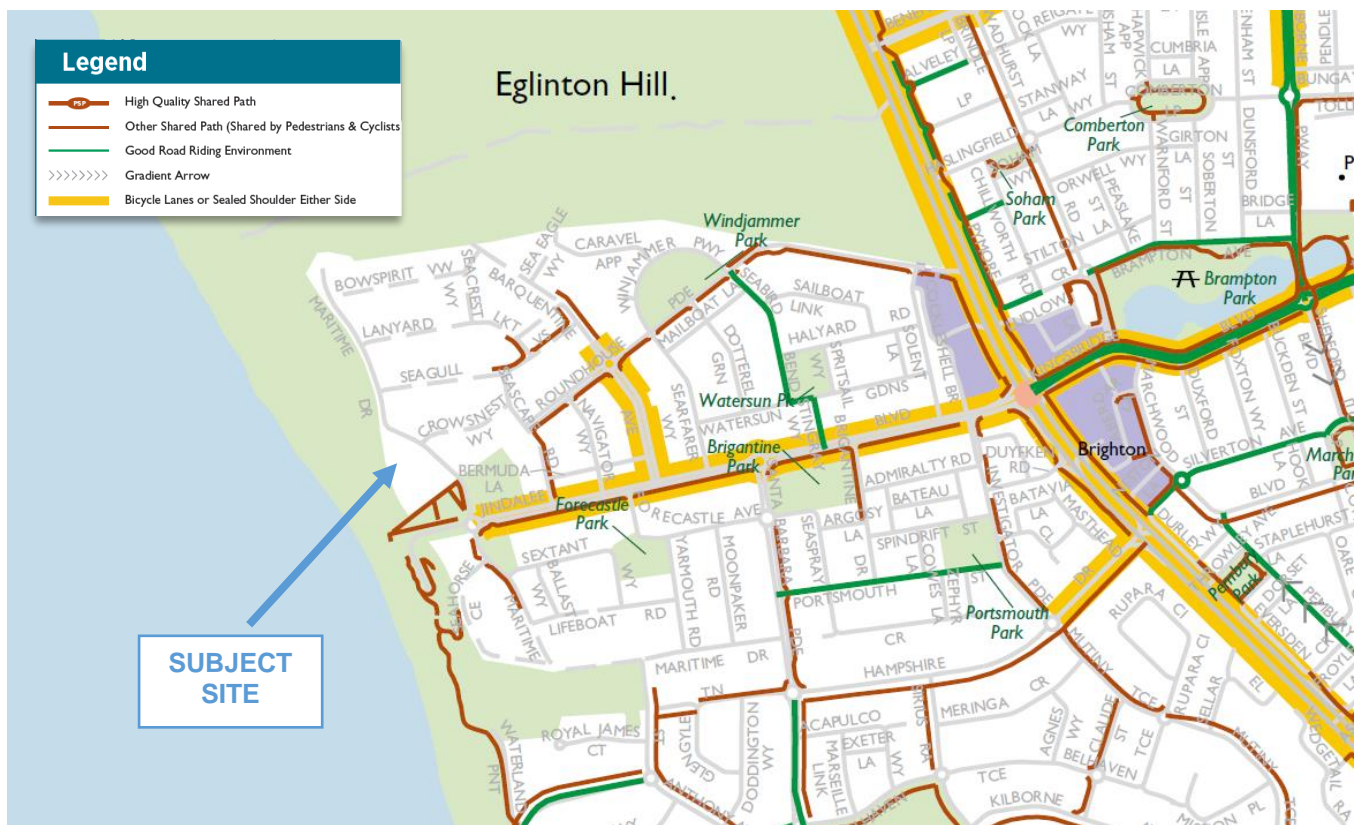


Figure 10: Perth bicycle network plan

The Strava cycling heatmap tool shows that Jindalee Boulevard and the beachfront recreational path are relatively popular cycling routes near the site (Figure 11).



**Figure 11: Strava cycling heatmap**

## 11.2 Bicycle parking and end of trip facilities

Parking for four visitor bicycles will be provided on the verge near the residential apartment building. Residents of the apartment will store bicycles within the oversized store rooms allocated to each apartment. Parking for four bicycles will be provided for the GP Clinic in the verge near the building (2 x double-sided U-rails).

### 11.3 Sustainable transport catchment

As detailed in Figure 12, the subject site is well placed for residents and visitors to travel by sustainable modes of transport. A comfortable 8km or 20-25min cycle will provide the development with a large catchment from Eglinton to Mindarie.

This range can be further increased through a combination of micro-mobility and train travel with future close access to train stations.

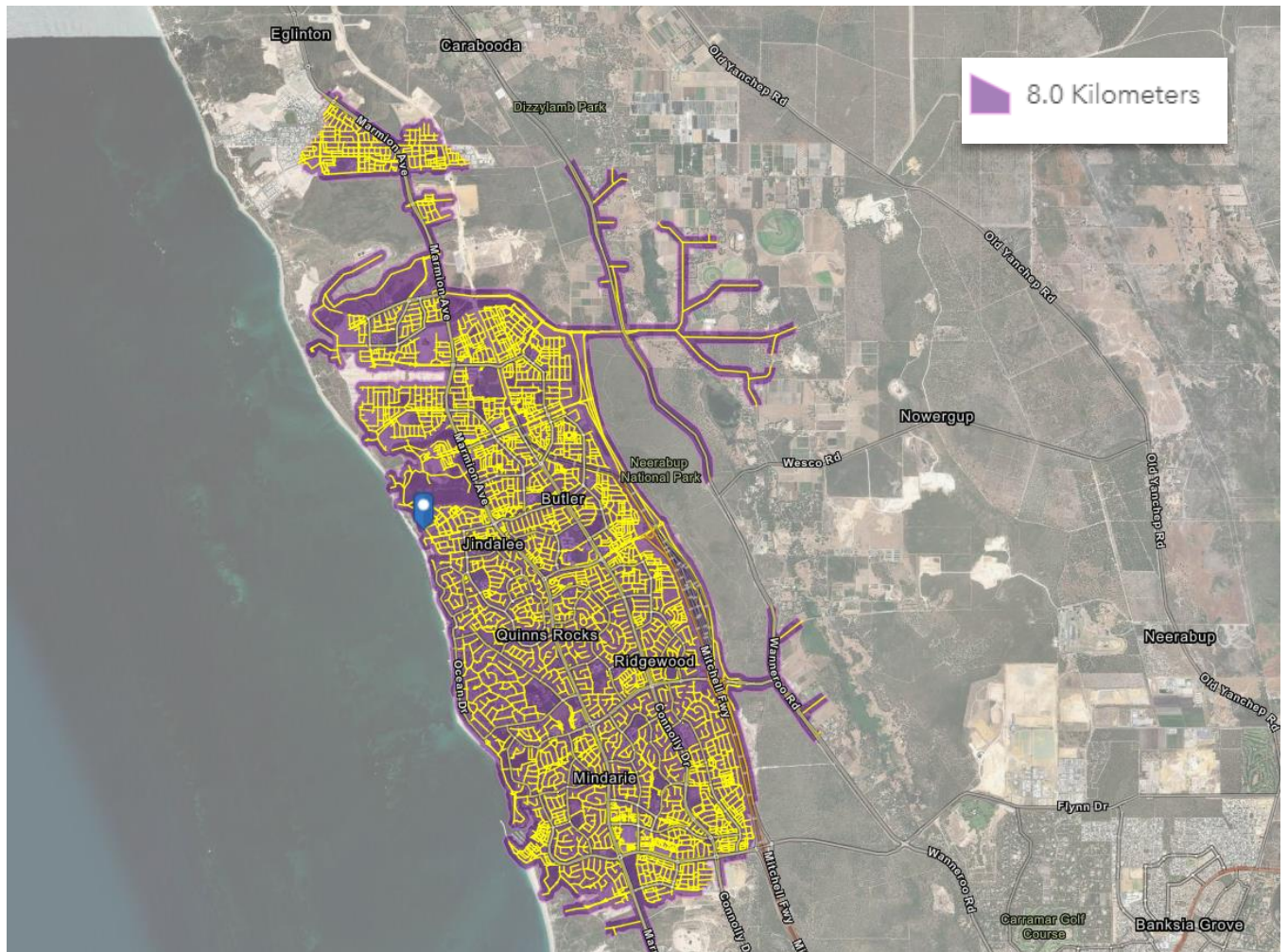


Figure 12: Cycling and micro-mobility catchment



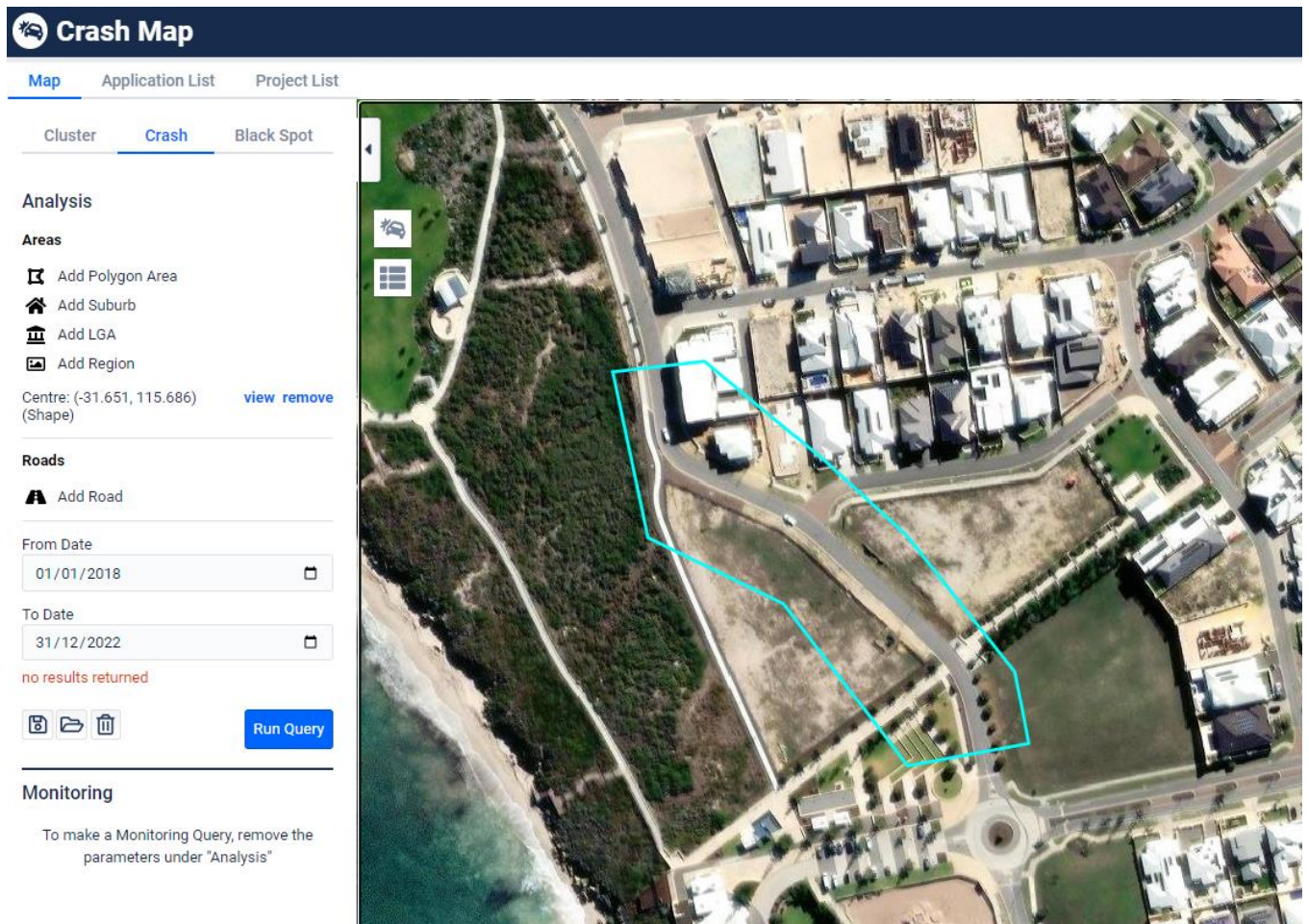
## 12 Site specific issues

No additional site-specific issues were identified within the scope of this assessment.



# 13 Safety issues

The five-year crash history in the vicinity of the site was obtained from Main Roads WA. As detailed in Figure 13, no crashes were recorded in the immediate locality in the last five years.



**Figure 13: 5-year crash map in the locality (2018-2022)**

Source: MRWA crash mapping tool

# 14 Conclusion

**This Transport Impact Statement has been prepared by Urbii on behalf of DTG Developments with regards to the proposed residential development, located at 73-75 Maritime Drive, Jindalee.**

The subject site is situated on the western side of Maritime Drive. The site is presently vacant and is primarily surrounded by residential land uses.

It is proposed to develop the site into a mixed-use development, delivering 11 apartments, 16 townhouses and a GP (medical) clinic.

The site features good connectivity with the existing road, walking and cycling network. There is good public transport coverage through nearby bus services which connect to the rail network.

The car parking supply is satisfactory and can accommodate the car parking demand of the proposed development.

The traffic analysis undertaken in this report shows that the traffic generation of the proposed development is moderate (less than 100vph on any lane) and as such would have moderate impact on the surrounding road network.

It is concluded that the findings of this Transport Impact Statement are supportive of the proposed development.



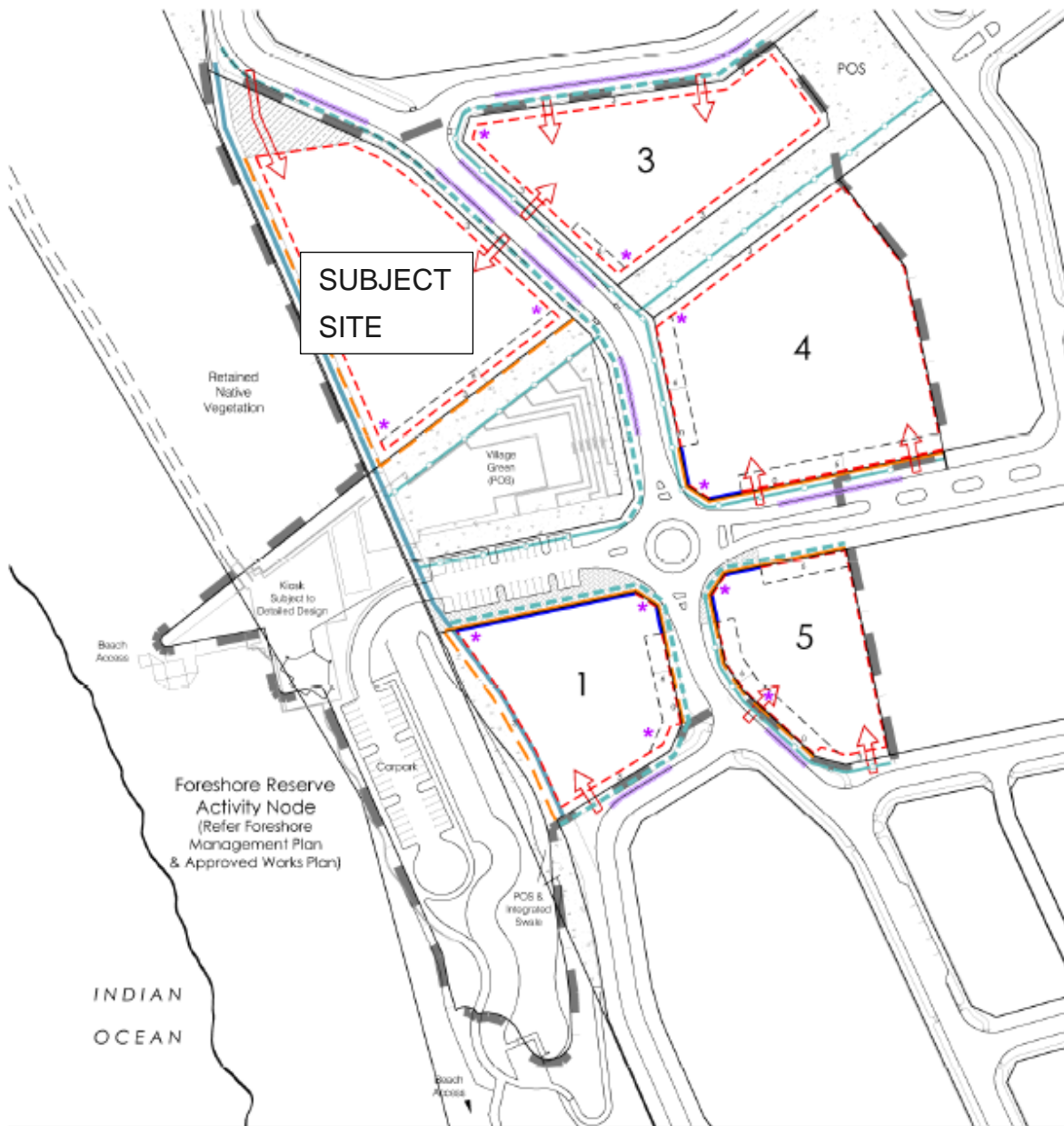
# 15 Appendices

## Appendix A: Proposed development plans



# Appendix B: Jindalee Beachside Estate Coastal Village - LSP

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LEGEND					
	LSP Area		Development Site		Mandatory Nil Setback
	5m P.A.W.		Preferred Vehicle Access Point <small>(Subject to Engineers Approval)</small>		Minimum Setback
	Dual Use Path		Architectural Feature		Maximum Setback
	Footpath		Mandatory Active Edge		View Corridor - No Build Zone
	On Street Parking Opportunity		Potential Active Edge		Full Verge Paving



JINDALEE BEACHSIDE ESTATE COASTAL VILLAGE - LOCAL STRUCTURE PLAN

Plan 1, 254-83D-02 (21.11.2012). nls

Figure 5

## Appendix C: Swept path diagrams

Swept path diagrams are included in this section of the report. Different coloured lines are employed to represent the various envelopes of the vehicle swept path, as described below:

**Cyan** represents the wheel path of the vehicle

**Green** represents the vehicle body envelope

**Blue** represents a 500mm buffer line, offset from the vehicle swept path

The swept path diagrams are also provided separately in high-quality, A3 PDF format.





Revision notes:	Date:	16/02/2024
	Rev:	1
Note:	Date:	28/11/2023
	Dark blue line represents a 500mm buffer	
Drawn by:	Project:	U23.131 - 73-75 Maritime Drive, Jindalee Proposed Mixed-Use Development
	Client:	D15 Developments
Date:	Drawing Title:	Truck entry, circulation and exit 9.8m Rigid Waste Truck
	Scale @ A3:	1:300
Revision:	Date:	16/02/2024
	Scale @ A3:	1:300



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