

Waste Management Plan

Prepared for: Meriton Apartments

Project Site: Buildings 7 & 8
61 Mobbs Lane
Epping Park

Date of Issue: 30th November 2010

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1. INTRODUCTION

Wastech Services Pty Ltd was commissioned by Meriton to prepare a waste and recycling plan associated with a proposed development to be located at 61 Mobbs Lane Epping Park.

The project consists of:

Building 7

- Residential Apartments (42);

Building 8

- Residential Apartments (88);

Scope: Wastech Services will review the building layout drawings and apartment details and provide a Waste Management Plan including the following:

- Calculation of weekly waste and recyclable volumes
- Provide recommendations for compaction, storage and transportation of waste and recyclables within the building
- Highlight relevant design issues that may affect the handling and movement of Waste and Recyclables within the development
- Include technical brochures and drawings for recommended equipment
- Provide recommendation for collection vehicle type
- Reference collection companies and/or council collection/disposal services
- Provide a bound, hard copy and electronic version of the report

All recommendations and equipment shall be in compliance with council codes, BCA, Australian Standards, and statutory requirements.

The results of the above analyses are outlined in the following sections.

2. SUMMARY

- Residents will be responsible for disposing of bagged garbage into the garbage chutes
- Residents will separate recyclable waste from garbage waste for disposal into 240 litre commingled recycling bins at each apartment level
- The building manager will collect full 240 litre commingled recycling bins from each apartment level for storage in the basement level refuse rooms
- The building manager shall transfer clean empty 240 litres to each apartment level from the basement level refuse rooms upon deposit of full bins
- The building manager will be responsible for monitoring bin levels in all refuse rooms and bin storage areas ensuring clean empty bins are available to receive waste
- The building manager will be responsible for transferring all full garbage bins for collection from the basement level 1 refuse rooms to the main garbage enclosure room prior to collection. The building manager shall return emptied bins to the respective basement level refuse rooms upon completion of collections
- Garbage and commingled recycling waste collections shall be performed twice a week by private contractors from the kerbside collection point adjacent to the main garbage enclosure room at the carpark entry roadway of building 8
- The collection contractor shall transfer full bins from the main garbage enclosure room to the collection vehicle and return bins to the main garbage enclosure room upon completion of collection

3. WASTE MANAGEMENT PLAN

This waste management plan is based on the following conditions

3.1 Inclusions

- On-going use of the premises. Does not include demolition or construction stages.
- Figures and calculations are based on drawings and information supplied by Meriton Apartments.
- Waste volume figures are estimates only and will be influenced by the tenant, resident and operator's disposition toward waste disposal and recycling, and by the development's occupancy rate. Refer to the enclosed tables for rates and assumptions.

3.2 Exclusions

- Hard rubbish and green/garden wastes. Disposal shall be arranged by the building manager via appropriate contractors.

3.3 Refuse Room Dimensions

The Building 7 refuse room, as shown on drawing A7100, is sufficient to accommodate the garbage equipment and bins specified within this report.

BUILDING 7 - REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	16	6.83
Ecopack chute fed compactor with 5 x 240 litre bin carousal			1	7.20
TOTAL AREA REQUIRED				14.03
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				35.00

The Building 8 refuse rooms, as shown on drawing A8101, are sufficient to accommodate the garbage equipment and bins specified within this report.

BUILDING 8 CHUTE A - REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	16	6.83
Ecopack chute fed compactor with 5 x 240 litre bin carousal			1	7.20
TOTAL AREA REQUIRED				14.03
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				34.00

BUILDING 8 CHUTE B - REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	16	6.83
Ecopack chute fed compactor with 5 x 240 litre bin carousal			1	7.20
TOTAL AREA REQUIRED				14.03
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				35.00

The Building 8 main garbage enclosure, as shown on drawing A8101, is sufficient to accommodate the garbage and recycling bins presented for collection as specified within this report.

BUILDING 8 - MAIN GARBAGE ENCLOSURE				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	48	20.50
TOTAL AREA REQUIRED				20.50
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				35.00

4. GENERATED WASTE VOLUME ESTIMATE

The enclosed waste estimates, expressed in uncompacted cubic metres per week, are summarised as follows;

Refer to the enclosed waste generation calculations for further detail.

RESIDENTIAL WASTE	Garbage	Commingled Recycling
Building 7	5.88	5.04
Building 8 – chute A	6.16	5.28
Building 8 – chute B	6.16	5.28
Collection Bins	240 litre	240 litre
Total (m³/wk uncompacted)	18.20	15.60

Note: Commingled Recycling incorporates Glass, HDPE and PET containers, paper and cardboard.

5. RESIDENTIAL WASTE MANAGEMENT

The following is recommended:

5.1 Waste Streams

Residential waste shall be sorted on-site by the residents into the following streams and associated bins:

- Garbage; and
- Recycling (Glass, PET, aluminium, steel, HDPE, and Paper/Cardboard).

5.2 Residential Garbage Disposal

Residential apartments shall be furnished with plastic lined under bench storage bins, with a minimum capacity of 15 litres, for the temporary holding of garbage waste. Residents shall transfer bagged garbage to the garbage chutes for disposal. Each building shall have garbage chutes servicing all apartment levels. All garbage chutes shall discharge into compactors with 240 litre bins located at basement level. The building manager shall replace full bins under the compactors and chutes with clean, empty ones as required.

5.3 Commingled Recycling Disposal

Residential apartments shall be furnished with under bench storage bins for the temporary holding of commingled recyclable wastes with a minimum capacity of 10 litres. Residents shall transfer commingled recyclables, as required, to the 240 litre commingled recycling bins located in the chute airlock at each apartment level adjacent to the lift cores for disposal.

The building manager shall collect full 240 litre bins, as required, from each apartment level for transfer to the refuse rooms at basement level. The building manager shall collect clean, empty bins for return to each apartment level upon deposit of full bins to the refuse rooms.

5.4 Residential Garbage & Recycling Collection

The building manager shall make 240 litre garbage bin transfers between the basement level refuse rooms and the main garbage enclosure at basement level of building 8. Full bins only are to be transferred to the main garbage enclosure, utilising a bin trailer or bin tug, and returned to the respective basement level refuse rooms upon completion of collection. The building manager shall transfer all 240 litre commingled recycling bins between the apartment levels and the basement level refuse rooms.

Twice a week garbage and recycling collections are envisaged.

The collection of waste and recycling bins is to be performed by private contractor, to be confirmed by Meriton Apartments, from the kerbside collection point adjacent to the main garbage enclosure room at the carpark entry roadway of building 8. The collection contractor shall transfer full bins from the main garbage enclosure room to the collection vehicle for emptying and return emptied bins to the main garbage enclosure room.

Traffic management consultants shall confirm sufficient area is provided for the collection vehicle swept path to the building 8 carpark entry roadway collection point.

6. RESIDENTIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

Garbage Chutes: 530mm diameter galvanised steel or Smoothubes® chute serving all apartment levels, as supplied by Wastech Services (or equivalent).

Quantity required = three (3)

Garbage Compactors: Automated EcoPack garbage-chute compactor with a bin carousel capable of holding 5 x 240 litre bins, as supplied by Wastech Services (or equivalent).

Quantity required = three (3)

6.1 Residential Waste Calculations

Building 7		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	5.88	cubic metres
Weekly Garbage Volume (Compacted 3:1)	1.96	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection (compacted volume / bin capacity)	5	
Spare Bins required	5	
Garbage Total bins required	10	

RECYCLING		
Weekly Recycling Volume	5.04	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection	11	
Spare Bins required	6	
Recycling Total bins required	17	

Building 8 - Chute A		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	6.16	cubic metres
Weekly Garbage Volume (Compacted 3:1)	2.05	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection (compacted volume / bin capacity)	5	
Spare Bins required	5	
Garbage Total bins required	10	

RECYCLING		
Weekly Recycling Volume	5.28	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection	11	
Spare Bins required	6	
Recycling Total bins required	17	

Building 8 - Chute B		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	6.16	cubic metres
Weekly Garbage Volume (Compacted 3:1)	2.05	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection (compacted volume / bin capacity)	5	
Spare Bins required	5	
Garbage Total bins required	10	

RECYCLING		
Weekly Recycling Volume	5.28	cubic metres
Bin Type	240	litre
Frequency of collection	2	per week
Bins required for collection	11	
Spare Bins required	6	
Recycling Total bins required	17	

7. BIN SUMMARY

7.1 Refuse Rooms

Building 7 Refuse Room

240 litre Garbage bins	5	
Spare 240 litre Garbage bins	5	
240 litre Recycling bins	5	(one per level per chute)
Spare 240 litre Recycling bins	11	(refuse room)

Building 8 Refuse Room A

240 litre Garbage bins	5	
Spare 240 litre Garbage bins	5	
240 litre Recycling bins	6	(one per level per chute)
Spare 240 litre Recycling bins	11	(refuse room)

Building 8 Refuse Room B

240 litre Garbage bins	5	
Spare 240 litre Garbage bins	5	
240 litre Recycling bins	6	(one per level per chute)
Spare 240 litre Recycling bins	11	(refuse room)

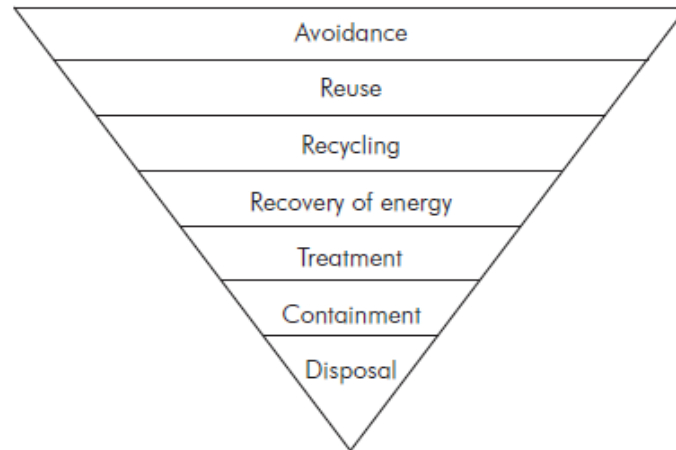
7.2 Bins Presented For Collection

Buildings 7 & 8 Bins Presented For Collection

240 litre Garbage bins	15
240 litre Recycling bins	33
TOTAL BINS PRESENTED	48

8. WASTE MINIMISATION STRATEGIES

The operator (Body Corporate) will be responsible for the education of residents in the practices of waste reduction/minimisation to divert waste from landfill. This will be achieved by the following:



- Document and distribute details of the waste management system that is in place on site to all residents
- Distribution of notices to all residents encouraging waste separation
- All bins to be labelled and colour coded stating types of waste that can be deposited i.e. paper/cardboard bins, container recycling bins, garbage bins
- Residents will be provided with a manual, upon residency, detailing items that can be disposed of via the garbage chutes in accordance with the manufacturers recommendations
- Any future change to regulatory requirements or to the developments' waste generation rates will require the operator to conduct a waste audit and revise the waste management system that is in place accordingly

9. ADDITIONAL WASTE MANAGEMENT INFORMATION

As bins would be “wheeled” throughout the building, any ramps would require a maximum gradient of 1:14 to meet regulatory requirements (steps not permitted).

Items unsuitable for disposal via garbage or recycling bins would need to be disposed with the assistance of the building manager. This would include: large, heavy, and liquid waste items.

To minimise security, vandalism, odour/visual impact, and health/safety issues, the following shall be implemented:

- Transferring waste and shifting bins shall require the minimum possible manual handling. The operator will assess manual handling risks as per regulatory requirements and provide appropriate documentation to the building manager;
- Signage and usage labels for the garbage and recycling bins will be provided by the operator;
- Refuse rooms will be secure and vermin proof and ventilated in accordance with Australian Standard AS 1668.2;
- A bin wash area comprising a tap and floor drain with trap and sewer connection will be located within each refuse room;
- The building manager shall keep clean the refuse rooms, keep bin lids closed and wash bins regularly;
- A designated hard rubbish collection point for each building shall be provided with a minimum footprint of 2m² for residents to place hard rubbish for collection on specified days. Direct access from the street for the collection provider will be included;
- The building manager will ensure prompt return of empty bins once collection has occurred;
- The Body Corporate of the proposed development shall source and enter into service agreements for waste collection services. The Body Corporate will be responsible for all payments and costs associated with the waste collection service provided by collection contractors;
- The building manager shall prepare operational instructions and an operational health and safety procedure for site staff; and
- A traffic management plan and collection-vehicle safe operation procedure shall be prepared by the operator of the development in consultation with the collection contractor, when appointed, prior to collections being performed on site.

10. CONTACT INFORMATION

Parramatta City Council

30 Darcy Street, Parramatta NSW 2150
Ph 9806 5050

SITA Environmental Solutions

(private waste collector)
201-205 Newton Road, Wetherill Park, NSW 2164
Ph: 9725 3255

Veolia Environmental Services

(private waste collector)
Cnr Unwin and Shirley Streets, Rosehill NSW 2142
Ph: 132 955

VISY Waste Management Integrated Solutions

(private waste collector)
6 Herbert Place, Smithfield, NSW 2164
Ph: 9794 3188

Electrodrive Pty Ltd

(tug manufacturer)
C/o Wastech Engineering

Eco-Safe Technologies

(odour control equipment supplier)
C/o Wastech Engineering

Wastech Services Pty. Ltd.

Waste Equipment Designer & Manufacturer
Valerie Collins
National Sales Executive
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Ph 03 8787 1600
valerie@wastech.com.au



**WASTE
ESTIMATE
Residential**

Job:	Building 7 - 61 Mobbs Lane Epping Park	Date:	30-Nov-10
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RESIDENTIAL APARTMENTS	42		
Garbage (m ³ /week uncompacted):	5.88	(Rate/apartment) ¹ :	0.140
Commingled Recyc. (m ³ /week uncompacted):	5.04	(Rate/apartment) ¹ :	0.120

COMPACTOR DETAILS (garbage only - refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins on Rotofeed	No. of Days to Fill bins on rotofeed	No. of Bins Filled per Week
240	0.33	5	4.3	8.2

COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	3.5 days (240 litre bins, compacted)	4.1
Commingled Recyc.	3.5 days (240 litre bins)	10.5

References/Notes:

- 1) Better practice guide for waste management in multi-unit dwellings NSW 2008
- 2) Waste generation rates -140 litres garbage per unit and 120 litres recycling per unit - from Parramatta City Council waste management plan guide



WASTE ESTIMATE
Residential

Job:	Building 8 - 61 Mobbs Lane Epping Park	Date:	30-Nov-10
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RESIDENTIAL APARTMENTS CHUTE A	44		
Garbage (m ³ /week uncompacted):	6.16	(Rate/apartment) ¹ :	0.140
Commingled Recyc. (m ³ /week uncompacted):	5.28	(Rate/apartment) ¹ :	0.120

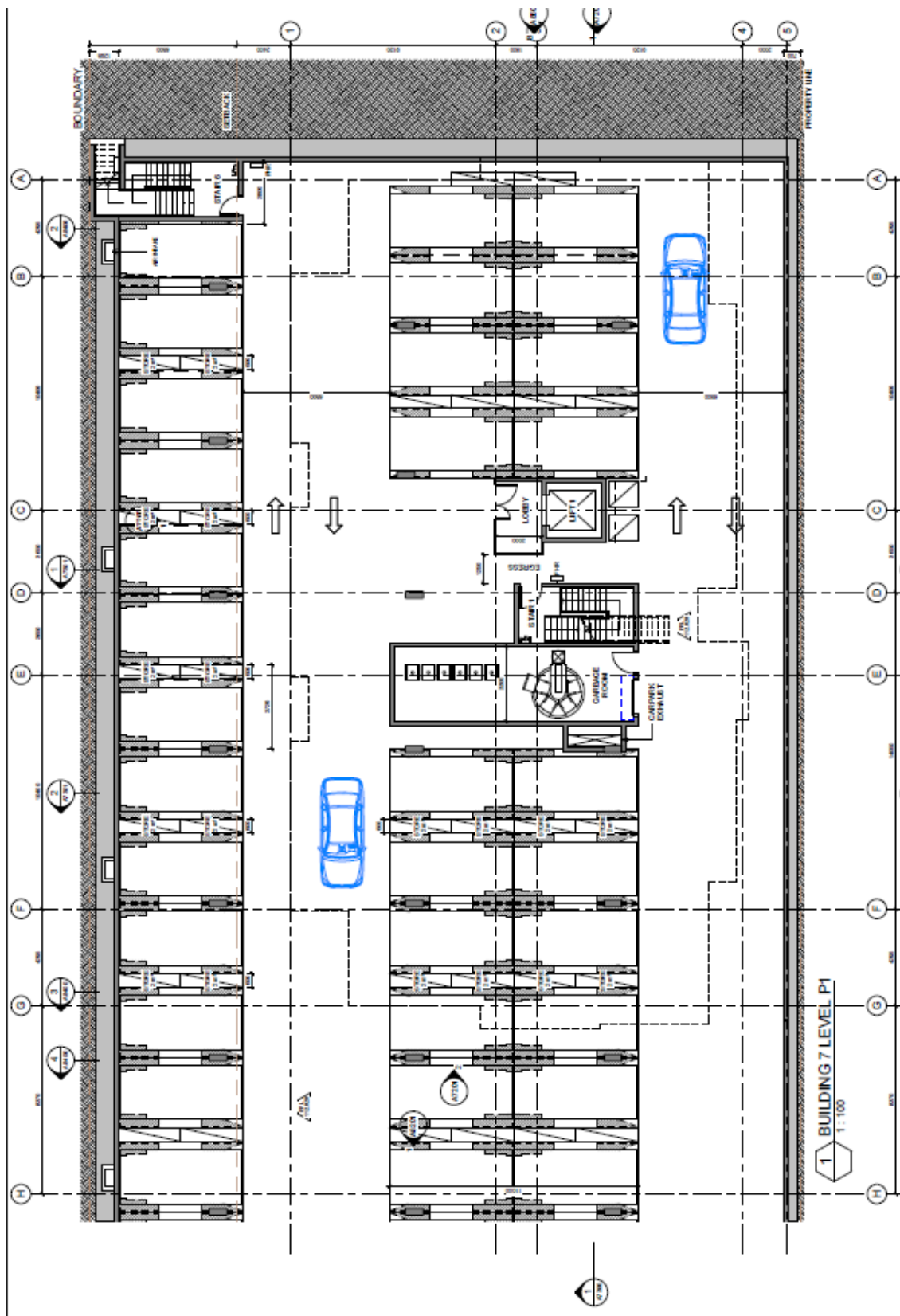
COMPACTOR DETAILS (garbage only - refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins on Rotofeed	No. of Days to Fill bins on rotofeed	No. of Bins Filled per Week
240	0.33	5	4.1	8.6

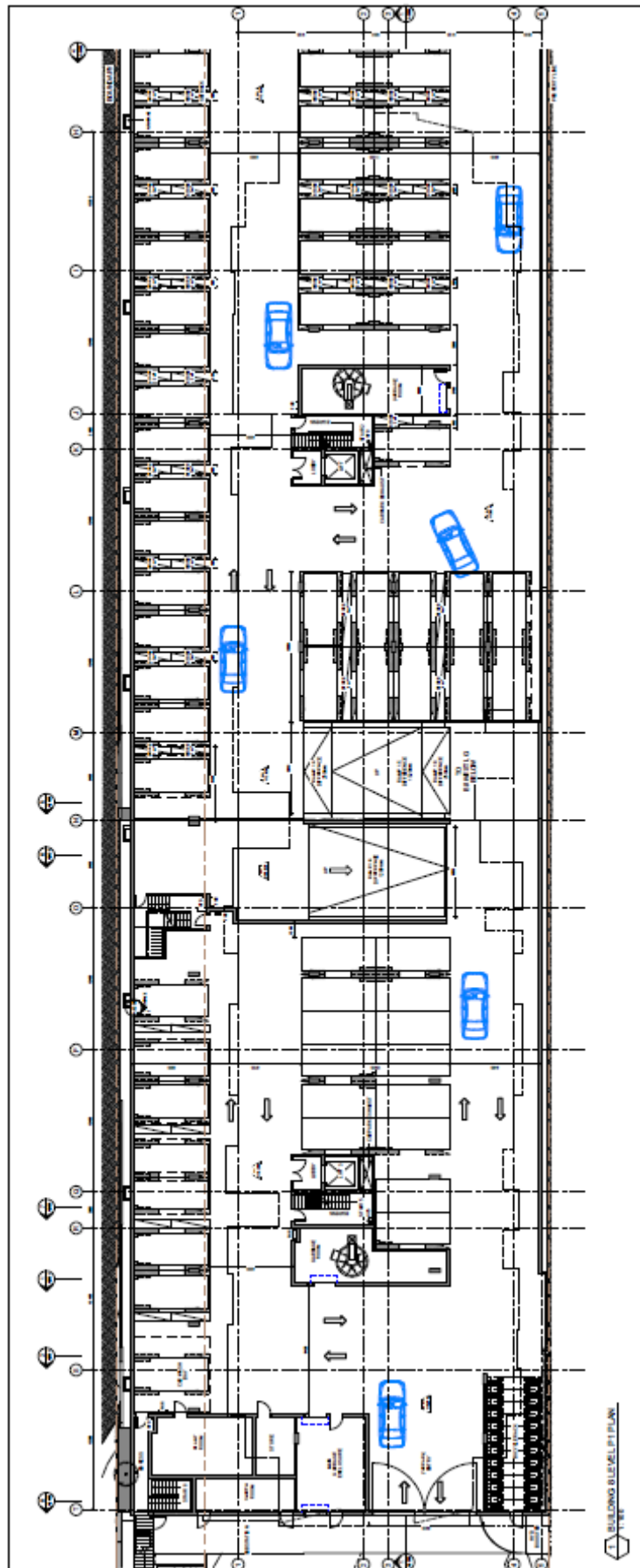
COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	3.5 days (240 litre bins, compacted)	4.3
Commingled Recyc.	3.5 days (240 litre bins)	11.0

RESIDENTIAL APARTMENTS CHUTE B	44		
Garbage (m ³ /week uncompacted):	6.16	(Rate/apartment) ¹ :	0.140
Commingled Recyc. (m ³ /week uncompacted):	5.28	(Rate/apartment) ¹ :	0.120

COMPACTOR DETAILS (garbage only - each refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins on Rotofeed	No. of Days to Fill bins on rotofeed	No. of Bins Filled per Week
240	0.33	5	4.1	8.6

COLLECTIONS	Time Between Collections (days)	No. of Bins Collected
Garbage Disposal	3.5 days (240 litre bins, compacted)	4.3
Commingled Recyc.	3.5 days (240 litre bins)	11.0







COMPACTION BLADE

Eco-Pack WASTE CHUTE COMPACTOR

Eco-Pack Waste Chute Compactor

The Patented Eco-Pack compactor has been specifically developed for compaction of waste delivered via an overhead chute in multi story apartments and entertainment venues.

Designed to suit tight room restraints, the Eco-Pack is a true hydraulic compactor that contains the high packing forces within itself to eliminate O,H&S issues and bin damage.



SPECIAL FEATURES

- High Compaction to reduce number of bins required thus reducing floor space.
- Compaction blade and ejection door constantly seal the waste chute to reduce odour and also eliminate the risk of fire transfer up the waste chute.
- Autocycle operation via 'photo cell' to reduce power consumption.
- Enclosed chamber design provides protection from glass explosion if bottles are dropped from upper levels.
- Ejection of compacted waste plugs into Bins sized from - 240 to 1,500 Ltr.
- Robust High tensile steel construction to Australian Standards AS4100.
- Compliance to all current O,H&S and WorkCover requirements.
- Quiet and efficient hydraulic system.
- Option of Roto Feed or Conveyor Feed to suit all installations.

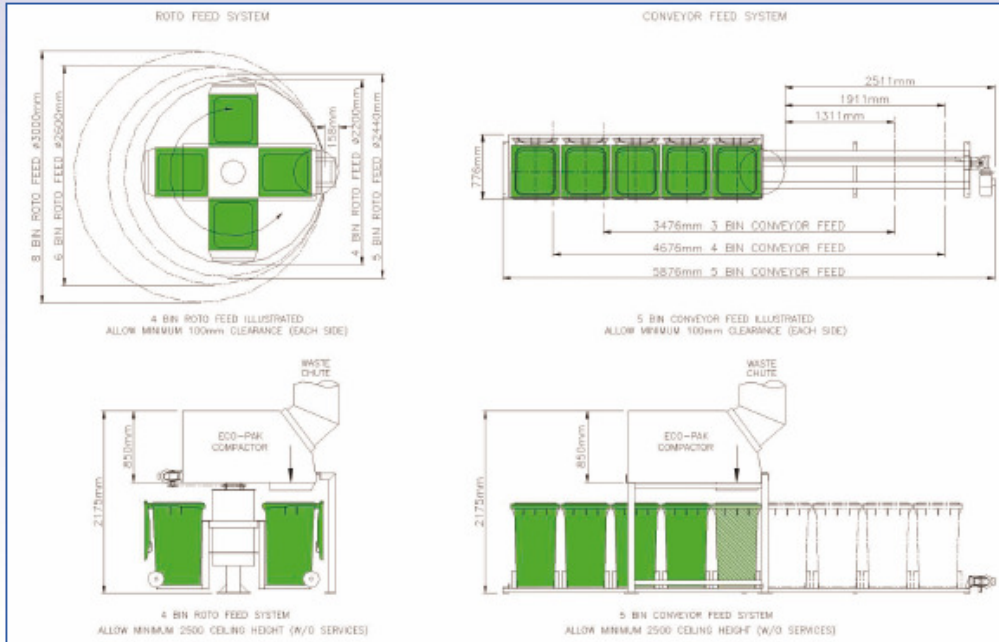


Eco-Pack

APARTMENT COMPACTOR

Specifications

Compaction Ratio :	3:1 to 10:1 dependent on waste types.
Construction :	5mm and 20mm grade 350 high tensile steel plate.
Chamber dimensions :	560 wide x 600mm long.
Waste Capacity :	80 Ltr per 15 second cycle = 20m ³ /hr
Power requirements :	415v / 20A / 5pin power point .
Hydraulic Specs :	12 Lpm Pump, 5.5Kw Motor
Compaction Force :	62 kn or 6.3 tonnes force @ 14 Mpa
Waste bin Qty :	1 x 240 Ltr bin to 8 bins on Roto Feed and up to 660, 1500 litre bin Roto Feed.
Electric Control :	PLC control with electronic cycle control and photo cell monitoring.
Service :	Comprehensive fixed price service / inspection program available.
Warranty :	12 Month Warranty subject to our Standard Terms and Conditions.



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FOR YOUR LOCAL AGENT
 IN YOUR STATE PLEASE CALL

FREE CALL:
1800 465 465

Your Local Agent:

240 LITRE CONTAINER

Material

- **Polymer components:**
 - Injection moulded from specially designed HDPE
 - Resistant to decay, frost, heat and chemicals
 - Special UV-stabilisation provides excellent ageing characteristics
- **Corrosion resistant steel axle**
- **Noise reduction:**
 - Quiet-running solid rubber tyres
 - Tight-fitting axle
- **Long service life:**
 - High quality materials
 - Most advanced manufacturing processes
 - Withstands exposure to high mechanical stress levels
- **Recycling:**
 - All container parts are recyclable

Advantages

- Easy to manoeuvre
- Versatile, with a comprehensive accessories range
- Complies with EN840 and AS4123 quality requirements
- Particularly stable due to external position of wheels
- Safe and easy to handle
- Suitable for all DIN lifting equipment
- Double angle rail for greater safety when emptying
- Compatible with identification and weighing systems
- Special ribs prevent containers from becoming jammed when stacked

Imprints and markings

- Manufacturer, year of manufacture, material
- Nominal volume, max permitted total weight
- EN 840 and AS4123 markings
- Individual markings with imprints, hot-foil printing or adhesive labels*
- Customer specific serial numbers if required*

Accessories

- For accessories and special design variations such as lid apertures and locks please refer to the separate accessories sheet for 2-wheeled containers

SULO®

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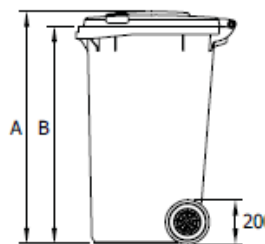
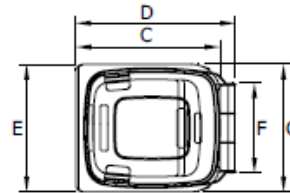
Quality

- Certified according to EN840
- Manufactured in accordance with AS4123

Dimensions - Weights - Standards

- Nominal volume: 240 litres
 - Net weight: approx 13 kg
 - Max load: 96 kg
 - Permitted total weight: 110 kg
- | | | |
|-------------|------------|------------|
| ■ A 1060 mm | ■ D 730 mm | ■ G 550 mm |
| ■ B 990 mm | ■ E 585 mm | |
| ■ C 660 mm | ■ F 400 mm | |

Measurements to be used as a guide only – variations will occur



Colours

- Standard colours: black, nature green, dark green, grey
- Special colours are available on request* – common colours include blue, yellow, red, brown, orange, purple



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©2009 Subject to technical amendments. *Minimum batch quantities required

SULO 128



Electrodrive Waste Bin system

The Waste Bin System is an ideal solution for large facilities with centralised dumping points. Quickly and easily bring your waste bins to the one place for emptying. Safety features include: horn, flashing light, and back off button.

-  Features an Electrodrive Tug and a Waste Bin Mover
-  Carries up to 4 x 240L wheelie bins
-  Easy to manoeuvre with forward and reverse drive
-  Customised movers available to suit your facility
-  Electric powered: 24V deep cycle, sealed gel cell batteries
-  Easily traverses outdoor terrain and is weatherproof
-  Equipment training and servicing programs available
-  Simple to use, no driver's licence required

Specifications

Waste Bin Mover Dimensions:
Height: 1400
Length: 1600 (2 Bin), 2100 (3), 2600 (4)
Width: 715

Tug Dimensions:
Height: 890
Length: 1450 (fitter handle down)
Width: 630
Capacity: 1000kg
Weight: 170kg
Voltage: 24V
Range: 12km

