



# WASTE MANAGEMENT PLAN

PREPARED FOR  
BISHI CONSTRUCTION

ON BEHALF OF  
ALAN JOHNSON ARCHITECT

Residential Development  
15-17 DENT STREET  
JAMISONTOWN, NSW

9/11/2016

EDDY SAIDI  
Ph: 1800 025 073

---

*The information contained in this document produced by Elephants Foot Recycling Solutions is solely for the use of the client identified on the cover sheet for the purpose for which it has been prepared for. Elephants Foot Recycling Solutions undertakes no duty, nor accepts any responsibility to any third party who may rely upon this document. This document may not be copied or reproduced without written permission from Elephants Foot Recycling Solutions.*

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – **Toll Free:** 1800 025 073



## REVISIONS

Revision	Copy No.	Date	Prepared by	Reviewed by	Approved by	Remarks
A	1	21/10/2016	J Elliot	A Armstrong	N Beattie	Draft
B	1	9/11/2016	J Elliot	A Armstrong	N Beattie	Final
Rev #	Copy #	Select Date	Name	Name	Name	Additional Remarks
Rev #	Copy #	Select Date	Name	Name	Name	Additional Remarks
Rev #	Copy #	Select Date	Name	Name	Name	Additional Remarks

Authorised By:

A handwritten signature in black ink that reads 'Saidi'.

Eddy Saidi

Date:

9/11/2016

## DISTRIBUTION LIST

Recipient Name	Company	Revision	Copy No.
Eddy Saidi	Elephants Food Recycling Solutions	B	1
Bishi Tancev	Bishi Constructions	B	2

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294

**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588

**Website:** www.elephantsfoot.com.au | **Email:** info@elephantsfoot.com.au

Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

## EXECUTIVE SUMMARY

This waste management plan covers the ongoing management of waste generated by the residential development located at 15-17 Dent Street, Jamisontown, NSW.

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements. The waste management plan has three key objectives:

- i. **Ensure waste is managed to reduce the amount of waste and recyclables to land fill** by assisting residents to segregate appropriate materials that can be recycled; displaying signage to remind and encourage recycling practices; and through placement of recycling and waste bins in the retail precinct to reinforce these messages.
- ii. **Recover, reuse and recycle** generated waste wherever possible.
- iii. **Compliance** with all relevant codes and policies.

To assist in providing clean and well-segregated waste material, it is essential that this waste management plan is integral to the overall management of the building and clearly communicated to residents and tenants.

## TABLE OF CONTENTS

REVISIONS .....	i
DISTRIBUTION LIST .....	i
EXECUTIVE SUMMARY .....	i
GLOSSARY OF TERMS.....	iv
LIST OF FIGURES .....	vi
LIST OF TABLES.....	vi
INTRODUCTION .....	1
PENRITH CITY COUNCIL .....	2
OBJECTIVES.....	2
GENERATED WASTE VOLUMES.....	3
CONSTRUCTION AND DEVELOPMENT WASTE.....	3
BUILDING MANAGER/WASTE CARETAKER .....	3
REPORTING .....	4
EDUCATION.....	4
RESIDENTIAL WASTE PLAN.....	5
BIN SUMMARY.....	5
WASTE MANAGEMENT.....	6
WASTE HANDLING .....	6
WASTE .....	6
RECYCLING .....	6
TEMPORARY STORAGE OF BULKY GOODS.....	6
OTHER WASTE STREAMS.....	7
COMPOSTING.....	7
COMMON AREAS .....	7
WASHROOM FACILITIES .....	7
GREEN WASTE.....	7
WASTE CHUTES.....	7
EQUIPMENT SUMMARY .....	8
WASTE ROOM AREAS .....	9
COLLECTION OF WASTE.....	9
RESIDENTIAL .....	9
GARBAGE ROOMS.....	10
CONSTRUCTION REQUIREMENTS.....	10

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

SIGNAGE.....	10
VENTILATION .....	11
STORM WATER PREVENTION & LITTER REDUCTION.....	11
ADDITIONAL INFORMATION.....	12
LIMITATIONS .....	12
USEFUL CONTACTS .....	13
APPENDICES.....	14
APPENDIX A    DRAWING EXERPTS .....	14
APPENDIX A.1    GROUND FLOOR PLAN .....	14
APPENDIX A.2    TYPICAL CHUTE AND RECYCLING LOCATION .....	15
APPENDIX B    BETTER PRACTICE GUIDE FOR WASTE MANAGEMENT SPECIFICATIONS .....	16
APPENDIX B.1    BIN DIMENSIONS.....	16
APPENDIX B.2    SIGNAGE FOR WASTE & RECYCLING BINS.....	18
APPENDIX B.3    TYPICAL COLLECTION VEHICLE INFORMATION .....	19
APPENDIX C    WASTE MANAGEMENT EQUIPMENT SPECIFICATIONS.....	22
APPENDIX C.1    TYPICAL CHUTE PLAN & ELEVATION.....	22
APPENDIX C.2    TYPICAL BIN MOVER .....	23
APPENDIX C.3    TYPICAL WORM FARM SPECIFICATIONS .....	24
APPENDIX C.4    TYPICAL APARTMENT STYLE COMPOST BINS .....	25
APPENDIX C.5    ELECTRIC ORGANIC COMPOST BIN .....	26

## GLOSSARY OF TERMS

<b>TERM</b>	<b>DESCRIPTION</b>
<i>Baler</i>	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by wire ties and strapping
<i>Chute</i>	A ventilated, essentially vertical pipe passing from floor to floor of a building with openings as required to connect with hoppers and normally terminating at its lower end at the roof of the central waste room(s)
<i>Collection Area/Point</i>	The position or area where waste or recyclables are actually loaded onto the collection vehicle
<i>Compactor</i>	A Machine for compressing waste into disposable or reusable containers
<i>Composter</i>	A container/machine used for composting specific food scraps
<i>Crate</i>	A plastic box used for the collection of recyclable materials
<i>Garbage</i>	All domestic waste (Except recyclables and green waste)
<i>Hopper</i>	A fitting into which waste is placed and from which it passes into a chute or directly into a waste container. It consists of a fixed frame and hood unit (the frame) and a hinged or pivoted combined door and receiving unit
<i>Recycling</i>	Glass bottles and jars – PET, HDPE and PVC plastics; aluminium aerosol and steel cans; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines
<i>Green</i>	Garden organics such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers, and weeds
<i>L</i>	Litre(s)
<i>Liquid Waste</i>	Non-hazardous liquid waste generated by commercial premises that is supposed to be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
<i>Mobile Garbage Bin(s) (MGB)</i>	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 660, 1000 or 1100, 1500 or 2000

*Putrescible Waste*

Component of the waste stream liable to become putrid. Usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.

## LIST OF FIGURES

**No table of figures entries found.**

## LIST OF TABLES

Table 1: Unit Breakdown Matrix .....	1
Table 2: Calculated Waste Generation – Residential .....	5
Table 3: Bin Summary – Residential .....	5
Table 4: Equipment Summary .....	8
Table 5: Waste Room Areas .....	9



## INTRODUCTION

The following waste management plan pertains to the residential development located at 15-17 Dent Street, Jamisontown, NSW. This waste management plan is an operational waste management plan and will address the phases of the completed development.

For the purpose of this report the proposed development will consist of:

- 1 building
  - 27 units in total (see Table 1 for Unit Breakdown Matrix)

**Table 1: Unit Breakdown Matrix**

<b>Building</b>	<b># Units</b>	<b>% Mix</b>
2 Bedroom	25	92.593
Studio	2	7.4074
<b>Total</b>	<b>27</b>	

All figures and calculations are based on area schedules as advised by our client and shown on architectural drawings.

## PENRITH CITY COUNCIL

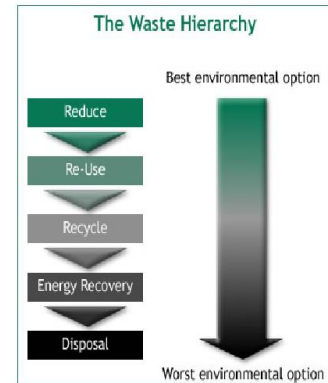
The assessment of waste volumes is an estimate only and will be influenced by the development's management and occupant's attitude to waste disposal and recycling.

The residential waste and recycling will be guided by the services and acceptance criteria of the Penrith City Council. The residential waste and recycling will be collected by council.

All waste facilities and equipment are to be designed and constructed to be in compliance with the Penrith City Council, Australian Standards and statutory requirements.

### OBJECTIVES

- Facilitate sustainable waste management within the City of Penrith in accordance with the principles of Ecologically Sustainable Development
- Manage waste in accordance with the 'Waste Hierarchy' to:
  - avoid producing waste in the first place;
  - minimise the amount of waste produced;
  - re-use items as many times as possible to minimise waste;
  - recycling once re-use options have been exhausted; and
  - dispose of what is left, as a last resort, in a responsible way to appropriate waste disposal facilities
- Assist in achieving Federal and State Government waste minimisation targets as set out in the *Waste Avoidance and Resource Recovery Act 2001* and *NSW Waste Avoidance and Resource Recovery Strategy 2007*
- Minimise the overall environmental impacts of waste by:
  - encouraging development that facilitate ongoing waste avoidance and complements waste services offered by both Council and/or private contractors;
  - requiring on-site source separation and other design and siting standards which assist waste collection and management services;
  - encouraging building designs and construction techniques that minimise waste generation;
  - maximising opportunities to reuse and recycling building and construction materials as well as other wastes in the ongoing use of a premise; and
  - reducing the demand for waste disposal.



**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 | PH: +612 9780 3500 | Fax: +612 9707 2588  
Website: [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | Email: [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – Toll Free: 1800 025 073

## GENERATED WASTE VOLUMES

The assessment of projected waste volumes is a calculated estimate only and will be influenced by the development's management and occupant's waste disposal and recycling practices.

## CONSTRUCTION AND DEVELOPMENT WASTE

The head contractor will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements. Please refer to the separate waste management plan submitted for construction waste as part of the Development Application.

## BUILDING MANAGER/WASTE CARETAKER

All waste equipment movements are to be managed by the building manager/cleaners at all times. No tenants or residents will be allowed to transport waste or recyclables from the waste room; tenants and residents will only transport their waste to the allocated bin room.

The building manager/cleaner duties include, but are not limited to, the following:

- general maintenance and cleaning of the chute doors on each level (Frequency dependent on waste generation and will be determined based upon building operation);
- organising, maintaining and cleaning the general and recycled waste holding areas (Frequency will depend on waste generation and will be determined based upon building operation);
- transporting of bins as required;
- organising both garbage and recycled waste pick-ups as required;
- cleaning and exchanging all bins;
- ensure site safety for residents, children, visitors, staff and contractors;
- abide by all relevant OH&S legislation, regulations, and guidelines;
- assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers; and
- provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities

***NOTE:** It is the responsibility of the building manager to monitor the number of bins required for the development. As waste volumes may change according to the development's management and occupants' attitudes to waste disposal and recycling, bin numbers and sizes may need to be altered to suit the building operation.*

## REPORTING

It is recommended that building management ensure that all waste service providers submit monthly reports on all equipment movements and weights of any waste and recycling products removed from the development. Regular reviews of servicing should take place to ensure operational and economic best practise and to assist with sustainability reporting.

## EDUCATION

Building management is responsible for creating and managing the waste management education process.

Educational material encouraging correct separation of garbage and recycling items must be provided to each resident to ensure correct use of the waste and recycling chute. This should include the correct disposal process for bulky goods (old furniture, large discarded items, etc.) It is recommended that information is provided in multiple languages to support correct practises and minimise the possibility of chute blockages as well as contamination in the collective waste bins.

It is also recommended that the owners' corporation website contain information for residents to refer to regarding use of the chute. Information should include:

- directions on using the chute doors;
- recycling and garbage descriptions (Council provides comprehensive information);
- how to dispose of bulky goods and any other items that are not garbage or recycling;
- residents' obligations to WHS and building management; and
- how to prevent damage or blockages to the chute (example below).

**To prevent damage or blockage to rubbish chute DO NOT** dispose of any newspapers, umbrellas, bedding, cigarettes, cartons, coat hangers, brooms, mops, large plastic wrappings from furniture, white goods, any sharp objects, hot liquid or ashes, oil, unwrapped vacuum dust, syringes, paint and solvents, car parts, bike parts, chemicals, corrosive and flammable items, soil, timber, bricks or other building materials, furniture, etc. down the chute.

It is expected that leasing arrangements with retail/commercial operations contain direction on waste management services and expectations.

## RESIDENTIAL WASTE PLAN

The Penrith City Council's waste generation rates have been referenced to calculate the total number of bins required for the residential units. Please note that calculations are based on generic figures; waste generation rates may differ according to the residents' waste management practice.

**Table 2: Calculated Waste Generation – Residential**

Building	# Units	Waste Calculation (L/unit/week)	Generated Waste (L/week)	Compacted Waste (2:1) (L/week)	Recycling Calculation (L/unit/week)	Generated Recycling (L/week)
A	27	120	3240	1620	60	1620
<b>TOTAL</b>	<b>27</b>		<b>3240</b>	<b>1620</b>		<b>1620</b>

### BIN SUMMARY

The following assumptions have been taken into consideration:

- garbage is not compacted at the base of each chute;
- number of bins have been rounded up for best operational with outcome.

Using the assumptions stated, the required capacity and quantity of garbage and recycling bins have been calculated and tabulated respectively in the following tables:

**Table 3: Bin Summary – Residential**

Building/Waste Rooms	Garbage			Recycling		
	Bin Capacity (L)	Quantity	Collection Rate (times/week)	Bin Capacity (L)	Quantity	Collection Rate (times/week)
A	1100	2	2	240	7	1

**NOTE:** Subject to the stakeholders preference/capability (and as built constraints), bin sizes and quantities may be changed. As waste volumes may change according to the development's type, bin numbers and collection frequencies may be altered to suit the building operation.

## WASTE MANAGEMENT

1 waste chute will be supplied by Elephants Foot and installed. Breakdown is as follows:

Building 1: single waste chute

Garbage discharges into 1100L MGBs which is not compacted. The discharge is located in the waste rooms for each building. Recycling bins will be situated in the waste compartment on each residential level for collection of recyclable items. Full waste and recycling bins will be transferred to the collection area on ground level for servicing by Council.

## WASTE HANDLING

### WASTE

All residents of each building will be supplied with a collection area in each unit (generally in the kitchen, under bench or similar alternate area) to deposit garbage and collect recyclable material suitable for one days storage. Residents should wrap or bag their waste. Bagged waste should not exceed 3kg in weight or 35cm x 35cm x 35cm in dimension.

The caretaker/cleaner will be required to check the 1100L MGB collecting waste from the chute, rotate full bins to the storage and collection area, and replace empty 1100L MGB under the chute operation.

### RECYCLING

Cardboard furniture boxes or large cardboard containers should not be included in the waste chute – a cardboard collection bin will be made available to residents to deposit flattened cardboard and will be managed by the waste caretaker. Bins will be located in the garbage and bulky goods area.

**Recycling must not be bagged.** It is recommended that residents use a crate or dedicated bin for collecting recyclables within the allocated residential space provided to ensure correct separation.

The caretaker/cleaner's duty is responsible for exchanging or emptying recyclable bins and storing them in the main bin storage room located on lower ground level, ready for collection.

### TEMPORARY STORAGE OF BULKY GOODS

A room or caged area must be allocated for the storage of discarded bulky items such as cardboard boxes, furniture and appliances. The allocated space must be a minimum of 8m<sup>3</sup> and sign marked appropriately. Recyclable electronic goods include batteries, equipment containing printed circuit boards, computers, televisions, fluorescent tubes and smoke detectors.

It is recommended that donations to charitable organisations be encouraged. Clean, sound furniture and household goods etc. are highly sought after to provide for the disadvantaged. Donations will be arranged with the assistance of the building manager/caretaker.

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 | PH: +612 9780 3500 | Fax: +612 9707 2588  
Website: [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | Email: [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – Toll Free: 1800 025 073

## OTHER WASTE STREAMS

Disposal or recycling of electronic, liquid waste and home detox (paint/chemicals etc.) will be organised with the assistance of the building caretaker. These items must not be placed in waste or recycling bins due to safety and environmental factors.

Residents should be directed to Councils comprehensive website for further information.

## COMPOSTING

Council states the requirement for a space for composting and worm farming is to be available for all residents in a communal facility or in small private courtyards (see *APPENDIX C.3 for Typical Worm Farm Specifications*). Residents may also choose to purchase and install apartment style compost bin where practical and self-manage these systems (see *APPENDIX C.4 and APPENDIX C.5 for Typical Compost Bins*). Two systems have been included for consideration however there are a variety of compost systems available at hardware stores.

The siting of composting facilities should consider:

- the location and proximity of dwellings (including those adjoining the subject property), to minimise likely odour impacts/nuisance;
- the location of the drainage system;
- whether the facility is appropriately designed for composting; and
- provision of signposting to ensure inappropriate waste is not added to the compost

## COMMON AREAS

The lobbies, retail amenities and circulation areas will be supplied with suitably branded waste and recycling bins, where considered appropriate. Building management will monitor use and ensure bins are exchanged and cleaned. These areas generate negligible waste however garbage and recycling receptacles should be placed in convenient locations.

## WASHROOM FACILITIES

Washroom facilities in retail and staff areas should be supplied with collection bins for paper towels (if used). Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

Building management will monitor use and ensure waste bins are exchanged and cleaned.

## GREEN WASTE

There will be green waste generated by the buildings landscaped areas. Any green waste will be collected and removed from site by the maintenance contractor during scheduled or arranged servicing of these areas.

## WASTE CHUTES

Waste chutes for each level of the residential building are supplied per the following specifications:

- either 510mm galvanised steel or 510mm recycled LLDPE polyethylene plastic;

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

- galvanised steel chute hoppers are wrapped with 50mm poly-wool R1.3 noise insulation foil to assist in noise reduction;
- penetrations on each building level at vertically perpendicular points with minimum penetration dimensions of 600mm x 600mm (square or round) are required to accommodate the chute installation;
- a wash down system and vent should also be included as part of the chute system;
- council and supplier require that all chutes are installed without offsets to achieve best practise operationally for the building; and
- two hour fire-rated (AS1530.4-2005) stainless steel refuse chute doors at each service level. All doors are to be fitted with a self-closing mechanism to meet BSA fire standards.

**NOTE:** Chute doors are installed after walls rendered, painted or when required. Information stickers will be placed on each chute door at each residential level.

## EQUIPMENT SUMMARY

**Table 4: Equipment Summary**

Component	Part	Quantity	Notes
<b>Chutes</b>	Galvanised Steel / LLDPE Polyethylene Plastic	1	(See APPENDIX C.1 for Typical Chute Section)
<b>Equipment A</b>	Suitable Bin Moving Equipment		Optional (See APPENDIX C.2 for Typical Bin Mover)



## WASTE ROOM AREAS

The bin store must hold all the waste bins generated weekly, and allow enough room to clean and safely manoeuvre bins. A bin wash down area is provided in this area.

The areas allocated for residential waste rooms, commercial/retail bin store, bulky goods and collection areas are detailed in Table 5 below. The areas provided are considered suitable for purpose.

**Table 5: Waste Room Areas**

Location	Waste Room Type	Allocated Area (m <sup>2</sup> )
Ground floor	Residential waste room	15
Ground floor	Bulky goods storage	5

## COLLECTION OF WASTE

### RESIDENTIAL

The residential waste will be collected by Council. Council have requested that collections be performed on-site, however due to the small size of the development it is not feasible for a truck to enter the development (see Traffic Report). It is proposed that waste is collected via a wheel-in, wheel-out arrangement off Dent St. The waste will be located in the waste room located less than 10m from the kerb.

## GARBAGE ROOMS

### CONSTRUCTION REQUIREMENTS

The garbage room will be required to contain the following facilities to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- waste room floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- for residential: a hot and cold water facility with mixing facility and hose cock must be provided for washing the bins;
- for retail/commercial: a cold water facility with hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board. (Sydney Water);
- tap height of 1.6m;
- storm water access preventatives (grate);
- all walls painted with light colour and washable paint;
- equipment electric outlets to be installed 1700mm above floor levels;
- the room must be mechanically ventilated;
- light switch installed at height of 1.6m;
- waste rooms must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;
- all personnel doors are hinged and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured

### SIGNAGE

The building manager/caretaker is responsible for waste room signage including safety signage (see *APPENDIX B.2*). Appropriate signage must be prominently displayed on walls and above all bins, clearly stating what type of waste or recyclables is to be placed in the bin underneath.

All chute doors on all residential levels will be labelled with signs directing chute operations and use of chute door.

## VENTILATION

Waste and recycling rooms must have their own exhaust ventilation system either;

- Mechanically - exhausting at a rate of 5L/m<sup>2</sup> floor area, with a minimum rate of 100L/s minimum; or
- Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area

Mechanical exhaust systems shall comply with AS1668 and not cause any inconvenience, noise or odour problem.

## STORM WATER PREVENTION & LITTER REDUCTION

Building management shall be responsible for the following to minimise dispersion of site litter and prevent stormwater pollution to avoid impact to the environment and local amenity:

- promote adequate waste disposal into the bins;
- secure all bin rooms (whilst affording access to staff/contractors);
- prevent overfilling of bins, keep all bin lids closed and bungs leak-free;
- take action to prevent dumping or unauthorised use of waste areas; and
- ensure collection contractors clean-up any spillage that may occur when clearing bins

## ADDITIONAL INFORMATION

Transfer of waste and all bin movements require minimal manual handling therefore the operator must assess manual handling risks and provide any relevant documentation to building management. If required, a bin-tug, trailer or tractor consultant should be contacted to provide equipment recommendations. Hitches may require installation to move multiple bins to the collection area. Council must be informed of any hitch attachments required to be installed on bins.

## LIMITATIONS

The purpose of this report is to document a Waste Management Plan (WMP) as part of a development application and is supplied by Elephants Foot Recycling Solutions (EFRS) with the following conditions:

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by you and third parties including Council and government information. The assumptions based on the information contained in the WMP is outside the control of EFRS;
- the figures presented in the report are an estimate only – the actual amount of waste generated will be dependent on the occupancy rate of the building/s and waste generation intensity as well as the building managements approach to educating residents and tenants regarding waste management operations and responsibilities;
- the building manager will make adjustments as required based on actual waste volumes (if waste is greater than estimated) and increase the number of bins and collections accordingly;
- the report will not be used to determine or forecast operational costs or prepare any feasibility study or to document any safety or operational procedures;
- the report has been prepared with all due care however no assurance or representation is made that the WMP reflects the actual outcome and EFRS will not be liable to you for plans or outcomes that are not suitable for your purpose, whether as a result of incorrect or unsuitable information or otherwise;
- EFRS offer no warranty or representation of accuracy or reliability of the WMP unless specifically stated;
- any manual handling equipment recommended should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply;
- Design of waste management chute equipment and systems must be approved by the supplier.

## USEFUL CONTACTS

Elephants Foot Recycling Solutions does not warrant or make representation for goods or services provided by suppliers.

### **Penrith City Council Customer Service**

Phone: (02) 4732 7777

Email: [council@penrithcity.nsw.gov.au](mailto:council@penrithcity.nsw.gov.au)

### **SULO MGB (MGB, Public Place Bins, Tugs and Bin Hitches)**

Phone: 1300 364 388

### **CLOSED LOOP (Organic Dehydrator)**

Phone: 02 9339 9801

### **ELECTRODRIVE (Bin Mover)**

Phone: 1800 333 002

Email: [sales@electrodrive.com.au](mailto:sales@electrodrive.com.au)

### **RUD (Public Place Bins, Recycling Bins)**

Phone: 07 3712 8000

Email: [Info@rud.com.au](mailto:Info@rud.com.au)

### **CAPITAL CITY WASTE SERVICES**

Phone: 02 9359 9999

### **REMONDIS (Private Waste Services Provider)**

Phone: 13 73 73

### **SITA ENVIRONMENTAL (Private Waste Services Provider)**

Phone: 13 13 35

### **NATIONAL ASSOCIATION OF CHARITABLE RECYCLING ORGANISATIONS INC. (NACRO)**

Phone: 03 9429 9884

Email: [information@nacro.org.au](mailto:information@nacro.org.au)

### **PURIFYING SOLUTIONS (Odour Control)**

Phone: 1300 636 877

Email: [sales@purifyingsolutions.com.au](mailto:sales@purifyingsolutions.com.au)

### **Elephants Foot Recycling Solutions (Chutes, Compactors and eDiverter Systems)**

44 – 46 Gibson Avenue

Padstow NSW 2211

Free call: 1800 025 073

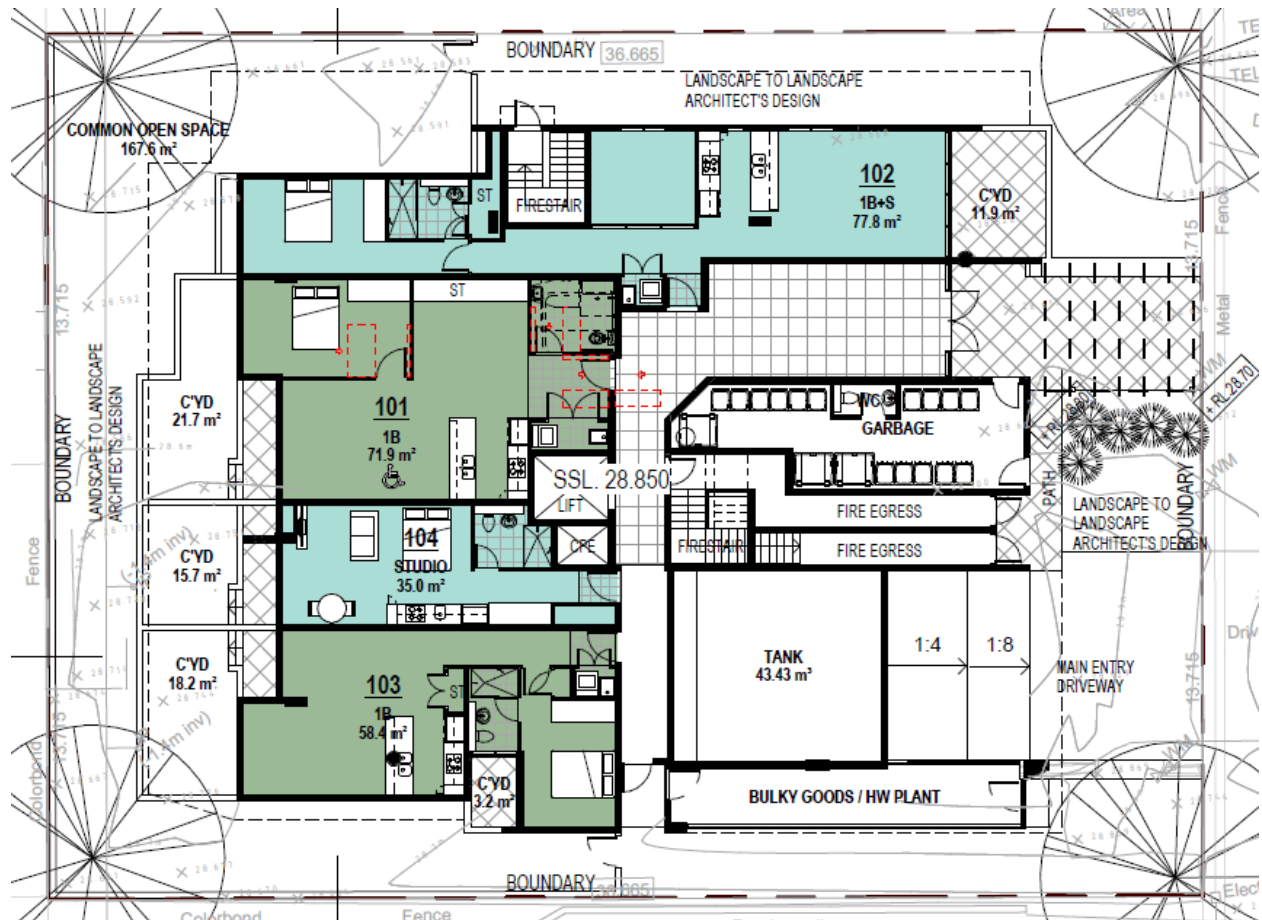
Email: [natalie@elephantsfoot.com.au](mailto:natalie@elephantsfoot.com.au)

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 | PH: +612 9780 3500 | Fax: +612 9707 2588  
Website: [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | Email: [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – Toll Free: 1800 025 073

# APPENDICES

## APPENDIX A DRAWING EXERPTS

### APPENDIX A.1 GROUND FLOOR PLAN



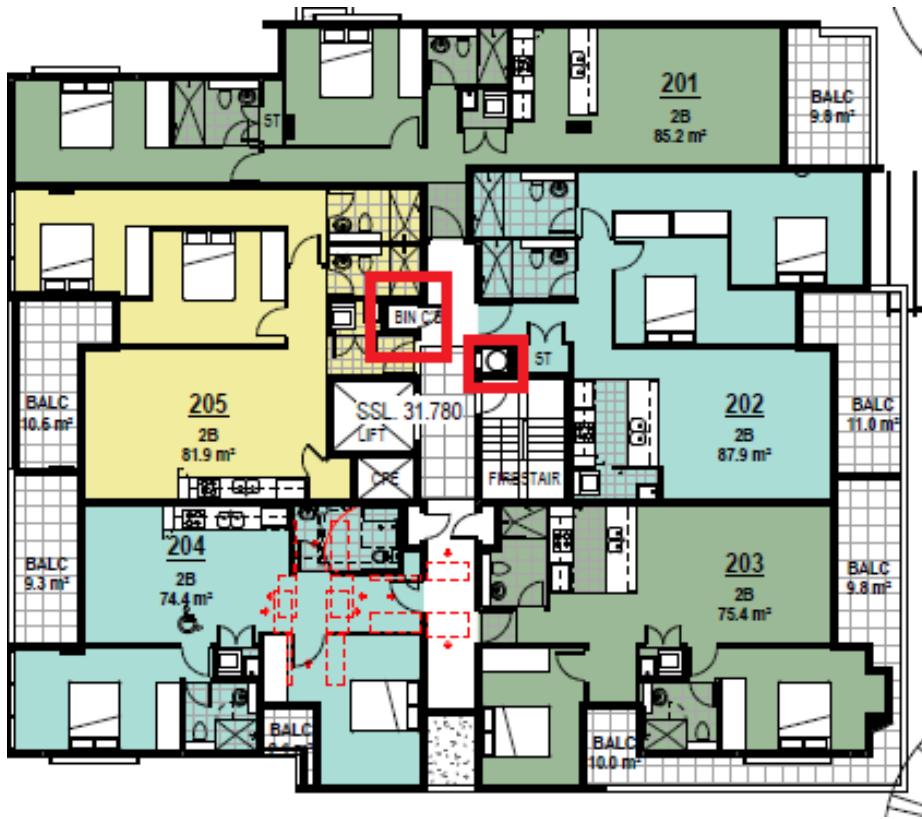
**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294

**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588

**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)

Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

APPENDIX A.2 TYPICAL CHUTE AND RECYCLING LOCATION



**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 | PH: +612 9780 3500 | Fax: +612 9707 2588  
Website: [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | Email: [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – Toll Free: 1800 025 073

## APPENDIX B BETTER PRACTICE GUIDE FOR WASTE MANAGEMENT SPECIFICATIONS

### APPENDIX B.1 BIN DIMENSIONS

#### Crates



Crate size	50L Crate	70L Crate	90L Crate
Height	320 mm	395 mm	420 mm
Length	575 mm	575 mm	450 mm
Width	445 mm	445 mm	450 mm

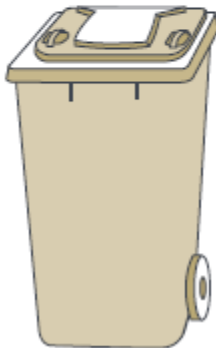
The above dimensions are indicative only of common crate sizes

#### Mobile garbage bins (MGBs)

MGBs with capacities up to 1700L should comply with the Australian Standard for Mobile Waste Containers (AS 4123). AS 4123 specifies standard sizes and sets out the colour designations for bodies and lids of mobile waste containers that relate to the type of materials they will be used for.

Indicative sizes only for common MGB sizes are provided below. Note that not all MGB sizes are shown; the dimensions are only a guide and differ slightly according to manufacturer, if bins have flat or dome lids and are used with different lifting devices. Refer to AS 4123 for further detail.

Mobile containers with a capacity from 80L to 360L with two wheels



Bin Type	80 Litre MGB	120 Litre MGB	140 Litre MGB	240 Litre MGB	360 Litre MGB
Height	870 mm	940 mm	1065 mm	1080 mm	1100 mm
Depth	530 mm	560 mm	540 mm	735 mm	885 mm
Width	450 mm	485 mm	500 mm	580 mm	600 mm

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294

Sydney Head Office 44-46 Gibson Ave Padstow NSW 2211 | PH: +612 9780 3500 | Fax: +612 9707 2588

Website: [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | Email: [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)

Offices in Victoria & Queensland – Toll Free: 1800 025 073



Mobile containers with a capacity from 500L to 1700L with four wheels

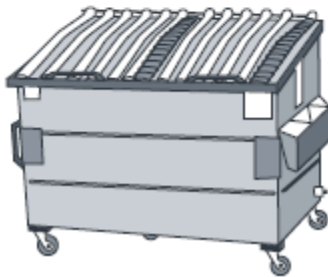


Dome or flat lid containers

Bin Type	660 Litre MGB	770 Litre MGB	1100 Litre MGB	1300 Litre MGB	1700 Litre MGB
Height	1250	1425	1470	1480	1470
Depth	850	1100	1245	1250	1250
Width	1370	1370	1370	1770	1770

### Bulk bins greater than 1700L capacity

The following bulk bin dimensions are a guide only and may differ slightly according to manufacturer. Not all available bulk bin sizes are shown.



Bin Type	2.0 m <sup>3</sup> Skip	3.0 m <sup>3</sup> Skip	4.5 m <sup>3</sup> Skip
Height	865 mm	1225 mm	1570 mm
Depth	1400 mm	1505 mm	1605 mm
Width	1830 mm	1805 mm	1805 mm

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294

**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588

**Website:** www.elephantsfoot.com.au | **Email:** info@elephantsfoot.com.au

Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

## APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

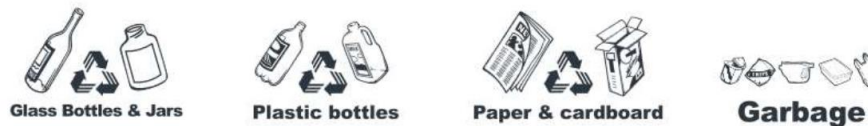
### WASTE SIGNS

Signs for garbage, recycling and organics bins should comply with the standard signs promoted by the Department of Environment and Heritage.

Example wall posters



Example bin lid stickers



### SAFETY SIGNS

The design and use of safety signs for waste rooms and enclosures should comply with AS1319 Safety Signs for Occupational Environment. Safety signs should be used to regulate and control safety behaviour, warn of hazards and provide emergency information, including fire protection information. Below are some examples. Each development will need to decide which signs are relevant for its set of circumstances and service provided.

Examples of Australian Standards:



Australian Standards are available from the SAI Global Limited website ([www.saiglobal.com](http://www.saiglobal.com)).

Source: *Better Practice Guide to Waste Management in Multi-Unit Dwellings, 2008, DECC*

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

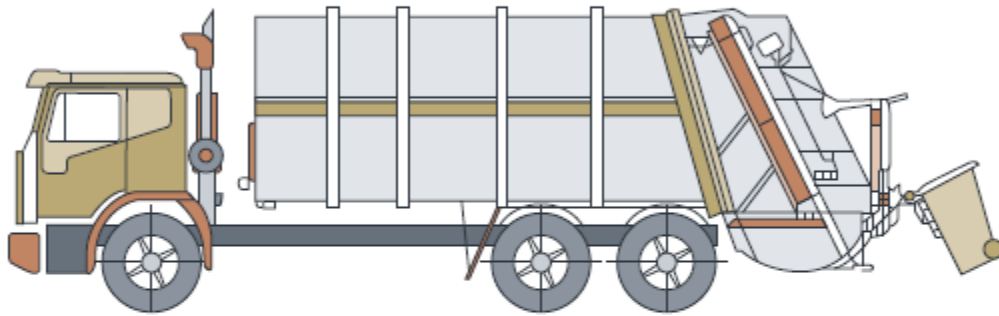
## APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

### Collection vehicles

Waste collection vehicles may be side loading, rear-end loading, front-end loading or crane trucks. The size of vehicle varies according to the collection service. Thus it is impossible to specify what constitutes the definitive garbage vehicle. Developers should consult the local council and/or relevant contractors regarding the type of vehicle used in that area.

The following characteristics represent the typical collection vehicle, however, these are only for guidance.

It may be possible to engage a collection service provider to use smaller collection vehicles to service developments with narrow roadways and laneways, or for on-site collections. However, as the availability of smaller vehicles to make services varies between councils and private contractors, wherever possible the development should be designed to accommodate vehicles of a similar size to that reported below.

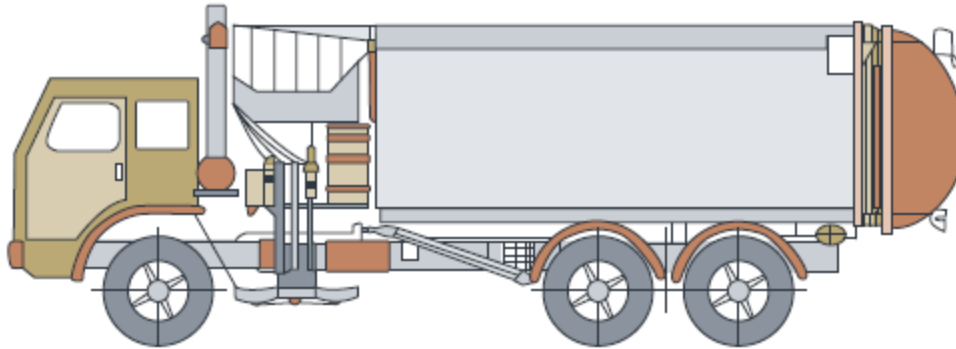


#### Rear loading collection vehicle

Rear loading collection vehicle	
Length overall	10.24m
Width overall	2.5m
Operational height	3.5m
Travel height	3.5m
Weight (vehicle only)	12.4 tonnes
Weight (payload)	9.5 tonnes
Turning circle	18.0m

This is commonly used for domestic garbage and recycling collections from MUDs. It can be used to collect waste stored in MGBs or bulk bins, particularly where bins are not presented on the kerbside.

## Side-loading collection vehicle

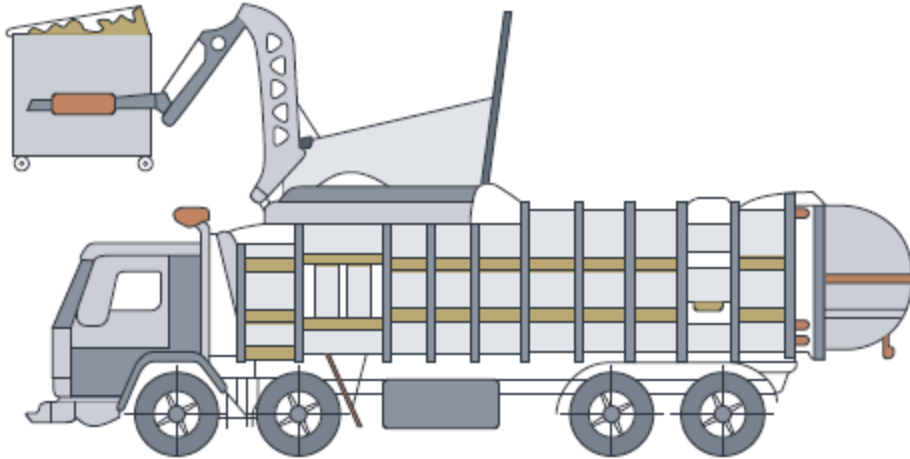


Side-loading collection vehicle	
Length overall	9.64m
Front overhang	1.51m
Wheelbase	5.20m
Rear overhang	2.93m
Turning circle kerb to kerb	17.86m
Turning circle wall to wall	20.56m
Front of vehicle to collection arm	3.8m
Maximum reach of side arm	3.0m
Travel height	3.63m
Clearance height for loading	3.9m

This is the most commonly used vehicle for domestic garbage and recycling collections. It is only suitable for collecting MGBs up to 360 litres in size.

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD** ABN 70 001 378 294  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** [www.elephantsfoot.com.au](http://www.elephantsfoot.com.au) | **Email:** [info@elephantsfoot.com.au](mailto:info@elephantsfoot.com.au)  
 Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

## Front-lift loading collection vehicle

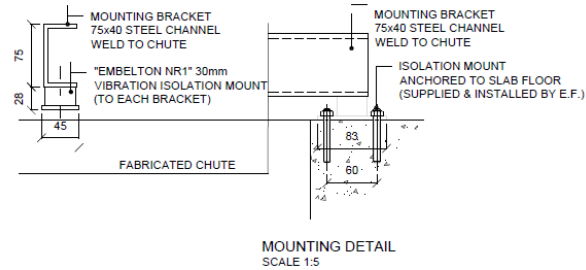
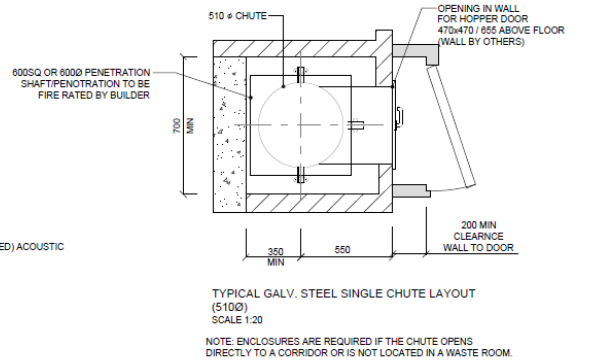
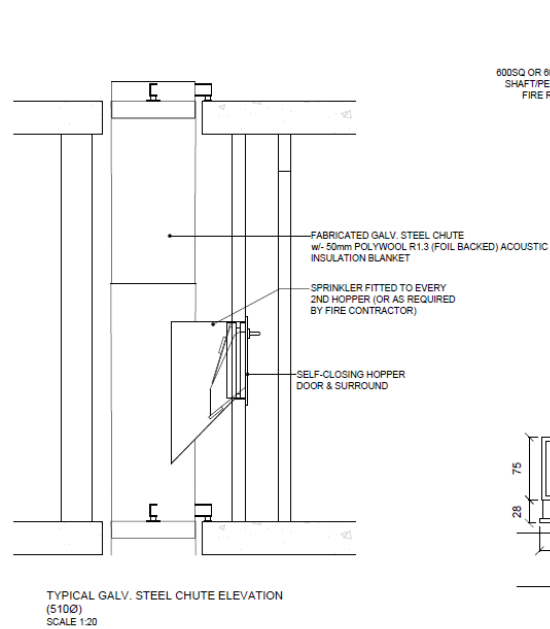


Front-lift loading collection vehicle	
Length overall	10.52m
Front overhang	1.51m
Wheelbase	5.84m
Rear overhang	3.17m
Turning circle kerb to kerb	22.10m
Turning circle wall to wall	23.66m
Travel height	3.82m
Clearance height for loading	6.1m

This is mainly used for collecting commercial and industrial waste, and is only suitable for bulk bins with front lift pockets (not MGBs).

# APPENDIX C WASTE MANAGEMENT EQUIPMENT SPECIFICATIONS

## APPENDIX C.1 TYPICAL CHUTE PLAN & ELEVATION



No	Description	Rev

<p>Elephants Foot WASTE SOLUTIONS</p> <p>AN ACQUINTANCE MADE IN 2011 PH: 02 9780 3500 WWW.ELEPHANTSFOOT.COM.AU</p>	<p>ELEPHANTS FOOT WASTE SOLUTIONS</p>
	<p>510Ø GALV. STEEL CHUTE LAYOUT</p>
<p>Copyright © Elephants Foot Wasting Management Solutions Pty Ltd. All rights reserved. No part of this document may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written consent of Elephants Foot Wasting Management Solutions Pty Ltd.</p>	<p>Project Name: 510Ø Issue: 01 Date: 25-08-14 Scale: 1:20</p>
<p>DO NOT SCALE FROM DRAWINGS</p>	<p>STANDARD DETAILS</p>

**ELEPHANTS FOOT WASTE COMPACTORS PTY LTD ABN 70 001 378 294**  
**Sydney Head Office** 44-46 Gibson Ave Padstow NSW 2211 | **PH:** +612 9780 3500 | **Fax:** +612 9707 2588  
**Website:** www.elephantsfoot.com.au | **Email:** info@elephantsfoot.com.au  
 Offices in Victoria & Queensland – **Toll Free:** 1800 025 073

## APPENDIX C.2 TYPICAL BIN MOVER



### Typical applications:

- Move trolleys, waste bin trailers and 660litre/1100 litre bins up and down a ramp incline. Ideal for Apartment Buildings (to move waste bins located at a basement level to road level).
- Quiet, smooth operation with zero emissions and simple to use, no driver's licence required

### Features:

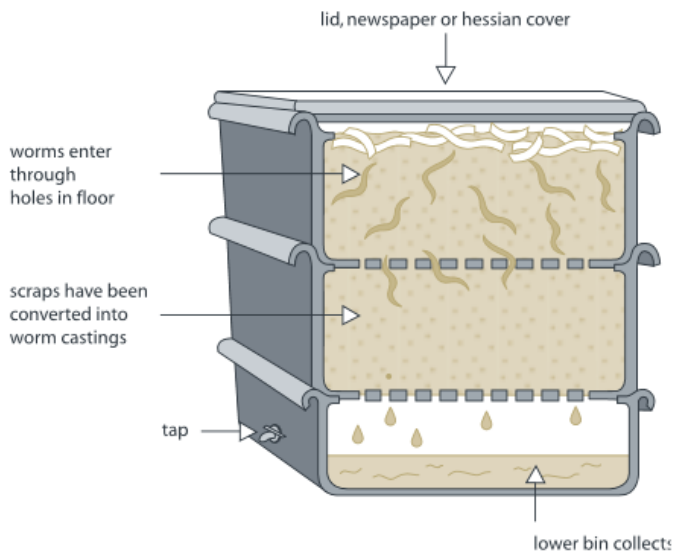
- Up to 1 Tonne on a ramp surface (depending on ballast and incline)
- Anti-rollback system on slopes
- Foot print: 1548L x 795W x 1104H (handle in the drive position)
- Pin Hitch is standard however alternate hitching options may be available to suit your specific application (e.g. tow ball)

### Safety Features:

- Intuitive paddle lever control
- Stops and repels the unit if activated when reversing.
- Site assessment recommended to assess ramp incline steepness (*See Useful Contacts*)

## APPENDIX C.3 TYPICAL WORM FARM SPECIFICATIONS

### Worm farms



Space requirements for a typical worm farm for an average household:

Height – 300mm per level

Width – 600mm

Length – 900mm

There are many worm farm arrangements. The above dimensions are indicative only.

SOURCE: *Department of Environment and Climate Change NSW 2008, Better Practice Guide for Waste Management in Multi-Unit Dwellings*



#### APPENDIX C.4 TYPICAL APARTMENT STYLE COMPOST BINS



Apartment Style Compost bin – available from hardware stores

Suitable for:

- Vegetables
- Coffee grounds and filters
- Tea and tea bags
- Crushed eggshells (but not eggs)
- Nutshells
- Houseplants
- Leaves
- Cardboard rolls, cereal
- Boxes, brown paper bags
- Clean paper
- Shredded newspaper
- Fireplace ashes
- Wood chips, sawdust,
- Toothpicks, burnt matches
- Cotton and wool rags
- Dryer and vacuum cleaner lint
- Hair and fur
- Hay and straw

APPENDIX C.5 ELECTRIC ORGANIC COMPOST BIN



Product Specifications

Decomposition Method	Fermentation by microorganisms
Decomposition Capacity	2 metric tonnes per year* (4 kg per day*)
Rating	220–240 V 50/60 Hz – 1.1 A
Decomposition Time	24 hrs
Operating Temperature	0C and 40C.**
Deodorisation Method	Nano-Filter system
Maximum Power	210 W
Power Usage	Average 1 kwh per day
Weight	21 kgs
External Dimensions	w 400 mm d 400 mm h 780 mm

\* Food Waste Handling Capacity – based on an optimal operating environment.

\*\* Ambient temperature range of area where unit may be installed.

SOURCE: *Closed Loop Domestic Composter* – See Useful Contacts