

Attachment A26

**Concept operational waste management
plan**



150 Day Street, Sydney NSW 2000
Hotel Development

CONCEPT OPERATIONAL WASTE MANAGEMENT PLAN

27/08/2025
Report No. 6347
Revision D

Client

Mecone

<https://mecone.com.au/>

Architect

Hassell

<https://www.hassellstudio.com/>

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GLOSSARY AND ABBREVIATIONS OF TERMS

TERM	DESCRIPTION
<i>Bin-Carting Route</i>	Travel path for transporting bins from their allocated storage location to the nominated collection point
<i>Bin Hoist</i>	A device used for lifting or lowering bins between different levels
<i>Bin Lifter</i>	A device used to mechanically lift bins for the purpose of emptying them into larger bins and/or compactors.
<i>Bin Mover</i>	Either a handheld device (commonly referred to as a bin tug) or a ride-on device (typically a tractor or Class C vehicle with an attached bin trailer) used to facilitate the movement of bins across long distances or up ramps
<i>Bulk Bins</i>	Containers with a capacity greater than 1100L designed to be collected by a front-loading vehicle
<i>Bulky Waste</i>	Recycling items that are too large to be deposited into bins, including furniture, whitegoods, electronics and mattresses
<i>Collection Area/Point</i>	Designated area or point where bins are loaded onto the collection vehicle for servicing
<i>Comingled Recycling</i>	Waste stream for the recycling of plastic bottles, other plastics, paper, glass and metal containers
<i>Communal Bin Room</i>	A central, shared bin room accessible to all residents or staff to dispose of their waste stream
<i>DA</i>	Development Application
<i>DCP</i>	Development Control Plan
<i>EPA</i>	Environment Protect Authority
<i>FOGO</i>	Food Organics and Garden Organics
<i>General Waste</i>	All non-recyclable and non-hazardous waste that is sent to landfill
<i>HRV</i>	Heavy Rigid Vehicle
<i>Kerbside Collection</i>	A collection arrangement whereby bins are presented in a single row along the kerb and serviced by a collection vehicle on the street.
<i>L</i>	Litre
<i>LEP</i>	Local Environmental Plan
<i>Mixed Use Development</i>	A development comprising a combination of both residential and commercial units or two or more different land uses within the one development.
<i>Mobile Bins</i>	Containers with a capacity up to and including 1100L designed to be collected by a rear-loading vehicle
<i>Multi-unit Residential Development</i>	Also known as MUD's, residential flat buildings, or apartment blocks, this is a residential development with multiple units that typically share facilities and services such as bins and collections.

<i>MRV</i>	Medium Rigid Vehicle
<i>Onsite Collection</i>	A collection arrangement whereby all bins are serviced by a collection vehicle within the property boundary, either in the building's basement or at grade and off-street.
<i>Owners Corporation</i>	An organisation or group of persons that is identified by a particular name and that acts, or may act, as an entity
<i>Paper/ Cardboard Recycling</i>	Waste stream for the recycling of paper and cardboard only.
<i>Recycling</i>	Waste stream that combines all recycling, including comingled recycling, paper/cardboard and metals.
<i>Source Separation Receptacles</i>	Communal containers used throughout the development for the day-to-day disposal of different waste streams
<i>SRV</i>	Small Rigid Vehicle
<i>Waste Stream</i>	A classification used to describe waste of a particular type (eg. food waste stream)
<i>WHS</i>	Workplace Health and Safety
<i>Wheel-Out Wheel Back</i>	A collection arrangement whereby a collection vehicle parks on the street and collection staff exit the vehicle to wheel each bin from a designated storage area to the vehicle for servicing and returns them upon completion.

1.0 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 respect to ancestors and Elders, past and present.

2.0 INTRODUCTION

Elephants Foot Consulting (EFC) has been engaged to prepare the following Concept Operational Waste Management Plan (OWMP) to support a Planning Proposal for the redevelopment of the existing Park Royal Hotel, located at 150 Day Street, Sydney NSW 2000.

The aim of this Concept OWMP is to ensure waste and recycling generation for the future development is appropriately considered at this stage of the development with more detailed design development to occur at the DA stage and post approval.

Robust waste management strategies are required for new developments 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 and recycling provisions and procedures** are established 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 OWMP identifies and details the following components:

- Waste streams expected to be generated onsite and anticipated volumes;
- Suitable bin sizes and quantities;
- Waste and recycling disposal procedures;
- Bin room size estimations and equipment recommendations; and
- Waste collection strategies, locations and frequencies.

The Concept OWMP is to be developed further as the design progresses and integrates into the overall management of the building.

2.1 SCOPE OF REPORT

This Concept 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. A construction and demolition WMP will be addressed at the DA stage and will be provided separately.

2.2 REPORT CONDITIONS

The purpose of this report is to document an OWMP, which will form 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 chute 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.

3.0 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.

- NSW Environmental Planning & Assessment Act 1979
- NSW Protection of the Environment Operations Act 1997
- NSW Waste Avoidance & Resource Recovery Act 2001

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

- Sydney of Sydney Council's Guidelines for Waste Management in New Developments 2018.

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:

- City of Sydney Guidelines for Waste Management in New Developments 2018
- Sydney Development Control Plan 2012, Section 3, Chapter 3.14 – Waste Design and Management Standards
- NSW Better Practice Guide For Resource Recovery In Residential Developments 2019
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste and Sustainable Materials Strategy 2041
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

4.0 DEVELOPMENT OVERVIEW

The site is currently occupied by a 10-storey hotel building known as the Park Royal Darling Harbour Hotel. The Planning Proposal seeks to amend the Sydney Local Environmental Plan 2012 (LEP) to increase the building height from 45m to 85m and a commensurate increase to the maximum floor space ratio control to support the adaptive reuse of the existing building to support an additional 10 storeys at the site to aid additional hotel accommodation.

The proposed hotel will incorporate the following:

- 490-540 hotel suites (approximately 31 m² per suite), located from Level 3 to Level 22, which will be confirmed at the DA stage;
- Hotel dining facilities on the ground level, level 1, level 18 and level 21 occupying a combined GFA of approximately **2,000m²**;
- Bars/lounges on level 18 occupying a combined GFA of approximately **300m²**;
- A gym/wellness centre on level 18 with a GFA of **100m²**;
- A ball room on level 2 with a GFA of approximately **1,000m²**; &
- Offices and meeting rooms with a combined GFA of approximately **500m²**.

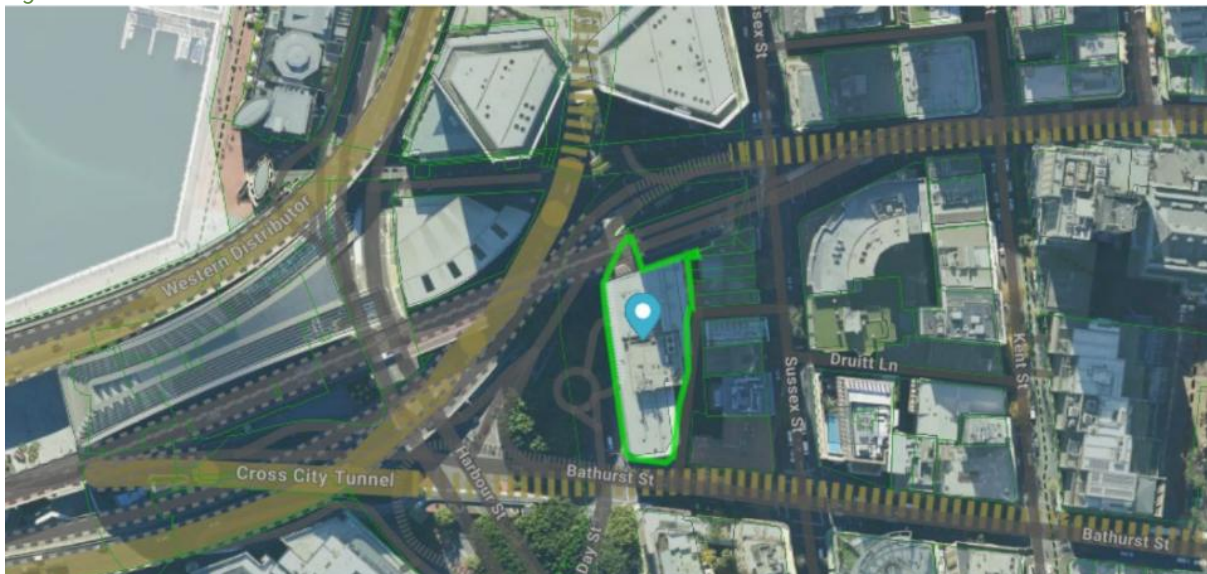
All figures and calculations are based on area schedules as advised by our client and shown on the supporting reference scheme prepared by Hassell.

4.1 SITE LOCATION

The site, legally described as Lot 20 DP1046870, is located within the City of Sydney local government area (LGA) with a site area of approximately 2,250m².

The site has frontages to Day Street, Bathurst Street and Sands Street, with vehicle access via Sands Street. The site also abuts the Western Distributor to the north and the surrounding area includes a mix of commercial and residential development as well as major arterial roads.

Figure 1: Site Location



Source: Mecone Mosaic

5.0 HOTEL WASTE AND RECYCLING MANAGEMENT

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

5.1 HOTEL WASTE AND RECYCLING GENERATION ESTIMATES

5.1.1 EXISTING WASTE AND RECYCLING GENERATION

The existing 10-storey hotel building currently operates with the following bin summary and collection arrangement:

- **General Waste:** 26,400 L/week
(4 × 1,100 L bins, collected 6 times per week)
- **Paper/Cardboard Recycling:** 3,960 L/week
(2 × 660 L bins, collected 3 times per week)
- **Commingled Recycling:** 3,960 L/week
(2 × 660 L bins, collected 3 times per week)
- **Food Waste:** 4,320 L/week
(12 × 120 L bins, collected 3 times per week)

The loading dock is currently managed as per the original building plans from the 1990's and the refurbishment of the existing building will allow for optimization of the loading dock usage and upgrading the dock management systems.

5.1.2 POST-EXPANSION WASTE AND RECYCLING GENERATION

The City of Sydney Council's Guidelines for Waste Management in New Developments 2018 has been referenced to calculate the total number of bins required for the proposed hotel (including the current hotel and proposed additions). Calculations are based on generic general waste, recycling and food waste rates. Actual volumes generated in operation may differ according to the hotels' actual waste management practices.

Two hotels are co-located on this site for the proposal, which is considered far more efficient than a separate hotel within the city. The co-location enables optimisation of the waste management scheme, including reduced vehicle movements.

The following table shows the estimated volume (L) of general waste, recycling and food waste generated by the hotel development. These are based on a seven-day operating week.

To streamline waste systems onsite, it is proposed that all the different components within this site (restaurants, bars, offices etc) will share waste facilities within the existing loading dock and collection services.

Table 1: Estimated General Waste, Recycling and Food Waste Volumes

Type	NLA (m ²)	General Waste Generation Rates (L/100m ² /day)	Generated Garbage (L/week)	Recycling Generation Rate (L/100m ² /day)	Generated Recycling (L/week)	Food Waste Generation Rate (L/100m ² /day)	Generated Food Waste (L/week)
Hotel Suites	17000	20	23800	25	29750	15	17850
Hotel Dining	2000	100	14000	500	70000	100	14000
Bars/Lounges	300	100	2100	150	3150	40	840
Gym/Wellness	100	20	140	50	350	5	35
Ballroom	1000	50	3500	125	8750	30	2100
Offices/Admin	500	15	525	25	875	5	175
TOTAL	20900		44065		112875		35000

5.2 HOTEL WASTE AND RECYCLING STORAGE SUMMARY

Due to the increase in hotel suites and dining facilities for the site resulting in augmented waste and recycling volumes, EFC recommends that the site acquires a general waste and cardboard compactor unit. Furthermore, a food waste processing system should also be implemented to manage the additional food waste output, as per the below breakdown:

General Waste - Collected **on call**

- 1 × 8m³ or 10 m³ Portable Compactor Unit (Compacts waste at a 5:1 compaction ratio)

Paper/Cardboard Recycling - Collected **on call**

- 1 × 8m³ or 10m³ Portable Compactor Unit (Compacts cardboard at a 5:1 compaction ratio)

Comingled Recycling - Collected **3 x weekly**

- 8 × 1,100 L bins

Food Waste: Collected **on call**

- 1 × food waste processing system
- 5 x 240L bins

As per the existing bin arrangement currently operational onsite, the recycling generation for the proposed hotel is higher with the calculations completed inline with City of Sydney Council's Guidelines for Waste Management in New Developments 2018. It is therefore likely that the actual recycling generation for the proposed hotel will be less.

During operation, it is the responsibility of building management to monitor the compactor capacities, bin quantities/sizes and the collection frequencies. Hotel management will be required to negotiate any changes to bins or collections with the collection service provider.

As per the Traffic Impact Assessment Report prepared by PTC, a future management plan ensuring efficient, safe and compliant transport operations on the site will be implemented.

5.3 HOTEL WASTE AND RECYCLING DISPOSAL PROCEDURES

5.3.1 HOTEL SUITES

All hotel suites will be supplied with general waste, recycling and food waste source separation receptacles suitable for two days' storage capacity. Guests are encouraged to dispose of general waste, recycling and food waste into the designated receptacles.

On a daily basis, hotel cleaners will circulate throughout the hotel suites and collect bagged waste, loose recycling and food waste from each suite whilst undertaking cleaning duties. All waste and recycling items will be transferred to the central Waste Storage Area, via the lifts.

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

5.3.2 HOTEL DINING AND OTHER COMMERCIAL AREAS

Kitchens within the hotel dining areas will be provided with source separation bins for general waste, recycling and food waste.

All other areas, including bars, offices and the wellness centre will also be provided with source separation bins in convenient locations for hotel staff disposal.

Hotel staff and/or cleaners will be responsible for monitoring the capacity of bins and transferring bagged waste, loose recycling and food waste to the central Waste Storage Area when required.

5.3.3 COMMON AREAS

Hotel common areas will be supplied with suitably branded source separation receptacles where considered appropriate. Receptacles should be placed in convenient locations which are accessible to guests and staff.

Hotel staff and/or cleaners will monitor the capacity of these receptacles and empty the contents to the Waste Storage Area as required.

5.3.4 LANDSCAPED AREAS

Garden organics generated from surrounding landscaped areas and indoor foliage typically consists of lawn clippings, cuttings, leaves and branches. These will be managed and removed from the site by the designated landscaping contractors as they carry out scheduled landscaping maintenance works.

5.3.5 WASHROOM FACILITIES

Washroom facilities 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.

5.4 HOTEL SOURCE SEPARATION MANAGEMENT

The following sections outline other waste management considerations for the hotel.

5.4.1 GENERAL WASTE

It is recommended that one 8m³ or 10m³ portable compactor (with a 5:1 compaction ratio) will be provided and located within the loading dock.

When full, the compactor will be collected by a nominated waste servicing provider using a hook-lift collection vehicle on an on-call basis

The following two compactor options have been provided:

PORTABLE ECO WEIGHING COMPACTOR

All staff and/or cleaners authorized to operate the compactor will be supplied with their own pre-programmed security swipe card. When a tenant approaches the unit, they are required to swipe their card and place their bagged waste directly in the hopper door. The waste is weighed, displayed on the screen for the tenant and the information is sent via GPS to the ECO database management system.

PORTABLE BLADE COMPACTOR WITH BIN LIFTER

Two 1100L general waste bins will be positioned adjacent to the compactor. Tenants will be required to dispose of general waste into the 1100L MGBs and when full, authorised staff and/or cleaners will decant the general waste into the compactor via a designated bin lifter.

5.4.2 PAPER/CARDBOARD RECYCLING

It is recommended that one 8m³ or 10m³ portable compactor (with a 5:1 compaction ratio) will be provided and located within the loading dock.

When full, the compactor will be collected by a nominated waste servicing provider using a hook-lift collection vehicle on an on-call basis

The following two compactor options have been provided:

PORTABLE MULTIPRESS ECO CARTON COMPACTOR

All staff and/or cleaners authorized to operate the compactor will be supplied with their own pre-programmed security swipe card. When a tenant approaches the unit, they are required to swipe their card and place their flattened cardboard directly in the hopper door.

PORTABLE BLADE COMPACTOR EQUIPPED WITH BIN LIFTER

Two 1100L cardboard bins will be positioned adjacent to the compactor. Tenants will be required to flatten cardboard prior to placing into the 1100L MGBs and when full, authorised staff and/or cleaners will decant the cardboard into the compactor via a designated bin lifter.

Similarly to the general waste compactor, the cardboard compactor will be collected by a nominated waste servicing provider using a hook-lift collection vehicle on an on-call basis.

5.4.3 COMINGLED RECYCLING

Bulk 1,100 L bins, collected three times per week, should be provided in the loading dock for commingled recycling. Commingled recyclables include, but are not limited to, plastic bottles and containers, glass, as well as aluminium and steel cans.

Comingled recycling can be serviced on a 3 x weekly basis by a nominated waste servicing provider operating a rear load collection vehicle.

5.4.4 FOOD WASTE

Due to the high volume of food waste anticipated to be generated from the site, it is recommended that a food waste processing system be implemented to manage this waste stream.

Appendix B.6 provides detailed information on the WasteMaster food waste processing system. Additionally, 240L mobile garbage bins should be provided within the loading dock to collect the processed food waste.

A suitable waste servicing provider will be engaged to collect the finished compost-like residual material on an on-call basis.

5.4.5 USED COOKING OIL

Hotel Management will make arrangements for the storage and collection of used cooking oil in a collection container, which will be serviced by the appointed contractor on an as required basis.

5.4.6 BULKY WASTE & SPECIAL WASTE

A designated room or caged area will be made available within the loading dock for the storage of bulky waste, including discarded furniture, computers etc. This room must have a minimum doorway width of 2.5m to allow for easy movement of large waste items in and out.

Within this room, additional space will also be allocated for reusable commercial items such as crates, pallets, kegs, strip-out waste, and similar materials to ensure that storage of these items does not occur in public areas.

A designated, secure area within the bulky waste storage room must also be allocated for liquid wastes, including commercial cleaning products, chemicals, paints and solvents. This liquid waste storage area must be bunded and drained to a grease trap, in accordance with legislation and the requirements of State government authorities and agencies.

Based on the City of Sydney Council's *Guidelines for Waste Management in New Developments 2018*, the required gross floor area (GFA) for the bulky waste storage room is 35 m².

5.5 HOTEL WASTE AND RECYCLING COLLECTION PROCEDURES

Private waste servicing providers operating small rigid vehicles (SRV's) will be engaged to service all waste and recycling streams for the site. The collection vehicles will enter the site's loading dock via Sands Street.

A hook-lift vehicle will remove the general waste and cardboard compactors from the site for servicing and return them upon completion.

A typical rear load collection vehicle will service the comingled recycling bins and food waste bins.

Veolia have been contacted and have confirmed that their hook lift collection vehicles (SRV's) are able to service 10m³ compactors. These vehicle dimensions and clearances (provided by Veolia) have been considered in the separate Traffic Impact Assessment and vehicle specifications have also been provided for reference in Appendix B.5 of this OWMP.

6.0 STAKEHOLDER ROLES & RESPONSIBILITIES

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

Table 2: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Hotel Management	• Co-ordinate general waste, recycling and food waste collections • Clean and transport source separation bins as required. • Organise replacement or maintenance requirements for bins. • Organise, maintain and clean bin storage areas. • Organise bulky waste collections when required. • Investigate and ensure prompt clean-up of illegally dumped waste materials. • Prevent storm water pollution by taking necessary precautions (secure bin rooms, prevent 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 bin transfers. • Ensure site safety for guests, children, visitors, staff and contractors; and • Ensure effective signage, communication and education is provided to occupants, tenants, maintenance staff, and cleaning contractors.
Guests	• Dispose of all general waste, recycling and food waste in the allocated receptacles provided. • Ensure adequate separation of general waste, recycling and food waste; and • Comply with the provisions of Council and the OWMP.
Hotel Staff And Cleaners	• Manage general waste, recycling and food waste within BOH areas during daily operations. • Correctly separate general waste, recycling and food waste streams. • Flatten cardboard within the recycling bin. • If required, arrange for storing used and unused cooking oil in a bunded area, • Organise grease interceptor trap servicing, and • Ensure the suitable storage for chemicals, pesticides and cleaning products waste back of house.
Waste Servicing Contractors	• Provide a reliable and appropriate waste and recycling 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 organics 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 or Body Corporate.

7.0 SOURCE SEPERATION

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	General waste should be bagged before placing in designated general waste bins and/or portable compactor.
Paper and Cardboard Recycling	Cardboard and paper products are recyclable materials that can be re-processed into new products.	Resource Recovery Centre	Cardboard should be flattened before placing in the designated cardboard bins and/or portable compactor.
Commingled 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).	Materials Recovery Facility (MRF)	Commingled recycling must not be bagged and instead should be placed loosely in the designated comingled recycling bins.
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 processed onsite using an appropriate food waste processing system.
Garden Organics	Garden organics 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 garden organics from site during scheduled maintenance.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Hotel Management arranges for recycling of their own e-waste.
Bulky Waste Items	Items that are too large to place into general rubbish collection. This includes disused and/or broken furniture, mattresses, white goods, etc.	Resource Recovery Centre or Landfill	Hotel Management arranges with a private waste contractor for removal.
Sanitary Waste	Feminine hygiene waste generated from female bathrooms.	Incineration or Landfill	Sanitary bins are serviced by sanitary waste contractor.
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.

8.0 EDUCATION

Educational material encouraging correct separation of general waste, recycling and food waste must be provided to all hotel staff, cleaners and guests. 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 Hotel Management provides information in multiple languages to support correct behaviours, and to minimise the possibility of cross contamination between waste streams.

Education and communication must be provided consistently on a regular basis to encourage behaviour change and account for transient building personnel such as new cleaning staff. Information should include:

- Descriptions of items accepted in the general waste and recycling streams;
- How to dispose of bulky waste and any other items that are not general waste and recycling;
- Residents' obligations to health and safety as well as building management; and
- How to prevent cross contamination among waste streams.

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.

Hotel Management 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 signage should conform to the relevant Australian Standards.

9.0 POLLUTION PREVENTION

Hotel 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

10.0 BIN WASHING

The bins will be cleaned by hotel cleaners periodically to ensure hygiene is adhered to and minimise odour.

Bin washing can occur within the loading dock, using the clean down facilities (i.e tap connection and drain). Alternatively, a specialist bin washing contractor can be engaged to clean the bins to an agreed schedule. The specialist bin contractor would collect the bins from the loading dock and clean the bins with their specialised vehicle.

11.0 BIN MOVING PATHS

Minimal movement of bins is anticipated for this site, as bins are to be collected directly from their storage location within the loading dock. Hotel Management will be responsible for any transportation of bins that does occur.

Any movement 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 any bin moving paths 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.

12.0 WASTE AND RECYCLING AREAS

The areas allocated for waste and recycling storage are detailed in the table below and are estimates only. Final areas will depend on compactor and bin layouts as per a comprehensive design review in the detailed design stage.

Table 4: Waste Room Areas

Location	Waste Room Type	Equipment	Estimated Area Required (m ²)	Actual Area Provided (m ²)
Loading Dock		<u>General Waste</u> 1 × 8m³ or 10m³ portable compactor 2 × 1,100 L bins <u>Paper/Cardboard Recycling</u> <u>General Waste</u> 1 × 8m³ or 10m³ portable compactor 2 × 1,100 L bins <u>Comingled Recycling</u> 8 × 1,100 L bins <u>Food Waste:</u> 1 × food waste processing system 10 × 240L bins	Dependant on layout	190
	Bulky Waste Room or Caged Area		35	32

EFC recommends compactor and bin sizes and collection frequencies 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.)

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 5: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Compactor and Bin Storage Areas	• Bins should be arranged so that all bins are accessible. Bins are not to be placed in front of one another or in such a way as to restrict access to the other bins for use. • Adequate circulation areas must be provided around compactor units. • Rooms must be well ventilated either naturally or mechanically in accordance with AS1668.4.2012. • Cleaning facilities such as hose hock and drainage for odour and hygiene control must be provided. • It is recommended a dustpan and broom is provided in this room for cleaning up unexpected spillages when using bins.
Bulky Waste Area	• May be a dedicated room or caged area within the loading dock. • 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

13.0 CONSTRUCTION REQUIREMENTS

Waste and recycling area construction must comply with the minimum standards as outlined in City of Sydney Council's *Guidelines for Waste Management in New Developments 2018* 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.

13.1 ADDITIONAL CONSIDERATIONS

- Waste room floor to be sealed with a two-pack epoxy;
- All corners coved and sealed 1,200mm up, this is to eliminate build-up of dirt;
- Hot and cold water 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.

14.0 USEFUL CONTACTS

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

LOCAL COUNCIL

City of Sydney Customer Service Ph: (02) 9265 9333 E: council@cityofsydney.nsw.gov.au

PRIVATE WASTE COLLECTION PROVIDER

Capital City Waste Services	Ph: 02 9599 9999	E: service@ccws.net.au
Sydney Waste	Ph: 02 8661 0031	
Waste Clear	Ph: 1300 525 352	E: admin@wasteclear.com.au

BIN MOVING DEVICE SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Sitecraft	Ph: 1300 363 152	E: sales@sitecraft.com.au

BALER SUPPLIERS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
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ORGANIC DIGESTERS AND DEHYDRATORS

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
Waste Master	Ph: 1800 614 272	E: hello@wastemasterpacific.com.au

COOKING OIL CONTAINERS AND DISPOSAL

Cookers	Ph: 1300 882 299	E: info@cookers.com.au
Auscol	Ph: 1800 629 476	E: sales@auscol.com

ODOUR CONTROL

Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
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SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455
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BINS AND BIN EQUIPMENT

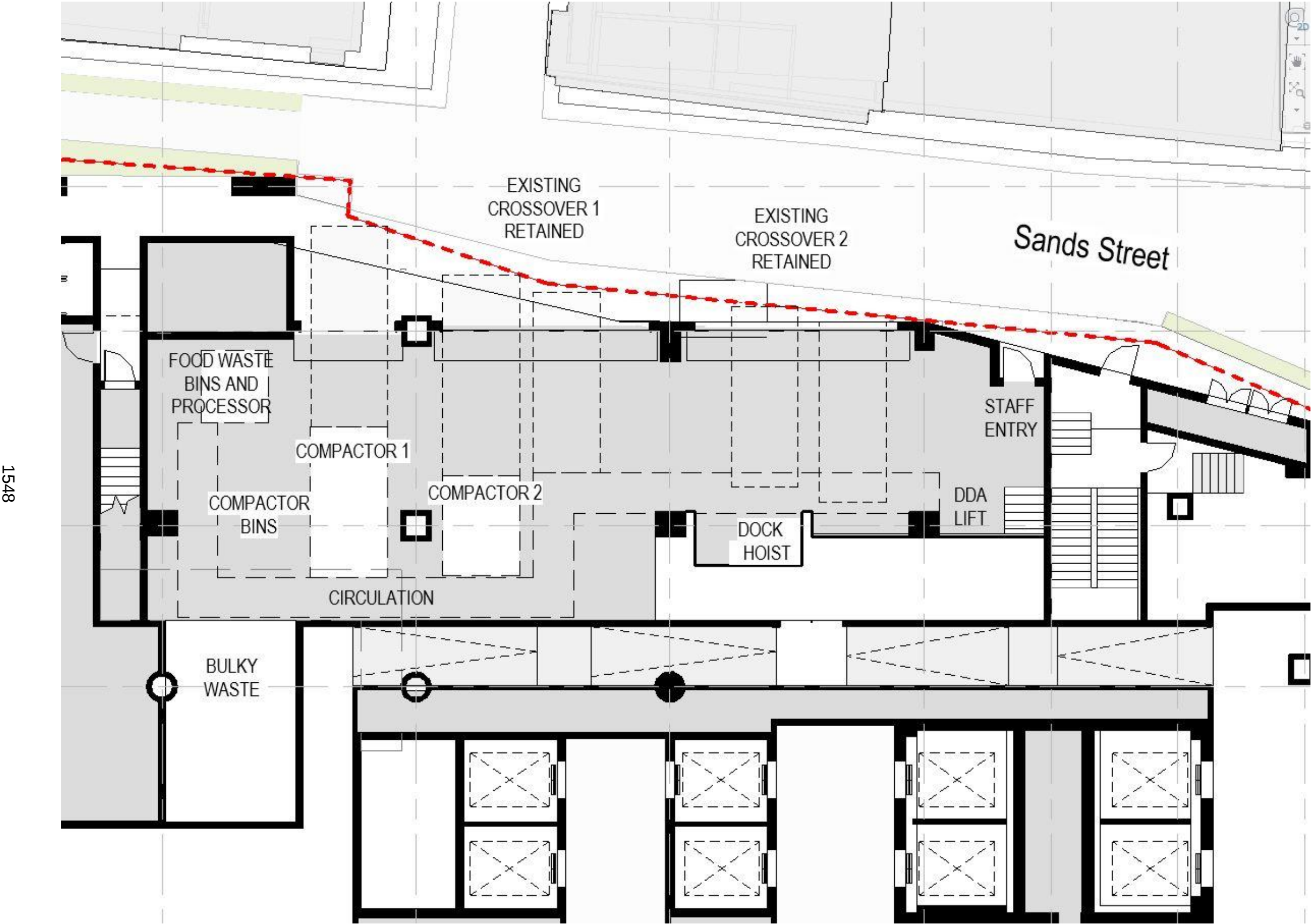
Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

Elephants Foot Chute Solutions	Ph: 1300 435 374	E: chutes@elephantsfoot.com.au
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APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 LOADING DOCK CONCEPT DRAFT WORKING PLAN



Source: Hassell

APPENDIX B: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: B.1 TYPICAL PORTABLE ECO WEIGHING COMPACTOR INFORMATION

MULTIPRESS ECO Roll-off container



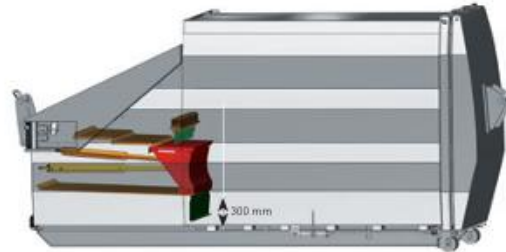
The filling opening at the roll-off container can be carried out selectively on left or right side.

The machine is also optionally available with canopy.

ECO Roll-off container	MP 10-1.0	MP 12-1.0	MP 14-1.0	MP 16-1.0
Volume Container	10 m³	12 m³	14 m³	16 m³
Length (without rear hook)	4820	5320	5820	6320
Length (with rear hook)	5060	5560	6060	6560
Width x height	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm
Filling height	1270 mm	1270 mm	1270 mm	1270 mm
Volume weighing sluice	510 lt.	510 lt.	510 lt.	510 lt.
Volume weighing sluice	3 x 80 lt. Säcke	3 x 80 lt. Säcke	3 x 80 lt. Säcke	3 x 80 lt. Säcke
Compaction force	250 kN	250 kN	250 kN	250 kN
Pressing cycle	24 sec.	24 sec.	24 sec.	24 sec.
Motor	5,5 kW	5,5 kW	5,5 kW	5,5 kW
Fuse slow	16 A	16 A	16 A	16 A
Electric connection	400 V, 50 Hz	400 V, 50 Hz	400 V, 50 Hz	400 V, 50 Hz
Unladen weight	3390 kg	3550 kg	3720 kg	3880 kg
Container conical	conical à 80 mm	conical à 80 mm	conical à 80 mm	conical à 80 mm

APPENDIX: B.2 PORTABLE BLADE COMPACTOR

MULTIPRESS 1.0 Roll-off container



Special version as wet waste press

Mixed waste and also waste with a high moisture content can be ideally compressed. The sloping pressing floor and the special high level difference (300 mm Trashholder) between the pressing floor and the container floor guarantee that the equipment remains clean.

In addition, the **MULTIPRESS 1.0 roll-off container** is also available as an underground garage model.



Roll-off container	MP 10-1.0	MP 12-1.0	MP 14-1.0	MP 16-1.0
Volume Container	10 m ³	12 m ³	14 m ³	16 m ³
Length [without hook]	4960	5460	5960	6460
Length [with hook]	5200	5700	6200	6700
Width x height	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm
Filling height	1270 mm	1270 mm	1270 mm	1270 mm
Volume per stroke	1 m ³	1 m ³	1 m ³	1 m ³
Height of press ram	550 mm	550 mm	550 mm	550 mm
Press opening W x H	1000 x 1450 mm	1000 x 1450 mm	1000 x 1450 mm	1000 x 1450 mm
Filling opening W x H	1580 x 1450 mm	1580 x 1450 mm	1580 x 1450 mm	1580 x 1450 mm
Compaction force	300 kN	300 kN	300 kN	300 kN
Pressing cycle	24 sec.	24 sec.	24 sec.	24 sec.
Motor	5,5 kW	5,5 kW	5,5 kW	5,5 kW
Fuse slow	16 A	16 A	16 A	16 A
Electric connection	400 V, 50 Hz	400 V, 50 Hz	400 V, 50 Hz	400 V, 50 Hz
Unladen weight	3390 kg	3550 kg	3720 kg	3880 kg
Container conical	conical à 80 mm	conical à 80 mm	conical à 80 mm	conical à 80 mm

APPENDIX: B.3 TYPICAL PORTABLE MULTIPRESS ECO CARTON COMPACTOR INFORMATION

MULTIPRESS ECO Carton



Efficient recyclable materials collection in public places, at residential complexes and settlements

The collection of cardboard is laborious and costly. The **MP ECO Carton** can achieve a compression of at least 500% with its integrated press.

This replaces ca. 80 x 1100 litre containers. Up to 5000 kg of cardboard can be collected with just one emptying.

Thanks to the compact dimensions and simple operation, the system is ideal for placement in public areas. The „Full“ message, sent via SMS, enables optimum route planning and saves time and money.



ECO Carton	MP 10-1.0	MP 12-1.0	MP 14-1.0	MP 16-1.0
Volume Container	10 m³	12 m³	14 m³	16 m³
Length (without rear hook)	4820	5320	5820	6320
Length (with rear hook)	5060	5560	6060	6560
Width x height	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm	1950 x 2440 mm
Filling height	1270 mm	1270 mm	1270 mm	1270 mm
Filling opening W x H	1000 x 120 mm	1000 x 120 mm	1000 x 120 mm	1000 x 120 mm
Compaction force	250 kN	250 kN	250 kN	250 kN
Pressing cycle	60 sec.	60 sec.	60 sec.	60 sec.
Motor	5,5 kW	5,5 kW	5,5 kW	5,5 kW



APPENDIX: B.4 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



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

Wheelie bin

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



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

Dome or flat lid container

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

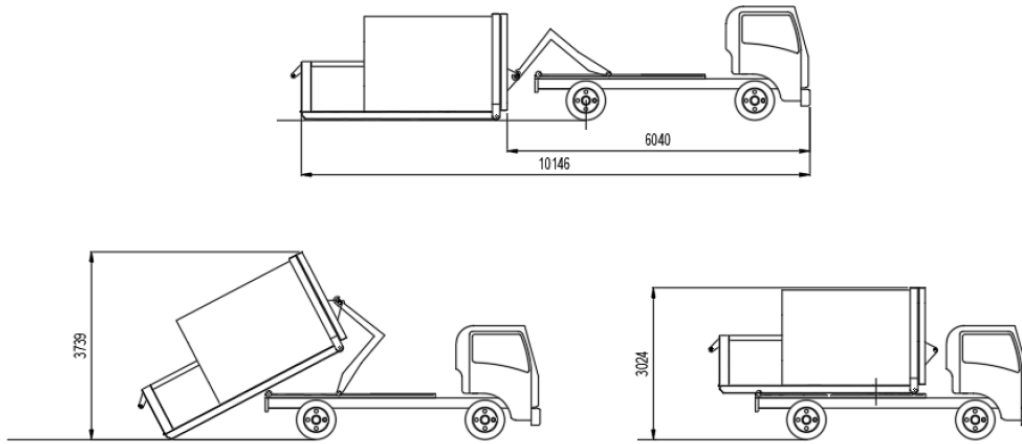
Source: *Better Practice Guide For Resource Recovery In Residential Developments 2019*, NSW Environmental Protection Authority

APPENDIX: B.5 VEOLIA HOOK LIFT SMALL RIGID VEHICLE

AT90-100

10m Transportable AUGER Compactor

TRUCK WIDTH: 2300 mm
(2800 mm WITH MIRRORS)



APPENDIX: B.6 FOOD WASTE PROCESSOR EXAMPLE



WasteMaster

Whether your food waste is from food manufacture or processing, food preparation for meals, cooked food from the kitchen or servery or table waste left overs, the WasteMaster system cleanly and efficiently converts and reduces the volume of this waste, on site, to a much smaller quantity of odour-free material.

Perfect for businesses and institutions such as hospitals, food manufacturers, restaurants and others providing catering and hospitality, WasteMaster is easily installed on site and doesn't release any harmful emissions or odours during the process. All that is required is a three-phase power supply and an air outlet



NOT ALL WASTE SOLUTIONS ARE THE SAME

You may have considered a food waste management solution before. WasteMaster is different.

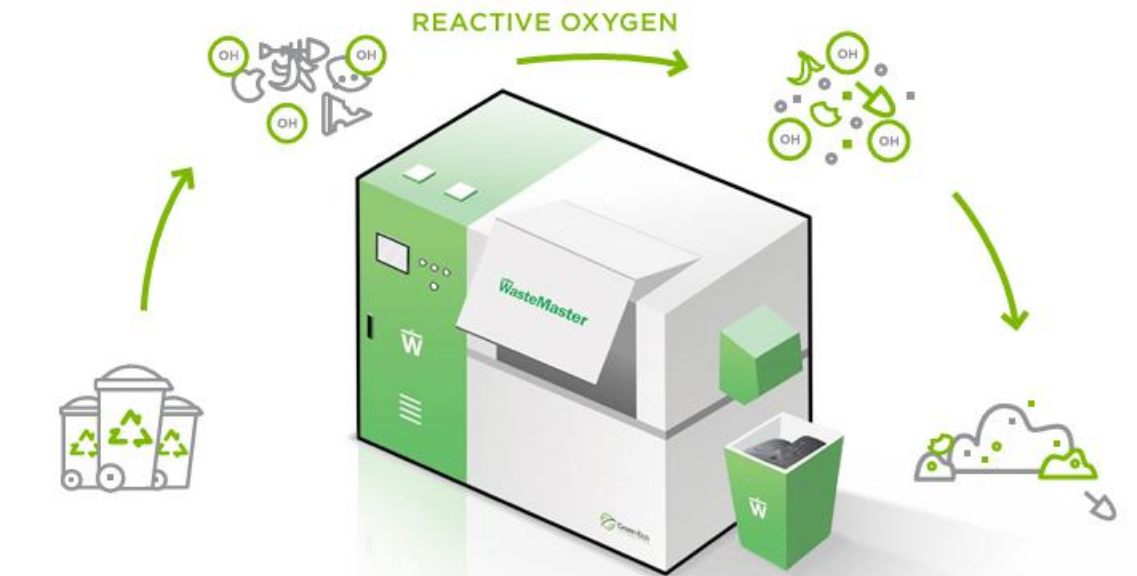
WasteMaster's clean operation and managed service makes it the cleaner, simpler alternative for on-site food waste conversion. WasteMaster is very easy to operate and will indicate when it is full and unload automatically when the process is complete. Employees need only minimal training to load WasteMaster as Green Eco Technologies fully manages your food waste conversion on your behalf. We can also provide you with accurate waste volume data to help with your reporting.

WasteMaster's unique approach to food waste conversion eliminates food waste odour, prevents additional environmental impact and eliminates the need for time-sensitive on-site food waste storage and collections.



HOW DOES WASTEMASTER WORK?

- ✓ Food waste is converted within the WasteMaster system using a proprietary technology which accelerates the decomposition of the waste material without the use of bacteria, additives or water.
- ✓ At the end of the process the volume of the waste material has been reduced by up to 80%. For every 500kg loaded into the system, WasteMaster outputs just 100kg of compost-like residual material, which will not attract insects or vermin in its dry state.



SPECIFICATIONS	WM200	WM400	WM800	
Dimensions (L, W, H)	1957 x 1000 x 1660	2520 x 1420 x 1760	3316 x 1700 x 1950	mm
Dimensions Inc Bin Lifter (L, W, H)	1957 x 2170 x 2260	2520 x 2590 x 2260	3316 x 3100 x 2600	mm
Maximum Loading Door Height	2350 with bin lifter 2210 without bin lifter	2350 includes bin lifter	2600 includes bin lifter	mm
Working Area	2960 x 3800 with bin lifter 2960 x 2000 without binlifter	3500 x 4000 includes bin lifter	4320 x 4500 includes bin lifter	mm
Machine Weight	800	1395	3690	kgs
Daily Volume Capacity	up to 200	up to 400	up to 800	kgs
Total Loaded Weight	1000	1795	4490	kgs
Power Supply	32 amp 3-phase circuit, hardwired	32 amp 3-phase circuit, hardwired	50 amp 3-phase circuit, hardwired	
IP Rating	54	54	54	
Noise Level	<85	<85	<85	dBA
Air Outlet	150mm	150mm	150mm	mm
Comms Requirement	Network, Wifi or 4G/5G SIM	Network, Wifi or 4G/5G SIM	Network, Wifi or 4G/5G SIM	

Source: WasteMaster <https://www.greenecotec.com/how-it-works>

APPENDIX: B.7 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: SECONDARY WASTE MANAGEMENT PROVISIONS

APPENDIX: C.1 EXAMPLE HANDHELD BIN MOVERS

movexx
smart electric tugs

MOVEXX T2500 BIN MOVER BATTERY ELECTRIC

Movexx T2500 Tow Tug is an extremely user friendly battery powered mobile towing unit that is ideal for applications where trolleys and rolling objects need to be moved from one place to another simply, efficiently and without physical effort. Some standard features included are: battery indicator, on board battery charger, battery, adjustable handle, dual speed and electric brake.

These units are fitted with an electromagnetic brake system for use on ramps and slopes

Features

- Electromagnetic brake for use on ramps and slopes
- Adjustable height handle



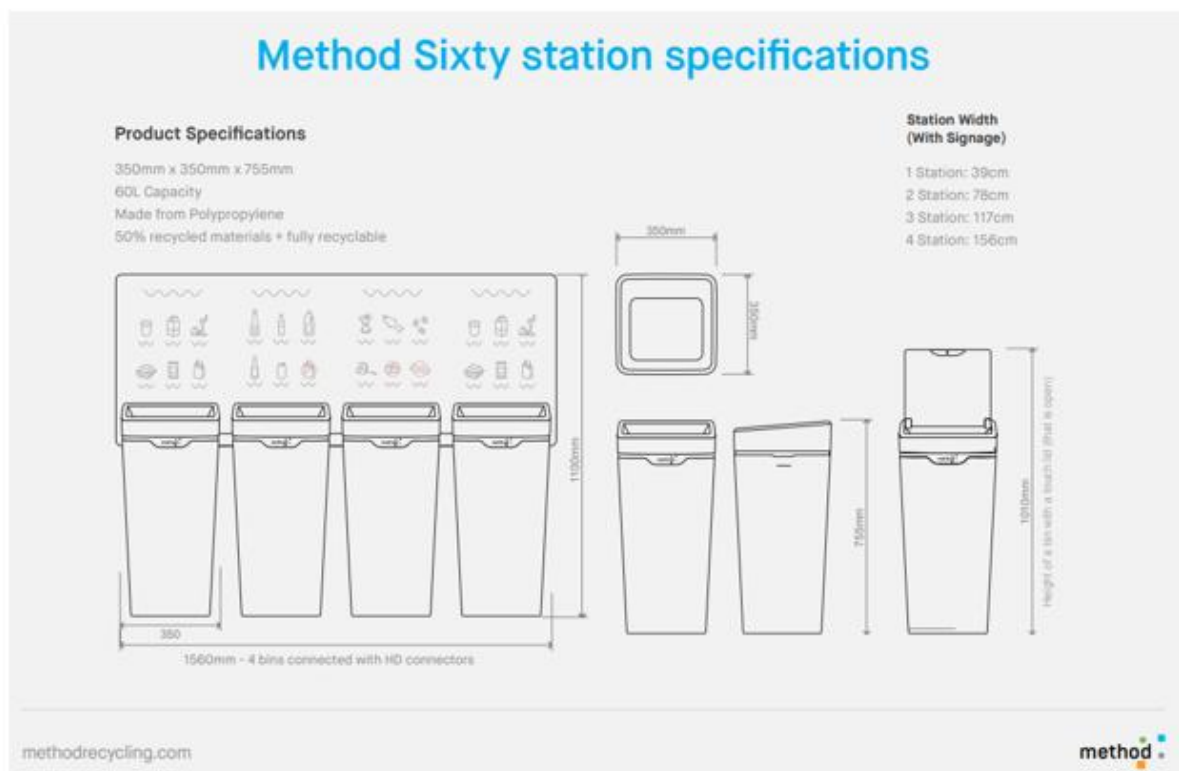
SPECIFICATION				
MODEL	DIMENSIONS (MM)	OPTIONS	PULL - PUSH CAPACITY (KG)	BATTERY
T2500-D	511 (w) x 757 (l)	* Centre mount 2x 240 lt. wheelie bin attachment	2500	AGM batteries 2x 85AH up to 8 hrs continuous operation
TOWING CAPACITY - ON FLAT GROUND (all models)			TOWING CAPACITY - SLOPE (all models)	
Towing up to 4x 660 lt. Wheelie Bin			Towing up to 2x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)	
Towing up to 4x 1100 lt. Wheelie Bin			Towing up to 1x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)	
**Electromagnetic brake for use on ramps and slopes				



Please Note: This is an example only – please contact supplier for specific recommendations.

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: C.2 EXAMPLE SOURCE SEPARATION RECEPTACLES



Source: Method Recycling - www.methodrecycling.com