

Waste Management Plan

Prepared for: Woolworths Ltd

Project Site: Corner Canning Street and Vaughan Terrace
North Melbourne

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1. INTRODUCTION

Wastech Services Pty Ltd was commissioned by Woolworths Limited to prepare a waste and recycling plan associated with a proposed development to be located at the corner of Canning Street and Vaughan Terrace North Melbourne.

The project consists of:

- Specialty Retail (1,165 m², estimated);
- Restaurant (145 m², estimated);
- Supermarket (4,500 m², estimated);
- Tower 1 Apartments (106); and
- Tower 2 Apartments (198);

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 bins at each apartment level
- The building manager will collect full 240 litre bins from the apartment levels of Tower 1 for disposal in the ground level refuse room. The building manager shall collect clean empty 240 litre bins for return to the apartment levels upon disposal of full bins
- The building manager will collect full 240 litre bins from the apartment levels of Tower 2 for emptying into the 660 litre collection bins located in the ground level refuse room
- The building manager will be responsible for monitoring bin levels in the residential refuse rooms ensuring clean empty bins are available to receive wastes
- A private collection contractor will be responsible for transferring all full bins for collection from the Tower 1 residential bin holding room to the kerbside collection point on Canning Street for emptying and return emptied bins to the refuse room upon completion of collection
- The building manager will be responsible for transferring all full bins for collection from the Tower 2 residential refuse room to the loading dock collection point and return to the refuse room upon completion of collection
- Residential garbage and recycling collections shall be performed three times a week by private contractor from the collection points located on Canning Street for Tower 1 and the within the loading dock for Tower 2
- Specialty retail staff will be responsible for disposing of bagged garbage into the 1100 litre collection bins located in the retail loading dock at ground level
- Specialty retail staff will separate recyclable waste from garbage waste prior to disposal. Specialty retail staff shall dispose of recyclables into the 1100 litre collection bins located in the retail dock at ground level
- Specialty retail garbage and recycling collections shall be performed twice weekly by private collection contractors from the loading dock
- Restaurant staff will be responsible for disposing of bagged garbage into the 240 litre collection bins located in the restaurant refuse room at level 1
- Restaurant staff will separate recyclable waste from garbage waste prior to disposal. Restaurant staff shall dispose of recyclables into the 240 litre and collection bins located in the restaurant refuse room at level 1
- A private collection contractor will be responsible for transferring all full bins for collection from the restaurant refuse room to the kerbside collection point on Canning Street for emptying and return emptied bins to the refuse room upon completion of collection
- Restaurant garbage collections shall be performed three times a week and recycling collections shall be performed weekly by private collection contractor from the kerbside collection point on Canning Street

- Supermarket staff will be responsible for disposing of bagged garbage into the 3000 litre collection bins located in the supermarket loading dock at ground level
- Supermarket staff shall dispose of cardboard and soft plastics into the baler located within the supermarket loading dock at ground level
- Supermarket garbage collections shall be performed seven times a week and recycling collections shall be performed weekly. All supermarket waste collections shall be conducted by private collection contractors from within the supermarket loading dock

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 The Buchan Group Architects and Woolworths Ltd.
- 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.
- Liquid waste such as cooking oil shall be collected and disposed of by a specialist contractor engaged by the restaurant tenancy operator. Waste oil will be stored within the tenancy and collected as required.

3.3 Refuse Room Dimensions

The Tower 1 residential refuse room, overall floor area 52m² as shown on drawing NM-TBG-ZA-01-DR-ATP-20004 revision P02, is sufficient to accommodate the garbage and recycling equipment and bins specified within this report.

TOWER 1 RESIDENTIAL REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	17	7.26
Ecopack chute fed compactor with 4 x 240 litre bin carousal			1	6.70
660 litre donation bin			1	1.16
Hard Rubbish Storage Area			1	2.00
TOTAL AREA REQUIRED				17.12
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				52.00

The Tower 1 residential bin holding room, overall floor area 49m² as shown on drawing NM-TBG-ZA-01-DR-ATP-20004 revision P02, is sufficient to accommodate the garbage and recycling bins prior to collection as specified within this report.

TOWER 1 RESIDENTIAL BIN HOLDING\ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	17	7.26
TOTAL AREA REQUIRED				7.26
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				49.00

The Tower 2 residential refuse room, overall floor area 81m² as shown on drawing NM-TBG-ZA-GR-DR-ATP-20003 revision P02, is sufficient to accommodate the garbage and recycling equipment and bins specified within this report.

TOWER 2 RESIDENTIAL REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
660 litre	1370	850	14	16.30
Ecopack chute fed compactor with 4 x 660 litre bin carousal			1	17.00
Small Bin Lifter	1100	1050	1	1.16
660 litre donation bin			1	1.16
Hard Rubbish Storage Area			1	2.00
TOTAL AREA REQUIRED				37.62
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				81.00

The specialty retail refuse area, overall floor area 30m² as shown on drawing NM-TBG-ZA-GR-DR-ATP-20003 revision P02, is sufficient to accommodate the garbage and recycling equipment and bins as specified within this report.

SPECIALTY RETAIL REFUSE AREA DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
1100 litre	1370	1230	6	10.11
Small Bin Lifter	1100	1050	1	1.16
TOTAL AREA REQUIRED				11.27
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				30.00

The restaurant refuse room, overall floor area 22m² as shown on drawing NM-TBG-ZA-02-DR-ATP-20005 revision P02, is sufficient to accommodate the garbage and recycling bins as specified within this report.

RESTAURANT REFUSE ROOM DIMENSIONS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
240 litre	585	730	8	3.42
TOTAL AREA REQUIRED				3.42
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				22.00

The supermarket loading dock refuse area, overall floor area 12m² as shown on drawing NM-TBG-ZA-GR-DR-ATP-20003 revision P02, is sufficient to accommodate the garbage and recycling equipment and bins specified within this report.

SUPERMARKET REFUSE AREA REQUIREMENTS				
Bin Type	Length (mm)	Width (mm)	Quantity	Area Required (m ²)
3000 litre	2050	1500	2	6.15
Cardboard Baler	1270	850	1	1.08
Baled Cardboard/Plastic	1000	700	3	2.10
TOTAL AREA REQUIRED				9.33
(does not include area required for bin movements)				
TOTAL AREA PROVIDED				12.00

4. GENERATED WASTE VOLUME ESTIMATE

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

Refer to the enclosed waste generation calculations for further detail.

COMMERCIAL WASTE	Garbage	Commingled Recycling	Container Recycling	Soft Plastics	Cardboard
Specialty Retail	4.08	4.08	-	-	-
Collection Bins	1100 litre bins	1100 litre bins			
Restaurant	1.62	-	0.61	-	0.30
Collection Bins	240 litre bins		240 litre bins		240 litre bins
Supermarket	40.95	-	-	6.62	12.60
Collection Bins	3000 litre bins			Baler	Baler

RESIDENTIAL WASTE	Number of Apartments	Garbage	Commingled Recycling
1 Bedroom Apartments – Tower 1	56	4.48	3.92
2 Bedroom Apartments – Tower 1	44	5.28	4.40
3 Bedroom Apartments – Tower 1	6	0.72	0.72
Collection Bins		240 litre bins	240 litre bins
1 Bedroom Apartments – Tower 2	95	7.60	6.65
2 Bedroom Apartments – Tower 2	78	9.36	7.80
3 Bedroom Apartments – Tower 2	25	3.00	3.00
Collection Bins		660 litre bins	660 litre bins

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. The Tower 1 garbage chute shall discharge into a compactor with 240 litre bins at mezzanine level. The Tower 2 garbage chute shall discharge into a compactor with 660 litre bins at ground level. The building manager shall replace full bins with clean, empty ones as required.

5.3 Residential Recyclable Disposal

Residential apartments shall be furnished with under bench storage bins for the temporary holding of recyclable waste with a minimum capacity of 10 litres. Residents shall transfer recyclables into 240 litre bins located within the chute airlock at each apartment level for disposal. Cardboard shall be flattened and containers rinsed and cleaned prior to disposal.

The building manager shall collect full 240 litre bins, as required, from the apartment levels of Tower 1 for disposal in the refuse room at mezzanine level. The building manager shall collect clean empty 240 litre bins for return to the apartment levels upon deposit of full bins.

The building manager shall collect full 240 litre bins, as required, from the apartment levels of Tower 2 and transfer recyclables to the 660 litre collection bins located in the ground level refuse room. A bin lifter shall be utilised to transfer the contents of the 240 litre bins into the 660 litre collection bins to comply with OH&S regulations.

5.4 Residential Garbage & Recycling Collection

The building manager shall transfer full bins from the Tower 1 refuse room to the bin holding room prior to arrival of the private collection contractor. The private collection contractor shall make 240 litre bin transfers between the Tower 1 bin holding room at mezzanine level and the designated collection point kerbside on Canning Street. The private collection contractor shall ensure that bin movements do not impede pedestrian traffic to the footpath and the collection vehicle does not impede access to the carpark entry ramp. The private collection contractor shall return emptied bins to the bin holding room upon completion of collection.

The building manager shall make 660 litre bin transfers between the Tower 2 residential refuse room and the designated collection point within the loading dock. The building manager shall prepare bins for collection and coordinate with collection vehicle arrivals so that bins do not impede vehicle access into the loading dock. Full bins only are to be transferred to the loading dock on day of collection, utilising a bin trailer or bin tug and the dock leveller/scissor lift, and returned to the Tower 2 refuse room upon completion of collection.

Three times a week garbage and recycling collections are envisaged for both Tower 1 and Tower 2 waste streams.

The collection of waste and recycling bins is to be performed by private collection contractor, to be confirmed by the Body Corporate of the development, from the loading dock and Canning Street collection points. Residential garbage and recycling waste collections shall be conducted between the hours of 9:00am and 4:00pm weekdays and 9:00am and 1:00pm on Saturdays and public holidays. Garbage and recycling collections shall be performed on alternate days to reduce the quantity of bins presented for collection at one time and be conducted on different days to the service provided by the City of Melbourne to neighbouring properties.

The minimum overhead clearance height required for a rear lift garbage collection truck is 4.0m. A minimum overhead clearance height of 6.5m is provided to the loading dock collection point. There are no overhead height restrictions evident at the kerbside collection point on Canning Street.

Attached drawings JM15680-03P3-01 and JM15680-05P1-FIG05, provided by GTA traffic management consultants, confirms sufficient area is provided for the collection vehicle swept paths along Macaulay Road and Canning Street to the collection points.

6. RESIDENTIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

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

Quantity required = two (2)

Garbage Compactor: 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 = one (1) – Tower 1

Garbage Compactor: Automated EcoPack garbage-chute compactor with a bin carousel capable of holding 4 x 660 litre bins, as supplied by Wastech Services (or equivalent).

Quantity required = one (1) – Tower 2

Bin Lifter: A “Liftezy” bin lifter, as supplied by Wastech Services or equivalent, to enable transfer of recyclables from 240 litre bins into 660 litre collection bins.

Quantity required = one (1) – Tower 2

Note: to be operated by the building manager

6.1 Residential Waste Calculations

Mixed Use Development - North Melbourne - Tower 1		
GARBAGE		
Weekly Garbage Volume (Uncompacted)	10.48	cubic metres
Weekly Garbage Volume (Compacted 3:1)	3.49	cubic metres
Bin Type	240	litre
Frequency of collection	3	per week
Bins required for collection (compacted volume / bin capacity)	5	
Spare Bins required	5	
Garbage Total bins required	10	

RECYCLING		
Weekly Recycling Volume	9.04	cubic metres
Bin Type	240	litre
Frequency of collection	3	per week
Bins required for collection	12	
Spare Bins required	12	
Recycling Total bins required	24	

Mixed Use Development - North Melbourne - Tower 2		
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GARBAGE		
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Weekly Garbage Volume (Uncompacted)	19.96	cubic metres
Weekly Garbage Volume (Compacted 3:1)	6.65	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection (compacted volume / bin capacity)	4	
Spare Bins required	4	
Garbage Total bins required	8	

RECYCLING		
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Weekly Recycling Volume	17.45	cubic metres
Bin Type	660	litre
Frequency of collection	3	per week
Bins required for collection	8	
Spare Bins required	1	
Recycling Total bins required	9	

7. COMMERCIAL WASTE MANAGEMENT

The following is proposed:

7.1 Waste Streams

Business trade waste shall be sorted on-site by the occupiers into the following streams and associated bins:

- Garbage;
- Containers (Glass, PET, aluminium, steel, HDPE, etc);
- Paper; and
- Cardboard.

All garbage shall be placed in tied plastic bags prior to transferring into the collection bins.

7.2 Specialty Retail

Plastic lined garbage bins, 120 or 240 litre capacity, shall be provided for each specialty retail tenancy and kept at back of house (BOH). Specialty retail staff shall make bin transfers between BOH and the 1100 litre collection bins located in the retail loading dock at ground level for garbage disposal. Staff shall be trained to operate the bin lifter for the emptying of the 120 or 240 litre garbage bins into the 1100 litre collection bins.

Commingled recycling bins, 240 litre capacity, shall be provided for each specialty retail tenancy and kept at BOH. Specialty retail staff shall make bin transfers between BOH and the 1100 litre collection bins located in the retail loading dock at ground for disposal. Staff shall be trained to operate the bin lifter for the emptying of the 240 litre recycling bins into the 1100 litre collection bins.

7.3 Restaurant

Plastic lined 240 litre garbage bins shall be provided for the restaurant and kept at BOH. Restaurant staff shall transfer full bins to the restaurant refuse room at level 1 for garbage disposal. Restaurant staff shall collect clean empty bins for return to the tenancy upon deposit of full bins.

Container recycling bins, 240 litre capacity, shall be provided for the restaurant and kept at BOH. Restaurant staff shall transfer full bins to the restaurant refuse room at level 1 for disposal. Restaurant staff shall collect clean empty bins for return to the tenancy upon deposit of full bins.

Cardboard shall be flattened prior to disposal. Restaurant staff shall transfer flattened cardboard, utilising a cleaner's trolley or similar, to the 240 litre cardboard collection bins located in the restaurant refuse room at level 1 for disposal.

7.4 Supermarket

Suitable garbage bins shall be provided throughout the supermarket. Supermarket staff shall periodically clear garbage using a cleaner's trolley or similar, and transfer this waste to the 3000 litre bins located in the supermarket loading dock at ground level for garbage disposal.

Staff shall transfer soft film plastics, using a cleaner's trolley or similar, to the baler located within the supermarket loading dock at ground level for disposal.

Cardboard shall be flattened by staff and transferred to the baler, utilising a cleaner's trolley or similar, located BOH within the supermarket loading dock at ground level for disposal.

7.5 Specialty Retail Garbage & Recycling Collection

The building manager shall prepare the 1100 litre bins for collection and coordinate with collection vehicle arrivals so that bins or vehicles do not impede access into the loading dock.

Full bins only are to be transferred to the collection vehicle on day of collection, utilising the dock leveller/scissor lift, and returned to the specialty retail bin storage area upon completion of collection by the building manager.

Twice weekly garbage and recycling collections are envisaged for the specialty retail tenancies.

The collection of waste and recycling bins is to be performed by private contractors, to be confirmed by the operator of the development, from within the loading dock which has entry off Macaulay Road.

The minimum overhead clearance height required for a rear lift garbage collection truck is 4.0m. A minimum overhead clearance of 6.5m is provided to the loading dock collection point.

Attached drawing JM15680-05P1-FIG05, provided by GTA traffic management consultants, confirms sufficient area is provided for the collection vehicle swept path along Macaulay Road to the loading dock collection point.

Waste collections shall be conducted between the hours of 9:00am and 4:00pm weekdays and 9:00am and 1:00pm on Saturdays and public holidays.

7.6 Restaurant Garbage & Recycling Collection

The private collection contractor shall make 240 litre bin transfers between the restaurant refuse room and the designated collection point kerbside on Canning Street. The private collection contractor shall ensure that bin movements do not impede pedestrian traffic to the footpath and the collection vehicle does not impede access to the carpark entry ramp. The private collection contractor shall return emptied bins to the restaurant refuse room upon completion of collection.

Three times a week garbage and weekly container recycling and cardboard collections are envisaged for the restaurant tenancy.

The collection of waste and recycling bins is to be performed by private contractor, to be confirmed by the restaurant tenancy operator, from kerbside on Canning Street.

Restaurant garbage and recycling waste collections shall be conducted between the hours of 9:00am and 4:00pm weekdays and 9:00am and 1:00pm on Saturdays and public holidays.

There are no overhead height restrictions evident at the kerbside collection point on Canning Street.

7.7 Supermarket Garbage & Recycling Collection

The store / operations manager shall coordinate collection of the 3000 litre garbage bins with collection vehicle arrival so that vehicle access to the supermarket loading dock is not impeded. Garbage collections shall be performed by a private contractor, to be confirmed by Woolworths Ltd, from within the ground level loading dock. Daily collection of the 3000 litre garbage bins is envisaged.

The store / operations manager shall prepare baled soft film plastics and cardboard for collection and coordinate with collection vehicle arrival so that vehicle access to the loading dock is not impeded. Recycling collections shall be performed by a private contractor, to be confirmed by Woolworths Ltd, from within the ground level loading dock. Weekly collection of baled soft film plastics and cardboard is envisaged.

The minimum overhead clearance height required for a front lift garbage collection truck is 6.5m. An minimum overhead clearance of 6.5m is provided to the loading dock collection point. Attached drawing JM15680-05P1-FIG03, provided by GTA traffic management consultants, confirms sufficient area is provided for the collection vehicle swept path along Macaulay Road to the loading dock collection point. Supermarket waste collections shall be conducted between the hours of 9:00am and 4:00pm weekdays and 9:00am and 1:00pm on Saturdays, Sundays and public holidays.

8. COMMERCIAL WASTE HANDLING EQUIPMENT

The following waste handling equipment is recommended:

Bin Lifter: A “Liftezy” bin lifter, as supplied by Wastech Services or equivalent, to enable transfer of garbage and recyclables from 120 litre and 240 litre bins into 660 litre and 1100 litre collection bins.

Quantity required = one (1) - retail refuse room

Note: to be operated by specialty retail staff and the building manager

Baler: Bramidan baler with holding cage and compaction ratio of 3:1, as supplied by Wastech Services or equivalent, to reduce the volume of cardboard and soft plastics for collection by private contractor.

Quantity required = one (1)

Note: to be operated by the supermarket operator

8.1 Commercial Waste Calculations

SPECIALTY RETAIL - Ground Level		
GARBAGE		
Weekly Garbage Volume	4.08	cubic metres
Bin Type	1100	litre
Frequency of collection	2	per week
Bins required for collection	2	
Spare Bins required	1	
Garbage Total bins required	3	

COMMINGLED RECYCLING		
Weekly Recycling Volume	4.08	cubic metres
Bin Type	1100	litre
Frequency of collection	2	per week
Bins required for collection	2	
Spare Bins required	1	
Recycling Total bins required	3	

RESTAURANT/CAFE - Level 1		
GARBAGE		
Weekly Garbage Volume	1.62	cubic metres
Bin Type	240	litre
Frequency of collection	3	per week
Bins required for collection	3	
Spare Bins required	1	
Garbage Total bins required	4	

CONTAINERS		
Weekly container Volume	0.61	cubic metres
Bin Type	240	litre
Frequency of collection	1	per week
Bins required for collection	3	
Spare Bins required	1	
Container Total bins required	4	

CARDBOARD		
Weekly Cardboard Volume	0.30	cubic metres
Bin Type	240	litre
Frequency of collections	1	per week
Bins required for collection	2	
Cardboard Total bins required	2	

SUPERMARKET - Ground Level		
GARBAGE		
Weekly Garbage Volume	40.95	cubic metres
Bin Type	3000	litre
Frequency of collection	7	per week
Bins required for collection	2	
Garbage Total bins required	2	

SOFT PLASTICS		
Weekly Plastics Volume	6.62	cubic metres
Baled Volume (3:1)	2.21	cubic metres
Frequency of collection	1	per week

CARDBOARD		
Weekly Cardboard Volume	12.60	cubic metres
Baled Volume (3:1)	4.20	cubic metres
Frequency of collection	1	per week

9. BIN SUMMARY

9.1 Residential Refuse Rooms

Tower 1

240 litre Garbage bins	5
Spare 240 litre Garbage bins	5
240 litre Recycling bins	12
Spare 240 litre Recycling bins	12
TOTAL BINS REQUIRED	34

Tower 2

660 litre Garbage bins	4
Spare 660 litre Garbage bins	4
660 litre Recycling bins	8
Spare 660 litre Recycling bins	1
TOTAL BINS REQUIRED	17

9.2 Residential Bins Presented For Collection

Tower 1

240 litre Garbage bins	5
240 litre Recycling bins	12
TOTAL BINS PRESENTED	17

Tower 2

660 litre Garbage bins	4
660 litre Recycling bins	8
TOTAL BINS PRESENTED	12

9.3 Commercial Refuse Rooms

Specialty Retail

1100 litre Garbage bins	2
Spare 1100 litre Garbage bins	1
1100 litre Recycling bins	2
Spare 1100 litre Recycling bins	1
TOTAL BINS REQUIRED	6

Restaurant

240 litre Garbage bins	3
Spare 240 litre Garbage bins	1
240 litre Container bins	3
Spare 240 litre Container bins	1
240 litre Cardboard bins	2
TOTAL BINS REQUIRED	10

Supermarket

3000 litre Garbage bins	2
TOTAL BINS REQUIRED	2

9.4 Commercial Bins Presented For Collection

Specialty Retail

1100 litre Garbage bins	2
1100 litre Recycling bins	2
TOTAL BINS PRESENTED	4

Restaurant

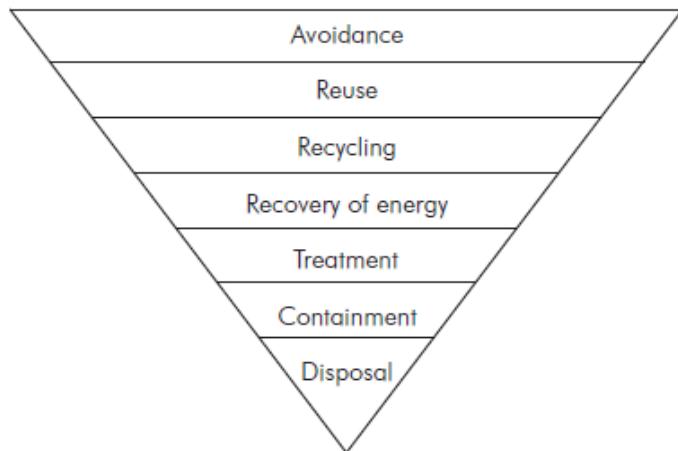
240 litre Garbage bins	3
240 litre Container bins	3
240 litre Cardboard bins	2
TOTAL BINS PRESENTED	8

Supermarket

3000 litre Garbage bins	2
TOTAL BINS PRESENTED	2

10. WASTE MINIMISATION STRATEGIES

The operator (Body Corporate) will be responsible for the education of residential and commercial tenants 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 tenants
- Distribution of notices to all tenants and 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
- Residential tenants will be provided with a manual, upon residency, detailing items that can be disposed of via the garbage chute 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

11. ADDITIONAL WASTE MANAGEMENT INFORMATION

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;
- Bin stores will be secure, vermin proof, ventilated in accordance with Australian Standard AS 1668.2 and comprise bin wash facilities including a tap and floor drain with trap and sewer connection;
- The building manager shall keep clean the bin stores, keep bin lids closed and wash bins regularly;
- The operator shall provide a 660 litre charity/donation bin for each residential tower for the collection of clothing, whitegoods etc to divert waste from landfill. A donation bin will be maintained and collected by the charity organisation;
- Use of the private road into the development results in indemnity issues for the collection contractors. Indemnity resolution is required prior to waste collections being performed on site;
- Two designated hard rubbish collection points shall be provided with a minimum footprint of 2m² each 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 residential, retail and restaurant bins once collection has occurred;
- The restaurant operator shall consider using a bottle crushing system to reduce the volume of bottles and bins presented for collection;
- 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 services provided by collection contractors. Note; every rateable tenement within the City of Melbourne is liable to pay a garbage collection service fee irrespective of the level of waste collection services provided by the City of Melbourne;
- 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 private collection contractors, when appointed, and submitted to the City of Melbourne for approval prior to collections being performed on site.

12. CONTACT INFORMATION

City of Melbourne

Town Hall, 90 – 120 Swanston Street, Melbourne, VIC 3000
Ph 9658 9658

Citywide Service Solutions

(private waste collector)
605 Lonsdale St, Melbourne, VIC 3000
Ph 9691 4300

SITA Environmental Solutions

(private waste collector)
64-84 Waterview Close, Hampton Park, VIC 3976
Ph 8795 2000

VISY Waste Management Integrated Solutions

(private waste collector)
Lot 2, 46-48 Dohertys Road, Laverton, VIC 3025
Tel: 03 9369 7477

Veolia Environmental Services

(private waste collector)
Level 1, 85 Buckhurst St, South Melbourne VIC 3205
Ph 132 955

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
33 Wedgewood Road, Hallam VIC 3803
Ph 03 8787 1600
valerie@wastech.com.au



WASTE ESTIMATE Residential

Site	Mixed Use Development - North Melbourne - Tower 1			Date: 5-Apr-11
No. OF 1 BEDROOM RESIDENTIAL APARTMENTS	56			
Garbage (m ³ /week uncompacted):	4.48	(Rate/apartment) ¹ :	0.080	
Commingled Recycling (m ³ /week uncompacted):	3.92	(Rate/apartment) ¹ :	0.070	
No. OF 2 BEDROOM RESIDENTIAL APARTMENTS	44			
Garbage (m ³ /week uncompacted):	5.28	(Rate/apartment) ¹ :	0.120	
Commingled Recycling (m ³ /week uncompacted):	4.40	(Rate/apartment) ¹ :	0.100	
No. OF 3 BEDROOM RESIDENTIAL APARTMENTS	6			
Garbage (m ³ /week uncompacted):	0.72	(Rate/apartment) ¹ :	0.120	
Commingled Recycling (m ³ /week uncompacted):	0.72	(Rate/apartment) ¹ :	0.120	

<u>TOTAL RESIDENTIAL APARTMENT WASTE</u>	
Garbage (m ³ /week uncompacted):	10.48
Commingled Recycling (m ³ /week uncompacted):	9.04

COMPACTOR DETAILS (garbage only - via refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins in Rotofeed	No. of Days to Fill-up Rotofeed	No. of Bins Filled per Week
240	0.33	5	2.4	14.6

COLLECTIONS	Collections Per Week	No. of Bins Collected
Garbage Disposal	3 per week (240 litre bins)	4.9
Commingled Recyc.	3 per week (240 litre bins)	12.6

References/Notes:
City of Melbourne Waste Management Guidelines 2010



WASTE ESTIMATE Residential

Site	Mixed Use Development - North Melbourne - Tower 2			Date: 5-Apr-11
No. OF 1 BEDROOM RESIDENTIAL APARTMENTS	95			
Garbage (m ³ /week uncompacted):	7.60	(Rate/apartment) ¹ :	0.080	
Commingled Recycling (m ³ /week uncompacted):	6.65	(Rate/apartment) ¹ :	0.070	
No. OF 2 BEDROOM RESIDENTIAL APARTMENTS	78			
Garbage (m ³ /week uncompacted):	9.36	(Rate/apartment) ¹ :	0.120	
Commingled Recycling (m ³ /week uncompacted):	7.80	(Rate/apartment) ¹ :	0.100	
No. OF 3 BEDROOM RESIDENTIAL APARTMENTS	25			
Garbage (m ³ /week uncompacted):	3.00	(Rate/apartment) ¹ :	0.120	
Commingled Recycling (m ³ /week uncompacted):	3.00	(Rate/apartment) ¹ :	0.120	

TOTAL RESIDENTIAL APARTMENT WASTE	
Garbage (m ³ /week uncompacted):	19.96
Commingled Recycling (m ³ /week uncompacted):	17.45

COMPACTOR DETAILS (garbage only - via refuse chute)				
Bin Size (litres)	Compaction Ratio	No. of Bins in Rotofeed	No. of Days to Fill-up Rotofeed	No. of Bins Filled per Week
660	0.33	4	2.8	10.1

COLLECTIONS	Collections Per Week	No. of Bins Collected
Garbage Disposal	3 per week (660 litre bins)	3.4
Commingled Recyc.	3 per week (660 litre bins)	8.8

References/Notes:
City of Melbourne Waste Management Guidelines 2010



WASTE ESTIMATE Commercial

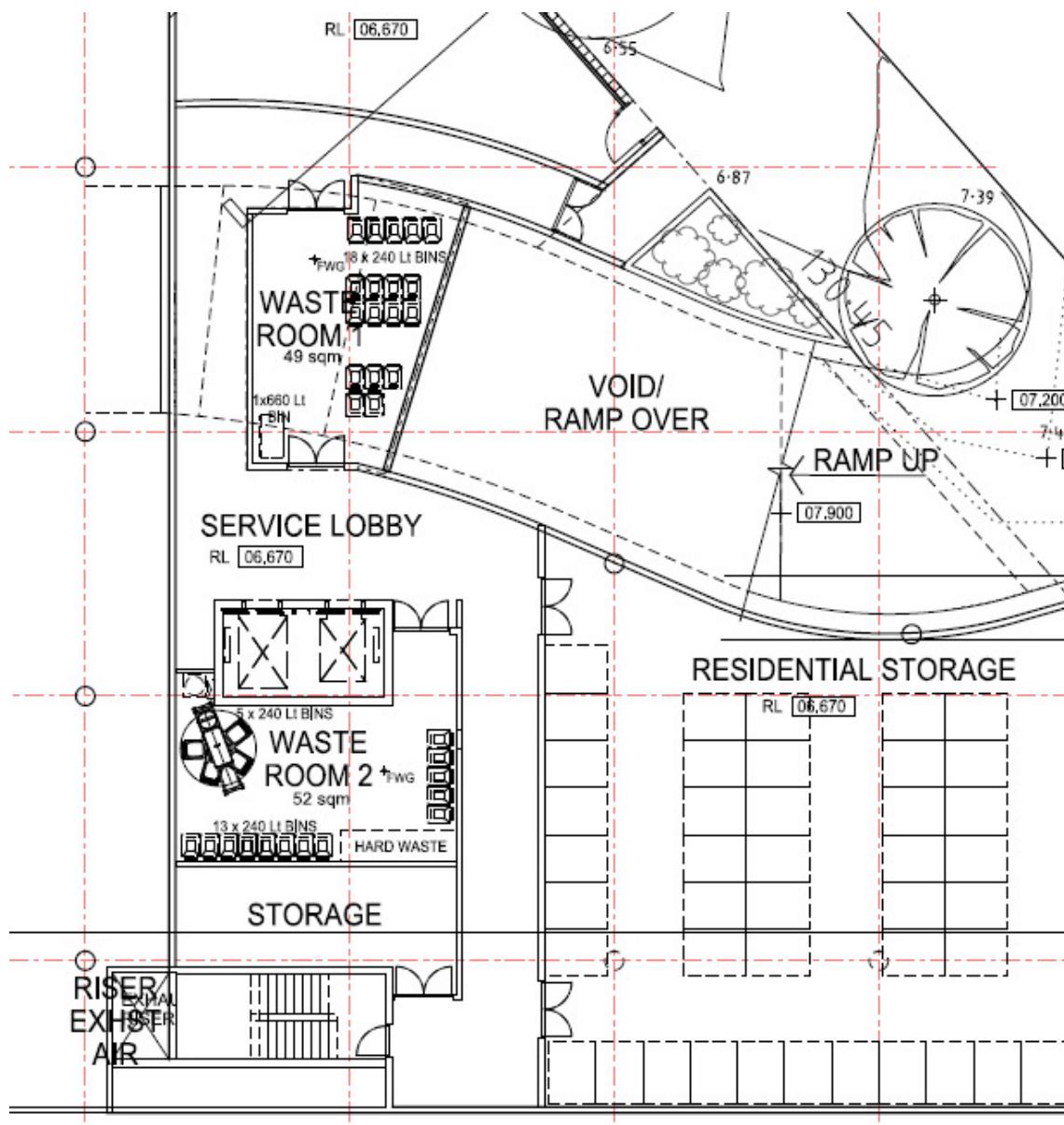
Site	North Melbourne Mixed Use Development	Date: 5-Apr-11
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SPECIALTY RETAIL - Ground Level		
Floor Area (m ² , estimated)	1165	Usage: 7 days per week
Garbage for Disposal (m ³ /wk uncompacted):	4.08	(Rate: m ³ /day/100m ² area) 0.050
Commingled Recycling (m ³ /wk uncompacted):	4.08	(Rate: m ³ /day/100m ² area) 0.050
RESTAURANT/CAFE - Level 1		
Floor Area (m ² , estimated)	145	Usage: 7 days per week
Garbage for Disposal (m ³ /wk uncompacted):	1.62	(Rate: m ³ /day/100m ² area) 0.160
Containers (m ³ /wk uncompacted):	0.61	(Rate: m ³ /day/100m ² area) 0.060
Cardboard (m ³ /wk uncompacted):	0.30	(Rate: m ³ /day/100m ² area) 0.030
SUPERMARKET - Ground Level		
Floor Area (m ² , estimated)	4500	Usage: 7 days per week
Garbage for Disposal (m ³ /wk uncompacted):	40.95	(Rate: m ³ /day/100m ² area) 0.130
Soft Plastics (m ³ /wk uncompacted):	6.62	(Rate: m ³ /day/100m ² area) 0.021
Cardboard (m ³ /wk uncompacted):	12.60	(Rate: m ³ /day/100m ² area) 0.040
TOTAL		
Garbage (m³/wk uncompacted):	46.65	
Commingled Recycling (m³/wk uncompacted):	4.08	
Container Recycling (m³/wk uncompacted):	0.61	
Soft Plastics (m³/wk uncompacted):	6.62	
Cardboard (m³/wk uncompacted):	12.90	

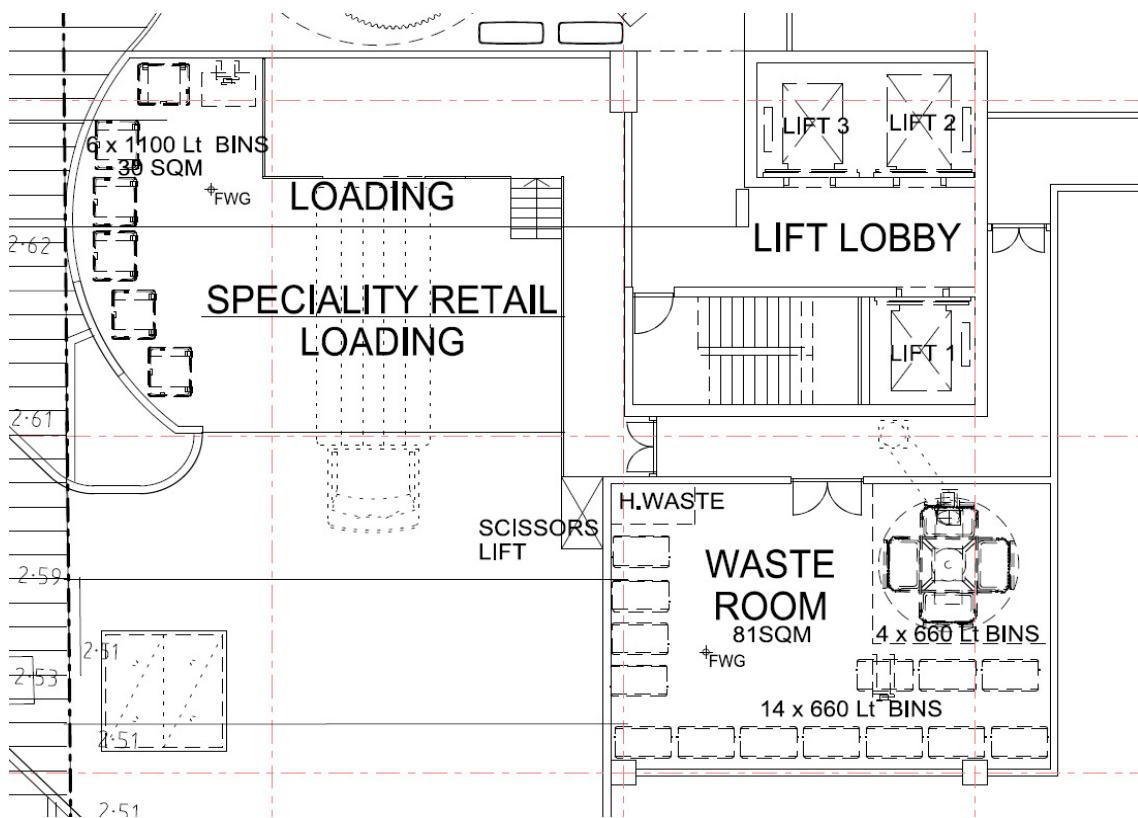
References/Notes:

Brisbane City Council - "Draft" Development Applications - Waste Management and Resource Recovery Guidelines 2007

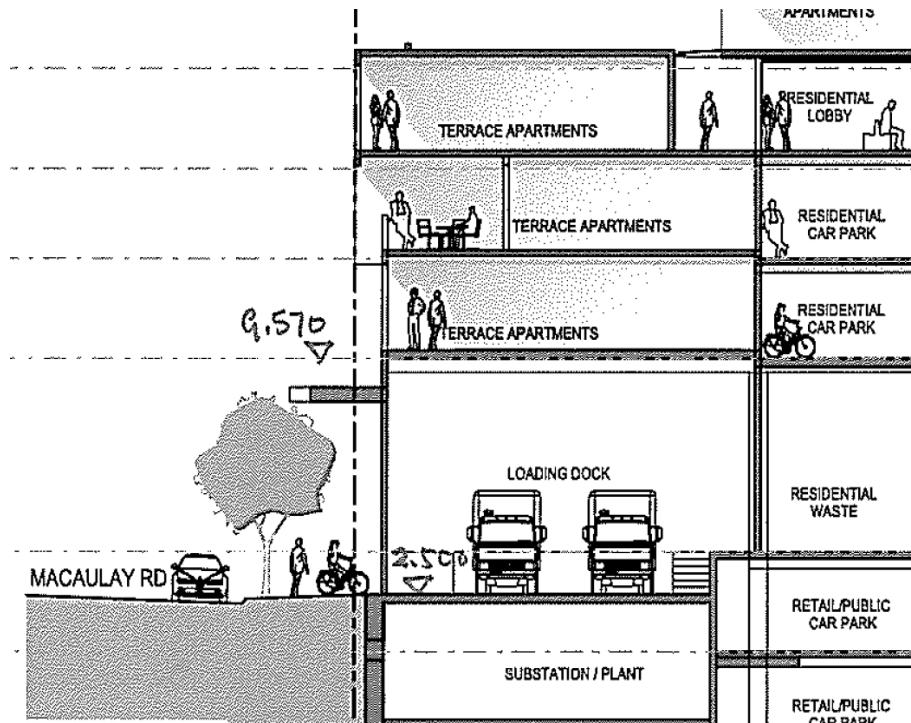
Combined Sydney Region of Councils - Draft Waste Management Guidelines 2005 and 2008



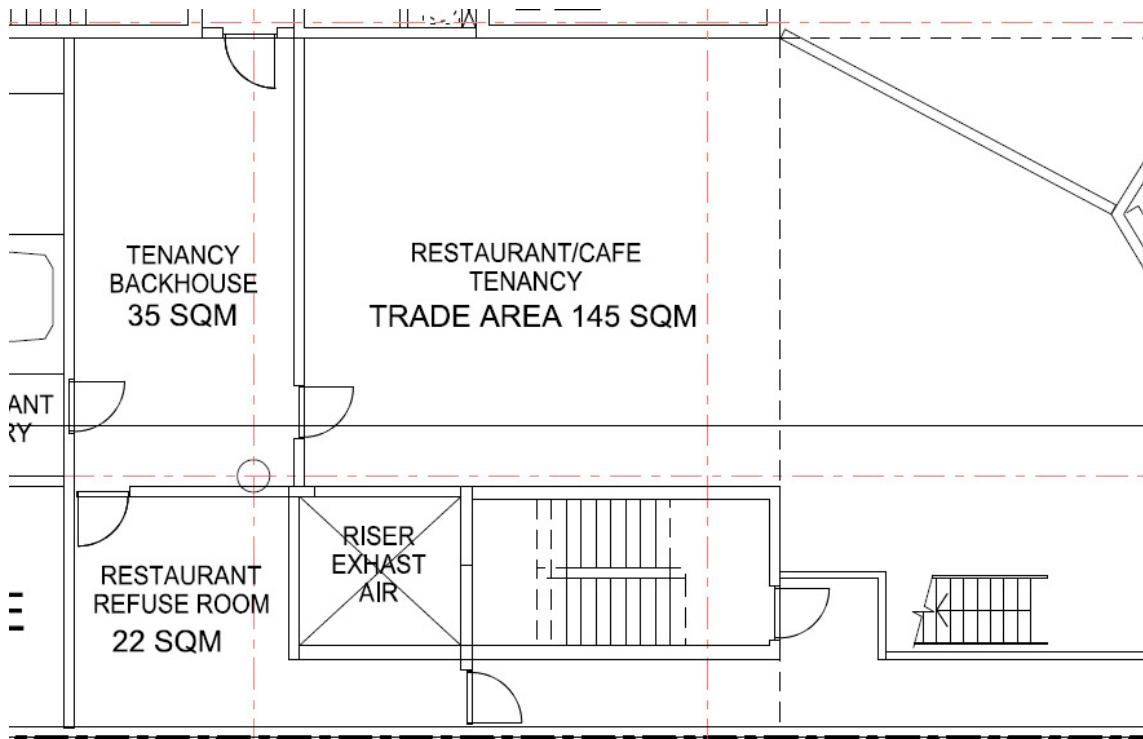
Extract of drawing NM-TBG-ZA-01-DR-ATP-20004 revision P02 confirming sufficient area provided for waste equipment for the residential component of Tower 1



Extract of drawing NM-TBG-ZA-GR-DR-ATP-20003 revision P02 confirming sufficient area provided for waste equipment for the residential component of Tower 2 and the specialty retail tenancies



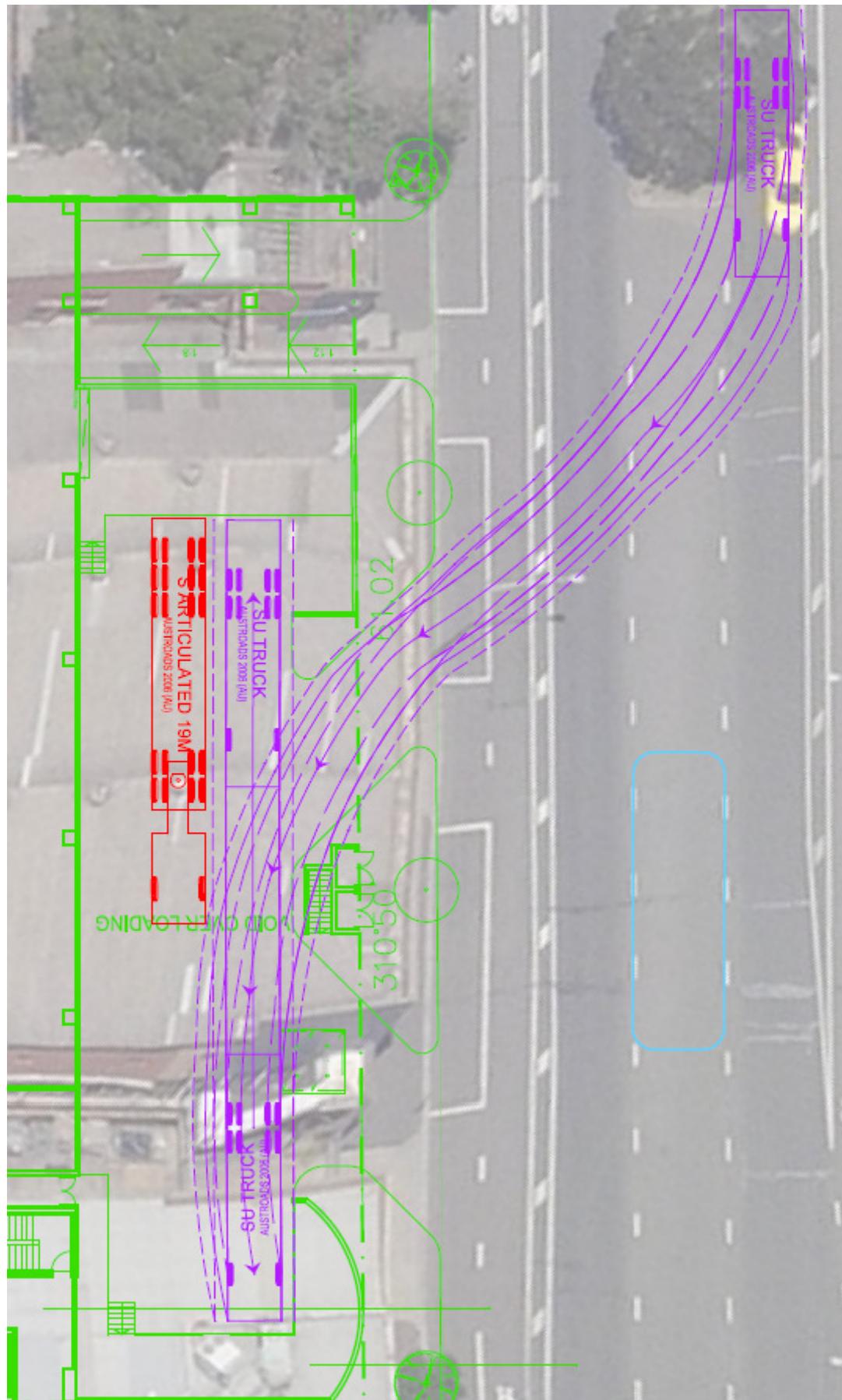
Section detail of loading dock confirming minimum 6.5m overhead clearance available.



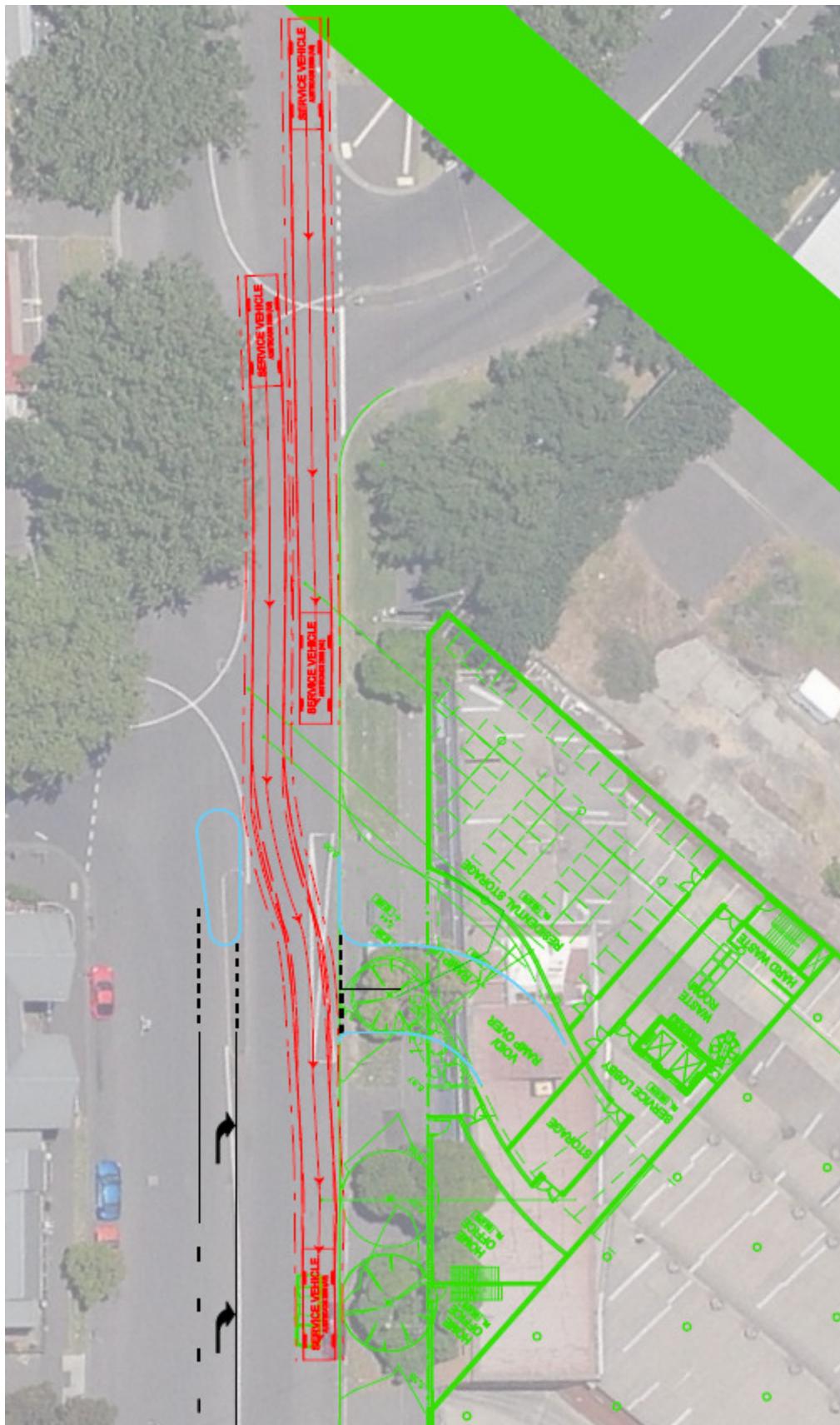
Extract of drawing NM-TBG-ZA-02-DR-ATP-20005 revision P02 confirming sufficient area provided for waste equipment for the restaurant/cafe tenancy



JM15680-05P1-FIG03



JM15680-05P1-FIG05



JM15680-03P3-01



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

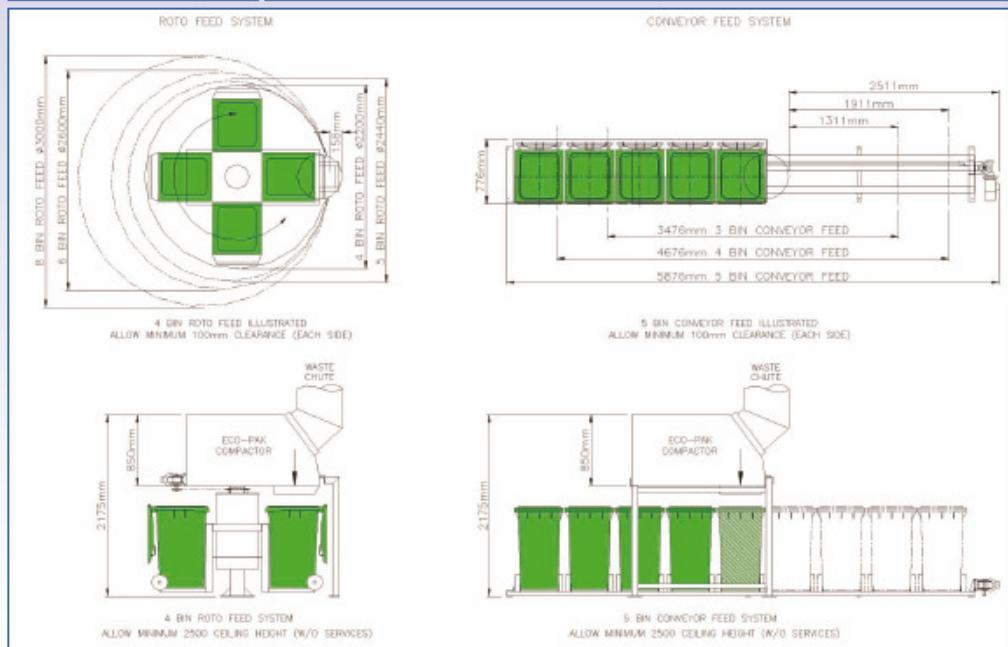
- High Compaction to reduce number of bins required thus reducing floor space.
- Compaction blade and ejection door constantly seal the waste chute to reduce odour and also eliminate the risk of fire transfer up the waste chute.
- Autocycle operation via 'photo cell' to reduce power consumption.
- Enclosed 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 / Spin 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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ENGINEERING

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FOR YOUR LOCAL AGENT
IN YOUR STATE PLEASE CALL

FREE CALL:
1800 465 465

Your Local Agent:



"LIFTEZY" Bin Lifter

The "LIFTEZY" is a heavy duty designed Bin Lifter for lifting and tipping of MGB Bins of all sizes. Incorporating a unique direct drive system the lifter has minimal moving parts and no Hydraulics making it ideal for high use environments and food manufacturers.

The 'sealed for life' bearings and drive assembly require minimal maintenance for increased working life and reduced operating costs. A fully enclosed and interlocked safety cage compliments the lifter to provide a safe, durable and reliable Bin Lifter.

The "LIFTEZY" is available in 240v, 415v or rechargeable battery. Lifters can be fitted with castors or bolted down to suit application. Interface is available to suit auto starting of compactors or feed conveyors.

Specifications -

Bin Lifter Size (Ltr)	80/120 & 240	660/1000 & 1100
Lifter Lift Capacity (kg)	250	350
Foot Print (mm)	1100 x 1050	1700 x 1500
Weight (kg)	135	195
Voltage (v)	240 & 415	240 & 415
Motor Size (kw)	1.5	1.5
Cycle Time (sec)	24	24
Min. Tip Height (mm)	1200	1200
Max. Tip Height (mm)	6000	6000



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Bramidan Balers

MODEL: 4 X 16



MODEL: 3 X 12



MODEL: B4



MODEL: B3



Bramidan Vertical Balers compact a range of products from Cardboard, Plastic, Polystyrene and Waste in dense bales for ease of handling and lower transport costs.

Technical specifications

	4 X 30	4 X 16	3 X 12	B4	B3
Press Force (t)	30	16	12	4	3
Bale Weight (kg) - Cardboard	340	230	80 - 100	70 - 100	30 - 50
Bale Weight (kg) - Plastic	450	300	100 - 120	80 - 120	40 - 70
Bale size LxWxH (mm)	1200 x 800 x 1000	1200 x 800 x 800	800 x 600 x 600	1000 x 700 x 850	700 x 500 x 700
Loading Door Opening WxH (mm)	1090 x 600	1090 x 510	715 x 715	1000 x 490	700 x 490
Cycle Time (sec)	50	28	20	18	18
Machine Dimensions LxWxH (mm)	1720 x 1290 x 2280	1720 x 1220 x 1980	1245 x 760 x 1890	1270 x 850 x 2400	870 x 660 x 1980
Machine Weight (kg)	1540	1320	835	580	420
Power Requirement	415V x 16A 3 phase	415V x 16A 3 phase	415V x 16A 3 phase	240V x 10A Single Phase	240V x 10A Single Phase



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