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SITE WASTE MANAGEMENT REPORT

2 Delmar Parade, Dee Why

Lot 1 in DP 710711



Prepared for:

Landmark Group

Report SW20/01001

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1

INTRODUCTION

This Site Waste Minimisation and Management Plan (SWMMMP) Report has been prepared on behalf of the Landmark Group and should be read in conjunction with the plans encompassing Project No. : 219132 prepared by Rothe Lowman.

The report summarises the waste minimisation and management practices intended to be implemented as part of the construction of a mixed use commercial/multi-storey unit residential development and its operational use.

1.1 SUMMARY

The proponent proposes to demolish an existing commercial building with associated light infrastructure and then construct a multi-storey building with retail tenancies and residential units. The proposed building is to have associated ground level garbage room, and related earthworks and landscaping.

This report is an outline of the waste minimisation and management policies and procedures to be implemented by contractors during the demolition phase, construction phase and the property manager/owners corporation during the post construction (operational phase) of the development.

These policies and procedures will set a framework for all parties to minimise generation of residual (non-recyclable) waste, and to take advantage of the opportunities for re-use of waste materials by ensuring that efficient recovery and segregation measures for all waste materials are provided.

2 BUILDING CHARACTERISTICS

2.1 SITE DESCRIPTION

The site is identified legally as Lot 1 of Deposited Plan 710711. It is commonly known as 2 Delmar Parade, Dee Why. The subject site has an area of 2,060.00 m².

Please refer to the below aerial image.



Figure 1 - Aerial Image

2.2 SITE ANALYSIS

The site is located within the a well established area with a mixture of commercial and residential developments. There is an existing commercial development on the site with associated light infrastructure.

3 DESCRIPTION OF PROPOSAL

3.1 PROPOSED DEVELOPMENT

The proposed development includes the demolition of an existing commercial development with light infrastructure and the subsequent construction of a multi-storey mixed residential/commercial building and ancillary site works.

The proposed building will include the following:

- Parking for 100 cars over 2 basement levels;
- One building cores with a waste chute;
- Lift motor, plant, service and garbage room;
- Upper ground floor level and upper levels consisting of a total of 71 units

3.2 SITE ACCESS

The subject site has frontages to Delmar Parade and Pittwater Road. Vehicular access to the site is via a driveway from Delmar Parade .

3.3 SITE SERVICES

The site has access to all necessary essential services including water, sewer, electricity and telecommunications.

4 PURPOSE OF THE REPORT

4.1 AIMS

The aim of the SWMMP is to outline measures to minimise and manage waste and resource recovery during the demolition phase, construction phase and the post construction (operational) phase.

The SWMMP will describe;

- Volume and type of waste and recyclables to be generated
- Storage and treatment of waste and recyclables on the development site
- Disposal of residual wastes and reprocessing options for recyclables
- Procedures for post construction (operational) management after handover of the development

4.2 OBJECTIVES

The objective of the SWMMP is to provide a planning system to effectively manage waste and resource recovery associated with this development, including;

- Promote improved project management
- Minimise waste generation
- Maximise reuse and resource recovery
- Minimise the environmental impacts associated with residual waste generated by this development
- Ensure the appropriate storage and collection of residual waste

To ensure ongoing waste management systems are compatible with collection services offered by commercial waste transporters and the Northern Beaches Shire Council.

4.3 LEGISLATIVE DRIVERS

Table 1 - Environmental Legislation specific to waste management

Legislation/Guidelines	Description
Protection of the Environment Operations Act 1997	This Act is the primary NSW environment protection legislation covering air, noise, water, land and waste management
Waste Avoidance and Resource Recovery Act 2001	Sets NSW framework for waste hierarchy and allows the preparation of waste strategies addressing specific waste streams and setting landfill diversion and resource recovery targets
Waste Avoidance and Resource Recovery Strategy 2007	Proposes priority areas for waste management and resource recovery. Details current targets
Northern Beaches Development Control Plan 2013, Part 3N: Waste Minimisation and Management	Aims to facilitate sustainable waste management within the Northern Beaches Shire LGA in a manner consistent with ESD principles.
Model Waste Not DCP Chapter 2008 (DECC)	Provides a framework chapter for NSW LGA's to address Waste Not DCP
Better Practice Guide for Waste Management in Multi Unit Dwellings 2002 (Resource NSW)	Provides guideline for addressing waste management in medium or high density residential developments

5 DEMOLITION

5.1 GENERAL OUTLINE

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by the Northern Beaches Shire Council, WorkSafe and as detailed in this report.

The demolition phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The demolition phase involves the demolition of an existing commercial building, associated light infrastructure, site clearing, and excavation.

5.2 WASTE AVOIDANCE, MINIMISATION AND CONTROL STRATEGIES

In relation to site clearance and excavation activities, specialised waste disposal & treatment contractors will be selected who are appropriately licenced, and have demonstrated experience in maximising resource recovery. The following control strategies will be implemented during the demolition phase;

- All demolition will be conducted in accordance with requirements of the WorkSafe Authority and Australian Standard 2601-1991 *The demolition of structures*
- Any asbestos, hazardous and/or intractable wastes are to be disposed of in accordance with the WorkSafe Authority and Environmental Protection Authority
- Re-use excavated materials on-site and disposal of excess to an approved site
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors
- All waste generated is to be documented and handled in accordance with Table 2 *Demolition Volumes and Reuse/Recycling Potential*
- At the excavation stage, the frontage to Delmar Parade will be utilised as the site access. The excavated material, not used on site, will be loaded onto trucks and transported to an approved landfill site or another suitable location.

Table 2 - Demolition Volumes and Reuse/Recycling Potential

Materials	Document Volume (m ³)	On-Site	Off-Site	Disposal
Hardwood	13	Separated	Sold for re-use	Second hand supplier
Other Timber	5	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	5	Separated	Sold for re-use	Second hand supplier
Steel	10	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	4	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	8	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	9	Composted or mulched	Nil	Green waste re-processing facility
Concrete	25	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	14	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	12	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	3	Nil	Nil	Licenced waste facility
Other Wastes	2	Separated	Nil	Licenced waste Facility

6 CONSTRUCTION PHASE

6.1 GENERAL OUTLINE

The management of the site will be the responsibility of the project manager, who will administer waste handling systems, as specified by Northern Beaches Shire Council, WorkSafe and as detailed in this report.

The construction phase of this development is to comply with the aims and objectives outlined in Section 3 of this report.

The construction phase will involve car parking for 96 Cars over two basement levels, lift motor, plant, service and garbage room, two retail tenancies and five upper levels consisting of a total of 71 units.

6.2 WASTE AVOIDANCE, MINIMISATION & CONTROL STRATEGIES

To reduce the amount of waste on site during construction of the development the following control strategies will be required of all contractors and/or personnel:

- Order materials to size
- Avoid over-ordering
- Order pre-cut or pre-fabricated materials
- Reduce packaging at source or products with minimal packaging
- Where possible materials to be re-used on site or shipped to recycler
- All salvaged material will be removed manually; hydraulic excavators will remove the remainder;
- Allocation of an assigned area within the development site to be identified for stockpiling of segregated recyclable materials (for materials to be re-used on-site) and for staging areas for transport to off-site re-processing facilities;
- All skip and bulk bins will be located within the assigned area, clearly identified for each material, and not impeding on the footpath or road reserve;
- Project manager to retain all weighbridge or re-processing facility dockets to ensure responsible disposal and recycling options are being employed by contractors;
- All waste generated is to be documented and handled in accordance with Table 3 Construction Volumes and Reuse/Recycling Potential

Table 3 - Construction Volumes and Reuse/Recycling Potential

Materials	Document Volume (m ³)	On-Site	Off-Site	Disposal
Hardwood	4	Separated	Sold for re-use	Second hand supplier
Other Timber	4	Separated	Chipping for mulch/fuel	Green waste re-processing facility
Doors, Windows	0	Separated	Sold for re-use	Second hand supplier
Steel	3	Nil	To metal recyclers	Metal recycling
Downpipes, Gutters	1	Nil	To metal recyclers	Metal recycling
Ceramic Tiles	1	Cleaned and separated	Sold for re-use	Recycling facility/second hand supplier
Green Waste	3	Composted or mulched	Nil	Green waste re-processing facility
Concrete	2	Re-used as sub-base / fill	Concrete crushing	Quarry or landfill licenced to crush concrete
Bricks	2	Broken brick for fill. Whole bricks to be cleaned and salvaged	Recycling company	Quarry or landfill licenced to crush bricks/masonry. Or Second hand supplier
Plasterboard	2	Separated	Recycling company	Licenced re-processing facility. Or return to supplier
General Waste	5	Nil	Nil	Licenced waste facility
Other Wastes	2	Separated	Nil	Licenced waste Facility

Note: During construction, all waste materials will be separated and temporarily stored on-site. It is proposed all such materials will either be recycled or disposed of as per Table 2 Demolition Volumes and Reuse/Recycling Potential.

7 POST CONSTRUCTION (OPERATIONAL) PHASE

The following assessment of waste volumes is an estimate only and will be influenced by building management, cleaning arrangements, individual tenant's attitude and obligation regarding waste disposal and recycling.

7.1 WASTE AND RECYCLING GENERATION RATES

Waste and recycling generation rates are taken from Northern Beaches Shire Council's *Waste Management Guidelines – Appendix A Waste Storage Area Requirements*.

There is proposed to be a compactor utilised with the waste chutes. These compactors will have a compaction ratio of 2:1. These are all represented in the table below.

Table 4 - Residential Generation Rates

Waste Type	Number of Units	Waste generation rate (per unit)	Waste generated (L)	After Compaction (L) 2:1 Ratio	Bins Required
Garbage	71	80 L per week	5,680	2,840	12 x 240 L MGBs
Recyclables (Paper)	71	60 L per week	4,260	2,130	9 x 240 L MGBs
Recyclables (Co-Mingled)	71	40 L per week	2,840	1,420	6 x 240 L MGBs

Table 5 - Commercial Generation Rates – Retail Cafe

Waste Type	Floor Area (m ²)	Waste generation rate (per 100m ² per week)	Waste generated (L)	Frequency of Servicing per week	Bins Required
Garbage	208.0	300 L	624.00	Weekly	3 x 240 L MGBs
Recyclables	208.0	200 L	416.00	Weekly	2 x 240 L MGBs

Table 6 - Commercial Generation Rates – Retail

Waste Type	Floor Area (m ²)	Waste generation rate (per 100m ² per week)	Waste generated (L)	Frequency of Servicing per week	Bins Required
Garbage	340.00	50 L	170.00	Weekly	1 x 240 L MGBs
Recyclables	340.00	50 L	170.00	Weekly	1 x 240 L MGBs

7.2 STORAGE

The storage of residential waste will be within garbage and recycling rooms (waste room) located on the Ground Level as shown in the submitted plans and the below image.

This room shall be constructed in accordance with the provisions of the Northern Beaches Shire Council Development Control Plan, and at a minimum be of approved solid impervious material and shall be cement rendered internally to a smooth even smooth even surface covered at all intersections.

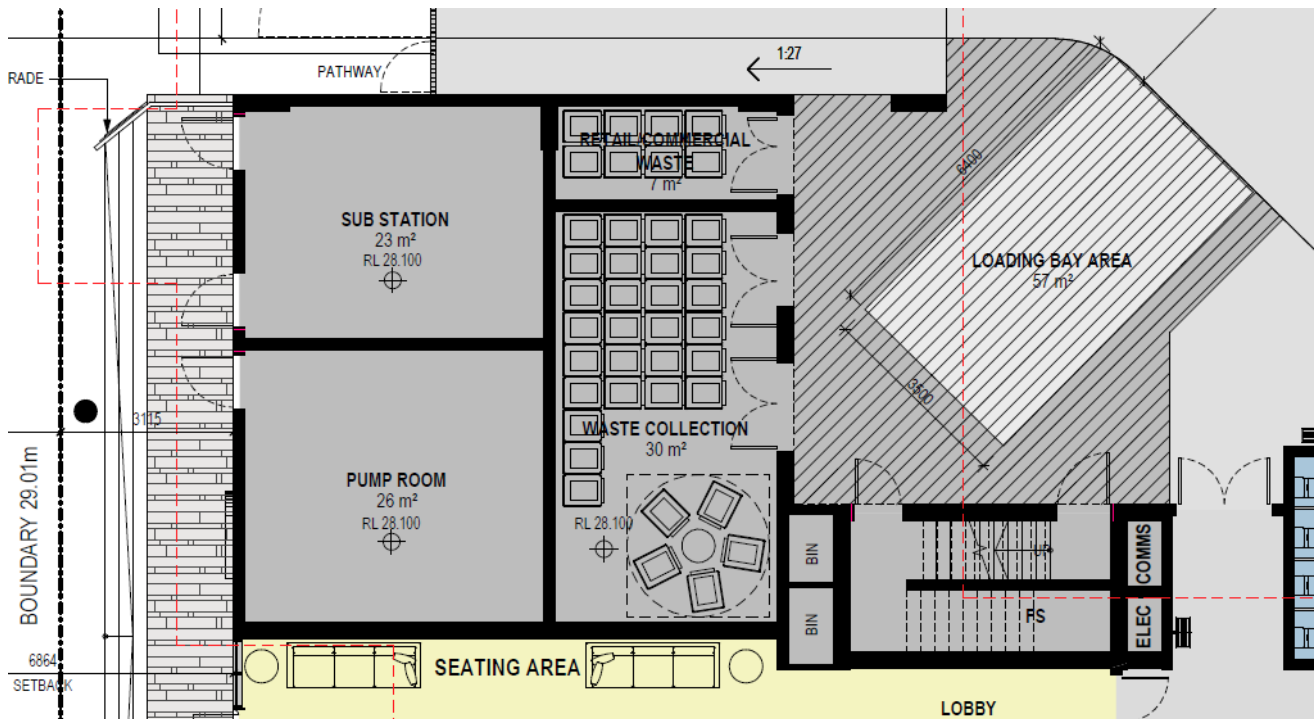


Figure 2 - Waste Room Location

The ceiling of the waste room will be finished with a rigid smooth faced non-absorbent material capable of being cleaned. The walls, floor and ceilings of the garbage room shall be finished with a light colour.

A tap and drainage with connection to the sewer are to be provided within the garbage storage area. Hose cocks shall be protected or located so that they cannot be damaged. A hose of adequate length and fitted with a nozzle is to be connected to the hose cock to allow for adequate cleaning of the waste room and receptacles.

The room will be adequately ventilated, well lit, and appropriately signposted to distinguish paper/cardboards recycling bins from container recycling bins and residual waste (garbage) bins.

The size of the waste room will be sufficient to house the recommended number of mobile garbage bins for the development, as well as incorporating adequate clearance between each mobile garbage bin. The minimum sizes for the proposed bins are identified in Appendix B.

A close fitting and self-closing door openable from within the room must be fitted to the waste room. The waste room will be constructed so as to prevent the entry of vermin.

The waste room must be ventilated in accordance with the provisions of the Building Code of Australia (as in force at the time of construction) by either:

- Permanent unobstructed natural ventilation openings direct to the external air, not less than 5% of the floor area,
- Mechanical exhaust ventilation system exhausting at a rate of 5L/s.m² floor area, with a minimum rate of 100L/s min

The waste room will be provided with artificial light controlled by switches located both outside and inside the room.

Where storage and drainage racks are provided, they will be constructed of galvanised metal or other approved materials which are durable, impervious and no-corrosive.

Racks should be installed at least 50mm clear of walls with the lowest racks installed at least 300mm above the floor. Racks should be designed to prevent receptacles/containers placed thereon from coming in to contact with the walls.

Clear and easy to read “NO STANDING” and “DANGER” signs must be fixed to the external face of each waste and recycling room as appropriate. Clear and easy to read signs designating the storage of recyclables and general waste must be fixed to the internal walls as appropriate.

The location of the garbage room has been designed to be easily accessible to the residents of the proposed units.

The garbage room will not affect the amenity of any adjacent properties and has been designed as an integrated part of the overall design.

7.3 SERVICING (COLLECTION)

As per the provisions of the Development Control Plan, it is intended that the waste be collected weekly from a designated location on site.

The property manager/owners corporation will ensure that all bins are prepared and presented within an allocated service area, before 6:00am on service day.

The design of the development allows for the garbage and recyclables to be transported to Waste collection point identified in the submitted plans, to allow for Northern Beaches Shire Council and/or their contractor for pick-up.

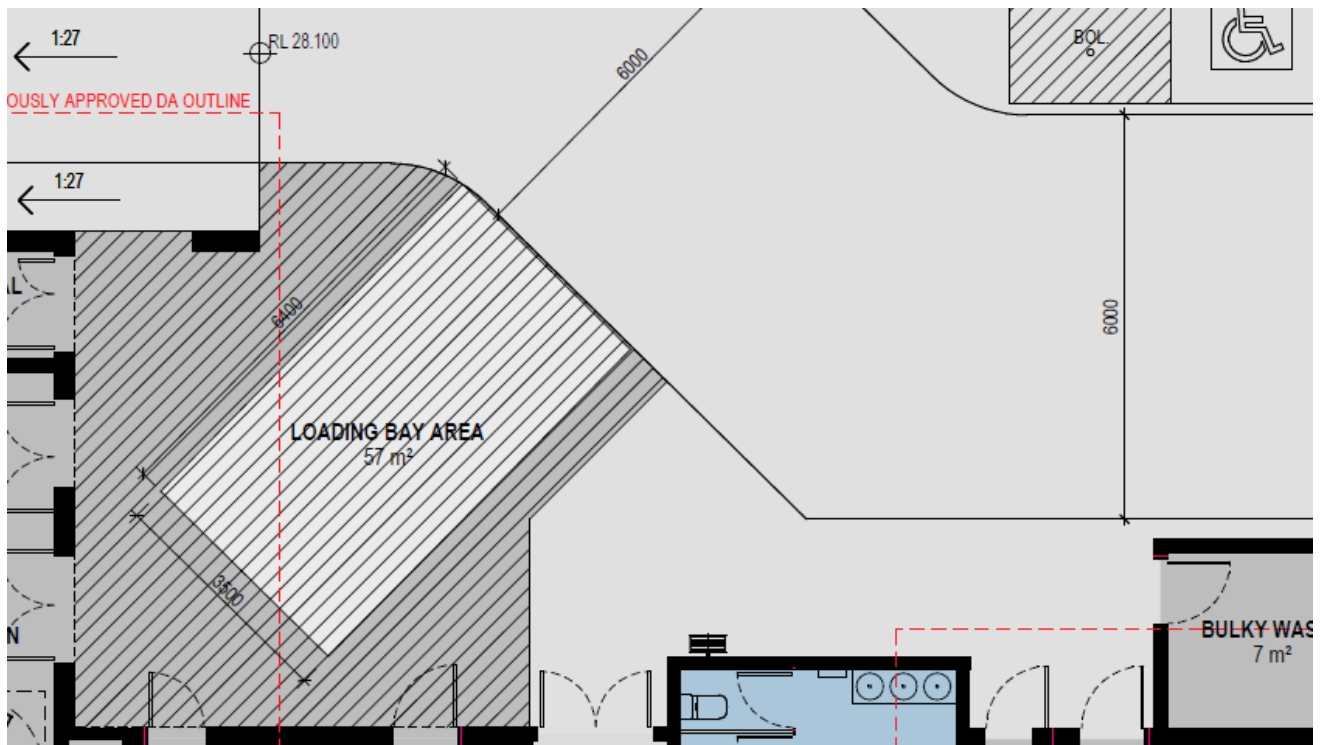


Figure 3 - Temporary Bin Collection Point

The site can be accessed from Delmar Parade. Adequate turning circles, including a swept path analysis, will be provided by the traffic consultant's report.

As per the previous Development Consent and the Traffic Consultant's report, collection is to be undertaken by Council or contractor utilising a Small Rigid Vehicle (SRV).

The proposed design allows for service vehicles to enter the site in a forward direction, park in the allocated waste collection point area while servicing the bins, then exit the site in a forward direction.

The site, driveway and loading area will accommodate rear and side loading waste contractor trucks.

The waste collection point area is to be generally level. The sections of driveway / access way that will be used by collection vehicles will be designed, as per Council's requirements, for a medium rigid vehicle in accordance with the provisions of Australian Standard 2890.2-2002 *Parking facilities Part 2: Off-Street commercial vehicle facilities*.

Bins will be returned to the garbage rooms as soon as practicable following servicing.

7.4 GARBAGE TRANSPORT

A Garbage chute will be employed by the development, as there are residential units greater than three storeys above the garbage storage room. There is proposed to be a waste chute located adjacent to the lift, with access provided on each level for residents use.

This waste chute is for general waste and will terminate in the ground level waste holding room.

On each level of the proposed building a recycling cupboard has been provided with adequate space for a 240L MGB. The tenants will sort and place their recycling in the recycling MGB.

The waste caretaker or building management will then replace the full Recycling MGB with an empty MGB and transport the full MGB to the waste holding room for emptying as required.

The waste chutes will terminate in a waste holding rooms where there will be a waste MGB. These MGB's will be checked for storage capacity and building management will then transport the MGB's into a longer term waste holding in preparation for collection.

All residential waste generated by residents will be transported to a chute outlet on each level as identified above. Residents will sort their refuse in to general waste and recycling materials and dispose of them accordingly.

General waste should be wrapped, bagged or otherwise secured before it is disposed of in the chute system. Bagged waste should not exceed the requirements of the chute and diverter system.

Recyclable materials must not be bagged and must be separated in to cardboard and other recyclable materials. Larger cardboard boxes and other cardboard objects should not be placed in the chute, but transported to the waste room and collected there within the bulky goods storage area.

The garbage chute is to have a diameter greater than 500mm, insulated to minimise noise, and be constructed in accordance with the Building Code of Australia (BCA).

Each chute will have a self closing hopper (opening) for residents to dispose of residential waste.

The garbage chute will terminate at the garbage storage room and the chute will have a shut off mechanism to allow the property manager/owners corporation to transfer full bins out and empty bins in.

A 240L MGB will be located below the waste chute utilising a linear carousel. The carousel will replace a filled MGB with an empty MGB as required. Once filled the waste caretaker will transport the 240L MGB from the carousel to the holding area and replace it in the carousel with an empty 240L MGB.

Each individual residential dwelling shall be no more than 75 metres from the nearest waste room. This distance should be shortened to 50 metres for aged or disabled residents.

All equipment movements in the garbage room and from the garbage room to the loading space are to be managed by the building manager or custodial staff.

Additional MGB's have been provided to allow for the logistics of moving the MGB's while ensuring there is a receptacle under the waste chutes.

The waste caretaker shall be responsible for ensuring the waste rooms and related equipment are kept in a clean and working order.

The waste caretaker shall also ensure that the waste and recycling bins are provided in the waste collection point area on the relevant servicing days by the required times. Once serviced the bins are to be moved back to the main Waste room.

Occupational health and safety of bin transfers must be considered for larger bins (e.g. ability to safely move a bin that may weigh more than the person trying to move it).

Equipment such as motorised trolleys may be required depending on the gradient and transfer distances required. If a motorised trolley is required, allowance must be made for storage of the device.

7.5 BULKY WASTE

The development will employ a dedicated caged area for residents to temporarily store unwanted bulky items until suitable disposal/transport options can be arranged.

Council's Waste Management Guidelines required a minimum of 4m³ per 10 dwellings. Given that the development has 71 dwellings there is proposed to be 28.40m³ for the storage of bulky waste.

7.6 GREEN WASTE

The property manager/owners corporation may wish to purchase green waste mobile garbage bins to participate in this program. Alternatively the development may employ a garden contractor to manage green waste generated from the development.

Additionally Green waste can be added to the communal compost located on the site.



Appendix A

Signage for Garbage Rooms





Appendix B

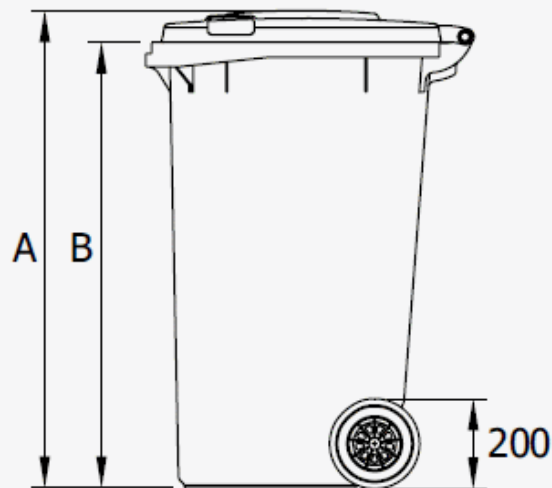
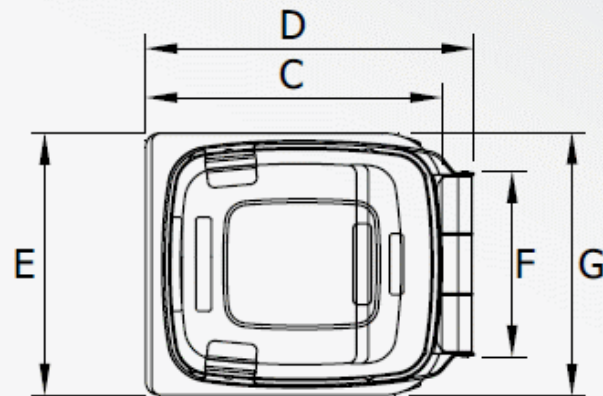
Waste Management Equipment

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	990mm	■ E	585 mm		
■ C	660 mm	■ F	400 mm		

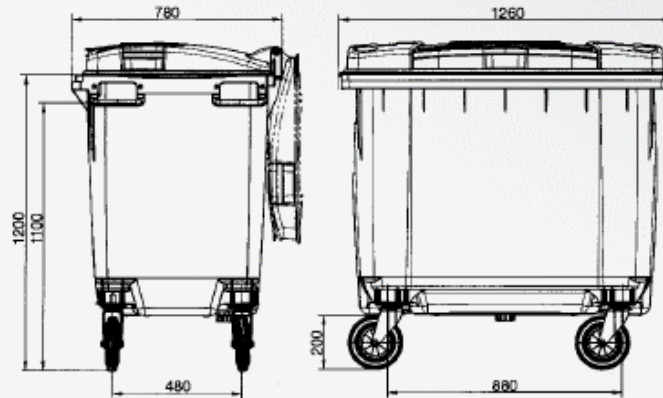
Measurements to be used as a guide only – variations will occur

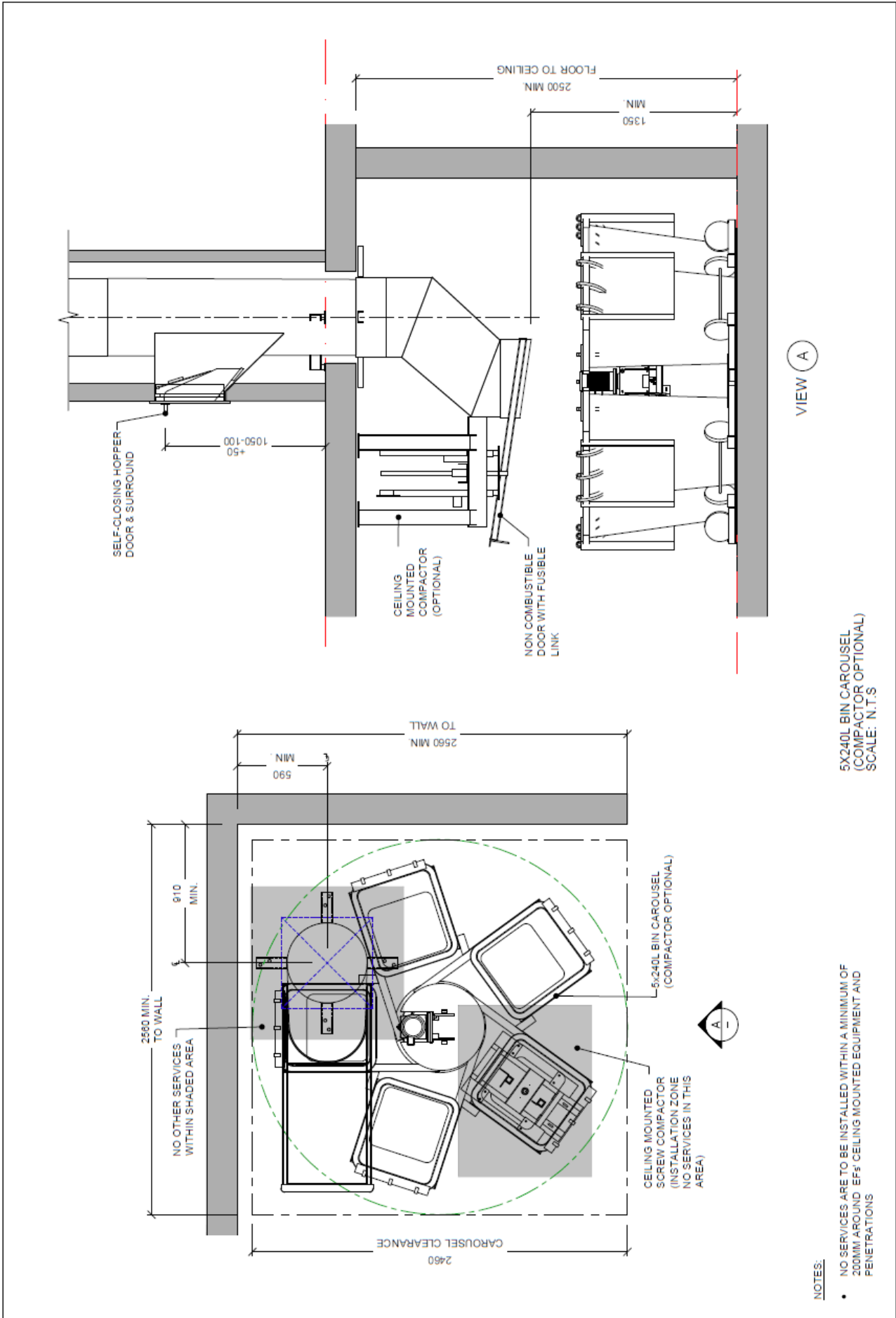


Dimensions - Weights - Standards

■ Nominal volume:	660 litres
■ Net weight:	43 kg
■ Max. load:	265 kg
■ Permitted total weight:	310 kg

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





NOTES:

- NO SERVICES ARE TO BE INSTALLED WITHIN A MINIMUM OF 200MM AROUND EF's CEILING MOUNTED EQUIPMENT AND PENETRATIONS

5x240L BIN CAROUSEL
(COMPACTOR OPTIONAL)
SCALE: N.T.S

