



Tel: 02 8004 0460  
[www.auswideconsulting.com.au](http://www.auswideconsulting.com.au)  
[info@auswideconsulting.com.au](mailto:info@auswideconsulting.com.au)  
ABN 18 162 361 042

## WASTE MANAGEMENT PLAN

# **Warriewood Community Centre Jacksons Road, Warriewood NSW 2102**

*Proposed Warriewood Community Centre Development*

Prepared for:	Terroir
Date Prepared:	December 2020
Revision:	1.0
Northern Beaches Shire Council Application #:	TBA

## INDEX

<b>Introduction</b> .....	<b>4</b>
<b>Background and Existing Conditions</b> .....	<b>4</b>
Figure 1: Location of the Subject Site .....	5
Figure 2: Aerial View of the Subject Site.....	6
<b>Waste Management Principles</b> .....	<b>6</b>
Handling .....	6
Stockpiling.....	7
<b>Demolition &amp; Construction Stage</b> .....	<b>7</b>
Demolition Works .....	7
Construction Works.....	8
<b>Estimating Waste Quantities</b> .....	<b>8</b>
Table 1: Estimating Waste Levels .....	8
Table 2: Converting Volume into Weight .....	8
<b>Wastage Types and Handling</b> .....	<b>9</b>
Table 3: Waste Types and Handling .....	9
Demolition Phase .....	9
Construction Phase .....	9
<b>On-going Waste Management</b> .....	<b>10</b>
<b>Waste Generation</b> .....	<b>10</b>
Table 1: Typical General and Recycling Generation Rates for Community Centres.....	10
<b>Waste within Overall Development</b> .....	<b>11</b>
<b>Waste Storage Areas</b> .....	<b>11</b>
Table 2: Typical Mobile Garbage Bin Measurements for NSW.....	11
Figure 3: Waste Disposal Guidelines for the Garbage & Recycling MGB's.....	12
Figure 4: Scaled Diagram of the Waste Storage Area .....	13
Figure 5: Typical 240L Bin Lift .....	14
Figure 6: Typical Bin Tugs .....	15
<b>Waste Collection</b> .....	<b>16</b>
Figure 7: Template of a Typical SRV Waste Collection Vehicle .....	16
<b>Amenity</b> .....	<b>17</b>
Noise .....	17



Security/Communication Strategy .....	17
Ventilation.....	17
Cleaning Facilities .....	17
Prevention of Vermin .....	17
<b>Miscellaneous.....</b>	<b>18</b>
Communal Composting Facility .....	18
Green Waste/Food Waste .....	18
Bulky Hard Waste .....	18
E-Waste .....	18
<b>Conclusions.....</b>	<b>19</b>
<b>Appendix A – Waste Management Contacts .....</b>	<b>20</b>
<b>Appendix B – Site Plans.....</b>	<b>21</b>

## Introduction

AusWide Consulting was commissioned by Terroir to prepare a Waste Management Plan (WMP) for approval of a proposed Warriewood Community Centre development on Jacksons Road, Warriewood NSW.

The proposed development consists of; Foyer & Community Area (351m<sup>2</sup>), Foyer Kitchen (17m<sup>2</sup>), Covered Outdoor Area (245m<sup>2</sup>), Players Hall (300m<sup>2</sup>), Kitchen (15m<sup>2</sup>), Office (10m<sup>2</sup>), Dealing Room (5m<sup>2</sup>), Meeting Rooms (40m<sup>2</sup> & 40m<sup>2</sup>), Activities Room (149m<sup>2</sup>), Waste Room (14m<sup>2</sup>), Main Hall (285m<sup>2</sup>), Kitchen (52m<sup>2</sup>), Small Hall 1 (152m<sup>2</sup>), Small Hall 2 (152m<sup>2</sup>) & Office (15m<sup>2</sup>).



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 Terroir.
- As per the Northern Beaches Waste Guidelines & EPA Better Practice Guidelines for Waste Management.

## Background and Existing Conditions

The subject site is located at Jacksons Road, Warriewood NSW, on the north side of Jacksons Road. All the nearby land uses are residential with commercial to the south/west and Boondah Reserve to the north.



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

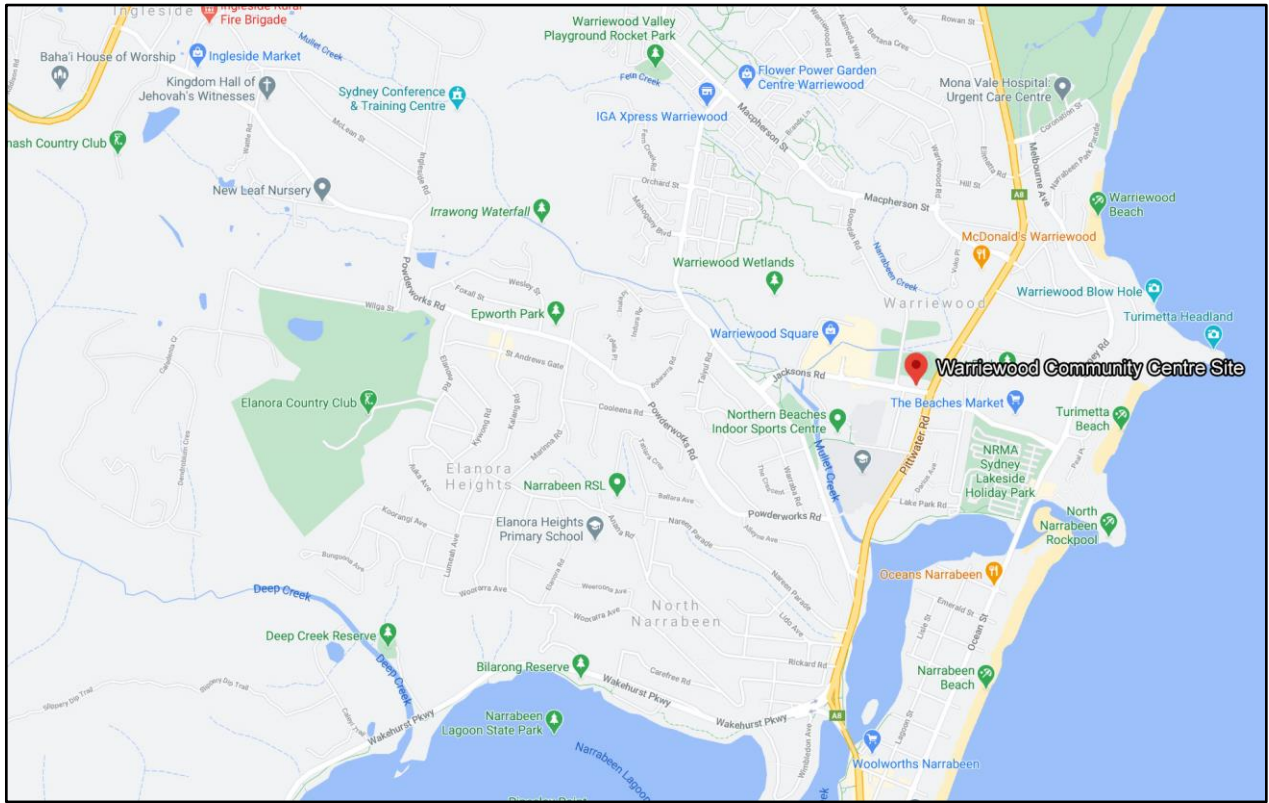


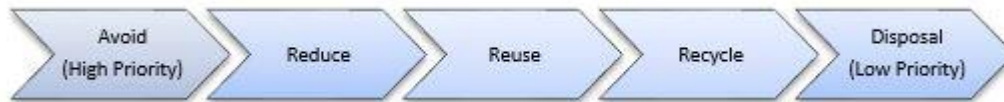
Figure 1: Location of the Subject Site



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

## **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 pre-fabricated 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 practiced 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 existing buildings and the construction of; Warriewood Community Centre.

### ***Demolition Works***

It should be noted that the demolition stage has the greatest potential for waste minimisation, particularly in Sydney 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 buildings, 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:

- Re-use of excavated material on-site and disposal of any excess to an approved site;
- Green waste mulched and re-used in landscaping either on-site or off-site;
- 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; and
- 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; and
- Co-ordination/sequencing of various trades.

## Estimating Waste Quantities

There are many simple techniques to estimate volumes of construction and demolition waste. The sequence of steps provided below can be used as a guide;

1. Quantify materials for the project
2. Use margin normally allowed in ordering
3. Copy these amounts of waste into your waste management plan

When estimating waste generation, the following percentages can be used as a “rule of thumb” practice;

**Table 1: Estimating Waste Levels**

Material	Waste as a Percent of the Total Material Ordered
Timber	5-7%
Plasterboard	5-20%
Concrete	3-5%
Bricks	5-10%
Tiles	2-5%

Subsequently, the following table illustrates how to convert volumes of material to their respective weights. This information is particularly important during material storage and transportation stages.

**Table 2: Converting Volume into Weight**

Timber = 0.5 tonnes per m <sup>3</sup>
Concrete = 2.4 tonne per m <sup>3</sup>
Bricks = 1.0 tonne per m <sup>3</sup>
Tiles = 0.75 tonne per m <sup>3</sup>
Steel = 2.4 tonne per m <sup>3</sup>



## Wastage Types and Handling

Waste volumes produced by excavation, demolition and construction stages shall be estimated 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 the 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 3: Waste Types and Handling**

### Demolition Phase

Materials On Site	Waste Estimate - Volume (m3) or Weight (T)	On-site Reuse	Off-site Recycling	Off-site Disposal (In accordance with DECCW)
<i>Bricks</i>	TBA			
<i>Ceramic Tiles</i>	TBA			
<i>Timber</i>	TBA			
<i>Concrete</i>	TBA			
<i>Metals</i>	TBA			
<i>Other</i>	TBA			

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

### Construction Phase

Materials On Site	Waste Estimate - Volume (m3) or Weight (T)	On-site Reuse	Off-site Recycling	Off-site Disposal (In accordance with DECCW)
<i>Bricks</i>	TBA			
<i>Ceramic Tiles</i>	TBA			
<i>Timber</i>	TBA			
<i>Concrete</i>	TBA			
<i>Metals</i>	TBA			
<i>Other</i>	TBA			

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

## On-going Waste Management

Waste collection will be provided by a private contractor.

### Waste Generation

As per the Northern Beaches Waste Guidelines & EPA Better Practice Guidelines for Waste Management, the waste entitlement for; (a) Community Centres is 300L/100m<sup>2</sup> floor per day of general waste plus 240L/100m<sup>2</sup> floor per day of commingled recycling waste. (b) Assembly/Social Area is 50L/100m<sup>2</sup> floor per day of general waste plus 10L/100m<sup>2</sup> floor per day of commingled recycling waste. (c) Office Space is 10L/100m<sup>2</sup> floor per day of general waste plus 10L/100m<sup>2</sup> floor per day of commingled recycling waste.

**NOTE:** The buildings will be provided with smaller safety waste bins located strategically throughout the buildings in lockable cupboards. The bins will be used to ferry the waste to the main waste room and emptied into the 240L & 360L MGB's by the caretaker.

The following table illustrates the typical garbage and recycling generation rates.

**Table 1: Typical General and Recycling Generation Rates for Community Centres**

Type of Premises	General Land Waste	Commingled Recycling Waste
Community Centres	300L/100m <sup>2</sup> floor/day	240L/100m <sup>2</sup> floor/day
Assembly/Social Area	50L/100m <sup>2</sup> floor/day	10L/100m <sup>2</sup> floor/day
Offices Space	10L/100m <sup>2</sup> floor/day	10L/100m <sup>2</sup> floor/day

**NOTE:** Generation rates are based on the Northern Beaches Waste Guidelines & EPA Better Practice Guidelines for Waste Management. The actual rates will vary and most likely be less than the guidelines as calculated above.

## Waste within Overall Development

Using the garbage and recycling generation rates above, the following can be calculated;

**Office Space - Office (10m<sup>2</sup> & 15m<sup>2</sup>), Dealing Room (5m<sup>2</sup>), Meeting Rooms (40m<sup>2</sup> & 40m<sup>2</sup>), Activities Room (149m<sup>2</sup>) = Total (259m<sup>2</sup>) (7-Day Week).**

- 10L/100m<sup>2</sup> of general waste per day = 181.3L of general per week (uncompacted).
- 10L/100m<sup>2</sup> of recycled waste per day = 181.3L of recycling per week (uncompacted).

**Assembly/Social - Foyer & Community Area (351m<sup>2</sup>) = Total (351m<sup>2</sup>) (7-Day Week).**

- 50L/100m<sup>2</sup> of general waste per day = 1,228.5L of general per week (uncompacted).
- 10L/100m<sup>2</sup> of recycled waste per day = 245.7L of recycling per week (uncompacted).

**Community Centre - Players Hall (300m<sup>2</sup>), Kitchen (15m<sup>2</sup>), Main Hall (285m<sup>2</sup>), Kitchen (52m<sup>2</sup>), Small Hall 1 (152m<sup>2</sup>), Small Hall 2 (152m<sup>2</sup>), Foyer Kitchen (17m<sup>2</sup>) = Total (973m<sup>2</sup>) (7-Day Week).**

- 300L/100m<sup>2</sup> of general waste per day = 20,433L of general per week (uncompacted).
- 240L/100m<sup>2</sup> of recycled waste per day = 16,346.4L of recycling per week (uncompacted).

Total Waste: General Waste 21,842.8L, Comingled Recycling Waste 16,773.2L

## Waste Storage Areas

Main Waste Storage Area

Based on the total waste generated by the development, the following combination of MGB's should be provided at the childcare centre waste storage area;

- 3 x 1,100L General Waste MGB's – emptied 7 times a week
- 3 x 1,100L Recycling Waste MGB's – emptied 5 times a week

**NOTE:** 240L MGB's will be strategically placed throughout the property and used to ferry the waste to the 1,100L MGB's in the main waste area. A 240L Bin Lift will be used to empty the waste into the 1,100L MGB's.

The following table illustrates the typical dimensions of 240L & 1,100L MGB's mentioned a above

**Table 2: Typical Mobile Garbage Bin Measurements for NSW.**

Size	Height (mm)	Width (mm)	Depth (mm)
240L	1,080	580	735
1,100L	1,470	1,370	1,245

Recycling	Garbage
<ul style="list-style-type: none"> <li> All recycling</li> <li> Steel, tin, aluminium cans, including empty aerosols</li> <li> Clear, brown and green glass bottles and jars (rinsed, no lids)</li> <li> Plastic bottles, soft drink bottles and containers (rinsed, no lids)</li> <li> Cardboard boxes, milk and juice cartons</li> <li> Newspapers, magazines, office paper and junk mail, including window envelopes</li> </ul>	<ul style="list-style-type: none"> <li> General waste</li> <li> Plastic bags</li> <li> Packets, wrappers, cling wrap and bubble wrap</li> <li> Nappies and sanitary waste, wrapped tightly and stored in well-sealed bags</li> <li> Pet waste, kitty litter</li> <li> Foam, polystyrene</li> <li> Light globes, mirrors, ceramics, cookware and drinking glasses</li> </ul>
<hr/> <ul style="list-style-type: none"> <li> <i>Plastic bags, light bulbs, mirrors or drinking glasses, food or general waste ceramics, crockery or ovenware, foam or polystyrene, waxed cardboard boxes.</i></li> </ul>	<hr/> <ul style="list-style-type: none"> <li> <i>Building materials, syringes, oil or paint, gas bottles, hazardous or chemical waste</i></li> <li> <i>Medical waste (speak to your doctor or pharmacy).</i></li> </ul>

**Figure 3: Waste Disposal Guidelines for the Garbage & Recycling MGB's**

The following figures illustrates a scaled diagram of the MGB's within the waste storage area.

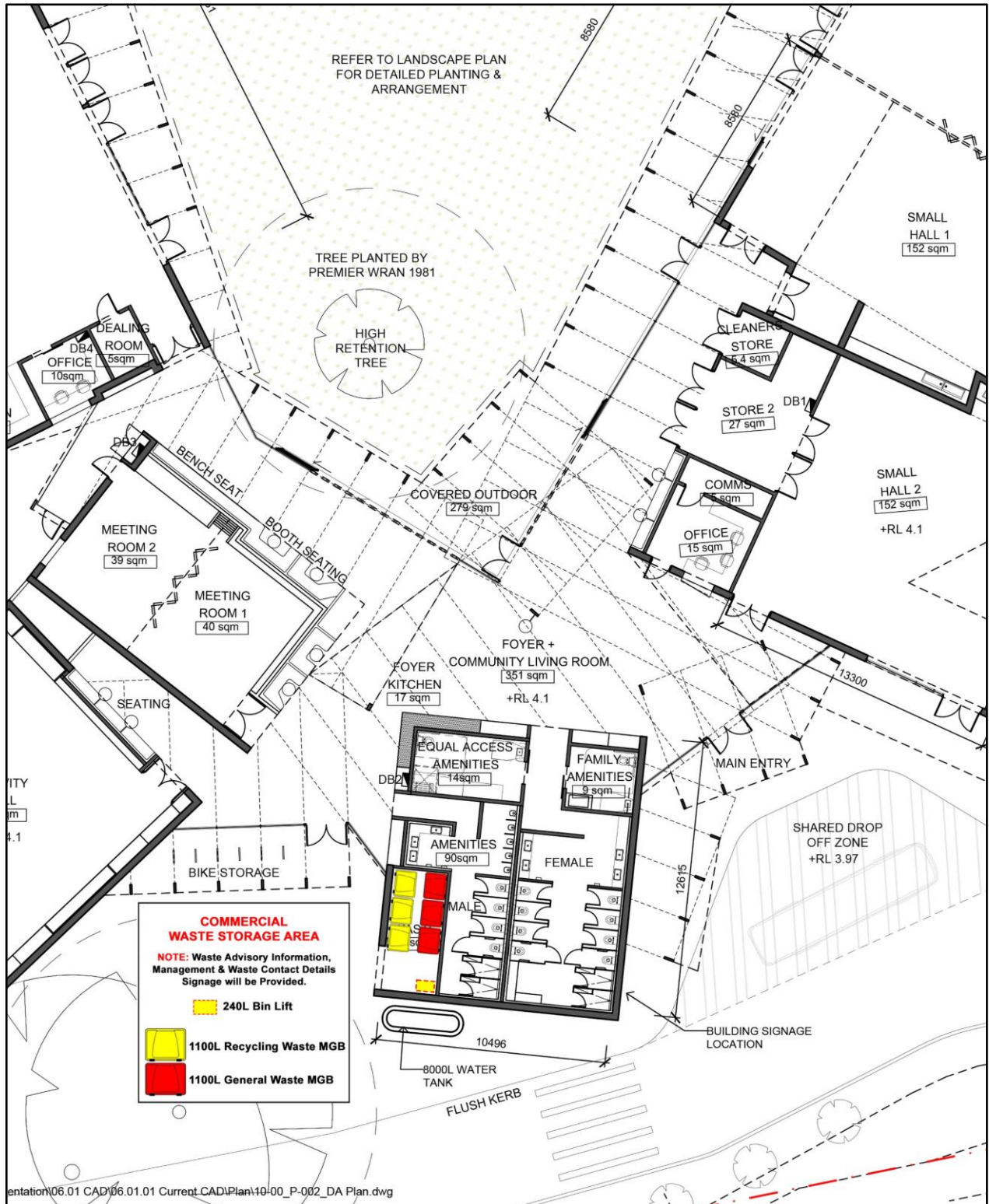


Figure 4: Scaled Diagram of the Waste Storage Area





**Figure 5: Typical 240L Bin Lift**

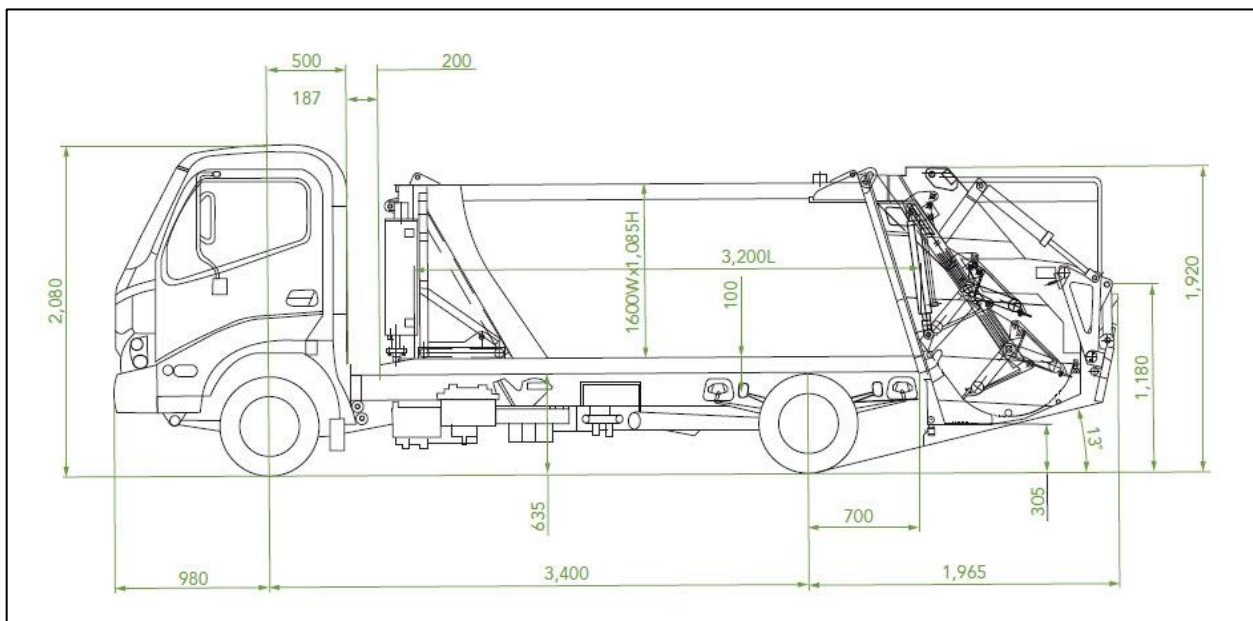


**Figure 6: Typical Bin Tugs**

## Waste Collection

The waste collection service for the proposed development will be provided by a private contractor.

The waste vehicle will enter the carparking area via Boondah Road and drive towards the pedestrian crossing near the main entrance. Pulling up just before crossing and retrieve MGB's from waste room using a bin tug to transport to/from the waste vehicle, emptying the MGB's. Once all the MGB's have emptied and returned to the waste storage area, the waste vehicle will leave in a forward motion. **NOTE:** The waste collection will be performed between 6AM-6PM.



**Figure 7: Template of a Typical SRV Waste Collection Vehicle**

## Amenity

### Noise

The only noise generated from the waste management at the property will be that of the waste being collected, any other noise related to the waste management will be kept to a minimum.

### Security/Communication Strategy

All MGB's will be secured within the ground level waste storage area.

All staff will receive detailed documentation detailing all necessary requirements for safe waste management and handling including all relevant contact information.

### Ventilation

The waste storage area will need to be ventilated.

### Cleaning Facilities

The caretaker is responsible for keeping the MGB's clean.

**NOTE:** It is recommended that the waste area consist of; **(1)** Impervious coated/treated walls and ground surface within the waste area enclosure, ensuring the ground is graded to the sewer (100 mm diameter) floor drain outlet within the enclosure. **(2)** Tap and hose (hose cock must be protected from the waste containers) for use of cleaning the MGBs and waste area. **(3)** Self closing single/double gate/doors that bolt open allowing easy removal of the MGB's. **(4)** Waste advisory information, management & waste contact details signage should be provided within the main waste area.

### Prevention of Vermin

The occupants will be advised to not overfill the bins so that the lids are closed at all times. It is suggested to place rat traps in the corners of the waste storage areas.

## Miscellaneous

### Communal Composting Facility

Refer **Food Waste** below.

### Green Waste/Food Waste

The landscaping at the development will be low maintenance. Therefore, it is expected that green waste will be handled by a gardening contractor.

Regarding **Food Waste**, some community centres operate a compost bin and/or worm farm (often together with a veggie patch) as part of an education program, so space for a compost bin in the Landscape Plan is all that is required for FOGO. Otherwise food waste will be placed in the General Waste MGB's.

### Bulky Hard Waste

If hard waste collection is required, management should call a private contractor directly.

Bulky Hard Waste room or caged area may be allocated for the storage of discarded bulky items and recyclable electronic goods and sign marked appropriately.

### 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.





## **Conclusions**

We trust that the information provided above is sufficient at this initial stage. It has been demonstrated that all waste encountered during the demolition and construction stages shall be dealt with according to the best-practice principles outlined within the report. Upon construction stage, specific waste volumes, handling and destinations shall be disclosed to Council. On-going waste management work involved is minimal and shall be managed according to Council policy.

## Appendix A – Waste Management Contacts

<b>Materials</b>	<b>Company Name</b>	<b>Company Address</b>	<b>Contact Details</b>
<i>Evacuation Material/Soil Waste</i>	<i>Enviroguard</i>	<i>Cnr Mamre &amp; Erskine Parks Rds Erskine Park</i>	<i>9834 3411</i>
<i>Green Waste</i>	<i>Ecocycle</i>	<i>155 Newton Road Wetherill Park</i>	<i>9757 2999</i>
<i>Bricks</i>	<i>Brandown</i>	<i>Lot 9 Elizabeth Drive Kemps Creek</i>	<i>9826 1256</i>
<i>Concrete</i>	<i>Brandown</i>	<i>Lot 9 Elizabeth Drive Kemps Creek</i>	<i>9826 1256</i>
<i>Timber</i>	<i>Artistic Popular Furniture</i>	<i>10 Raglan Road Auburn</i>	<i>9644 3054</i>
<i>Metals</i>	<i>Parramatta Scrap Metal</i>	<i>12 North Roack Rd Nth Parramatta</i>	<i>9630 2974</i>
<i>Roof Tiles</i>	<i>Obsolete Tiles</i>	<i>3 South Street Rydalmere</i>	<i>9684 6333</i>
<i>Door Fittings</i>	<i>Recycling Works</i>	<i>45 Parramatta Rd Annandale</i>	<i>9517 2711</i>
<i>Plastics</i>	<i>Cromford</i>	<i>120-122 Ballandella Rd Pendle Hill</i>	<i>9631 6644</i>
<i>Plasterboard</i>	<i>Ecocycle</i>	<i>155 Newton Road Wetherill Park</i>	<i>9757 2999</i>
<i>Fibro Containing Asbestos</i>	<i>Enviroguard</i>	<i>Cnr Mamre &amp; Erskine Parks Rds Erskine Park</i>	<i>9834 3411</i>

# Appendix B – Site Plans

