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## WASTE MANAGEMENT PLAN

### **47 The Corso Manly, NSW 2095**

#### Proposed Mixed-Use Development

Prepared for:

Sandbox Studio

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1.0

Northern Beaches Council Application #:

PLM2022/0223

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## Introduction

AusWide Consulting was commissioned by Sandbox Studio to prepare a Waste Management Plan (WMP) for approval of a proposed mixed-use development at 47 The Corso, Manly NSW 2095.

The proposed development consists of:

***Table 1: Proposed Mixed-Use Development***

MIXED USE DEVELOPMENT
Commercial Retail Space
Café
Office Space
Three Apartments

In the course of preparing this WMP, the subject site and its environs have been inspected, plans of the development examined, and all relevant council requirements and documentation collected and analysed.

This WMP has been prepared based on the following information:

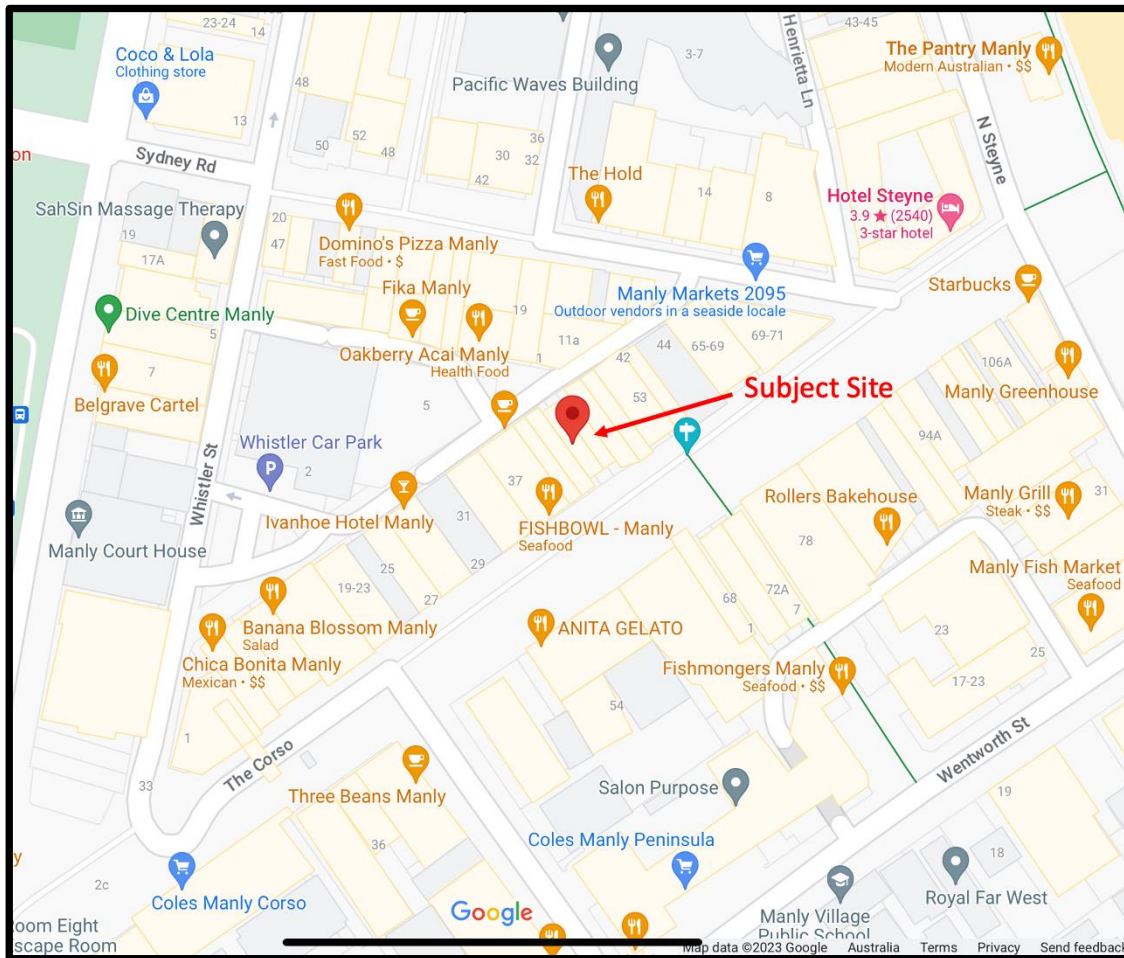
- Architectural Plans provided by Sandbox Studio
- Northern Beaches Council Waste Management Guidelines

## Background and Existing Conditions

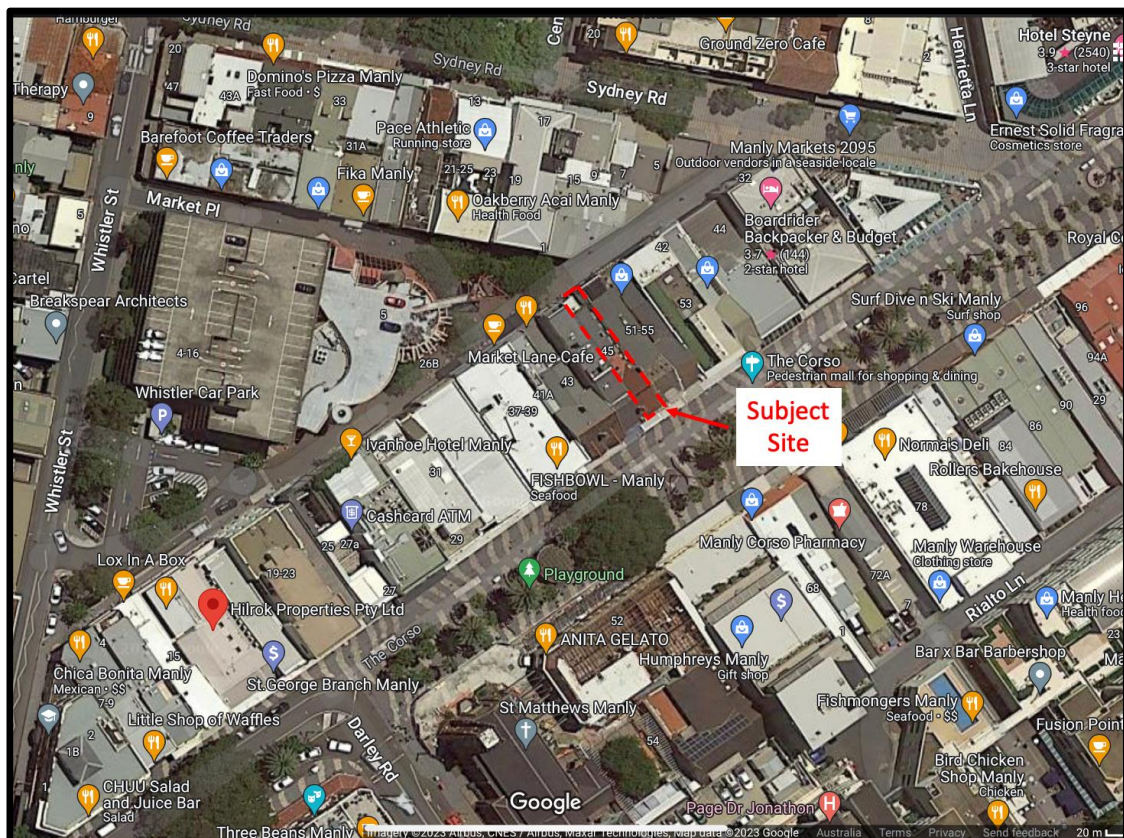
The subject site is located at 47 The Corso, Manly NSW 2095, and is an existing two storey building on The Corso through to Market Place. The current use is a commercial retail space on the ground floor and office space on the first level. The primary land use surrounding the development is commercial retail.

The following **Figure 1** provides an overview of the area, and its surrounding land uses whilst **Figure 2** provides an aerial view of the immediate area surrounding the subject site.





**Figure 1: Location of the Subject Site**



**Figure 2: Aerial View of the Subject Site**

## Proposed Development

The proposed development will consist of a commercial retail space, office block and three residential units. It will be accessed via the paved walkway from both The Corso and Market Place. There will be two dedicated storerooms for the mobile garbage bins (MGBs): one for commercial and one for residential.

## Waste Management Principles

When dealing with waste, the following hierarchy has been adopted, prioritising from left to right;



### Avoid/Reduce

Particularly during the construction phase, avoidance of waste will be achieved through:

- Selecting design options with the most efficient use of materials.
- Selecting materials with minimal wastage, such as prefabricated materials.

### Reuse

Some of the materials encountered in the demolition stage can be recovered and reused both on-site and off-site. This will be practised wherever possible. Reusable materials shall be appropriately stored to avoid damage from weather or machinery.

### Recycle

Similarly, many materials from the demolition stage will be recyclable. These materials will be identified prior to demolition, and a system incorporated to efficiently separate reusable materials, recyclable materials, and disposable materials. Recyclable materials shall be appropriately stored to avoid damage from weather or machinery. Details and receipts verifying the recycling of these materials shall be kept present on site at all times.

### Disposal

The waste disposal contractor chosen for the job will comply with Council's DCP. Details and receipts verifying the disposal of these materials shall be kept present on site at all times.

### ***Handling***

When handling waste on-site, the system (including bin placement, volumes, and access) shall be designed with the following factors in mind:

- Safety (highest priority);
- Ease of use; and
- Aesthetics.

### ***Stockpiling***

Waste sorting areas and vehicular access on-site during demolition and construction shall be adequately maintained. The material (demolition material, excavation material, construction material and waste) stockpiling area shall always remain within the site boundary and relocate during different demolition and construction stages as necessary. The waste area shall be largely located at the front of the site. This is to maintain easy access and removal of waste. The stockpiling area shall not infringe on access to the site however hoardings shall bind the site perimeter; therefore, the waste shall not be visible from the street.



## **Demolition & Construction Stage**

The proposal involves the demolition of the bulk of the internal walls and amenities of the existing two storey building and the construction of an additional level and roof terrace.

### ***Demolition Works***

It should be noted that the demolition stage has the greatest potential for waste minimisation, particularly in Manly where there are high levels of development, relatively high tipping charges and where alternative quarry materials are located on the outskirts.

The contractor should consider whether it is possible to re-use existing structures, or parts thereof, for the proposed use. With careful onsite sorting and storage and by staging work programs it is possible to re-use many materials, either on-site or off-site.

Councils are typically seeking to move from the attitude of straight demolition to a process of selected deconstruction, i.e., total reuse and recycling both off-site and on-site. This could require a number of colour-coded or clearly labelled bins onsite (rather than one size fits all).

Site contractors should demonstrate project management which seeks to:

- Bricks, tiles and concrete re-used on-site as appropriate, or recycled off-site.
- Plasterboard re-used in landscaping on-site or returned to supplier for recycling.
- Framing timber re-used on-site or recycled elsewhere.
- Windows, doors, and joinery recycled off-site.
- Plumbing, fittings, and metal elements recycled off-site.
- All asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with Workcover Authority and EPA requirements.
- Locations of on-site storage facilities for material to be reused on-site or separated for recycling off-site.
- Destination and transportation routes of all materials to be either recycled or disposed of off-site.

### ***Construction Works***

The following measures shall be considered during the construction stage in order to save resources and minimise waste:

- Purchasing Policy – i.e., ordering the right quantities of materials and prefabrication of materials where possible.
- Reusing formwork.
- Minimising site disturbance, limiting unnecessary excavation.
- Careful source separation of off-cuts to facilitate re-use, resale, or efficient recycling.
- Co-ordination/sequencing of various trades.

## Wastage Types and Handling

Waste volumes produced by excavation, demolition and construction stages are estimated in the following tables. Detailed waste volumes will be provided by the contractor at the construction certificate stage. Where possible, materials shall be reused or recycled, with disposal being the last resort. The destination of all recycled and disposed material shall be announced upon selecting the waste collectors and recyclers.

The arrangements for all reused, recycled and disposed waste shall be tracked and recorded, and all receipts shall be held on-site.

**Table 4: Waste Types and Handling**

### Demolition Phase for existing internal structures

Materials on Site	Waste Estimate Volume	On-Site Reuse	Off-Site Recycling	Off-Site Disposal (Accordance with NSW EPA)
Bricks	4m <sup>3</sup>	Clean and remove lime mortar from bricks. Re-use in new footings. Broken bricks for internal walls. Crush and reuse as drainage backfill. Crushed and used as aggregate. 20-30%	70-80%	0%
Concrete	4m <sup>3</sup>	Existing driveways to be retained during construction. Crushed and used as aggregate, drainage backfill. 20-30%	70-80%	0%
Timber	5m <sup>3</sup>	Re-use for formwork and studwork, landscaping, shoring 20-30%	70-80%	<10%
Roof & Ceramic Tiles	N/A	Broken up and used as fill, aggregate, driveways 20-30%	70-80%	<10%
Metals	1m <sup>3</sup>	0%	95%	5%
Plaster Board & Fibro	N/A	0%	To be determined (dependent on asbestos content)	
Residual Waste	10m <sup>3</sup>	0%	50%	50%

**Note:** The demolition waste volume has assumed the waste produced is the equivalent of a one - bedroom brick and fibre board house as defined in the 'Northern Beaches Council – Waste Management Guidelines'.

The Demolition reuse/recycling/disposal information will be advised at CC Stage.

It is noted that the quantities of materials detailed in this section are estimates only, based on current industry standards and quantity analysis, and may vary due to the prevailing nature of construction constraints, weather conditions, and any other unforeseeable activities associated with the demolition of the buildings, which are beyond the control of the developer, including but not being limited to theft, accidents, and other acts of misadventure. Notwithstanding any of the above, the developer will provide Council with all details in relation to any major variations in this regard.

The developer will keep a written record of all documentation associated with the transportation, disposal and processing of all materials associated with the demolition of all structures on site.

## Construction Phase

If sound construction management practices are in place, then waste volumes should be minimised with the majority of this waste being recyclable. Greater detail will be provided but the contractor at the CC stage. An example of the various waste streams is shown below.

**Table 5: Waste Types During Construction**

Materials on Site	Waste Estimate Volume	On-Site Reuse	Off-Site Recycling	Off-Site Disposal (Accordance with NSW EPA)
Bricks	1m <sup>3</sup>	Clean and remove lime mortar from bricks. Re-use in new footings. Broken bricks for internal walls. Crush and reuse as drainage backfill. Crushed and used as aggregate. 20-30%	70-80%	0%
Ceramic Tiles	0.5m <sup>3</sup>	Existing driveways to be retained during construction. Crushed and used as aggregate, drainage backfill. 20-30%	70-80%	0%
Timber	1m <sup>3</sup>	Re-use for formwork and studwork, landscaping, shoring 20-30%	70-80%	<10%
Concrete	N/A	Broken up and used as fill, aggregate, driveways 20-30%	70-80%	<10%
Metals	0.2m <sup>3</sup>	0%	95%	5%
Plaster Board	0.5	0%	To be determined (dependent on asbestos content)	
Other	1m <sup>3</sup>	0%	50%	50%

## Anticipated Waste Generation, Storage and Collection

Council operates a 'wheel-in/wheel-out' service from Market Place for the residential units and the commercial waste will be handled by a private contractor. There will be separate rooms for both commercial and residential waste for the storage of MBGs located on the ground floor.

### Waste Generation

This report has used the waste generation rates for mixed-use developments as defined in the 'Northern Beaches Council Waste Management Guidelines'. The following Table 2 illustrates the typical uncompacted general and recycling generation rates based on use.

**Table 6: Typical Garbage and Recycling Generation Rates for a Non-Residential Development.**

Type of Premises	General Waste	Recycling Waste
Retail Store (non-food)	50L/100m <sup>2</sup> floor area /day	50L/100m <sup>2</sup> floor area /day
Office	10L/100m <sup>2</sup> floor area /day	10L/100m <sup>2</sup> floor area /day
Café	300L/100m <sup>2</sup> floor area /day	200L/100m <sup>2</sup> floor area /day

As stated in the 'Pre-Lodgement DA Minutes' three 240lt MGBs must be provided for the residential units, as follows.

**Table 7: General Waste and Recycling MGBs for a Multiple Residential Development.**

General Waste	Container Recycling Waste	Paper and Cardboard Waste
240L MGB/ Collected weekly	240L MGB/ Collected Weekly	240L MGB/ Collected weekly

## Waste within Overall Development

Using the general and recycling generation rates above, the following can be calculated for this development:

**Table 8: Waste Generation for Non-Residential Development**

Type of Premises	Gross Floor Area (m <sup>2</sup> )	General Waste	Recycling Waste
Retail Store (non-food)	45.3	22.65L/day	22.65L/day
Office	43.95	4.4L/day	4.4L/day
Café	13.86	41.58L/day	27.72L/day
		630L/week	533L/week

*NB: Organic Waste will be disposed of with the general waste however space will be allocated for future organic collection if implemented.*

*NB: Weekly waste generation has assumed a 5-day operation for Office space and 7 day for retail and Cafe.*

## Commercial Waste Storage Area

- 1 x 360L General Waste MGBs – collected and emptied twice a week;
- 2 x 360L Recycling Waste MGBs – collected and emptied once a week.

The following table illustrates the typical dimensions of the MGBs mentioned above.

**Table 9: Typical Mobile Garbage Bin Measurements.**

Size (L)	Height (mm)	Width (mm)	Depth (mm)	Footprint (m <sup>2</sup> )
240L	1,080	580	735	0.43
360L	1,180	600	885	0.53



**NOTE:** Generation rates are based on generation rates within the 'Northern Beaches Council Waste Management Guidelines'. Actual usage can vary and may be generated at a reduced rate. Management will monitor all waste requirements and handling due to the on-going operations of business and assessing any needs for waste management plan revisions.

## Waste Storage Area Design Considerations

The design of the waste storage area has considered the requirements as described in the 'Northern Beaches Council Waste Management Guidelines'. The storage areas for residential and commercial must be separated and the requirements for each are described below.

The design of the Waste Storage Areas for residential will:

- a) Be a designated area to accommodate Council's allocated number of waste and recycling containers. **(COMPLIANT)**
- b) Have a practical layout, be free of obstructions and have only 90-degree angle corners. **(COMPLIANT)**
- c) Have a floor area capable of storing the number of bins. **(COMPLIANT)**
- d) Accommodate 1 x 240L vegetation bin for every 200m<sup>2</sup> of landscaped open space on the site. **(NOT APPLICABLE)**
- e) Be graded and drained to a Sydney Water approved drainage system. **(COMPLIANT)**
- f) Be serviced by an easily accessible water tap. The tap must not obstruct aisles, access ways and placement of bins. **(COMPLIANT)**
- g) Be cement rendered and coved (smooth rounded corners) at the floor and wall intersections. **(COMPLIANT)**
- h) Be clear of any service and utilities infrastructure and related activities. **(COMPLIANT)**
- i) Be capable of being kept clean and tidy at all times. **(COMPLIANT)**
- j) Be in accordance with the BCA, relevant AS and legislation. **(COMPLIANT)**

The design of the Waste Storage Area for commercial will be:

- a) A designated area to accommodate waste, recycling containers, crates, pallets and other reusable items. **(COMPLIANT)**
- b) A minimum floor space capable of managing the proposed commercial development's waste generation rate. **(COMPLIANT)**
- c) In accordance with the BCA, relevant AS and other legislation. **(COMPLIANT)**
- d) Graded and drained to a Sydney Water approved drainage system. **(COMPLIANT)**
- e) Easily kept clean and tidy at all times. **(COMPLIANT)**

## Waste Storage Area Signage

Waste separation and sorting information will be provided within the waste storage areas to ensure appropriate source separation of waste. The following figures show examples of waste separation sourced from the Northern Beaches Council website.



*Figure 3: Northern Beaches MGB Guidelines*

The following figure illustrates a scaled diagram of the MGBs within separate waste storage areas.

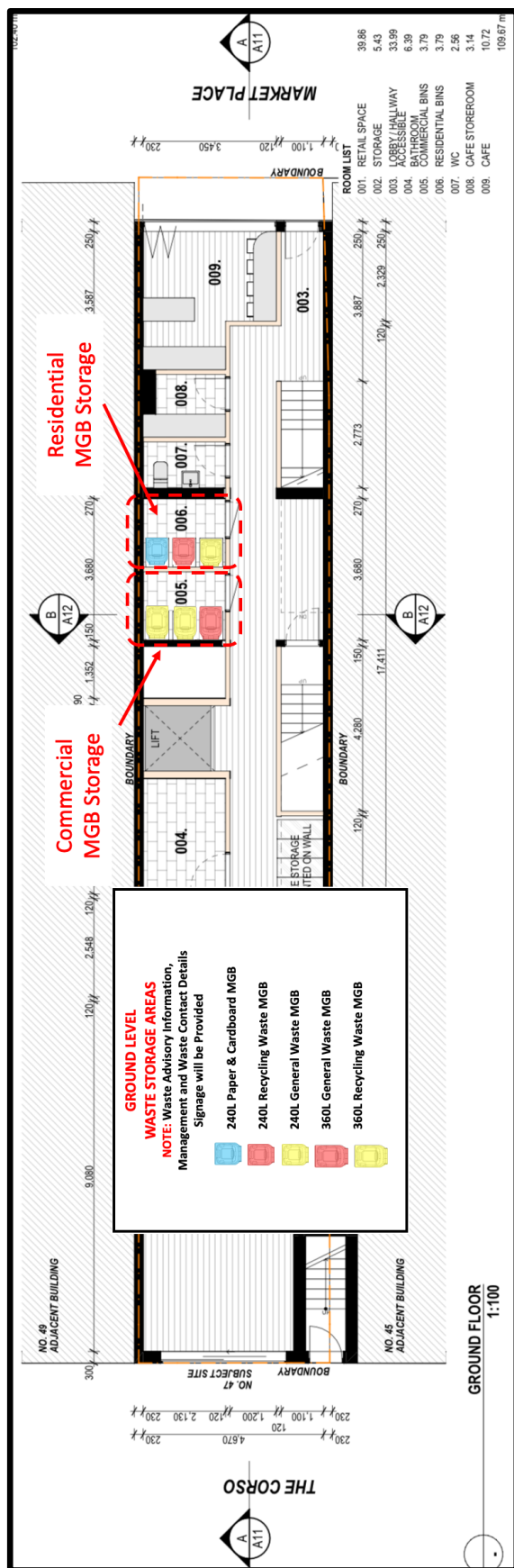


Figure 4: Scaled Diagram of the Waste Storage Area

## **Waste Collection**

The residential waste will be collected by Council's waste collection service. There will, however, be no kerbside placement of MGBs. Council offers a wheel in/wheel out service from Market Place. There will be unimpeded access to the residential waste storage area on collection days.

The commercial waste will be collected by a private contractor. They will also need to collect the MGBs from the commercial waste storage area and return them once emptied. This is to ensure no MGBs are stored kerbside or in the public area for waste collection.

## **Compliance with Northern Beaches Council Pre-Lodgement Minutes No. PLM2022/0223**

### **Access to Residential Bin Storage Room**

- There must be direct unrestricted access from Market Place to the residential waste storage room on collection day for waste collection staff to service the bins. **(COMPLIANT)**
- The door from Market Place that leads to the Residential Bin Storage Room will need a timer lock fitted to allow access from 4am-6pm on collection day. **(COMPLIANT)**
- The next doorway opening leading into corridor will need to be a minimum of 800mm wide. **(COMPLIANT)**

### **The residential bin room door:**

- Opens inwards. This is unacceptable. Please redesign to open outwards towards the Commercial space. **(REDESIGNED)**
- Must be minimum 800mm wide, be able to be latched in the open position and remain unlocked on the nominated collection day. A timer lock fitted to the residential waste room door open from 4am-6pm on collection day will provide unobstructed access. **(COMPLIANT)**

### **Residential Bin Storage and Bin allocation**

- The residential waste storage room must be able to accommodate 3 x 240 litre waste bins for 3 residential dwellings – 1 x garbage, 1 x paper recycling, 1 container recycling bin. **(SEE SECTION WASTE GENERATION)**
- The room can be designed so that there is an isle a minimum of 1m wide between each row of bins or between a single row of bins and a wall. **(SEE FIGURE 4)**

### **Commercial Waste Storage Area:**

- A commercial waste storage room has not been provided. The residential bin room is required to be separate from the commercial bin room. Please show as separate rooms on the proposed plan. **(SEPARATE ROOMS NOW PROVIDED)**
- The owners corporation / building occupants are not to place the commercial bins in the public area outside the building for collection. **(COMPLIANT)**
  - The plan of management for the building will need to include that the commercial bins are serviced from within the building and how that is achieved. **(COMPLIANT)**

## **Amenity**

### **Noise**

The only noise generated from the waste management at the property will be that of the MGBs being collected and emptied. Any other noise related to the waste management will be kept to a minimum.

### **Ventilation**

The waste storage area will be ventilated.

### **Security/Communication Strategy**

All MGBs will be secured within the ground level waste storage areas.

Management will ensure all staff and residents receive detailed documentation outlining all necessary requirements.

### **Cleaning Facilities/Bin Rooms**

Management & staff will be responsible for keeping the waste storage areas and MGBs clean as required. The waste storage area should be cleaned monthly with a broom, hosed down and the drain cleaned. Similarly, the bins should be cleaned monthly or as required by hosing out within the waste storage area.

**NOTE:** **(1)** The bin rooms must be large enough to accommodate the required number of bins based on the available bin capacity, dimensions and waste generation rates. A scaled and dimensioned plan provided shows the communal bin rooms and the bin layout. **(2)** Sufficient space must be provided to allow the easy passage of bins in and out of the rooms as per the access width requirements detailed above. **(3)** Bin enclosures must be fitted with a self-closing doors. **(4)** The bin rooms shall be fitted with a lock. **(5)** The bin rooms must have a smooth impervious floor sloped to a drain connected to the sewer system of not less than 75mm in thickness, to the satisfaction of the Northern Beaches Council. **(6)** The bin rooms must have enough space and be constructed of a material to facilitate the cleaning of bins inside the room.

### **Prevention of Vermin and Insects**

Staff and residents will be advised to not overfill the bins so that the lids are closed at all times. The waste area should be constructed to help keep vermin out with lockable doors. Rat and cockroach traps should be placed in a safe place within the waste areas.



## **Miscellaneous**

### **Communal Composting Facility**

No consideration has been given to a composting facility at this stage.

### **Interim Internal Waste Storage**

Waste bins will be provided for interim storage of one day's worth of garbage and recyclables within each of the dwellings and commercial areas. Space should be allowed for separate storage of recyclables from the general waste.

### **Green Waste/Food Waste**

No green waste will be produced by the development. Food waste should be placed in the General Waste MGBs.

### **Bulky Hard Waste**

If hard waste collection is required, management should organise a collection with the Council.

### **E-Waste**

Recyclable electronic goods include batteries, equipment containing printed circuit boards, computers, televisions, fluorescent tubes, and smoke detectors. E-Waste will be placed in impermeable surface containers and collected by a registered E-Waste Re-Processor as required.