



Meriden School, 13 Margaret St, 16 Margaret St and
4 Vernon St Strathfield NSW

OPERATIONAL WASTE MANAGEMENT PLAN

7/05/2019
Report No. 100131
Revision D

Client

Meriden School

10-12 Redmyre Rd Strathfield NSW
<http://www.meriden.nsw.edu.au/>
T 9752 9444 • E enquires@meriden.nsw.edu.au

Architect

Allen, Jack & Cottier Architects

79 Myrtle St Chippendale SYDNEY NSW 2008
<http://architectsajc.com/>
T 02 9311 8222 • E enquiries@architectsajc.com

ELEPHANTS FOOT RECYCLING SOLUTIONS • ABN 70 001 378 294
44-46 Gibson Ave Padstow NSW 2211
www.elephantsfoot.com.au





T +612 9780 3500 • F +612 9707 2588
E info@elephantsfoot.com.au

SCOPE

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

The waste management of the **construction** and **demolition** phases of the development are not addressed in this report. It is EFRS's understanding that a construction and demolition WMP will be completed by a separate party appointed by the developer and submitted separately to this report. Typically, the head contractor of the site will be responsible for removing all construction-related waste offsite in a manner that meets all authority requirements.

REVISION REFERENCE

Revision	Date	Prepared by	Reviewed by	Description	Signed
A	28/03/2019	H Wilkes	A Armstrong	Draft	
B	16/04/2019	H Wilkes	A Armstrong	Amendment	
C	1/05/2019	H Wilkes	A Armstrong	Final	
D	7/05/2019	H Wilkes	A Armstrong	Amendment	

The information contained in this document produced by Elephants Foot Recycling Solutions (EFRS) is solely for the use of the client identified on the cover sheet for the purpose for which it has been prepared for. EFRS undertakes no duty, nor accepts any responsibility for any third party who may rely upon this document. Reproduction, publication or distribution of this document without written permission from EFRS is strictly prohibited.

TABLE OF CONTENTS

LIST OF TABLES.....	iv
TABLE OF FIGURES.....	iv
GLOSSARY OF TERMS.....	i
INTRODUCTION	2
REPORT CONDITIONS.....	3
DEVELOPMENT SUMMARY	4
SITE LOCATION.....	5
STRATHFIELD COUNCIL.....	6
COUNCIL OBJECTIVES.....	6
COUNCIL REQUIREMENTS.....	6
STAKEHOLDER ROLES AND RESPONSIBILITIES.....	7
EDUCATION.....	7
WASTE MANAGEMENT WITHIN THE NEW BUILDINGS.....	8
ESTIMATED WASTE VOLUMES.....	8
WASTE MANAGEMENT STRATEGY	9
SENIOR SCHOOL – DRAMA AND MUSIC CENTRE BUILDING	9
PREP SCHOOL – ADMINISTRATION AND STUDENT CENTRE BUILDING	9
JUNIOR SCHOOL - OUTDOOR PLAY AND LUNCH AREAS	9
WASHROOMS	10
STAFF FACILITIES AND TEA ROOMS	10
MANAGEMENT OF SPECIALITY WASTE STREAMS.....	10
MOVEMENT AND TRANSPORTATION OF BINS	11
COLLECTION OF WASTE.....	11
USEFUL CONTACTS	12
APPENDICES.....	13
APPENDIX A ARCHITECTURAL DRAWING EXCERPTS	13
APPENDIX A.1 SITE PLAN	13
APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS	14
APPENDIX B.1 TYPICAL BIN SPECIFICATIONS	14
APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS.....	15
APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION	16

LIST OF TABLES

Table 1: Stakeholder Roles and Responsibilities.....	7
Table 2: Calculated Waste Generation – Senior School.....	8
Table 3: Calculated Garbage Generation – Prep School Admin.....	8

TABLE OF FIGURES

Figure 1 - Site Location	5
--------------------------------	---

GLOSSARY OF TERMS

TERM	DESCRIPTION
<i>Baler</i>	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
<i>Chute</i>	A ventilated, 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>Chute Discharge</i>	The point at which refuse exits from the refuse chute
<i>Chute Discharge Room</i>	A secure, enclosed area or room housing the discharge and associated equipment for the refuse chute
<i>Collection Area/Point</i>	The identified position or area where garbage 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>Green Waste</i>	All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers
<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>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>LRV</i>	Large rigid vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities as heavy rigid vehicle (HRV)
<i>Mobile Garbage Bin(s) (MGB)</i>	A waste container generally constructed of plastic with wheels with a capacity in litres of 120, 240, 360, 660, 1000 or 1100
<i>MRV</i>	Medium rigid vehicle
<i>Putrescible Waste</i>	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.
<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>SRV</i>	Small rigid vehicle as in AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities, generally incorporating a body width of 2.33

INTRODUCTION

Elephants Foot Recycling Solutions (EFRS) has been engaged to prepare the following waste management plan for Meriden School for the operational management of waste generated by the new buildings at the Meriden School located at 13 Margaret St, 16 Margaret St and 4 Vernon St Strathfield NSW 2135.

Waste management strategies and auditing are a requirement for new developments to provide support for the building design and promote strong sustainability outcomes for the building. It is EFRS'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. **Compliance** with all relevant council codes, policies, and guidelines.

To achieve these objectives, this WMP identifies the different waste streams likely to be generated during the operational phase of the development. Associated information includes: how the waste will be handled and disposed of, 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 waste management plan is integrated into the overall management of the building and clearly communicated to all relevant stakeholders.

REPORT CONDITIONS

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

- Drawings, estimates and information contained in this waste management plan have been prepared by analysing the information, plans and documents supplied by the client, 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.
- EFRS cannot be held accountable for late changes to the design after the WMP has been submitted to Council.
- EFRS will provide specifications and recommendations on bin access and travel paths within the WMP, however it is the architect's responsibility to ensure the architectural drawings meet these provisions.
- EFRS are not required to provide information on collection vehicle head heights, internal manoeuvring and loading requirements. These variables are considered to be within the applicable Traffic Consultants domain.
- Council are subject to changing waste and recycling policies and requirements at their own discretion.

This WMP has only been finalised once the Draft Watermark has been removed. If the Draft Watermark is present, the information in the WMP is not confirmed.

DEVELOPMENT SUMMARY

The proposed development falls under the LGA of Strathfield Council. The development will consist of the construction of new school facilities in the existing campuses of Meriden school. The buildings and facilities to be constructed is as follows:

Senior School Campus

- A new centre for music and drama, which will consist of;
 - A 4 level building with 2 basement levels
 - A total GFA of 2320m² for music and drama teaching facilities, including. class rooms, practices rooms, performing rooms, recording studio, storage areas, meeting rooms, staff rooms and print room.
- Also, the allowance for an additional 50 students to enrol at the senior school.

Junior School

- A new landscaped playground area.

Lingwood Prep School

- A new administration and student centre, which will consist of;
 - A 2 level building
 - A total GFA of 561m² for administration services and student areas including reception, IT services, meeting rooms, student lounge, locker and quite rooms.

The new buildings will utilise the waste facilities, waste strategy and waste collection services currently implemented at the Meriden School campuses.

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

SITE LOCATION

The sites are located at 13 Margaret St Strathfield, 16 Margaret St Strathfield and 4 Vernon St Strathfield as shown in Figure.1.

Figure 1 - Site Location



STRATHFIELD COUNCIL

The garbage and recycling will be guided by the services and acceptance criteria of the Strathfield Council. All waste facilities and equipment are to be designed and constructed to be in compliance with the Strathfield Council's *Strathfield Consolidated Development Control Plan 2005 – Part H Waste Minimisation and Management Plan*, Australian Standards and statutory requirements.

COUNCIL OBJECTIVES

- a) To maximise reuse and recycling of building and construction materials, household generation waste, industrial and commercial waste.
- b) To assist in achieving Federal and State Government waste minimisation targets.
- c) To minimise the overall environmental impacts of waste and to provide advice to the community on how to prepare Waste Management Plans, detailing actions to minimise waste generation and disposal.
- d) To provide advice to the community on matters to be considered when assessing the waste implications of applications made under the Environmental Planning and Assessment Act 1979 and the Local Government Act 1993.
- e) To require source separation and other design and location standards which complement waste collection and management services offered by Council and private operators.
- f) To provide advice to the community on how to reduce and handle waste during the demolition and construction phase.
- g) To encourage building designs and construction techniques that will minimise future waste generation.
- h) To provide details for the design and construction of waste handling storage facilities in buildings.
- i) To prevent large quantities of bins from being placed on street frontages and detracting from the visual amenity of the area by requiring onsite collection.
- j) To facilitate safe and practical collection options in new development for Council collection staff and contractors.
- k) To ensure that medium and high density development in the Parramatta Road Corridor are adaptable for future connection to an automated waste collection system.

COUNCIL REQUIREMENTS

Access – Ensure waste systems are easy to use and collection vehicles are able to access buildings to safely remove waste and recycling;

Safety – Ensure safe practises for storage, handling and collection of waste and recycling;

Pollution Prevention – Prevent stormwater pollution that may occur as a result of poor waste storage and management practises;

Noise Minimisation – Provide acoustic insulation to the waste service facilities or residential units adjacent to or above chutes, waste storage facilities, chute discharge, waste compaction equipment and waste collection vehicle access points;

Ecologically Sustainable Development (ESD) – Promote the principles of ESD through resource recovery and recycling leading to a reduction in the consumption of finite natural resources;

Hygiene – Ensure health and amenity for residents, visitors and workers in the Strathfield Council.

STAKEHOLDER ROLES AND RESPONSIBILITIES

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

Table 1: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Strata/Management	<ul style="list-style-type: none"> Ensuring that all waste service providers submit monthly reports on all equipment movements and waste quantities/weights; Organising internal waste audits/visual assessments on a regular basis; and Manage any non-compliances/complaints reported through waste audits.
School Management or Groundskeeper	<ul style="list-style-type: none"> Ensuring effective signage, communication and education is provided to students, staff and cleaners; Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management activities; Ensuring site safety for students, visitors, staff and contractors; Abiding by all relevant OH&S legislation, regulations, and guidelines; Assessing any manual handling risks and prepare a manual handling control plan for waste and bin transfers; Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) Cleaning and transporting of bins as required; Organising, maintaining and cleaning the general and recycled waste holding area; Organising both garbage and recycled waste pick-ups as required; Organising replacement or maintenance requirements for bins; Organising bulky goods collection when required; and Investigating and ensuring prompt clean-up of illegally dumped waste materials.
Cleaners, Staff and Students	<ul style="list-style-type: none"> Dispose of all garbage and recycling in the allocated MGBs provided; Ensure adequate separation of garbage and recycling; and Compliance with the provisions of Council and the WMP.
Private Waste Contractor	<ul style="list-style-type: none"> Provide a reliable and appropriate waste collection service; Provide feedback to School Caretaker in regards to contamination of recyclables; and Work with building managers to customise waste systems where possible.
Gardening/Landscaping Contractor	<ul style="list-style-type: none"> Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Building Contractors	<ul style="list-style-type: none"> Removing all construction related waste offsite in a manner that meets all authority requirements.

EDUCATION

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

Educational material encouraging the correct separation of garbage and recycling items must be provided to each staff member, cleaners and students to ensure the correct disposal of waste and minimise the possibility of contamination in the waste and recycling bins.

WASTE MANAGEMENT WITHIN THE NEW BUILDINGS

The waste generation rates have been sourced from industry standards and Randwick City Council's Waste Management Guidelines for Proposed Developments. Calculations are based on generic figures; waste generation rates may differ according to the school's waste management practice.

ESTIMATED WASTE VOLUMES

The following table shows the estimated volume (L) of garbage and recycling generated by the new component of the school. A five day operating week has been assumed.

Table 2: Calculated Waste Generation – Senior School

Type	GFA (m ²)	Garbage Generation Rate (L/100m ² /day)	Generated Garbage (L/week)	Recycling Generation Rate (L/100m ² /day)	Generated Recycling (L/week)
Drama and Music Centre Facilities	2320	10	1160	10	1160
# Students		Garbage Generation Rate (L/students/day)	Generated Garbage (L/week)	Recycling Generation Rate (L/student/week)	Generated Recycling (L/week)
50		1.5	375	0.5	125
TOTAL			1535		1285

Table 3: Calculated Garbage Generation – Prep School Admin

Type	NLA (m ²)	Garbage Generation Rate (L/100m ² /day)	Generated Garbage (L/week)	Recycling Generation Rate (L/100m ² /day)	Generated Recycling (L/week)
Adminstration and Student Centre Facilites	561	10	280.5	10	280.5
TOTAL	561		280.5		280.5

WASTE MANAGEMENT STRATEGY

The new buildings on each campus will share waste and recycling areas, bins and collections services with the existing site.

For general waste, the three campuses currently share 1x 4.5m³ bulk bin located in the Junior School. At the end of each day, cleaners or school caretakers empty the receptacles for general waste and transport them into the 4.5m³ bulk bin for collection. A private contractor currently collects this bulk bin daily.

For paper recycling, each campus currently has a yellow lid 240L MGBs for the collection of secure document paper and blue lid 240L MGBs for the collection of general paper recycling. The 240L MGBs for general paper recycling and secure document destruction are located within the bin area for each campus. A private contractor is engaged to collect the blue lid 240L MGBs twice weekly and yellow lid 240L MGBs as requested.

It has been assumed that the bins currently use on site can accommodate the additional waste from the new buildings.

It is the responsibility of the school caretaker to monitor the number of bins required for the school campuses. 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. School management will be required to negotiate any changes to bins or collections with the collection service provider. Seasonal fluctuations i.e. school holidays should also be considered.

SENIOR SCHOOL – DRAMA AND MUSIC CENTRE BUILDING

The areas with high levels of activity such as classrooms, practice rooms and staff rooms as well as circulation areas should be supplied with suitably branded waste and recycling receptacles where considered appropriate. Garbage and recycling receptacles should be located in convenient locations and in areas of high waste generation.

The printer room should be supplied with a bin for the collection of paper waste.

The cleaners will circulate throughout the building after hours and empty the waste and recycling receptacles situated throughout the building. The cleaners will then transport the waste and recycling to the collection bins within the campuses and dispose of the waste and recycling into the appropriate bins.

PREP SCHOOL – ADMINISTRATION AND STUDENT CENTRE BUILDING

Receptacles for the collection of waste and recycling will be placed centrally within each space. It is recommended that bins are placed in areas with high traffic or high waste generation.

In the administration areas, bins for general waste and recycling will also be placed next to each desk or work station.

The cleaners will circulate around the school after hours and perform cleaning tasks. The cleaners will transport the waste and recycling receptacles to the collection bins and dispose of the waste and recycling into the appropriate bins.

JUNIOR SCHOOL - OUTDOOR PLAY AND LUNCH AREAS

It has been assumed that the landscaped areas will not contribute additional waste generation in operation.

OPERATIONAL WASTE MANAGEMENT PLAN

The waste and recycling primary generated in the outdoor areas will likely be associated with the student's lunches. Waste and recycling bins should be placed throughout the outdoor areas in easily accessible areas to minimise littering. The students will be responsible for disposing of their waste and recycling into these bins.

The school caretaker or cleaners will be responsible for emptying these bins into the collection bins.

WASHROOMS

Washroom facilities should be supplied with collection bins for paper towels (if used). The cleaners will empty the washroom bins as required.

Sanitary bins for female restroom facilities must also be arranged with an appropriate contractor.

STAFF FACILITIES AND TEA ROOMS

Any food preparation areas, including kitchens and office tea rooms will be provided with dedicated source separation bins including a general garbage bins and a recycling bin. The cleaners will be responsible for monitoring the fullness of these bins and emptying them as required.

MANAGEMENT OF SPECIALITY WASTE STREAMS

It is recommend that the management of the speciality waste streams generated in the new buildings is consistent with management currently implemented within the campuses.

The school caretaker is responsible for making arrangements for the disposal and recycling of specialised waste streams with an appropriate contractor. Specialised wastes cannot be placed in general waste as they can have adverse impacts to human health and the environment if disposed of in landfill.

Specialised waste streams include:

- | | |
|--------------------|--------------|
| ○ Chemical Waste | ○ Lightbulbs |
| ○ Liquid wastes | ○ eWaste |
| ○ Toner cartridges | ○ Batteries |

MOVEMENT AND TRANSPORTATION OF BINS

The cleaners and groundkeepers are responsible for the transportation of bins from their designated operational locations to the collection area when full and returning them once emptied to resume operational use.

Transfer of waste and all bin movements should minimise manual handling where possible; the operator must assess manual handling risks and provide any relevant documentation to building management.

COLLECTION OF WASTE

The new buildings will utilise the existing waste collection areas and services currently used within the operating campuses. As the collection service arrangements are existing and currently operating, it is understood that no adjustment to the loading areas or collection strategy are required at this stage to accommodate the new buildings.

At present, a private contractor is engaged to collect the waste and recycling bins to an agreed schedule. The private contractors collect the designated bins from their storage locations within each campus.

Waste and recycling volumes may change according to students and staff's attitudes to waste disposal and recycling, the number of students and staff within each campus or school's management. If required in operation, waste and recycling collection frequencies can be increased to increase the capacity of the school's waste management facilities.

USEFUL CONTACTS

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

STRATHFIELD COUNCIL CUSTOMER SERVICE

Phone: (02) 9748 9999

Email: council@strathfield.nsw.gov.au

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

Phone: 1300 364 388

ELECTRODRIVE (Bin Mover)

Phone: 1800 333 002

Email: sales@electrodrive.com.au

RUD (Public Place Bins, Recycling Bins)

Phone: 07 3712 8000

Email: Info@rud.com.au

CAPITAL CITY WASTE SERVICES (Private Waste Services Provider)

Phone: 02 9399 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

PURIFYING SOLUTIONS (Odour Control)

Phone: 1300 636 877

Email: sales@purifyingsolutions.com.au

MOVEXX (Bin Movers)

Phone: 1300 763 444

AUSCOL (Recycling Oils & Animal Fats)

Phone: 1800 629 476

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

44 – 46 Gibson Avenue

Padstow NSW 2211

Free call: 1800 025 073

Email: info@elephantsfoot.com.au

APPENDICES

APPENDIX A ARCHITECTURAL DRAWING EXCERPTS

APPENDIX A.1 SITE PLAN



APPENDIX B PRIMARY WASTE MANAGEMENT PROVISIONS

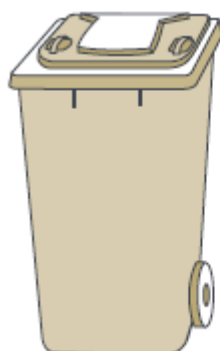
APPENDIX B.1 TYPICAL BIN SPECIFICATIONS

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

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

OPERATIONAL WASTE MANAGEMENT PLAN

APPENDIX B.2 SIGNAGE FOR WASTE & RECYCLING BINS

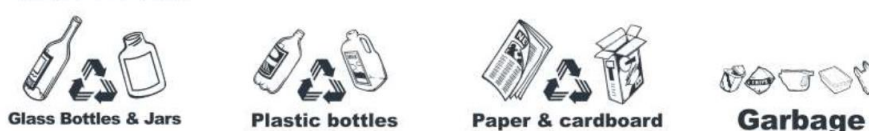
WASTE SIGNS

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

Example wall posters



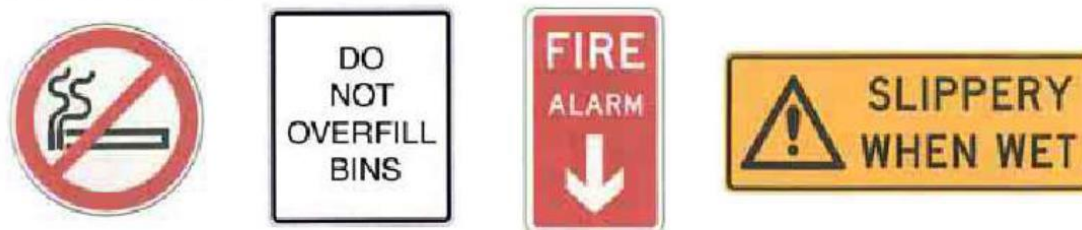
Example bin lid stickers



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).

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

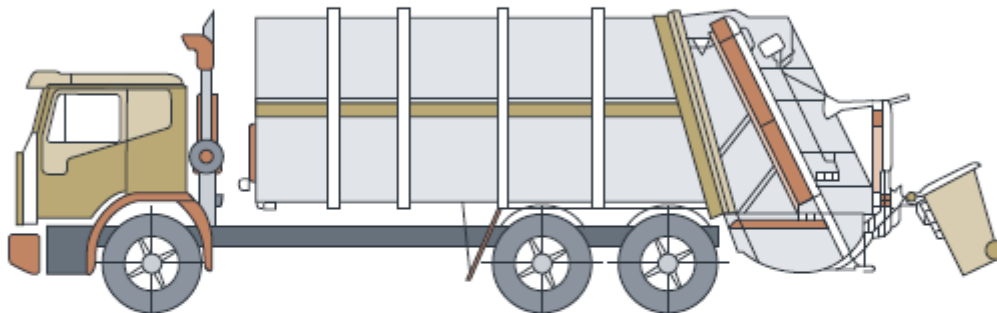
APPENDIX B.3 TYPICAL COLLECTION VEHICLE INFORMATION

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.

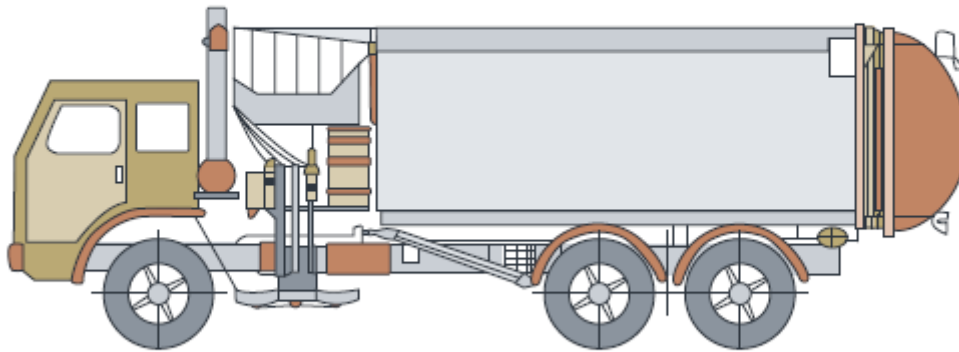


Rear loading collection vehicle

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.

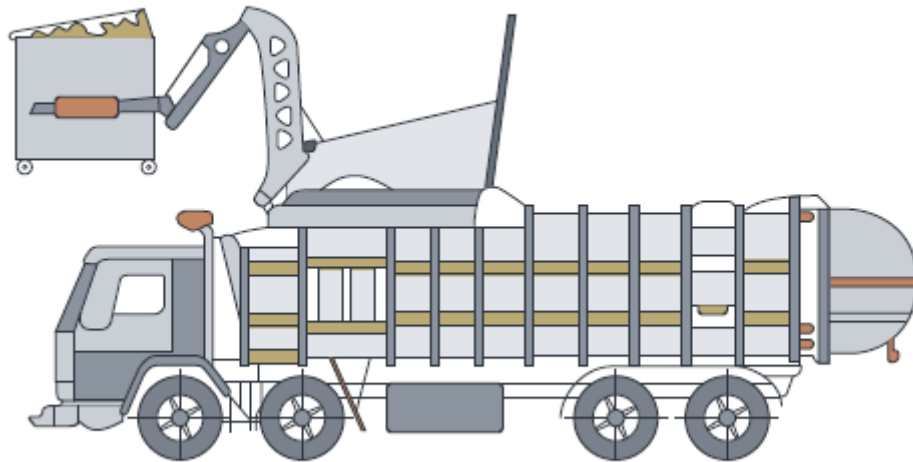
Side-loading collection vehicle



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.

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).

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