PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1537

Date: 25 November 2024

Queensland Government

Consulting.™

an Elephants Foot Company

41 & 49 Plaza Place, Carseldine QLD 4034

Social and Affordable Housing Development.

OPERATIONAL WASTE MANAGEMENT PLAN

21/08/2024
Report No. 5965
Revision C

Client

St George Community Housing Limited

Level 5, Humphreys Lane Hurstville NSW 2220

Architect

DKO Architecture

ELEPHANTS FOOT

ABN: 47 644 736 514
ELEPHANTS FOOT CONSULTING. PTY LTD
1300 456 374 | consulting@elephantsfoot.com.au
www.elephantsfoot.com.au

REVISION REFERENCE

Revision	Date	Prepared by	Description
A	15-05-2024	T. McPherson	Draft
B	15-08-2024	T. McPherson	Amendment
C	21-08-2024	T. McPherson	Amendment

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2024/1537

Date: 25 November 2024

Queensland Government

TABLE OF CONTENTS

TABLE OF FIGURES

LIST OF TABLES

GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Bin-carting Route	Travel route for transferring bins from the storage area to a nominated collection point
Collection Area/Point	The identified position or area where general waste or recyclables are loaded onto the collection vehicle
Composter	A container/machine used for composting specific food scraps
Crate	A plastic box used for the collection of recyclable materials
DA	Development Application
DCP	Development Control Plan
EPA	Environmental Protection Authority
HRV	Heavy Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
L	Litre(s)
LEP	Local Environmental Plans guide planning decisions for local government areas
Mobile Garbage Bin(s) (MGB)	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
MRV	Medium Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
Onsite Collection	When the collection vehicle enters the property and services the development within the property boundary from a designated loading area
Owners Corporation	An organisation or group of persons that is identified by a particular name and acts, or may act, as an entity

1 ACKNOWLEDGEMENT OF COUNTRY

Elephants Foot Consulting (EFC) acknowledges that every project we work on takes place on First Peoples land. We recognise Aboriginal and Torres Strait Islander People as Traditional Custodians of this land. We pay respects to ancestors and elders, past and present.

2 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following waste management plan for the operational management of waste generated by the social and affordable housing development located at 41 & 49 Plaza Place, Carseldine QLD 4034.

Waste management strategies and audits are required for new developments in order to support the design and sustainable performance of the building. It is EFC's belief that a successful waste management strategy contains three key objectives:

i. ***Promote responsible source separation*** to reduce the amount of waste that goes to landfill by implementing convenient and efficient waste management systems.

ii. ***Ensure adequate waste provisions and robust procedures*** that will cater for potential changes during the operational phase of the development.

iii. ***Comply*** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this operational waste management plan (OWMP) identifies the different waste streams likely to be generated during the operational phase of the development, as well as how the waste will be handled and disposed, details of bin sizes/quantities and waste rooms, descriptions of the proposed waste management equipment used, and information on waste collection points and frequencies.

It is essential that this OWMP is integrated into the overall management of the building and is clearly communicated to all relevant stakeholders.

2.1 SCOPE OF REPORT

This operational waste management plan (OWMP) only applies to the **operational** phase of the proposed development; therefore, the requirements outlined in this OWMP must be implemented during the operational phase of the site and may be subject to review upon further expansion of, and/or changes to the development.

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. EFC can supply this if required.

2.2 REPORT CONDITIONS

The purpose of this report is to document an OWMP as part of a development application, which is supplied by EFC with the following limitations:

- Drawings, estimates and information contained in this OWMP have been prepared by analysing the information, plans and documents supplied by the client and third parties including Council and other government agencies. The assumptions based on the information contained in the OWMP is outside the control of EFC,
- 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 management's approach to educating residents and tenants regarding waste management operations and responsibilities,
- The building manager will adjust waste management operations as required based on actual waste volumes (e.g. 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 is made that the OWMP reflects the actual outcome of the proposed waste facilities, services, and operations, and EFC will not be liable for plans or results that are not suitable for purpose due to incorrect or unsuitable information or otherwise,
- EFC offer no warranty or representation of accuracy or reliability of the OWMP unless specifically stated,
- Any manual handling equipment recommended in this OWMP should be provided at the recommendation of the appropriate equipment provider who will assess the correct equipment for supply,
- Design of waste management equipment and systems must be approved by the supplier,
- EFC cannot be held accountable for late changes to the design after the OWMP has been submitted to Council,
- EFC will provide specifications and recommendations on bin access and travel paths within the OWMP; however, it is the architect's responsibility to ensure the architectural drawings meet these provisions,
- EFC are not required to provide information on collection vehicle swept paths, head heights, internal manoeuvring or loading requirements. It is assumed this information will be provided by a traffic consultant,
- Council are subject to changing waste and recycling policies and requirements at their own discretion.

This OWMP is only finalised once the draft watermark has been removed. If the draft watermark is present, the information in the OWMP is not confirmed.

3 LEGISLATION & GUIDANCE

Waste management and resource recovery regulation in Australia is administered by the Australian Constitution, Commonwealth laws, and international agreements. State and territory governments maintain primary responsibility for controlling development and regulating waste. The following legislation has been enacted in New South Wales, and provides the lawful underpinnings of this OWMP.

- QLD Environmental Protection Act 1994
- Environmental Protection (Waste Management) Regulation 2000
- Waste Reduction and Recycling Act 2011

At the local level, councils or Local Government Areas (LGAs) require OWMPs to be included in new development applications. This OWMP is specifically required by:

- Brisbane City Council Refuse Planning Scheme Policy SC6.26
- Brisbane City Council Environmental Policy EM001

The primary purpose of a development control plan (DCP) is to guide development according to the aims of the corresponding local environmental plan (LEP). The DCP must be read in conjunction with the provisions of the relevant LEP.

Information provided in this OWMP comes from a wide range of waste management guidance at the local, state, and federal levels. The primary sources of guidance include:

- Brisbane City Council Refuse Planning Scheme Policy SC6.26
- QLD Waste Management and Resource Recovery Strategy
- Australia's National Waste Policy 2018

3.1 BRISBANE CITY COUNCIL OBJECTIVES

Brisbane City Council considers waste management to be highly important for the protection and enhancement of both the natural and built environments. As such, Council aims to:

- Ensure the storage and service of solid waste is undertaken in a manner to minimise risk to public health and the environment
- Allow tenants the opportunity to recycle as much of their waste as possible and to have access to dispose of their waste as efficiently as possible
- Encourage building designs that accommodate efficient waste management systems for the storage and collection of the type and volume of waste generated
- Ensure waste can be safely collected with minimum distribution to traffic
- Encourage developments to incorporate best practice technologies and install waste infrastructure that is beyond the minimum recommendation
- Contribute to Brisbane being a clean and green city, while considering Brisbane City Council's Towards Zero Waste targets.

4 DEVELOPMENT OVERVIEW

The proposed development falls under the LGA of Brisbane City Council, and consists of a proposal for social and affordable housing incorporating 152 residential units, separated into two (2) cores. The following breakdown is viewed below:

- The Northern Core will have 90 units in total.
- The Southern Core will have 62 units in total.

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

4.1 SITE LOCATION

The site is located at 41 & 49 Plaza Place, Carseldine QLD 4034 as shown in Figure.1 (boundaries are indicative only). The site has frontages and vehicular access via Plaza Place.

Figure 1. Site Location

Source: Colab Projects.

5 RESIDENTIAL WASTE MANAGEMENT

The following section outlines best practice waste management for the residential component of the development, including waste generation estimates and waste disposal and collection procedures.

5.1 WASTE GENERATION ESTIMATES

The waste generation rates used in the following table are advised by the *Brisbane City Plan 2014 – SC6.26 Refuse Planning Scheme Policy* and are used as a guideline to estimate the total bins required for residential component of the development.

During operation, it is the responsibility of the building manager to monitor the number of bins required. Waste and recycling volumes may change according to residents' attitudes to waste disposal and recycling, building occupancy levels or development's management. Any requirements for adjusting the capacity of the waste facilities can be achieved by changing the number of bins, the bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

The following table shows the estimated volume (L) of general waste and recyclables generated by the residential component of the development.

Table 1: Estimated Waste and Recycling Volumes – Residential

Core	# Units	Waste Generation Rate (L/Unit/Week)	Generated Waste (L/Week)	Recycling Generation Rate (L/Unit/Week)	Generated Recycling (L/Week)
North	90	240	21600	240	21600
South	62	240	14880	240	14880
Office	50	10	35	20	70
TOTAL	152		**36515**		**36550**
Bins & Collections		General waste Bin Size (L)	1100	Recycling Bin Size (L)	1100
		Bins Per Week	33.2	Bins Per Week	33.2
		General Waste Collections per Week	3	Recycling Collections per Week	3
		Total Bins	**12**	Total Bins	**12**

Note: The 'Office' has been calculated at a rate of 'L/100m^2/Day' in lieu of 'per unit'.

Please note that these figures account for a 'worst-case' scenario. The waste generation rates used here are based on apartments' entitlements, as requested by Council. It is expected that the actual volume of waste generated will be much lower than this and that the number of bins will be able to be reduced in operation.

5.2 BIN SUMMARY

Based on the estimated waste generated by the residential component of this development, the recommended bin quantities and collection frequencies are as follows:

General Waste: 12 x 1100L MGBs collected **three times per week.**
Recycling: 12 x 1100L MGBs collected **three times per week.**

During operation, it is the responsibility of the building manager to monitor the number of bins required for the residential component. Waste and recycling volumes may change according

to residents' attitudes to waste disposal and recycling, building occupancy levels or development's management.

Any requirements for adjusting the capacity of the waste facilities can be achieved by changing the number of bins, the bin sizes or collection frequencies. Building management will be required to negotiate any changes to bins or collections with the collection service provider.

5.3 WASTE DISPOSAL PROCEDURES

Dual chute systems comprising of a single general waste chute and single recycling chute will be installed. Access will be provided to all residents on each residential level. Residents will be responsible for walking their own general waste and recycling to their allocated disposal point and placing their general waste into the general waste chute and recycling into the recycling chute.

Residents will wrap or bag their general waste before placing in the general waste chute. Bagged waste should not exceed 3kg in weight, or 35cm x 35cm x 35cm. Residents will be responsible for loosely placing their recycling into the recycling chute. Recycling should be clean and must not be bagged as soft plastics contaminate recycling.

Cardboard boxes or large containers should not be disposed of in the recycling chute. These items should be disposed of directly into the collection bins in coordination with the building manager.

The general and recycling streams will be decanted from the chute system, into a linear track system within the chute discharge rooms, located in the ground level. The building manager will monitor bin capacities under the dual chute systems and exchange full bins with empty bins on the track systems when required. Full and spare bins will be kept in the temporary bin holding room.

Refer to Council guidance for the types of materials accepted in the general waste and recycling streams.

5.3.1 TEMPORARY BIN HOLDING ROOM

Bins will be transported between the temporary bin holding room, and the chute discharge room. The temporary bin holding room will be located within close proximity to the MRV/RCV zone to allow efficient bin servicing. As bins become full within the chute discharge room, they will be transported and stored in the temporary bin holding room to provide circulation space, and preparation prior to collections.

5.3.2 GROUND FLOOR RESIDENTS

It is understood that there will be residents that are located as the same level as the chute offset, preventing them from accessing the disposal inlets for the dual chute system. These residents will instead be provided with an interim bin room, which will accommodate the space of 1 x 1100L bin for general waste, and 1 x 1100L bin for recycling. Once full, the building caretaker will swap full bins with empty bins, and monitor them throughout their walkthrough.

5.3.3 COMMON AREAS

Residential common areas such as lobbies, amenities and circulation areas will be supplied with suitably branded waste and recycling bins where considered appropriate. These areas generate minimal waste, however general waste and recycling receptacles should be placed in convenient locations.

5.4 WASTE COLLECTION PROCEDURES

On the nominated bin collection day, the building caretaker will be responsible neatly arranging and orienting each bin neatly prior to collection (see APPENDIX A.1). To service the bins, a Council or private contractor collection vehicle will enter the site via Plaza Place, and park in the MRV/RCV zone.

The building caretaker will transport all full bins from the chute discharge room to the temporary bin collection room prior to bin servicing. The building caretaker will provide waste collection contractors access to the temporary bin collection room, where bins will be decanted into the truck. Once the bins are emptied, a portion of the empty bins will be transported to the chute discharge room.

Once bin servicing is complete, the collection vehicle will exit the site onto Plaza Place in a forward direction. It is the responsibility of the caretaker to ensure that the loading area is clear of any vehicles or obstructions prior to waste collection.

Quantities, sizes, and servicing of bins may be modified according to actual waste generation rates by residents.

5.5 BULKY WASTE PROCEDURES

Council offers bulky waste collection services for residents. It will be the caretaker's responsibility to determine the designated collection day with Council and coordinate with the residents. Space within the temporary bin collection room will be allocated for the temporary storage of bulky waste prior to collection.

Prior to bulky collection, residents will transport their bulky items to the ground floor, and into the marked area within the temporary bin collection room. A Council vehicle will enter the site via Plaza Place, and park within the MRV/RCV zone. The driver will load the bulky items before exiting the site in a forward direction on Plaza Place.

It is recommended that bulky waste collections should be scheduled for a different time to bin collections. Refer to Council's guidelines regarding acceptable bulky items and other information about bulky waste collection.

6 STAKEHOLDER ROLES & RESPONSIBILITIES

The following table demonstrates the primary roles and responsibilities of the respective stakeholders:

Table 2: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata/Owners Corporation or Management	• Ensure all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; • Organise internal waste audits/visual assessments on a regular basis • Purchase any on-going waste management equipment or maintenance of equipment once building is operational; and • Manage any non-compliances/complaints reported through waste audits.
Building Manager or Waste Caretaker	• Coordinate general waste and recycling collections; • Clean and transport bins as required; • Organise replacement or maintenance requirements for bins; • Organise, maintain and clean the waste holding area; • Organise bulky goods collection when required • Investigate and ensure prompt clean-up of illegally dumped waste materials. • Prevent storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) • Abide by all relevant WH&S legislation, regulations, and guidelines; • Provide staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management; • Assess any manual handling risks and prepare a manual handling control plan for waste and bin transfers; • Ensure site safety for residents, children, visitors, staff and contractors; and • Ensure effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors.
Residents	• Dispose of all general waste and recycling in the allocated MGBs provided; • Ensure adequate separation of general waste and recycling; and • Comply with the provisions of Council and the OWMP.
Waste Collection Contractor	• Provide a reliable and appropriate waste collection service; • Provide feedback to building managers/residents regarding contamination of recyclables; and • Work with building managers to customise waste systems where possible.
Gardening/ Landscaping Contractor	• Remove all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Developer	• Purchase all equipment required to implement this OWMP prior to the occupation of the building to be provided to the strata/ owner's corporation.

7 SOURCE SEPARATION

Better practice waste management includes the avoidance, reuse, and recovery of unwanted items, which can be achieved through source separation. The table below outlines what is typically included in various waste streams and how they can be managed. Refer to your local council for a list of accepted materials. Planet Ark can be accessed online to find other facilities that recover unwanted items.

Table 3: Operational Waste Streams

Waste Stream	Description	Typical Destination	Waste Stream Management
General Waste	The remaining portion of the waste stream that is not recovered for re-use, processing, or recycling. May include soft plastics, food scraps, polystyrene, etc.	Landfill	Waste should be bagged before placing in the designated general waste chute, or bins.
Recycling	A mixture of items that are commonly recycled usually segregated through a MRF. Typically include food and beverage containers (e.g. aluminium, glass, steel, hard plastics, cartons). Also included cardboard and paper products.	Resource Recovery Centre	Recycling must not be bagged, and instead should be placed loosely in the designated recycling chute or recycling bins. Cardboard should be flattened before placing in the designated cardboard bin.
Green Waste	Green waste consists of unwanted organic materials that are easily biodegradable and/or compostable (e.g. lawn clippings, branches)	Resource Recovery Centre	Landscape Maintenance Contractors will remove the green waste from site during scheduled maintenance. Green waste will be collected in council or private contractor bins and removed from site.
Food Waste	Food waste consists of unwanted or uneaten kitchen scraps that are easily compostable/biodegradable (e.g. vegetable peels, fruit rinds, coffee grounds).	Composting facility or Landfill	Food waste can be composted on-site, off-site, or else included in the general waste stream.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Building manager arranges collection for e-waste recycling as needed by residents.
Bulky Items	Items that are to too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	Residents liaise with building manager to store in Bulky Goods Room. Building manager arranges with Council for removal.
Other	Other recyclable items that require special recovery may include ink cartridges, batteries, chemical waste, fluorescent tubes, etc.	Resource Recovery Facility	Building manager arranges collection by appropriate recycling services when required.

8 EDUCATION

Educational material encouraging correct separation of general waste and recycling must be provided to each resident. This should include the correct disposal process for bulky waste such as old furniture, large discarded items, and other materials including electronic and chemical wastes. It is recommended that the building caretaker provide information in multiple languages to support correct behaviours, and to minimise the possibility of chute blockages and contamination in communal bins.

Education and communication must be provided consistently on a regular basis to encourage behaviour change and account for transient building personnel such as new residents, tenants, or cleaning staff. It is also recommended that the owners' corporation website contain information for residents' referral regarding use of the chute. Information should include:

- Directions on using the chute doors;
- Descriptions of items accepted in the general waste and recycling streams (refer to Council guidance);
- How to dispose of bulky waste and any other items that are not general waste, recycling or FOGO (refer to Council guidance);
- Residents' obligations to health and safety as well as building management; and
- How to prevent damage or blockages to the chute (example below).

8.1 SIGNAGE

Signage and education are essential components to support best practice waste management including resource recovery, source separation, and diversion of waste from landfill.

Signage should include:

- Clear and correctly labelled bins,
- Instructions for separating and disposing of waste items. Different languages should be considered,
- Locations of, and directions to, the waste storage areas with directional signs, arrows, or lines,
- The identification of all hazards or potential dangers associated with the waste facilities, and
- Emergency contact information should there be issues with the waste systems or services in the building.

The building manager is responsible for waste room signage including safety signage. Appropriate signage must be prominently displayed on doors, walls and above all bins, clearly stating what type of waste or recyclables is to be placed in each bin.

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

8.2 POLLUTION PREVENTION

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:

- Promoting adequate waste disposal into the bins
- Securing all bin rooms (whilst affording access to staff/contractors)
- Prevent overfilling of bins, keep all bin lids closed and bungs leak-free
- Taking action to prevent dumping or unauthorised use of waste areas
- Require collection contractor/s to clean up any spillage when clearing bins

9 EQUIPMENT SUMMARY

Table 4: Equipment Summary

	Part	Qty	Notes
Chutes	Please refer to supplier's information	2	(See APPENDIX B.1 for Typical Dual Chute Layout)
Chute Equipment	**Waste** 2-bin 1100L MGB Linear Track System without Compactor	1	(See APPENDIX B.2 for Typical Linear System)
	Recycling 2-bin 1100L MGB Linear Track System without Compactor	1	(See APPENDIX B.2 for Typical Linear System)

10 WASTE ROOMS

The areas allocated for waste storage and collection areas are detailed in the table below, and are estimates only. Final areas will depend on room and bin layouts.

Table 5: Option A – Bulky Waste Areas within Communal Bin Rooms

Level	Waste Room Type	Equipment and MGBs	Estimated Area Required (m^2)
GF	Chute Discharge Room	General waste: 12 x 1100L MGBs Recycling: 12 x 1100L MGBs 2 x 2-bin 1100L linear track systems	95
	Temporary Bin Collection Room	General waste: 12 x 1100L MGBs Recycling: 12 x 1100L MGBs	60
	Bulky Waste Room	**Stored within Temporary Bin Collection Room prior to collection**	10

EFC recommends bins sizes, collection frequencies and/or equipment for best practice waste management at this site, however EFC also acknowledges there are a range of other suitable options that may alter waste room requirements (e.g. floor area, accessibility, head height, etc.) The waste room areas have been calculated based on equipment requirements and/or bin dimensions with an additional 70% of bin GFA factored in for manoeuvrability.

In addition, all doorways and passageways facilitating the movement of bins and/or bulky waste items must be at least 1500mm wide. The following table provides further waste room requirements.

Table 6: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Chute Discharge Room	• Ceiling clearance height must be a minimum of 3000mm (subject to penetration location) • The chute penetration must have a minimum 500mm clearance of any service pipes or other overhead obstacles • All chute discharge points should be caged off to ensure the safety of any personnel accessing the waste room • 200mm clearance is required around compaction equipment • Where a chute offset is required, the angle of the offset must not exceed 30 degrees (subject to number of consecutive offset and/or up to 1500mm)
Temporary Bin Holding Room	• Bins must not be stacked in rows that are more than two bins deep.
Bulky Waste Room	• May be a dedicated room or screened area within another waste room • Must be in close proximity to the collection area • Area must also be allocated for the segregation of e-waste, gas bottles, cardboard, etc. • Doorway should be a minimum of 1500mm wide

11 BIN MOVING PATHS

The building caretaker is responsible for the transportation of bins as required from their designated operational locations to the bin holding room as required and returning them once emptied to resume operational use.

Transfer of bins should minimise manual handling where possible, as bins become heavy when full. The building manager must assess manual handling risks and provide any relevant documentation to key personnel.

The routes along the bin moving path should;

- Allow for a continuous route that is wholly within the property boundary.
- Be free from obstruction and obstacles such as steps and kerbs.
- Be constructed of solid materials with a non-slip surface
- Be a minimum of 300mm wider than the largest bin used onsite.
- If bins are moved manually, the route must not exceed a grade of 1:14.
- If a bin moving device is used, the route cannot exceed the maximum operating grade of the device. This is typically a grade of 1:4, however this will vary depending on the model of bin moving device acquired for the site.

The developer is responsible for suppling all equipment required for moving bins this includes any bin lifters, bin moving devices and waste transfer bins. This equipment must be new and appropriate for the site. The developer should contact a bin-tug, trailer or tractor consultant to provide equipment recommendations.

Once the site is operational (and the developers is no longer involved) the building proprietors/strata/ owner's corporation will be responsible for maintaining, repairing and replacing waste management equipment.

12 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the Brisbane City Council *Refuse Planning Scheme Policy SC6.26 (2014),* in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area.

The *NSW Better Practice Guide for Resource Recovery in Residential Developments (2019)* also states that better practice bin storage areas should achieve more than the minimum compliance requirements, which are as follows:

- Ensuring BCA compliance, including ventilation. Where required, ventilation system must comply with AS1668.4-2012 The use of ventilation and air conditioning in buildings.
- Ensuring storage areas are well lit (sensor lighting preferred) and have lighting available 24 hours a day.
- Provision of bin washing facilities, including taps for hot and cold water provided through a centralised mixing valve. The taps must be protected from bins and be located where they can be easily accessed even when the area is at bin capacity.
- Floor constructed of concrete at least 75mm thick.
- Floor graded so that any water is directed to a sewer authority approved drainage connection to ensure washing bins and/or waste storage areas do not discharge flow into the stormwater drain.
- Provision of smooth, cleanable and durable floor and wall surfaces that extend up the wall to a height equivalent to any bins held in the area.
- Ensuring ceilings are finished with a smooth-faced non-absorbent material capable of being cleaned.
- All surfaces (walls, ceiling and floors) finished in a light colour.

11.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- Tap height and light switch 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 finished floor level;
- Optional automatic odour and pest control system installed
- If 660L or 1100L bins are utilised, 2 x 820mm (minimum) double-doors must be used;
- All personnel doors are hinged, lockable and self-closing;
- Conform to the Building Code of Australia, Australian standards and local laws; and
- Childproofing and public/operator safety shall be assessed and ensured
- Waste and recycling rooms must have their own exhaust ventilation system either;
    - Mechanically - exhausting at a rate of 5L/m² floor area, with a minimum rate of 100L/s minimum; Mechanical exhaust systems shall comply with AS1668.4.2012 and not cause any inconvenience, noise or odour problem or
    - Naturally - permanent, unobstructed, and opening direct to the external air, not less than one-twentieth (1/20) of the floor area.

13 USEFUL CONTACTS

EFC does not warrant or make representation for goods or services provided by suppliers.

LOCAL COUNCIL

Brisbane City Council Customer Service	Ph: (07) 3403 8888

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Remondis	Ph: 02 9032 7100	
Suez Environmental	Ph: 13 13 35	
Wastewise NSW	Ph: 1300 550 408	E: admin@wastewise.com.au

BIN MOVING DEVICE SUPPLIERS

Electrodrive	Ph: 1800 333 002	E: sales@electrodrive.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au
Spacepac	Ph: 1300 763 444	

ORGANIC DIGESTERS AND DEHYDRATORS

Closed Loop	Ph: 1300 762 166	
Orca		E: contact.australia@feedtheorca.com
Soil Food	Ph: 1300 556 628	
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

EF Neutralizer	Ph: 1300 435 374	E: info@elephantsfoot.com.au

SOURCE SPERATION BINS

Source Separation Systems	Ph: 1300 739 913	E: info@sourceseparationsystems.com.au

MOBILE GARBAGE BINS, BULK BINS AND BIN EQUIPMENT

SULO	Ph: 1300 364 388	E: sales@sulo.com.au
OTTO Australia	Ph: 02 9153 6999	

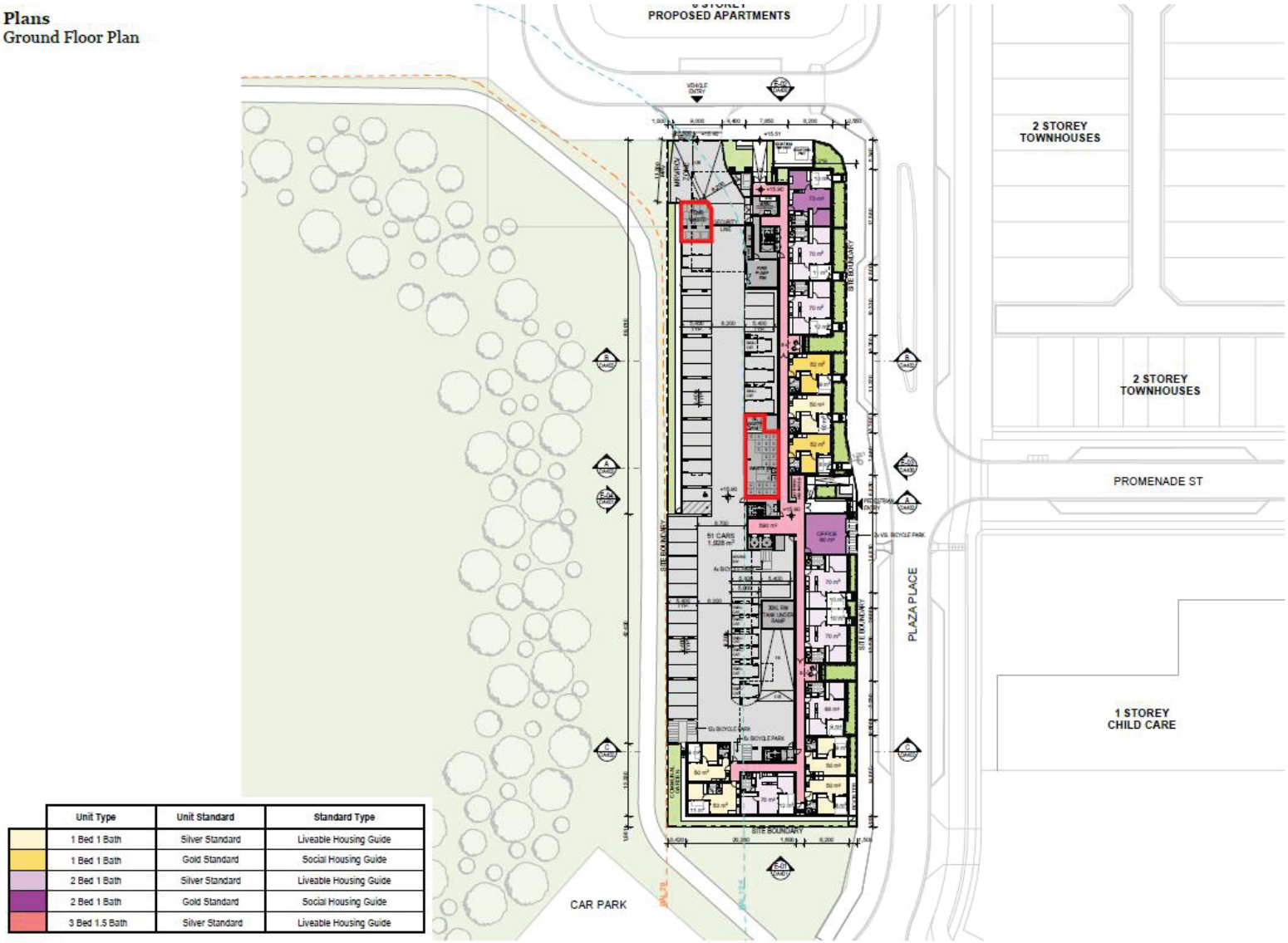
CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot	Ph: 1800 025 073	E: info@elephantsfoot.com.au

APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 GROUND FLOOR PLAN

Plans
Ground Floor Plan



	Unit Type	Unit Standard	Standard Type
	1 Bed 1 Bath	Silver Standard	Liveable Housing Guide
	1 Bed 1 Bath	Gold Standard	Social Housing Guide
	2 Bed 1 Bath	Silver Standard	Liveable Housing Guide
	2 Bed 1 Bath	Gold Standard	Social Housing Guide
	3 Bed 1.5 Bath	Silver Standard	Liveable Housing Guide

Source: DKO Architecture, Drawing no. DA302, Revision A, 19.08.2024 – Ground Floor Plan.

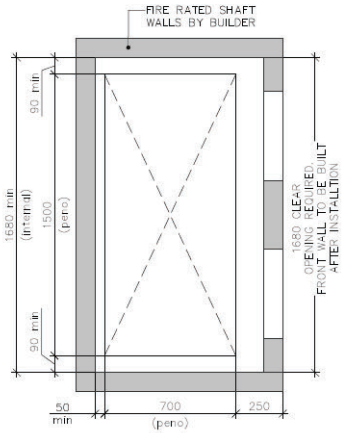
APPENDIX B: INSTALLATION EQUIPMENT

APPENDIX: B.1 TYPICAL DUAL CHUTE SHAFT & PENETRATION LAYOUT

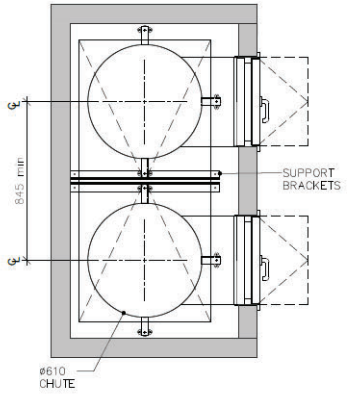
Chute Solutions.™
an Elephants Foot Company

CHUTE SHAFT & PENETRATION SET-OUT

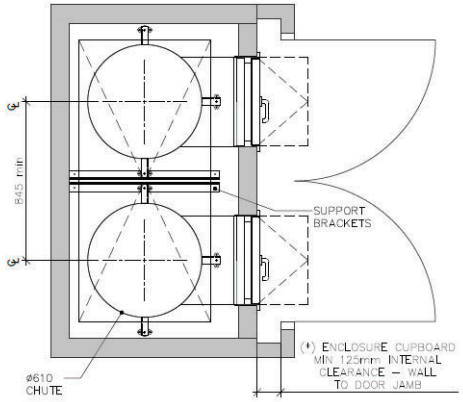
DUAL Ø610 STEEL



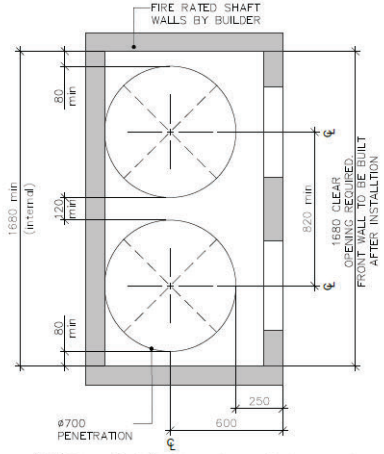
01 DUAL (610ø) GALV. STEEL CHUTE LAYOUT PENETRATION SET–OUT



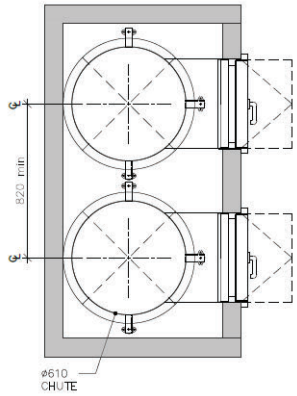
02 DUAL (610ø) GALV. STEEL CHUTE LAYOUT



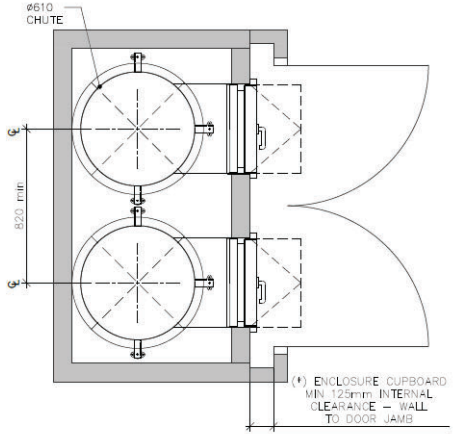
03 DUAL (610ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)



04 DUAL (610ø) GALV. STEEL CHUTE LAYOUT WITH CIRCULAR PENETRATION SET–OUT



05 DUAL (610ø) GALV. STEEL CHUTE LAYOUT (W/ CIRCULAR PENETRATION)



06 DUAL (610ø) GALV. STEEL CHUTE LAYOUT with ENCLOSURE CUPBOARD (*)

(*) NOTE: ENCLOSURES ARE RECOMMENDED IF THE CHUTE OPENS DIRECTLY TO A CORRIDOR OR IS NOT LOCATED IN A WASTE ROOM. IF CHUTE ACCESS IS WITHIN A WASTE ROOM THEN THE CUPBOARD ENCLOSURES ARE NOT REQUIRED.

SCALE 1:25 @ A3

Chute Shaft & Peno – Ver 1.2 April 26, 2022

Please Note: This is an example only – please refer to supplier's information and specification.

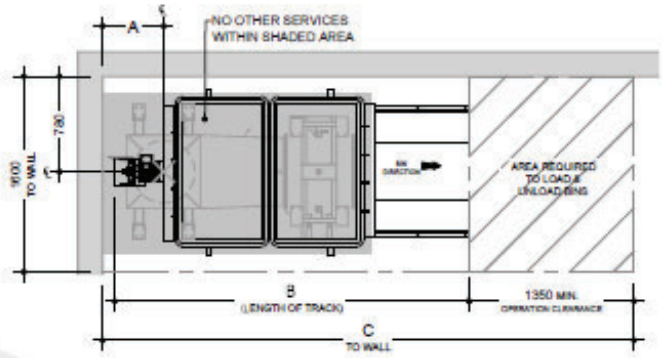
Chute Solutions.™
an Elephants Foot Company

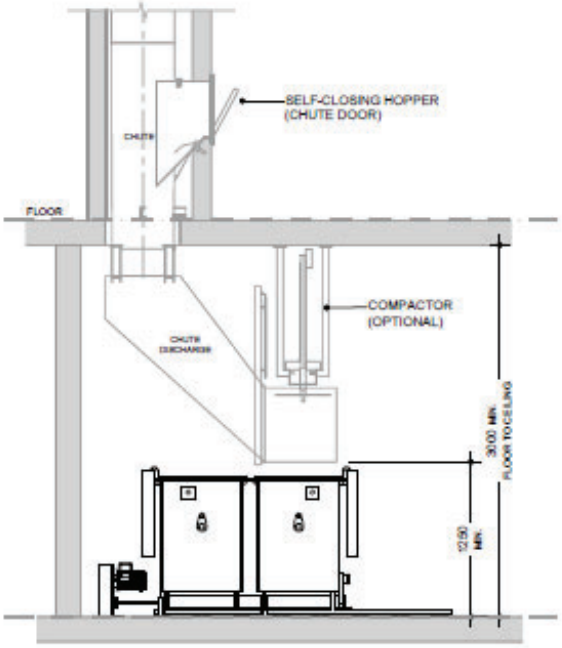
ELEPHANTS FOOT

660 LITRE LINEAR TRACK SYSTEM

No. of Bins	Reference (mm)		
	A	B	C
2	500	2950	4350
3	1450	4650	6050
4	2300	6300	7750

Available with or without compaction unit, our standard 240 litre bin Linear Track System can support 2, 3 or 4 bin quantities.





Notes:
Bins not provided by Elephants Foot

Drawings shown are for general information purposes only and provide minimum equipment spacial requirements for waste room design.

These drawings are not intended for site specific use or for construction. Each project is unique and will be designed to suit.

Additional equipment options, systems and configurations are available. For design assessment, information and advice, please contact an Elephants Foot design consultant on 1300 435 374

Please Note: This is an example only – please refer to supplier's information and specification

ELEPHANTS FOOT recycling solutions

ELEPHANTS FOOT RECYCLING SOLUTIONS
44-46 GIBSON AVE. PADSTOW NSW 2211
E info@elephantsfoot.com.au W elephantsfoot.com.au
Free Call: 1300 4 ELEPHANT (1300 435 374)

1100 LITRE LINEAR TRACK SYSTEM

PRODUCT INFORMATION

Elephants Foot 1100 Litre bin Linear Track System is a versatile waste handling solution for many types of multi-storey or multi-level developments. The Linear Track System collects waste or recycling being disposed from the floors above through the chute system, discharging the material via a hopper that feeds the bins. Electromechanically driven with automated operation, the system utilises linear motion to automatically change over full bins. Once all the bins are filled, an indicator light will illuminate signifying that the bins are ready for withdrawal and collection. Available with or without compaction unit, our standard 660 litre bin Linear Track System is available in the standard 2 bin option. Our 3 Bin option is available as a special order.

SPECIFICATIONS

System Control	Electric PLC
Power Supply	415 V AC / 10A / 5 PIN
Motor Size (kW)	1.1
Maximum bin load	440 kg
Noise (dBA)	<85
Bin Size (L)	1100
Cycle time (sec)	60
Bin Quantity options	2 or 3

OPTIONAL EXTRAS

- Compaction unit – Please refer to the bin compactor product information sheet for details and specifications
- Enhanced safety add on's – Interlocking barriers, occupancy sensors or safety light curtains (presence sensing light barriers)
- Full bin SMS and email notification
- CMMS and BMS integration
- Extend warranty – Terms and conditions apply

STANDARD FEATURES & BENEFITS

- Simple operation with user friendly controls
- Increased waste servicing efficiency for the development.
- Automatic system control with manual override
- Robust unit construction for long performance life
- Low service and maintain costs
- Rotating flashing beacon (activated during operation)
- Quiet and efficient system operation
- Maximise safety for residents, caretakers and collectors
- Restrained design with minimal moving parts
- Can suit low ceiling clearances
- Floor contact components fully galvanised steel
- Retro fitting options to suit other chutes systems
- Compliant with relevant Building Codes and Standards
- Standard 12 month warranty

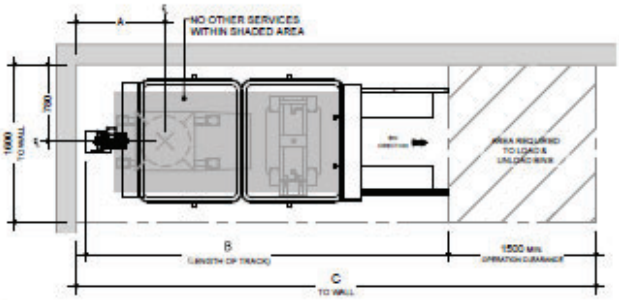
Chute Solutions.™
an Elephants Foot Company

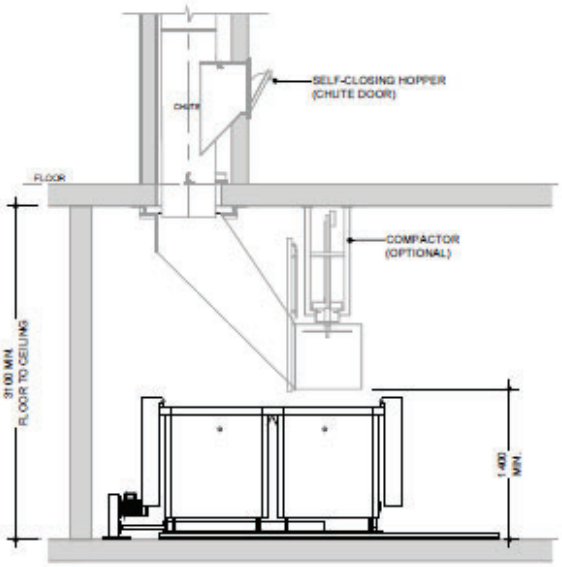
ELEPHANTS FOOT

1,100 LITRE LINEAR TRACK SYSTEM

No. of Bins	Reference (mm)		
	A	B	C
2	900	3700	5300
3	2100	5940	7550

Available with or without compaction unit, our standard 1100 litre bin Linear Track System is available in the standard 2 bin option. Our 3 Bin option is available as a special order.





Notes:
Bins not provided by Elephants Foot

Drawings shown are for general information purposes only and provide minimum equipment spacial requirements for waste room design.

These drawings are not intended for site specific use or for construction. Each project is unique and will be designed to suit.

Additional equipment options, systems and configurations are available. For design assessment, information and advice, please contact an Elephants Foot design consultant on 1300 435 374

Please Note: This is an example only – please refer to supplier's information and specification

APPENDIX C: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 TYPICAL BIN SPECIFICATIONS

Mobile bins

Mobile bins come in a variety of sizes and are designed for lifting and emptying by purpose-built equipment.

Mobile bins with capacities of up to 1700L must comply with *AS4123.6-2006 Mobile waste containers* which specifies standard sizes and sets out the colour designations for the bodies and lids of mobile waste containers indicating the type of materials they are used to collect.

The most common bin sizes are provided below, although not all sizes are shown. The dimensions are a guide only and differ slightly between manufacturers. Some bins have flat or domed lids and are used with different lifting devices. Refer to *AS4123.6-2006* for further details.

Table G1.1: Average dimension ranges for two-wheel mobile bins

Wheelie bin

Bin capacity	80L	120L		140L		240L	360L
Height (mm)	870	940	1065	1080	1100		
Depth (mm)	530	530		540		735	820
Width (mm)	450	485		500		580	600
Approximate footprint (m^2)	0.24	0.26–0.33		0.27-0.33		0.41–0.43	0.49
Approximate weight (kg)	8.5	9.5		10.4		15.5	23
Approximate maximum load (kg)	32	48		56		96	Not known

Sources include Sulo, Single Waste, Cleanaway, SUEZ, just wheelie bins and Perth Waste for two-wheel mobile bins

Table G1.2: Average dimension ranges for four-wheel bulk bins

Dome or flat lid container

Bin capacity	660L	770L	1100L	1300L	1700L
Height (mm)	1250	1425	1470	1480	1470
Depth (mm)	850	1100	1245	1250	1250
Width (mm)	1370	1370	1370	1770	1770
Approx footprint (m^2)	0.86–1.16	1.51	1.33–1.74	2.21	2.21
Approx weight (kg)	45	Not known	65	Not known	Not known
Approx maximum load (kg)	310	Not known	440	Not known	Not known

Sources include Sulo, Signal Waste, Cleanaway, SUEZ, Just Wheelie Bins and Perth Waste

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: C.2 SIGNAGE FOR WASTE AND RECYCLING BINS

Waste signs

Signs and educational materials perform several functions including:

- informing residents why it is important to recover resources and protect the environment
- providing clear instructions on how to use the bins and services provided
- alerting people to any dangers or hazards within the bin storage areas.

All waste, recycling and organic bins should be Australian Standard colours and clearly and correctly labelled, such as by a sticker on the lid and/or the body of the bin.

Communal bin storage areas should be clearly signposted with signs outlining how to correctly separate waste into the bins provided. The local council responsible for waste services may be a good source of signs and posters and can advise on what signs are suitable.

Information on who to contact to find out more about the recycling and/or other resource recovery services in the building should also be displayed in communal areas, such as on a noticeboard.

The Planet Ark website also has resources available free of charge for use by businesses and councils. These signs can be found at businessrecycling.com.au/research/signage.cfm

Figure I1.1: Examples of waste wall posters (EPA supplied)

Figure I1.2: Examples of bin lid stickers (EPA supplied)

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

Problem waste signs

The EPA has also produced a range of images and signs that can be used for problem wastes, such as fluoro globes and tubes, household and car batteries, e-waste and smoke detectors. To access these resources, contact the NSW EPA. Some examples are shown below.

Figure I2.1: Problem waste signs

Safety signs

The use of safety signs for waste resource recovery rooms must comply with *AS1319 Safety signs for occupational environments*. Safety signs must be used to regulate and control safety related to behaviour, warn of hazards and provide emergency information, including fire protection information. Suitable signs should be decided for each development as required.

Figure I3.1: Example safety signs

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: C.3 TYPICAL COUNCIL COLLECTION VEHICLE INFORMATION

Vehicle type and description	Specifications	Measurements
Rear loading collection vehicle Commonly used for domestic garbage and recycling collections from multiple dwellings. Rear loading collection vehicles can be used to collect waste stored in mobile garbage bins or bulk bins, particularly where bins are not presented on the kerbside	Length overall	10.24m
	Width overall	2.5m
	Operational height	3.6m
	Travel height	3.6m
	Turning circle kerb to kerb	R9.5m
	Turning template	As per BSD-3008-2

Source: Brisbane City Council Refuse Planning Scheme Policy SC6.26 (2014)

APPENDIX: C.4 TYPICAL BIN SPECIFICATIONS

Bin type	Capacity	Dimensions (width x height x depth in mm)
Side lift	140L 240L	535 x 915 x 615 585 x 1060 x 730
Rear lift	140L 240L 660L 1100L	535 x 915 x 615 585 x 1060 x 730 1260 x 1235 x 780 1280 x 1340 x 1080
Front lift	1000L 1500L 2000L 3000L 4500L	1480 x 1300 x 1040 2080 x 1300 x 1040 2080 x 1300 x 1255 2080 x 1538 x 1505 2080 x 1675 x 1845

Source: Brisbane City Council Refuse Planning Scheme Policy SC6.26 (2014)

APPENDIX D: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: D.1 TYPICAL WORM FARM SPECIFICATIONS

Worm farms

Worm farms or vermiculture systems transform food and other organic material into vermicast (worm compost) and vermi-liquid (liquid extraction from a worm farm). Seafood, seafood shells, meat or bones, and dairy products are not an acceptable part of the worms' diet and should not be appled to these systems. Worm farms can occupy a small footprint and be located on balconies or in gardens. The worm farm should be placed in a sheltered position to avoid getting too hot in summer.

Worm farms come in different sizes and designs and are sold through hardware stores and often at local government offices. Medium and large-scale worm farms can service many households and commercial acticities. These larger systems need a management process to ensure they are properly maintained.

Onsite composting

Compost tumblers and bins and compost bays transform food and other organic material into useful soil enhancer (compost). They are more versatile than worm farms as they can generally process a wider range of materials, including woody garden organics and can be placed in the sun. A variety of compost bins and tumblers are available from hardware stores or some local councils. There are also various online resources on how to construct them using recycling materials such as timber pallets. The footprint area requirement for a typical single household compost bin is about 1m x 1m x 1m.

Before setting up an onsite composter or worm-farm system, check with council for any local requirements such as setback distances from property boundaries.

Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: D.2 EXAMPLE APARTMENT STYLE COMPOST BIN

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