



# Waste Management Plan

Lot 2812 (121) Exmouth Drive, Butler

Prepared for Ladybug Eleven Pty Ltd c/- Apex Planning

3 October 2022

Project Number: TW22067

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## Executive Summary

Ladybug Eleven Pty Ltd is seeking development approval for the proposed childcare development located at Lot 2812 (121) Exmouth Drive, Butler (the Proposal).

To satisfy the conditions of the development application the City of Wanneroo (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

A summary of the bin size, numbers, collection frequency and collection method is provided in the below table.

### Proposed Waste Collection Summary

Waste Type	Generation (L/week)	Bin Size (L)	Number of Bins	Collection Frequency	Collection
<b>Bin Storage Area</b>					
Refuse	1,432	240L	Three	Two times each week	Private Contractor
Recycling	1,432	240L	Three	Two times each week	Private Contractor

A private contractor will service the bins directly from the Bin Storage Area from the kerbside utilising the laneway located off the corner of Haverhill Road and Clipstone Parkway.

The building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

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## 1 Introduction

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To satisfy the conditions of the development application the City of Wanneroo (the City) requires the submission of a Waste Management Plan (WMP) that will identify how waste is to be stored and collected from the Proposal. Talis Consultants has been engaged to prepare this WMP to satisfy the City's requirements.

The Proposal is bordered by Butler Station Carpark to the north, Exmouth Drive to the east, commercial properties to the south and residential properties to the west, as shown in Figure 1.

### 1.1 Objectives and Scope

The objective of this WMP is to outline the equipment and procedures that will be adopted to manage waste (refuse and recyclables) at the Proposal. Specifically, the WMP demonstrates that the Proposal is designed to:

- Adequately cater for the anticipated volume of waste to be generated;
- Provide adequately sized Bin Storage Area, including appropriate bins; and
- Allow for efficient collection of bins by appropriate waste collection vehicles.

To achieve the objective, the scope of the WMP comprises:

- Section 2: Waste Generation;
- Section 3: Waste Storage;
- Section 4: Waste Collection;
- Section 5: Waste Management; and
- Section 6: Conclusion.

## 2 Waste Generation

The following section shows the waste generation rates used and the estimated waste volumes to be generated at the Proposal.

### 2.1 Proposed Tenancies

The anticipated volume of refuse and recyclables is based on the floor area (m<sup>2</sup>) of the Group Rooms, Cot Rooms, Reception, Kitchen, Meeting Room and Staff Room at the Childcare Centre – 409m<sup>2</sup>.

### 2.2 Waste Generation Rates

In order to achieve an accurate projection of waste volumes for the Proposal, consideration was given to the City of Melbourne’s *Guidelines for Preparing a Waste Management Plan (2021)*, as they contain contemporary estimates of waste generated from Childcare Centres.

Table 2-1 shows the waste generation rates which have been applied to the Proposal.

**Table 2-1: Waste Generation Rates**

Tenancy Use Type	City of Melbourne Guideline Reference	Refuse Generation Rate	Recycling Generation Rate
Childcare Centre	Childcare	350L/100m <sup>2</sup> /week	350L/100m <sup>2</sup> /week

### 2.3 Waste Generation Volumes

Waste generation is estimated by volume in litres (L) as this is generally the influencing factor when considering bin size, numbers and storage space required.

Waste generation volumes in litres per week (L/week) adopted for this waste assessment is shown in Table 2-2. It is estimated that the Childcare Centre will generate 1,432L of refuse and 1,432L of recyclables each week.

**Table 2-2: Estimated Waste Generation**

Childcare Centre	Area (m <sup>2</sup> )	Waste Generation Rate (L/100m <sup>2</sup> /week)	Waste Generation (L/week)
Refuse	409	350	1,432
Recycling	409	350	1,432
<b>Total</b>			<b>2,864</b>

### 3 Waste Storage

Waste materials generated within the Proposal will be collected in the bins located in the Bin Storage Area, as shown in Figure 2, and discussed in the following sub-sections.

#### 3.1 Internal Transfer of Waste

To promote positive recycling behaviour and maximise diversion from landfill, internal bins will be available throughout the Proposal for the source separation of refuse and recycling.

These internal bins will be collected by the staff/cleaners at least once each day and transferred to the Bin Storage Area for consolidation into the appropriate bins. These bins will be transferred through the Proposal utilising the dedicated service walkways/corridors. This internal servicing method may be conducted outside of main operational hours to mitigate disturbances to staff/visitors.

All bins will be colour coded and labelled in accordance with Australian Standards (AS 4123.7) to assist staff and cleaners to dispose of their separate waste materials in the correct bins.

#### 3.2 Bin Sizes

Table 3-1 gives the typical dimensions of standard bins sizes that may be utilised at the Proposal. It should be noted that these bin dimensions are approximate and can vary slightly between suppliers.

**Table 3-1: Typical Bin Dimensions**

Dimensions	Bin Sizes		
	240L	660L	1,100L
Depth (mm)	730	780	1,070
Width (mm)	585	1,260	1,240
Height (mm)	1,060	1,200	1,300
Area (mm <sup>2</sup> )	427	983	1,327

Reference: SULO Bin Specification Data Sheets

#### 3.3 Bin Storage Area Size

To ensure sufficient area is available for storage of the bins, the amount of bins required for the Bin Storage Area was modelled utilising the estimated waste generation in Table 2-2, bin sizes in Table 3-1 and based on collection of refuse and recyclables twice each week.

Based on the results shown in Table 3-2 the Bin Storage Area has been sized to accommodate:

- Three 240L refuse bins; and
- Three 240L recycling bins.

**Table 3-2: Bin Requirements for Bin Storage Area**

Waste Stream	Waste Generation (L/week)	Number of Bins Required		
		240L	660L	1,100L
Refuse	1,432	3	2	1
Recycling	1,432	3	2	1

The configuration of these bins within the Bin Storage Area is shown in Figure 2. It is worth noting that the number of bins and corresponding placement of bins shown in Figure 2 represents the maximum requirements assuming two collections each week of refuse and recyclables.

### 3.4 Bin Storage Area Design

The design of the Bin Storage Area will take into consideration:

- Smooth impervious floor sloped to a drain connected to the sewer system;
- Taps for washing of bins and Bin Storage Area;
- Adequate aisle width for easy manoeuvring of bins;
- No double stacking of bins;
- Doors to the Bin Storage Area self-closing and vermin proof;
- Doors to the Bin Storage Area wide enough to fit bins through;
- Ventilated to a suitable standard;
- Appropriate signage;
- Undercover where possible and be designed to not permit stormwater to enter the drain;
- Located behind the building setback line;
- Bins not to be visible from the property boundary or areas trafficable by the public; and
- Bins are reasonably secured from theft and vandalism.

Bin numbers and storage space within the Bin Storage Area will be monitored by the building manager/caretaker during the operation of the Proposal to ensure that the number of bins and collection frequency is sufficient.



## 4 Waste Collection

A private waste collection contractor will service the Proposal and provide the Childcare Centre with three 240L bins for refuse and three 240L bins for recyclables.

The private contractor will collect refuse and recyclables twice each week utilising a rear loader waste collection vehicle directly from the Bin Storage Area from the kerbside utilising the laneway located off the corner of Haverhill Road and Clipstone Parkway.

The private contractor's rear loader waste collection vehicle will travel with left hand traffic flow on the laneway and pull up on the kerbside next to the Bin Storage Area for servicing, as marked in Diagram 1.

Private contractor's staff will ferry bins to and from the rear loader waste collection vehicle and the Bin Storage Area during servicing. The private contractor will be provided with key/PIN code access to the Bin Storage Area to facilitate servicing, if required.

It is proposed that servicing will be conducted outside of normal operating hours to mitigate impacts on local traffic movements during peak traffic hours.

Once servicing is complete the private contractor's rear loader waste collection vehicle will continue in a forward motion on the laneway, moving with traffic flow.

**Diagram 1: Waste Collection Location**



## **4.1 Bulk and Speciality Waste**

Bulk and specialty waste materials will be removed from the Proposal as they are generated. Removal of these wastes will be monitored by the building manager/caretaker, who will liaise with staff and cleaners to assist with the removal of these wastes, as required.

Sanitary wastes will be collected in situ. A suitable qualified sanitary waste collection and disposal provider will be engaged to determine storage and collection requirements.

## 5 Waste Management

The building manager/caretaker will be engaged to complete the following tasks:

- Monitoring and maintenance of bins and the Bin Storage Area;
- Cleaning of bins and Bin Storage Area, when required;
- Ensure all staff/cleaners at the Proposal are made aware of this WMP and their responsibilities thereunder;
- Monitor staff/cleaners behaviour and identify requirements for further education and/or signage;
- Monitor bulk and speciality waste accumulation and assist staff/cleaners with its removal, as required;
- Regularly engage with staff/cleaners to develop opportunities to reduce waste volumes and increase resource recovery; and
- Regularly engage with the private contractors to ensure efficient and effective waste service is maintained.

## 6 Conclusion

As demonstrated within this WMP, the Proposal provides a sufficiently sized Bin Storage Area for storage of refuse and recyclables, based on the estimated waste generation volumes and suitable configuration of bins. This indicates that an adequately designed Bin Storage Area has been provided, and collection of refuse and recyclables can be completed from the Proposal.

The above is achieved using:

- Three 240L refuse bins, collected two times each week; and
- Three 240L recycling bins, collected two times each week.

A private contractor will service the bins directly from the Bin Storage Area from the kerbside utilising the laneway located off the corner of Haverhill Road and Clipstone Parkway.

The building manager/caretaker will oversee the relevant aspects of waste management at the Proposal.

## Figures

Figure 1: Locality Plan

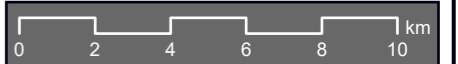
Figure 2: Bin Storage Area



### LEGEND

- Site boundary
- Cadastre

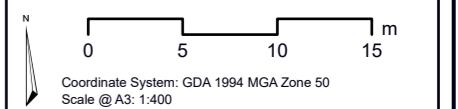
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### LOCALITY

121 Exmouth Drive  
Butler WA 6036

Ladybug Eleven Pty Ltd



Prepared:	S Rings	Date:	19/05/2022
Reviewed:	A Brouwer	Revision:	A
Project:	TW22067		



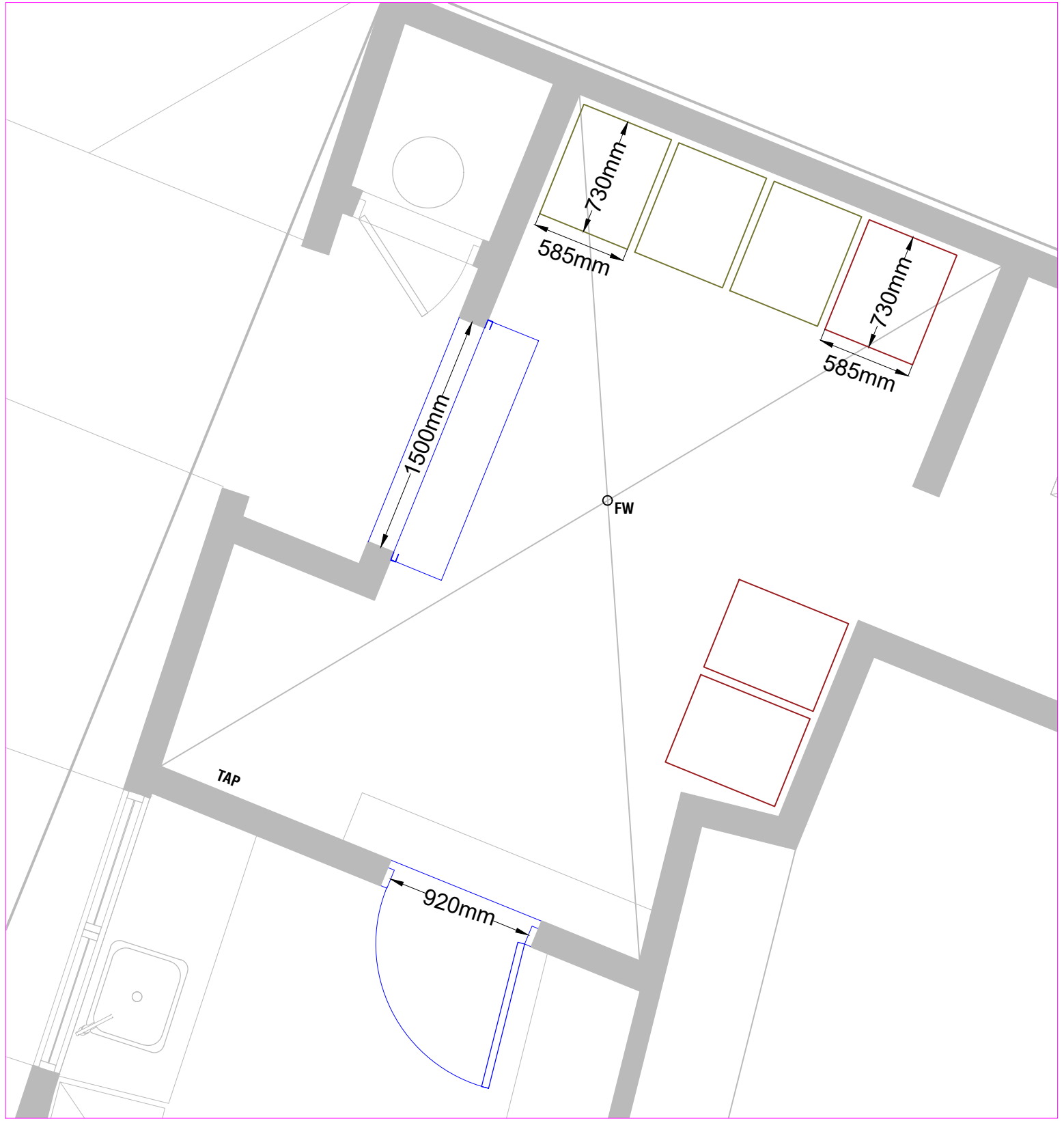
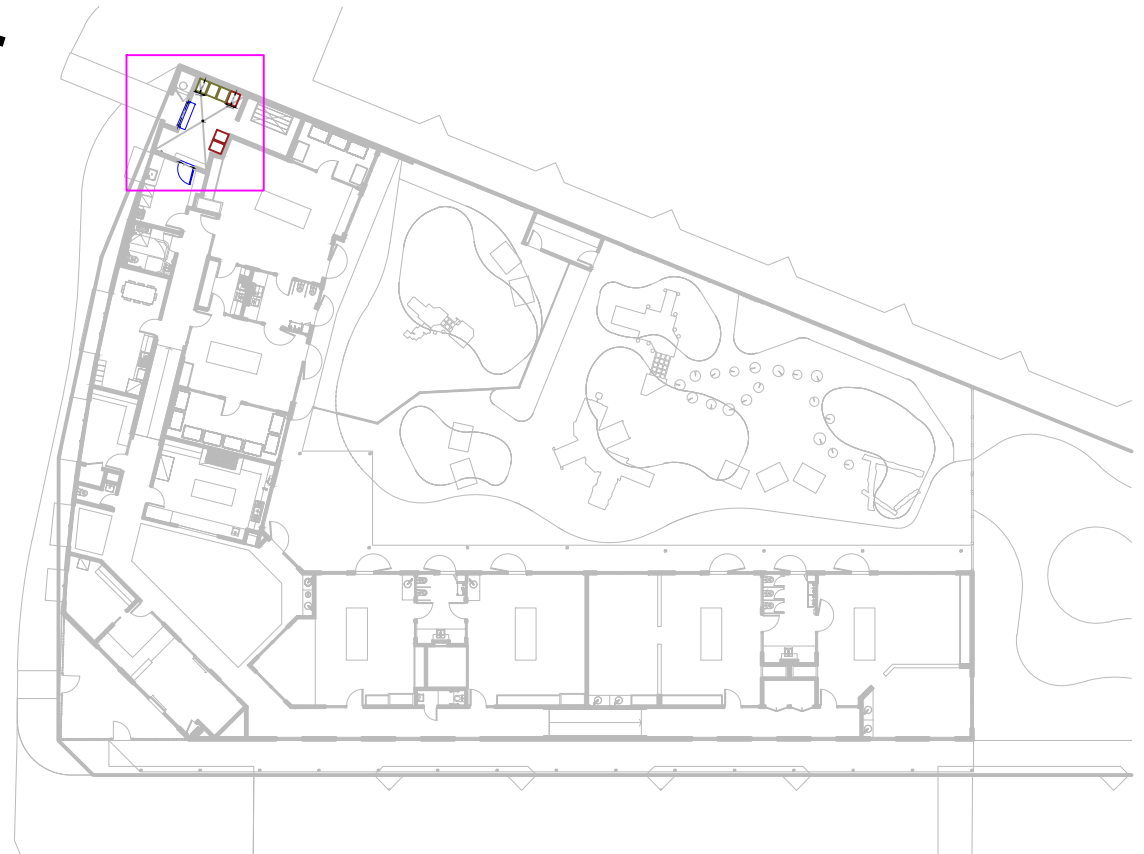
Figure 01

Data source: Roads, Cadastre - Landgate, 2022; Imagery: Nearmap, 2022.

# Bin Storage Area

LANEWAY

EXMOUTH DRIVE



**Legend:**

**Bin Storage Area**

- 3 x 240L refuse (730mm x 585mm)
- 3 x 240L recycling (730mm x 585mm)




www.talisconsultants.com.au T: 1300 251 070

ASSET MANAGEMENT  
CIVIL ENGINEERING  
ENVIRONMENTAL SERVICES  
SPATIAL INTELLIGENCE  
WASTE MANAGEMENT  
NOISE MANAGEMENT  
Level 1 604 Newcastle Street,  
Leederville WA 6007  
PO Box 454, Leederville WA 6903

Client: Ladybug Eleven Pty Ltd

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- All levels refer to Australian Height Datum.
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B	18/07/22	DP	AB	SECOND ISSUE	DP
A	18/07/22	AB	DP	FIRST ISSUE	RH

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Title: Bin Storage Area

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Talis Consultants

Head Office  
Level 1, 604 Newcastle Street,  
Leederville  
Western Australia 6007

PO Box 454,  
Leederville  
Western Australia 6903

NSW Office  
5/62 North Street, Nowra  
New South Wales, 2541

PO Box 1189, Nowra  
New South Wales, 2541

P: 1300 251 070  
E: [info@talisconsultants.com.au](mailto:info@talisconsultants.com.au)