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600-660 Elizabeth Street, Redfern (Redfern Place)

Mixed Use Development

OPERATIONAL WASTE MANAGEMENT PLAN

21/06/2024
Report No. 5278
Revision G

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G	21/06/2024	J. Parker	E. Saidi	Amendment

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GLOSSARY OF ABBREVIATIONS AND TERMS

TERM	DESCRIPTION
Baler	A device that compresses waste into a mould to form bales which may be self-supporting or retained in shape by strapping
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
Compactor	A machine for compressing waste into disposable or reusable containers
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
Liquid Waste	Non-hazardous liquid waste generated by commercial premises that must be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste)
Mixed Use Development	A development comprised of two or more different uses
MUD	Multi-Unit Dwellings comprise of a development with more than one dwelling. This ranges from dual occupancies and attached dwellings to high-rise residential developments
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
Service Bins	Bin set side to be placed under a chute while the remainder of the bins are being collected

SRV	Small Rigid Vehicle described by AS 2890.2-2002 Parking facilities – Off-street commercial vehicle facilities
WHS	Workplace Health and Safety
Wheel-in wheel-out service	A type of waste collection service offered by local councils where the council waste collection personnel enter the premises to collect the bins and returns them to the property

1.0 INTRODUCTION

This report accompanies a detailed State Significant Development Application that seeks approval for a mixed-use development at 600-660 Elizabeth Street, Redfern (Redfern Place). The development proposes four buildings comprising community facilities, commercial/office, affordable/social/specialist disability housing apartments and new public links and landscaping.

The project site comprises Lot 1 in DP 1249145. It has an area of approximately 10,850m2. Part of the site currently accommodates the existing Police Citizens Youth Club (PCYC) (to be demolished and replaced). The remaining portion of the site is vacant with remnant vegetation.

The SSDA seeks approval for redevelopment of the site, including:

- Demolition of existing buildings.
- Tree removal.
- Bulk earthworks including excavation.
- Construction of a community facility building known as Building S1.
- Construction of two residential flat buildings (known as Buildings S2 and S3) up to 14 and 10 storeys respectively, for social and affordable housing.
- Construction of a five-storey mixed use building (known as Building S4) comprising commercial uses on the ground level and social and specialist disability housing above.
- Construction of one basement level below Buildings S2, S3 and part of S4 with vehicle access from Kettle Street.
- Site-wide landscaping and public domain works including north-south and east-west pedestrian through-site link.

For a detailed project description refer to the Environmental Impact Statement prepared by Ethos Urban.

1.1 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. A construction and demolition WMP has been provided separately.

1.2 REPORT CONDITIONS

The purpose of this report is to document an OWMP as part of a State Significant 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.

2.0 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 development applications. This OWMP is specifically required by:

- Sydney Development Control Plan 2012
- Sydney Local Environmental Plan 2012

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:

- City of Sydney Guidelines for Waste Management in New Developments 2018
- NSW Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012
- NSW Better practice guide for resource recovery in residential developments 2019
- NSW Waste Avoidance and Resource Recovery (WARR) Strategy 2014-2021
- NSW Waste Classification Guidelines 2014
- Australia's National Waste Policy 2018

2.1 COUNCIL OBJECTIVES

City of Sydney Council promotes efficient building design and effective ongoing management systems for the handling of waste and recyclable materials in all developments. The guiding principles for the requirements of waste management planning in City of Sydney Council are as follows:

- To allocate sufficient areas within developments for the efficient access, storage and collection of waste and recycling;
- To ensure waste systems are easy to use and that collection vehicles are able to access buildings to remove waste safely and efficiently;
- To maintain a visually appealing streetscape and minimise the impacts of noise and odour from waste and recycling handling on building occupants, near neighbours and the local area;
- To ensure safe practises for storage, handling and collection of waste and recycling;
- To provide guidance on the Council's expectations for delivering effective waste services including bin handling and collection points, and managing bulky, problem waste and stripout waste;
- To ensure clarify regarding the roles providing waste management systems for developments and to demarcate service provision

2.2 GREEN STAR REQUIREMENTS

The development has been designed to achieve a 5-star Green Star rating under the Green Star Buildings tool: Building Credit 4 Responsible Resource Management. The main outcome of this Green Star credit is to ensure operational waste and resources can be separated and recovered in a safe and efficient manner.

The minimum expectation for responsible resource management is as follows:

- The building is designed for the collection of separate waste and resource streams.
- The building provides a dedicated and adequately sized waste and resource storage area.
- The building ensures safe and efficient access to waste and resource storage areas for both occupants and waste and resource collection contractors.

The waste management facilities within the proposed development have been designed to achieve the minimum expectation for credit 4 Responsible Resource Management, as well as best practice waste management outcomes in operation.

2.3 SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS (SEARS): 18 - WASTE

The following table identifies the relevant SEARs items and where these are addressed in this report and the accompanying Construction and Demolition Waste Management Plan:

Table 1: SEARs Items

Item	Corresponding Section
Identify, quantify and classify the likely waste streams to be generated during construction and operation.	Sections 4 and 5 of the OWMP and Section 4 of the C&D WMP.
Provide the measures to be implemented to manage, reuse, recycle and safely dispose of this waste.	Sections 4-8 of the OWMP and Sections 3-4 of the C&D WMP.
Identify appropriate servicing arrangements for the site.	Sections 4.4 and 5.4 of the OWMP and Section 4.5 of the C&D WMP.
If buildings are proposed to be demolished or altered, provide a hazardous materials survey.	This is outside of the scope of EFC and should be provided by an appropriate contractor.

3.0 DEVELOPMENT OVERVIEW

The proposed development falls under the LGA of City of Sydney Council, and consists of:

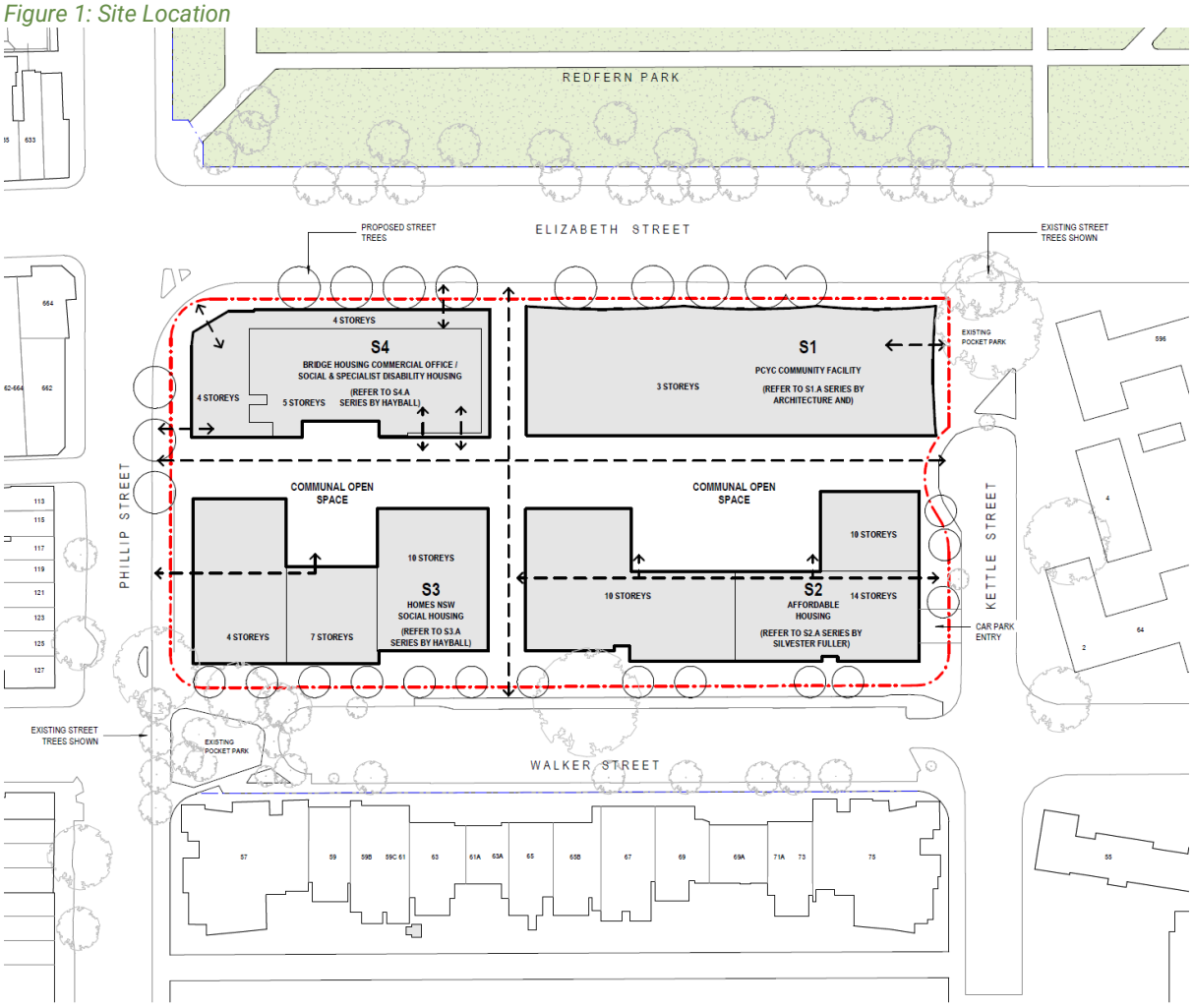
- 4 buildings (S1, S2, S3 and S4) with 4, 14, 10 and 5 levels respectively
  - 355 residential units in total
  - Community areas with a total NSA of 2,699.1m^2
  - Commercial office areas with a total NSA of 822.1m^2
  - Community space with a total NSA of 164.8m^2

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

3.1 SITE LOCATION

The site is located at 600-660 Elizabeth Street, Redfern, as shown in Figure.1. The site has frontages to Elizabeth Street, Kettle Street, Phillip Street and Walker Street, with vehicle access via Kettle Street.

Figure 1: Site Location



Source: Hayball – Site Plan

4.0 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.

4.1 WASTE GENERATION ESTIMATES

The City of Sydney *Guidelines for Waste Management in New Developments* (2018) have been referenced to calculate the total number of bins required for the residential units. Calculations are based on generic waste and recycling rates. Actual volumes of waste and recycling generated in operation may differ according to the residents' actual waste management practices.

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

Table 2: Estimated General Waste and Recycling Volumes – Residential

Building/ Core	# Units	General Waste Generation Rate (L/unit/week)	Generated General Waste (L/week)	Recycling Generation Rate (L/unit/week)	Generated Recycling (L/week)
S2(N)	**106**	120	12720	120	12720
S2(S)	**91**	120	10920	120	10920
S3(N)	**77**	120	9240	120	9240
S3(S)	**31**	120	3720	120	3720
S4(N)	**29**	120	3480	120	3480
S4(S)	**21**	120	2520	120	2520
TOTAL	**355**		**42600**		**42600**
Bins & Collections		General Waste Bin Size (L)	1100	Recycling Bin Size (L)	1100
		General Waste Collections per Week	1	Recycling Collections per Week	1
		Total General Waste Bins Required	**42**	**Total Recycling Bins Required**	**42**
Bins per Building/ Core		**Building/ Core**	**# Bins**	**Building/ Core**	**# Bins**
		S2(N)	12	S2(N)	12
		S2(S)	10	S2(S)	10
		S3(N)	9	S3(N)	9
		S3(S)	4	S3(S)	4
		S4(N)	4	S4(N)	4
		S4(S)	3	S4(S)	3

NOTE: The number of units for S2(N) has been reduced by three to account for the three units that will have their own bins collected from the kerbside of Walker Street (See Section 4.3.1).

4.2 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: 42 x 1100L MGBs collected **once weekly**

Recycling: 42 x 1100L MGBs collected **once weekly**

4.3 WASTE DISPOSAL PROCEDURES

Residents will be provided with a storage area within each unit capable of holding receptacles for least 2 days' worth of general waste and recycling generation. This is usually beneath the kitchen counter. 40L receptacles are expected to be suitable for this purpose.

The residents will also be provided with a communal waste room in the basement of each building, containing 1100L bins for general waste and recycling. These rooms will be located close to the lifts for ease of access. The residents will be responsible for walking their waste and recycling to the corresponding communal waste room and depositing it into the correct bin. The communal waste rooms will be sized to accommodate the number of bins required to hold two days' worth of general waste and recycling, in-line with best practice.

The building caretaker will be responsible for monitoring the capacity of the bins in each communal waste room and transferring them to the residential bin holding room beneath building S4, once full.

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

4.3.1 WALKER STREET UNITS

Three units in Building S2 front onto Walker Street and do not have internal access to a communal waste room. These units will be provided with their own 240L bins which residents will wheel-out to the kerbside of Walker Street for collection (see APPENDIX: A.2).

4.3.2 COMMON AREAS

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

4.4 WASTE COLLECTION PROCEDURES

Council will be engaged to collect the residential waste and recycling in accordance with Council's collection schedule. This report assumes that both general waste and recycling will be collected on a once weekly basis.

Prior to collections, the building caretaker will be responsible for transferring full bins from the waste rooms beneath each building to the residential bin holding room. Bins are to be neatly arranged in the holding room for ease of servicing.

To service the bins, Council's collection vehicle will access the site from Kettle Street and pull into the loading area adjacent to the bin holding room. Collection staff will then exit the vehicle, access the bin holding room using an electronic key system, and service the bins.

Once servicing is complete, the collection vehicle will exit the site, via the route it entered, in a forward direction. The building caretaker will then be responsible for returning bins to their respective waste rooms when required, ready to resume operational use.

It is the responsibility of the caretaker to ensure that the loading areas is clear of any vehicles or obstructions prior to waste collection.

4.5 BULKY WASTE PROCEDURES

A room will be made available at the loading area for the storage of discarded residential bulky items (e.g. whitegoods, furniture, etc.). This room must have a minimum doorway width of 1.5m to allow for easy movement of large waste items. City of Sydney Council requires the area of the room to be a minimum of $22m^2$.

These areas are crucial to prevent residents from illegally dumping bulky waste on the footpath outside Councils scheduled collection times. Regular illegal dumping can attract other dumped waste, generate litter, detract significantly from the quality and appearance of the development and reduce amenity of the street.

Residents will be required to liaise with building management regarding the transportation and disposal of bulky goods. The transfer of bulky goods from the upper levels to the storage areas is to occur via the lifts. Ideally, bulky waste should be collected on a regular schedule so that the storage area does not become overfull and so that residents know when to place items in there for collection. Councils may arrange for more frequent collections of bulky waste for MUDs, however collection frequencies vary among different local government areas.

Donations to charitable organisations should be encouraged. Clean, sound furniture and household goods etc. are highly sought after to provide for the disadvantaged. Donations can be arranged with the assistance of the building manager/waste caretaker.

4.6 SPECIALITY RECYCLING

An additional caged area will be allocated within the bulky waste storage room for the storage of discarded electrical items as well as other speciality waste streams.

Electrical waste (e.g. fluorescent tubing, batteries, laptops etc.) can potentially contaminate soil and surrounding water bodies if not disposed correctly. These items must not be placed in standard general waste and recycling bins due to safety and environmental factors.

A designated 240L MGB for the storage of electrical waste will be stored in this area, along with a separate 1100L MGB for the storage of textile/clothing waste.

Disposal or recycling of speciality waste streams will be organised with the assistance of the building caretaker. The caretaker, along with building management, will be responsible for arranging for servicing of these waste streams with Council or an appropriate contractor.

5.0 COMMERCIAL WASTE MANAGEMENT

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

5.1 WASTE GENERATION ESTIMATES

The City of Sydney *Guidelines for Waste Management in New Developments* (2018) have been referenced to calculate the total number of bins required. Calculations are based on generic figures, and waste generation rates may differ according to staff's actual waste management practice.

The following table shows the estimated volume (L) of general waste, recyclables and food waste that will be generated by the commercial component of the development. This is based on a seven-day operating week.

It is assumed that tenancies will share waste bins, the waste storage room, and the waste collection service.

Table 3: Estimated General Waste, Recycling & Food Waste Volumes – Commercial

Tenancy Type	Floor Area (m^2)	General Waste Generation Rate (L/100m^2/day)	Generated General Waste (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)
S1 Community	**2699.1**	20	3779	50	9447	5	945
S4 Community	**164.8**	20	231	50	577	5	58
S4 Office	**822.1**	15	863	25	1439	5	288
TOTAL	**3686**		**4873**		**11462**		**1290**
Bins & Collections		General Waste Bin Size (L)	1100	Recycling Bin Size (L)	1100	Food Waste Bin Size (L)	240
		General Waste Bins per Day	0.6	Recycling Bins per Day	1.5	Food Waste Bins per Day	0.8
		General Waste Collections per Week	3	Recycling Collections per Week	3	Food Waste Collections per Week	3
		Total General Waste Bins Required	**2**	**Total Recycling Bins Required**	**4**	**Total Food Waste Bins Required**	**2**

5.2 BIN SUMMARY

Based on the estimated waste generated, the recommended bin quantities and collection frequencies are as follows:

General Waste: 2 x 1100L MGBs collected **three times weekly**

Recycling: 4 x 1100L MGBs collected **three times weekly**

Food Waste: 2 x 240L MGBs collected **three times weekly**

Bin sizes, quantities, and/or collection frequencies may be modified by the building manager once the proposed development is operational. Building management will be required to negotiate any changes to bins or collections with the collection service provider. Seasonal peak periods such as public and school holidays should also be considered.

5.3 WASTE DISPOSAL PROCEDURES

It is anticipated that the commercial tenancies at this site will share bins and a waste collection service.

Staff will be responsible for waste management in individual tenancies during daily operations. This will be carried out back of house where possible.

On completion of each trading day or as required, nominated staff or contracted cleaners will transport all general waste, recyclables and food waste to the commercial waste room at the loading area and place it into the appropriate collection bins.

General waste should be bagged but recycling and food waste must not be bagged. Staff will be responsible for emptying and cleaning recyclables, before decanting them from the receptacle within the tenancy into the collection bins.

5.4 WASTE COLLECTION PROCEDURES

A private waste collection contractor will be engaged to service general waste, recycling and food waste bins to an agreed schedule. This report assumes that collections for all waste streams will occur three times per week.

To service the bins, the contractor's collection vehicle will access the site from Kettle Street and pull into the loading area adjacent to the commercial waste room. Collection staff will then exit the vehicle, access the commercial waste room using an electronic key system, and service the bins.

Once servicing is complete, the collection vehicle will exit the site back onto Kettle Street, 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 and that bins are neatly arranged within the waste room before and after waste collections.

It is recommended that commercial waste collections be arrangement on different days to residential waste collections to help ensure sufficient space will be available at the loading area.

5.5 OTHER WASTE MANAGEMENT CONSIDERATIONS

Based on the types of tenancies anticipated, the following waste management practices are recommended.

5.5.1 COMMUNITY AREAS

Smaller receptacles for general waste, recycling and food waste will be allocated to the community and multipurpose spaces to be utilised when these areas are in use. Each of these receptacles will be emptied by the contract cleaners during their cleaning routine after these areas have been used. Cleaners will then empty waste and recycling into collection bins in the commercial waste room, as required.

5.5.2 OFFICE AREAS

Typically, bins for paper or general waste are positioned next to each worker's desk or workstation. Bins for general waste, recyclables and food waste are also located centrally in

office areas. These bins are emptied by contract cleaners, with waste usually stored in the cleaner's cart before being transferred to the collection bins in the commercial waste room.

5.5.3 BATHROOMS

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.

5.5.4 RE-USEABLE COMMERCIAL ITEMS

Space will be provided back of house for the storage of re-usable commercial items such as crates, pallets, kegs and strip out waste. The building manager/caretaker will be responsible for ensuring that storage of these items in public places is completely avoided.

5.5.5 BULKY WASTE

A room will be made available for the storage of discarded bulky items and special waste for recycling, such as e-waste and textile waste. This room should have a minimum doorway width of 1.5m to allow for easy movement of large waste items in and out of the room. Based on the City of Sydney requirements, it is recommended that the bulky waste room is at least 8m^2 for this development.

5.5.6 PROBLEM WASTE

Management will be responsible for making arrangements for the disposal and recycling of problem waste streams with an appropriate contractor. Problem waste cannot be placed in general waste as it can have adverse impacts to human health and the environment if disposed of in landfill. Problem waste streams include chemical waste, liquid waste, toner cartridges lightbulbs and batteries.

6.0 STAKEHOLDER ROLES & RESPONSIBILITIES

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

Table 4: Stakeholder Roles and Responsibilities

Roles	Responsibilities
Management	• 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 • Purchasing any on-going waste management equipment or maintenance of equipment once building is operational; and • Managing any non-compliances/complaints reported through waste audits. • Coordinating general waste and recycling collections; • Cleaning and transporting bins as required; • Organising replacement or maintenance requirements for bins; • Organising, maintaining and cleaning the waste holding area; • Organising bulky goods collection when required • Investigating and ensuring prompt clean-up of illegally dumped waste materials. • Preventing storm water pollution by taking necessary precautions (securing bin rooms, preventing overfilling of bins) • Abiding by all relevant WH&S legislation, regulations, and guidelines; • Providing staff/contractors with equipment manuals, training, health and safety procedures, risk assessments, and PPE to control hazards associated with all waste management; • Assessing any manual handling risks and preparing a manual handling control plan for waste and bin transfers; • Ensuring site safety for residents, children, visitors, staff and contractors; and • Ensuring 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 • Compliance with the provisions of Council and the OWMP.
Commercial Tenants	• Managing the back of house storage of generated waste and recycling during daily operation. • Correctly separating waste and recycling streams. Including bagging general waste and ensuring recyclables are not bagged. • Flattening cardboard within the recycling bin. • If required, making arrangements for storing used and unused cooking oil in a bunded storage area, • Organizing grease interceptor trap servicing, • Ensure dry basket arrestors are provided to the floor wastes in the food preparation, and • Ensuring the suitable storage for chemicals, pesticides and cleaning products waste back of house.
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	• Removal of all garden organic waste generated during gardening maintenance activities for recycling at an offsite location.
Developer	• Purchasing all equipment required to implement this OWMP prior to the occupation of the building to be provided to the strata.

7.0 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 5: 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 designated waste 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 designated 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	Any food waste generated by the residential apartments is to be included in the general waste stream. Food waste generated by commercial tenancies is to be deposited into designated food waste bins using compostable bin liners.
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 communal landscaped areas from site during scheduled maintenance.
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. Commercial tenants to utilise commercial bulky goods room.
Electronic Waste	Discarded e-waste, electronic components and materials such as computers, mobile phones, keyboards, etc.	Resource Recovery Centre	Residents liaise with building manager to store in designated bin in the bulky goods room. Building manager arranges with Council or appropriate contractor for removal. Commercial tenants to utilise commercial bulky goods room.

Textile Waste	Discarded clothing, furniture, carpets, footwear etc.	Resource Recovery Centre or Charity Shops	Residents liaise with building manager to store in designated bin in the bulky goods room. Building manager arranges with Council or appropriate contractor for removal. Commercial tenants to utilise commercial bulky goods room.
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 materials encouraging correct separation of general waste and recyclables must be provided to each resident and commercial tenant. 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 provides information in multiple languages to support correct behaviours, and to minimise the possibility of contamination in communal waste bins.

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 waste and recycling 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 signage should conform to the relevant Australian Standards.

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

9.0 EQUIPMENT SUMMARY

Table 6: Equipment Summary

	Part	Qty	Notes
Bin Moving Equipment	Ride-On Bin Mover	1	(See APPENDIX: C.1 and APPENDIX: C.2 for Typical Bin Movers)

10.0 WASTE ROOMS

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

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.)

Table 7: Waste Room Areas

Level	Waste Room Type	Equipment	Estimated Area Required (m^2)
B	Communal Waste Room S2	7 x 1100L MGBs (General Waste) 7 x 1100L MGBs (Recycling)	40
	Communal Waste Room S3	4 x 1100L MGBs (General Waste) 4 x 1100L MGBs (Recycling)	25
	Communal Waste Room S4	2 x 1100L MGBs (General Waste) 2 x 1100L MGBs (Recycling)	12
	Residential Bin Holding Room	42 x 1100L MGBs (General Waste) 42 x 1100L MGBs (Recycling)	220
	Residential Bulky & Speciality Waste Room	1 x 1100L MGBs (Textiles) 1 x 240L MGB (E-waste) Must also include caged off area for gas bottles	24
	Commercial Waste Room	2 x 1100L MGBs (General Waste) 4 x 1100L MGBs (Recycling) 2 x 240L MGBs (Food Waste)	25
	Commercial Bulky & Speciality Waste Room	1 x 1100L MGBs (Textiles) 1 x 240L MGB (E-waste)	10

Note: The number of bins recommended in each communal waste room is estimated to be sufficient to hold two days' worth of general waste and recycling.

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 should be at least 1500mm. The following table provides further waste room requirements.

Table 8: Waste Room Requirements

Waste Room Type	Waste Room Requirements
Communal Waste Rooms	• All bins should be arranged so they can be accessed without moving another bin • Doorway should be a minimum of 1500mm wide
Residential Bin Holding Rooms	• Bins must not be stacked in rows that are more than two bins deep • Doorway should be a minimum of 1500mm wide
Bulky & Speciality Waste Rooms	• 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
Commercial Waste Rooms	• In order to ensure staff safety, all bins should be arranged so they can be accessed without moving another bin • Doorway should be a minimum of 1500mm wide

11.0 BIN MOVING PATHS

The building caretaker is responsible for the transportation of bins between their operational locations and storage rooms in the basement to the loading areas on the ground level, 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 personal.

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.

As the distance of the bin moving paths exceeds 10m, a bin moving device is required to aid the movement of full bins. 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 will be responsible for maintaining, repairing and replacing waste management equipment.

Bins may have to be fitted with hitches to enable the simultaneous transportation of multiple bins to the collection area. Council must be informed of any hitch attachments required to be installed on bins.

12.0 CONSTRUCTION REQUIREMENTS

Waste room construction must comply with the minimum standards as outlined in the City of Sydney *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.

12.1 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.

13.0 USEFUL CONTACTS

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

LOCAL COUNCIL

City of Sydney Council 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@wastecleart.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

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

SOURCE SPERATION BINS

Method Recycling	Ph: 0499 890 455

MOBILE GARBAGE BINS, BULK BINS AND BIN EQUIPMENT

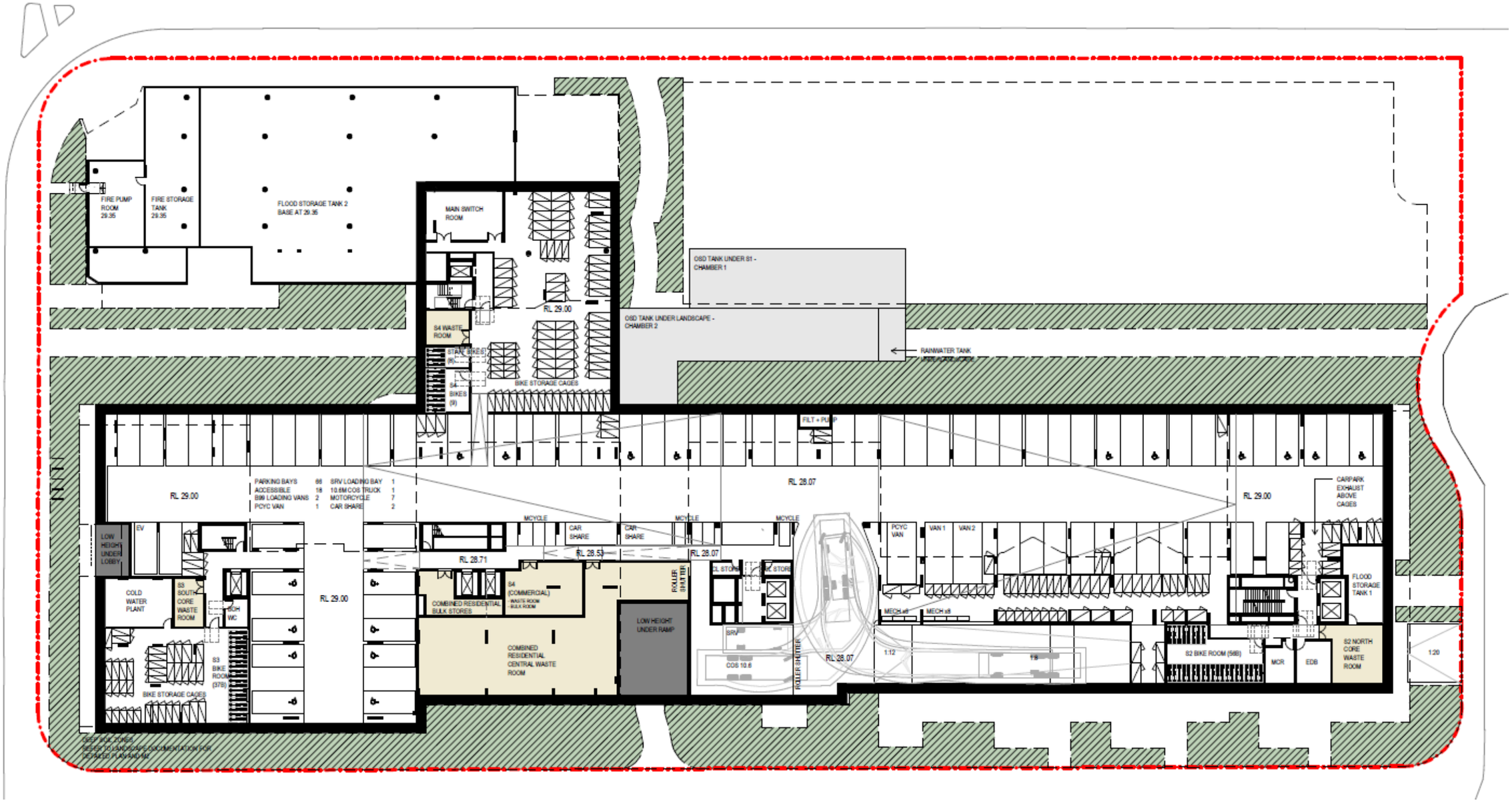
Elephants Foot Equipment	Ph: 1300 435 374	E: equipment@elephantsfoot.com.au
SULO	Ph: 1300 364 388	E: sulosales@pactgroup.com

CHUTES, COMPACTORS AND EDIVERTER SYSTEMS

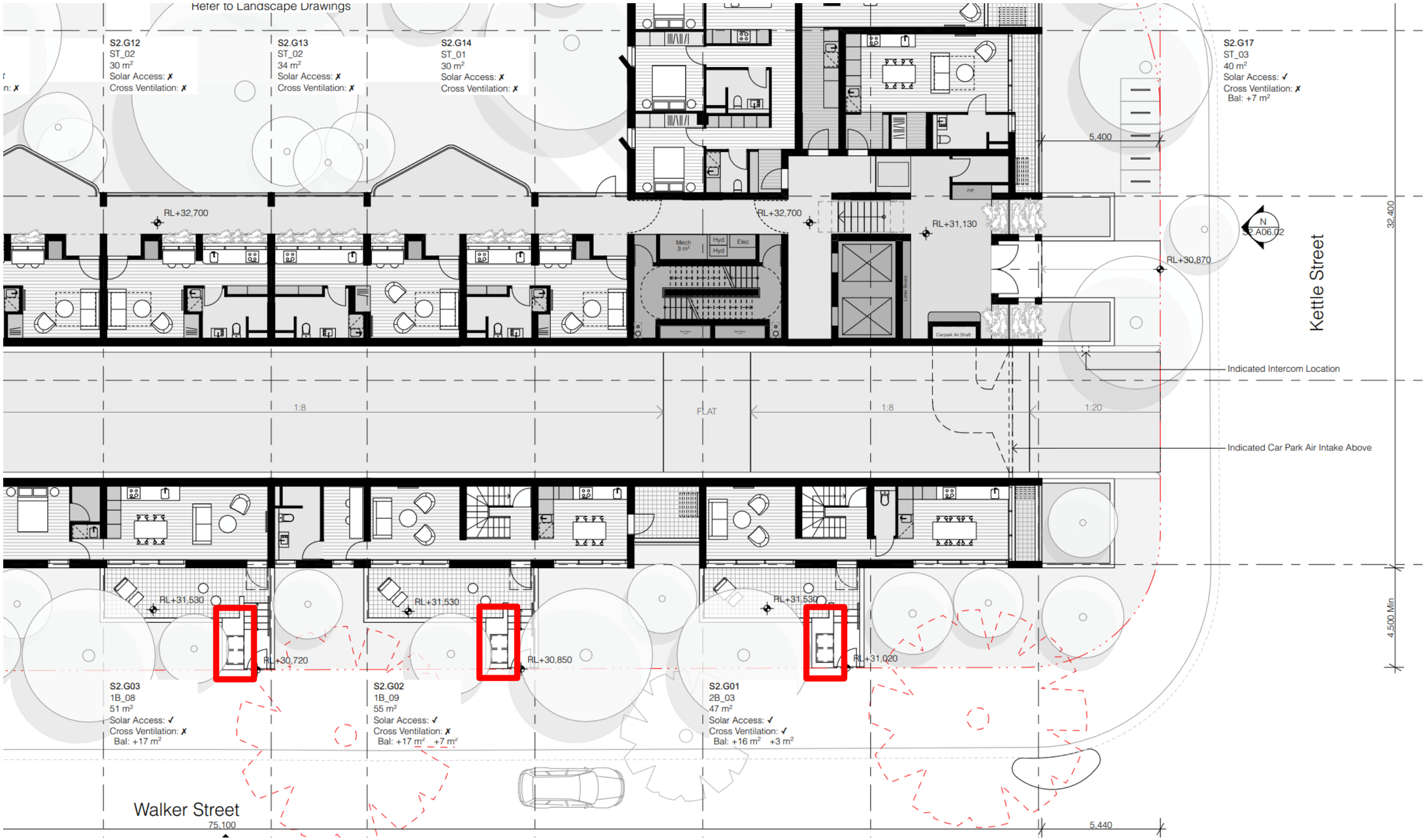
Elephants Foot Chute Solutions	Ph: 1300 435 374	E: chutes@elephantsfoot.com.au

APPENDIX A: ARCHITECTURAL PLANS

APPENDIX: A.1 BASEMENT FLOOR PLAN



Source: Hayball, Drawing No. A02.00, Rev.A – Basement Plan



Source: Silvester Fuller, Drawing No. S2.A02.01 – GA Plan – Ground

APPENDIX B: PRIMARY WASTE MANAGEMENT PROVISIONS

APPENDIX: B.1 TYPICAL BIN SPECIFICATIONS

Australian standard sizes for mobile garbage bins (MGBs)

Standard measurements

Bin type	120L MGB	240L MGB	660L MGB	1100L MGB
Height	940 mm	1080 mm	1250 mm	1470 mm
Length	560 mm	735 mm	850 mm	1245 mm
Width	485 mm	580 mm	1370 mm	1370 mm

120 litre MGB 240 litre MGB 660 litre MGB

Source: City of Sydney Waste Management Guidelines for New Developments (2018)

APPENDIX: B.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

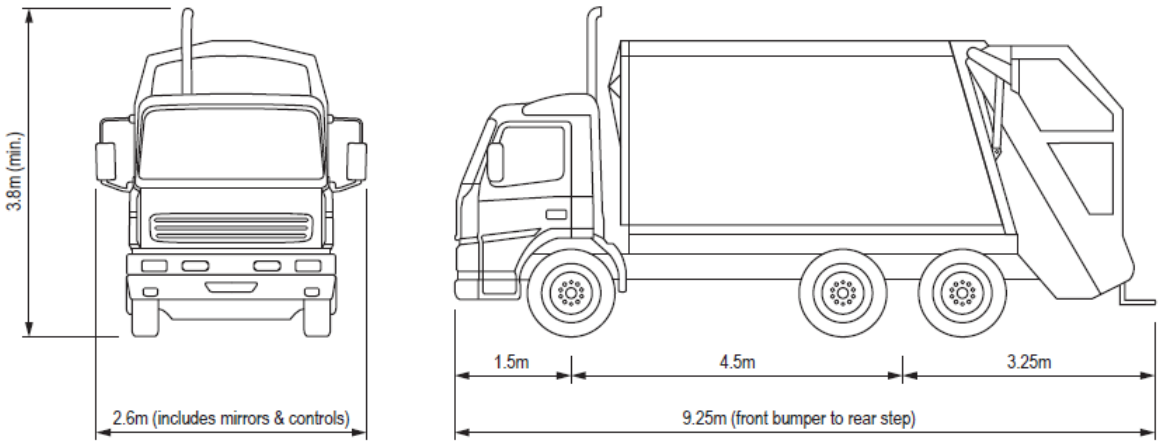
Source: Better Practice Guide For Resource Recovery In Residential Developments 2019, NSW Environmental Protection Authority

APPENDIX: B.3 TYPICAL COLLECTION VEHICLE INFORMATION

Waste collection vehicles may be side loading, rear loading or front-end loading. The size of vehicle varies according to the collection service. Council and its waste contractors use rear-loading, compacting collection vehicles of various capacities to 20 m³ for collecting waste and recycling.

Council and its waste contractors use rear-loading, compacting collection vehicles of various capacities to 20 m³ for collecting waste and recycling.

The following characteristics represent the typical rear-end loading collection vehicle for guidance only.



Dimensions of typical collection vehicle (rear loader)

Vehicle dimensions and design parameters for swept path analysis

The following dimensions are of a typical rear loading collection vehicle and should be used as the design parameters for a swept path analysis.

Rear loading vehicle	dimensions
Length overall (m)	9.25
Width overall (m)	2.6
Travel height (m)	3.8
Minimum vertical clearance required (m)	4.0
Maximum weight (t)	26
Turning circle radius – wall to wall (m)	10.5
Lock to lock time (sec)	6
Minimum clearance on both sides of the wheel path (mm)	600
Vehicle turning speed (km/hr)	5-10

Vehicle access and turning requirements

A turning path analysis should be used to check that the paths of vehicles travelling in the forward direction when negotiating access driveways and circulation roadways, can be accommodated within the proposed location. Turning path analysis should also be used to check the movement out of a loading dock to establish that sufficient width is provided for the vehicle swept path, including maneuvering clearances. In providing turning path analysis, the following should be provided:

- Details of road geometry (details dimension of the driveway, width of the road (carriage way), footpath, kerb and gutter, median and on-street parking where applicable.)
- Dimension details of the design vehicle
- Turning radius and operable speed
- Lock to lock time. It is recommended that a value between three and six seconds is reasonable for most conventional vehicles. It should come through a vehicle data sheet, however, if not a six seconds should be chosen.
- Three clear swept paths line namely wheel path, vehicle body path and 0.6m clearance path

The parameter of the design vehicle for swept path analysis should be obtained from the manufacturer specification (with reference) or the parameters in the vehicle dimension table can be used.

Best design practice for access and egress from a development calls for a separate entrance and exit to allow the collection vehicle to travel in a forward direction at all times. Where there is a requirement for collection vehicles to turn at a cul-de-sac head within a development, the design is to incorporate either a bowl or 'T' or 'Y'-shaped arrangement.

The design aspects to be taken into account include:

- Placement of waste and recycling bins outside each home, or in a common collection area
- The presence of parked cars on access roads
- Trucks are to only be expected to make a three-point turn to complete a U-turn
- Allowing for collection vehicle overhang and possible interference with bins and road furniture.

Road geometry

The design parameters are to comply with the following road geometry:

- A maximum desirable gradient of 10 per cent for turning heads
- Vehicle access for collection and loading will provide for a maximum grade of 1:20 for the first 6 metres from the street, then a maximum of 1:8 with a transition of 1:12 for 4 metres at the lower end
- A maximum longitudinal road gradient of 15 per cent
- A minimum kerb radius of 8.5 metres at the outside of the turn where there is to be on-site collection
- A minimum kerb radius of 10 metres at the outside of the turn where there is to be kerbside collection
- A minimum pavement width of 6.5 metres if 25 or more parking spaces for cars are required (use of passing bays is acceptable)
- An industrial-type strength pavement designed for a maximum wheel loading of 7 tonnes per axle in order to accommodate waste and recycling collection trucks (the standard road pavement design specifications for an individual driveway entry on public land is 150 mm thick concrete, 20 MPa concrete with F82 mesh).

Collection from enclosures

Collection vehicles may enter building basements for the collection of waste and/or recyclables provided the following requirements are met:

- The gradient of the ramp access to basement is not to exceed 1:8
- The height of the structural members and upper floor ceiling are to allow for a typical collection vehicle travel height/ operational height consistent with the type of vehicle employed
- The provision of space is to be adequate to allow the typical three-point turn of collection vehicles
- The basement floor is to be of industrial-type strength pavement and designed for a maximum wheel loading of 7 tonnes per axle in order to accommodate waste and recycling collection trucks (the standard road pavement design specifications for an industrial driveway entry on public land is 150 mm thick concrete, 20 MPa concrete with F82 mesh).

Source: City of Sydney Waste Management Guidelines for New Developments (2018)

Note: Council have advised that this collection vehicle will shortly be replaced by one that is 10.6m long.

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 SEATED BIN MOVERS

MOTREC

MOTREC MT180
36V BATTERY ELECTRIC BIN MOVER

This hardworking tow device delivers outstanding performance. With its efficient motor and 4,500kg push-pull capacity.
The MT180 is ideal for moving bin trailer also narrow enough to fit through most door openings. From its all-steel construction
to its all-wheel braking, this tow tractor is built for years of heavy use in total comfort and safety. All this combined with superior AC technology makes short work of though requests.

Features
- Front & rear brakes
- Pneumatic Tyres
- Comfortable ergonomic adjustable seat
- Complete with headlight, break lights, tailing lights & horn

SPECIFICATION

MODEL	DIMENSIONS (MM)	OPTIONAL EXTRAS	PULL - PUSH CAPACITY (KG)	BATTERY
MT180 36V	760 (w) x 2030 (l) x 1160 (h)	Flashing light on pole Conditional registration kit Cabin includes windscreen Weather Curtains	4500	48V TPPL battery pack, 157AH

TOWING CAPACITY - ON FLAT GROUND / SLOPE (all models) (all models)
Towing up to 5x 660 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)
Towing up to 4x 1100 lt. Wheelie Bin Up / Down maximum 25% (1:4 slope)

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

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: C.3 EXAMPLE BIN TRAILERS

SITECRAFT
MATERIALS HANDLING EQUIPMENT

BIN TRAILER
WITH ALUMINUM RAMP

Bin trailer suitable for moving 240lt, 660lt and 1,100lt bins including a 1200mm rear ramp complete with locking latches and gas strut assist. Height draw bar fitted with a jockey wheel large pneumatic tyres with precision bearing hubs

SPECIFICATION

MODEL	DIMENSION (MM)	SUITABLE FOR MOVING	PART NUMBERS	REAR RAMP DIMENSION (MM)
4x Bins Trailer	Internal - 1560 (l) x 1200 (w) External - 2300 (l) x 1500	**4x 240lt.** Wheelie Bin **2x 660lt.** Wheelie Bin **1x 110lt.** Wheelie Bin	78811604	1200mm rear ramp complete with positive locking and gas strut assist
6x Bins Trailer	Internal - 2350 (l) x 1200 (w) External - 3100 (l) x 1500 (w)	**6x 240lt.** Wheelie Bin **3x 660lt.** Wheelie Bin **2x 1100lt.** Wheelie Bin	78811065	1200mm rear ramp complete with positive locking and gas strut assist
8x Bins Trailer	Internal - 3200 (l) x 1200 (w) External - 3900 (l) x 1500 (w)	**8x 240lt.** Wheelie Bin **4x 660lt.** Wheelie Bin **3x 1100lt.** Wheelie Bin	78811066	1200mm rear ramp complete with positive locking and gas strut assist
10x Bins Trailer	Internal - 3900 (l) x 1200 (w) External - 4600 (l) x 1500 (w)	**10x 240lt.** Wheelie Bin **5x 660lt.** Wheelie Bin **4x 1100lt.** Wheelie Bin	78811067	1200mm rear ramp complete with positive locking and gas strut assist

OPTIONS

- Full registration
- Upgrade Includes : Lights | Wiring | Suspension | aaa Tyres | Compliance Plate

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

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: C.4 EXAMPLE BIN TOWING ATTACHMENTS

Logistec

UNIVERSAL BIN TOWING ATTACHMENTS

SUITE 660LT / 1100LT WHEELIE BINS

PARTS & FEATURES

Front Only - Part Number: 78811672
- Suit Sulo & Otto 600lt / 1100lt MGBs
- Spring loaded draw bar folds up
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

Rear Only - Part Number: 78811673
- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

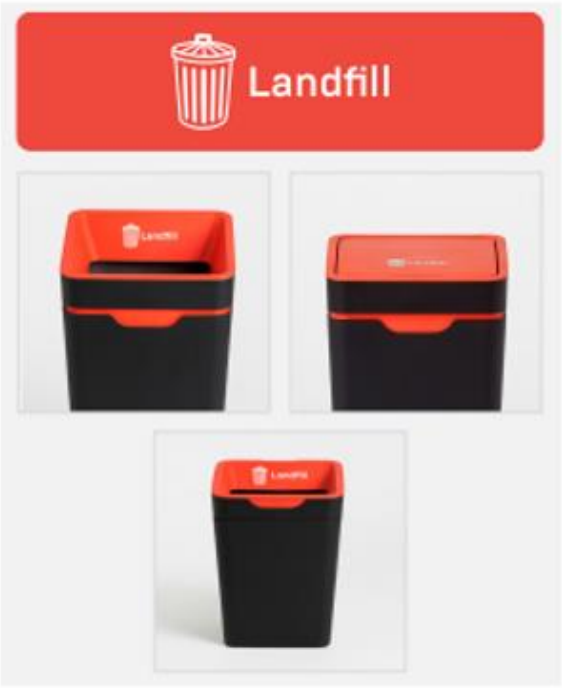
For Steel Bin Front Only - Part Number: 78811781
- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

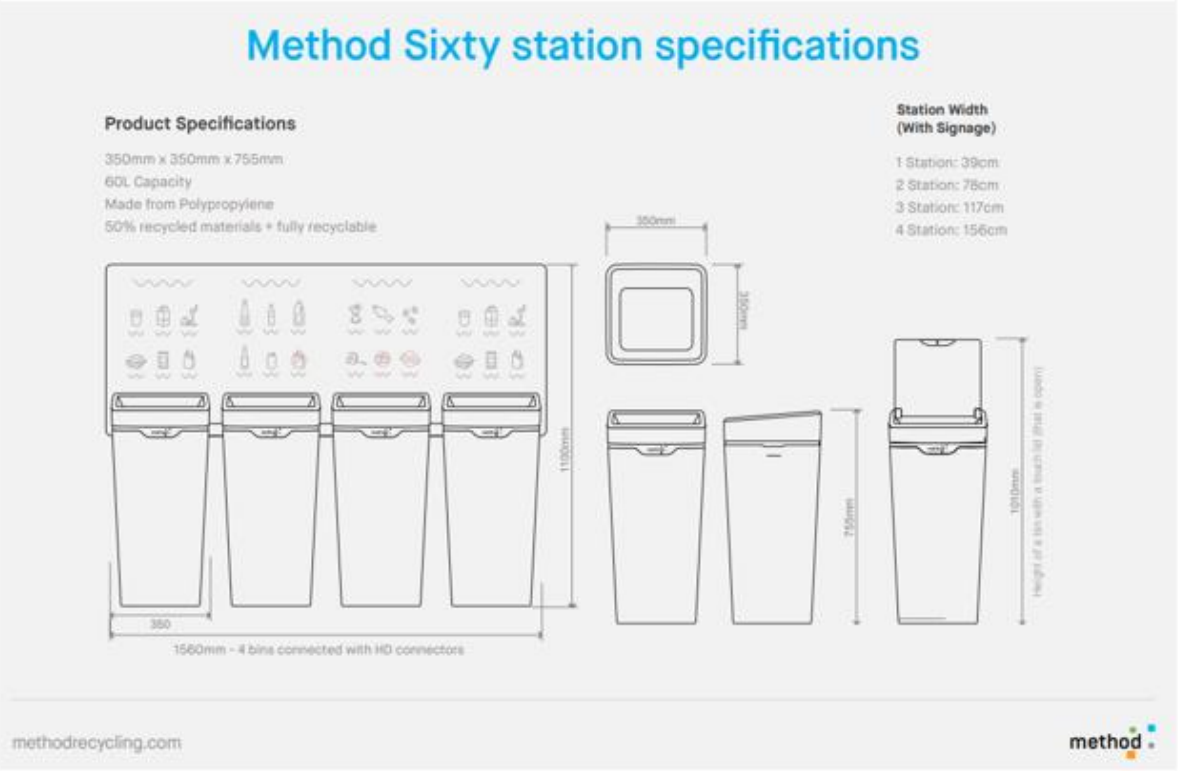
Direction Lock : 53191001
- Suit Sulo & Otto 600lt / 1100lt MGBs
- No drilling of holes in the bin required
- Solidly fixed to the base of the bin using the castor mounting bolts
- Passivated zinc finish for long life
- Correct Rear Fixed or Directional Lock castors should be used

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

Source: Sitecraft - www.sitecraft.net.au

APPENDIX: C.5 EXAMPLE SOURCE SEPARATION RECEPTACLES





Source: Method Recycling - www.methodrecycling.com