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WASTE MANAGEMENT PLAN

353 Main Street, Lithgow NSW 2790

Proposed Service Station & Cafe Drive-through

Prepared for:	Main Street Cap Pty Ltd
Date Prepared:	April 2024
Revision:	1.2
Lithgow City Council Application #	TBA



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INTRODUCTION

AusWide Consulting was commissioned by Main Street Cap Pty Ltd to prepare a Waste Management Plan (WMP) for approval of a proposed commercial development at 353 Main Street, Lithgow NSW 2790. The proposed commercial development consists of the construction of a new building comprising of the following elements:

- A service station;
- An order-taking drive-through facility for food and beverages;
- Fuel canopy with 6 light vehicle fuelling positions; and,
- Separate fuel canopy with 2 heavy vehicle fuelling positions.

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 AYB Nominees Pty Ltd
- Lithgow Development Control Plan 2021
- NSW EPA – Better practise guide for resource recovery in residential developments.

Background and Existing Conditions

The subject site is located at 353 Main Street, Lithgow NSW 2790, and is situated on the corner of Enfield Avenue and Main Street. Entry into the development is proposed from Main Street with an exit onto Enfield Avenue. Provision has been made for both light and heavy rigid vehicles. The nearby land uses are predominantly residential.

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.

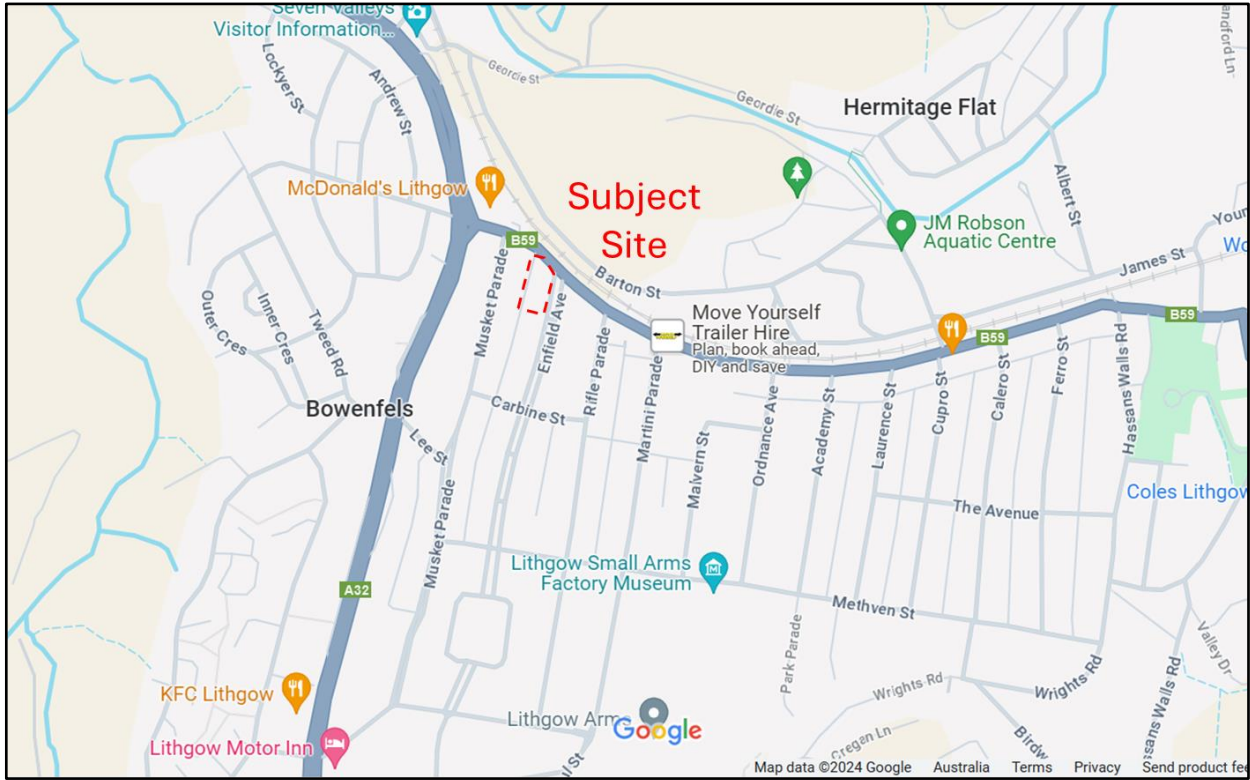


Figure 1 : Location of Subject Site



Figure 2 : Aerial View of Subject Site

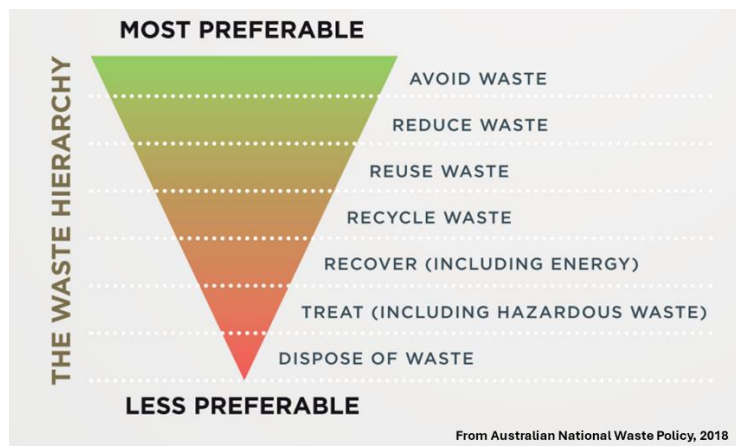
Proposed Development

The proposed development consists of the construction of a service station and Café drive through and associated infrastructure. The proposed development will consist of the construction of the following new buildings across the site:

- A service station;
- An order-taking drive-through facility for food and beverages;
- Fuel canopy with 6 light vehicle fuelling positions; and,
- Separate fuel canopy with 2 heavy vehicle fuelling positions.

Waste Management Principles

When dealing with waste, the following hierarchy has been adopted from the Australian National Waste Policy, prioritising from top to bottom:



Avoid/Reduce

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

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

Reuse

Some of the materials encountered in the demolition and construction stages 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 and construction stages 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.

Recover/Treat

Processing of waste to recover resources, including energy, may be an option, with many waste companies processing demolition and construction waste before disposal. Some waste may also be treated to reduce its environmental impact before disposal.

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 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 to provide access for waste collection vehicles via the site construction entrance. 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 proposed site is currently undeveloped, so no demolition of any structures is required. Excavation and stabilisation of the site is required to accommodate the construction of the service station facilities across the 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.

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, as shown in the below table.

Table 1: Estimating Waste Levels

Materials	Percentage of Waste / Total Materials 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

Materials
Timber = 0.5 tonnes per m ³
Concrete = 2.4 tonnes per m ³
Bricks = 1.5 tonnes per m ³
Tiles = 0.75 tonnes per m ³
Steel = 2.4 tonnes per m ³

Wastage Types and Handling

Waste volumes produced by excavation 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. The following table details estimated waste from the construction phase of the development.

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 and construction 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 construction 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. The following table details estimates for waste during the construction phase of the development.

Table 3: Waste Types During Construction

Materials on Site	Waste Estimate - Volume (m ³) or Weight (T)	On-Site Reuse	Off-Site Recycling	Off-Site Disposal (Accordance with WA EPA)
Bricks	4m ³	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	1m ³	Existing driveways to be retained during construction. Crushed and used as aggregate, drainage backfill. 20-30%	70-80%	0%
Timber	3m ³	Re-use for formwork and studwork, landscaping, shoring 20-30%	70-80%	<10%
Concrete	1m ³	Broken up and used as fill, aggregate, driveways 20-30%	70-80%	<10%
Metals	3m ³	0%	95%	5%
Plaster Board	2m ³	0%	100%	0%
Other	3m ³	0%	50%	50%
Excavated material and overburden	300m ³	Yes. Keep and reuse topsoil for landscaping. Store on site. Use some for support of retaining walls (Excavated Materials are only to be used if the material is not contaminated or has been remediated in accordance with any requirements specified by any Environmental Consultancy engaged to carry out any contamination assessment of excavated material).	To be determined	0%
Green Waste	1t	To be separated. Chipped and stored on site for re-use in landscaping. 90%	10%	0%

Anticipated Waste Generation, Storage and Collection

Waste collection will be provided by a private contractor.

Waste Generation

Waste generation rates have been determined using Appendix F – Waste and recycling generation rates in the ‘NSW EPA – Better practise guide for resource recovery in residential developments.’ The following table illustrates the typical garbage and recycling generation rates.

Table 4: Typical Garbage and Recycling Generation Rates

Type of Premises	General Landfill Waste	Commingled Recycling Waste
Food Retail (Takeaway only)	120L/80m ² floor area/day	80L/80m ² of floor area/day

NOTE: Generation rates are based on generation rates within the ‘NSW EPA – Better practise guide for resource recovery in residential developments.’ 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. Accessing any needs for waste management plan revisions.

Waste within Overall Development

Using the garbage and recycling generation rates above and the floor area described in the table below, the following can be calculated:

Table 5: Gross Floor Area

Type of Premises	Total Floor Area
Food Retail (Takeaway only)	122m ²

Food Retail (7-Day Week)

- 120L/80m² of floor area per day general waste = 1,281L per week (uncompacted)
- 80L/80m² of floor area per day recycling waste = 854L per week (uncompacted)

Waste Storage Areas

Based on the total waste generated by the development, the following Mobile Garbage Bins (MGBs) should be provided:

- 1 x 660L General Waste MGBs – collected and emptied twice a week.
- 2 x 240L Recycling Waste MGBs – collected and emptied twice a week.

Table 6: Typical Measurements for MGBs


Size	Height (mm)	Width (mm)	Depth (mm)
660L	1,250	1,370	850
240L	1,080	580	735

Waste Storage Area Signage

Waste separation and sorting information will be provided within the main waste storage area to ensure appropriate source separation of waste. The following **Figure 3** (on the next page) shows examples of waste signage and appropriate waste separation.


Recycling

-  All recycling
-  Steel, tin, aluminium cans, including empty aerosols
-  Clear, brown and green glass bottles and jars (rinsed, no lids)
-  Plastic bottles, soft drink bottles and containers (rinsed, no lids)
-  Cardboard boxes, milk and juice cartons
-  Newspapers, magazines, office paper and junk mail, including window envelopes

 *Plastic bags, light bulbs, mirrors or drinking glasses, food or general waste ceramics, crockery or ovenware, foam or polystyrene, waxed cardboard boxes.*

Garbage

-  General waste
-  Plastic bags
-  Packets, wrappers, cling wrap and bubble wrap
-  Nappies and sanitary waste, wrapped tightly and stored in well-sealed bags
-  Pet waste, kitty litter
-  Foam, polystyrene
-  Light globes, mirrors, ceramics, cookware and drinking glasses

 *Building materials, syringes, oil or paint, gas bottles, hazardous or chemical waste*

 *Medical waste (speak to your doctor or pharmacy).*

Figure 3: Waste Storage Area Signage

The following figure (**Figure 4**) illustrates the scaled diagrams of the MGBs within the waste storage area.

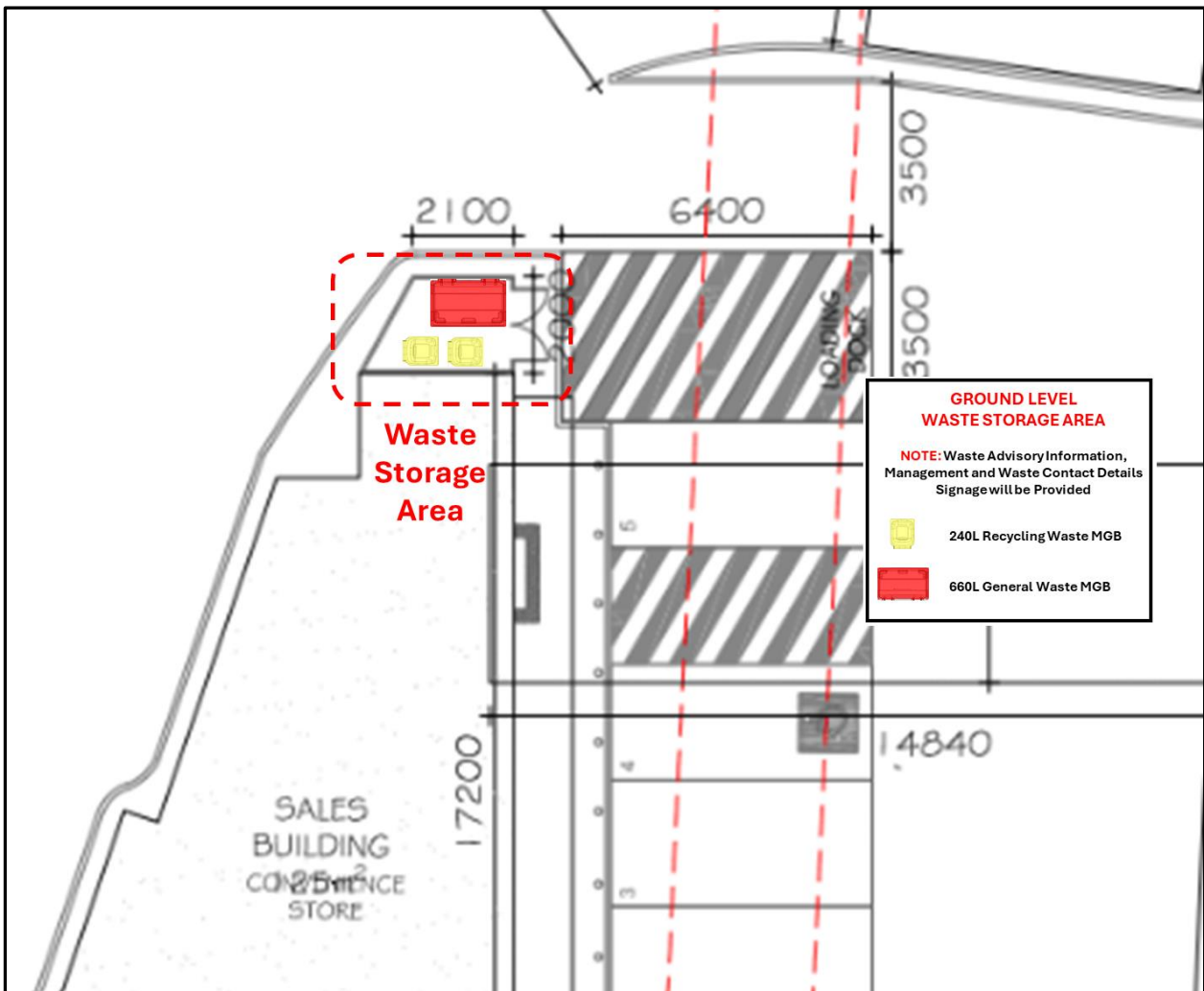


Figure 4: Scaled Diagram of the MGBs in the Waste Storage Area

Waste Storage Area Design Considerations

The Council noted the following further matters for consideration in their minutes of the pre-lodgement meeting on 4 December 2023.

Waste Management

40. The Waste Management Plan shall adequately address the following requirements:

- a) Waste and recyclable material generated from the operations of the business shall be managed in a satisfactory manner that does not give rise to offensive odour or encourage pest activity. Food residues, food scraps, and waste material shall be regularly removed from the premises. Waste shall not be permitted to accumulate near the allocated waste storage bins. **(Compliant – see this plan)**

b) A stainless steel cleaner's sink or a floor waste shall be provided for the disposal of wastewater. The cleaner's sink or floor waste shall be located outside of areas where open food is handled. This shall also be detailed on the submitted Architectural Plans. **(Noted for Architectural Plans)**

41. The designated garbage/waste storage area(s) are to be detailed on the submitted Architectural Plans and comply with the following:

- a) The room shall be fully enclosed and provided with a concrete floor, and with concrete or cement rendered walls coved to the floor. **(Design will be Compliant)**
- b) The room shall have a floor waste which is to consist of a removable basket with a fixed basket arrestor and is to comply with Council requirements. **(Design will be Compliant)**
- c) The door to the room must be tight fitting and self-closing. **(Design will be Compliant)**

The developer has ensured that the waste area complies with the requirements of Chapter 7 – Commercial, Community & Industrial Uses in the Council DCP:

Objective(s)

To ensure that open (outdoor) storage, utility, waste and service areas (storage areas):

O1. Are appropriately located, designed and screened (with fencing and/or landscaping) to minimise the visual impact of these areas from key public areas and streets;

O2. Avoid or minimise/mitigate environment impacts and impacts on the amenity of neighbouring sites.

Control(s)

1) Location & Screening:

a) Open (outdoor) storage areas and associated screening are identified on the Site Plan(s) for the development and may require Elevation(s) to show screening height, materials & transparency (particularly when visible from a public street) **(Compliant – enclosed behind 1.8m fence);**

b) Open storage areas are located behind the building line to any street frontage (preferably behind the building) and/or screened from view from the street (see diagram below) **(Compliant – enclosed and behind building).**

2) Screening/Fencing:

a) Screening is compatible with the design of the building and integrated with the site landscaping and fencing **(Compliant – fence compatible with design).**

b) Screening that forms part of, or is immediately adjacent to boundaries/fencing complies with the Fencing controls in this DCP **(Compliant).**

3) *Landscaping: Landscaping is not used as the primary or only method for screening, unless it is well established or the applicant can demonstrate that the storage area will be effectively screened using advanced plantings in conjunction with fencing, and other screening devices (Not Applicable).*

4) *Hazardous Materials: The storage of hazardous goods, materials or wastes does not occur in areas that adjoin residential or other sensitive land-uses, unless screened from view and there are suitable protections to avoid impacts on adjoining sites. (Compliant – minimal hazardous goods to be stored in building or in waste area)*

5) *Dust: Open storage areas minimise dust impacts on neighbouring properties with ground surface treatment to minimise dust emissions from vehicle movements (Compliant – all areas sealed).*

6) *Loading/Unloading: Sufficient space is provided on-site for the safe loading and unloading of wastes. This activity is not to be undertaken on any public place or street. (Compliant – all within site, swept paths indicate access)*

The developer also has considered the design considerations for waste storage areas as detailed in the 'NSW EPA – Better practise guide for resource recovery in residential developments.' These have been considered at the design phase to ensure compliance. These are as follows:

Storage room capacity

To allow for access, manoeuvring, cleaning and maintaining all bins:

- *provide an extra 30% of the footprint of each waste container to the overall size of the storeroom/area. (COMPLIANT)*
- *provide 50cm between all bins allocated for the development and ensure they can be placed side-byside (no stacking). (COMPLIANT)*
- *minimise potential obstructions and provide a minimum 1.5m aisle. (COMPLIANT)*

Design

To allow for future modifications of services, bin sizes and/or configurations, avoid the installation of fixed structures in bin storage areas. Bin storage areas must be integrated into the overall design of the development to improve visual amenity. This can be achieved through:

- *providing designated rooms or separate bin enclosures. (COMPLIANT)*
- *using similar construction materials as the main development. (COMPLIANT)*
- *screening from public view by a visual barrier at least 1.5m high. (COMPLIANT)*

Bin storage areas should have clear information to encourage correct waste and resource recovery behaviours such as:

- *signposted door, for example, 'bin storage and service room'. **(COMPLIANT)***
- *clear layout and signage regarding waste, recycling and organics provision, services and required actions. **(COMPLIANT)***

Access

Bin storage areas must be convenient for all users through:

- *allowing access and manoeuvrability of the largest bin and any required waste handling equipment. **(COMPLIANT)***
- *ensuring doors, gates or roller doors are durable, self-closing, lockable and able to be opened from both inside and outside the storage area. **(COMPLIANT)***



Waste Collection

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

The waste collection vehicle will enter the proposed development via the car park and entry off Main Street. The vehicle will utilise the loading area in front of the waste storage area. The contractor will wheel the MGBs to/from the waste storage area to the waste vehicle. Once the MGBs have been emptied and returned, the waste vehicle will exit the development in a forward motion exiting the development via the exit onto Enfield Avenue.

Amenity

Noise

The only noise generated from the waste management at the property will be that of the waste management truck, the wheeling of the MGBs to/from the waste vehicle and the emptying the MGBs. Any other noise related to the waste management will be kept to a minimum.

Ventilation

The waste bin enclosure will need to be ventilated.

Security/Communication Strategy

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

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

Cleaning Facilities

Management is responsible for keeping the MGBs clean.

NOTE: It is recommended that waste enclosures consist of; **(1)** Impervious coated/treated walls and ground surface, ensuring the ground is graded to the sewer (100 mm diameter) floor drain outlet within the enclosure/room. **(2)** With a tap and hose (hose cock must be protected from the waste containers) for use of cleaning the MGBs and waste area. **(3)** The enclosure/room should also be wet sealed to the ground surface (with a grated drain spanning the width of the entry) preventing any water leakage beyond the waste enclosure/room. **(4)** Self closing lockable double doors/electric roller door allowing easy removal of the MGBs.

Prevention of Vermin

The staff 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

Interim Internal Waste Storage

Waste bins will be provided for interim storage of garbage and recyclables within the service areas of the development. Space should be allowed for separate storage of recyclables from the garbage stream and provision for the segregation of food organics in a separate waste bin if implemented at a later date.

Green Waste/Food Waste

It is expected that green waste will be handled by the gardening contractor. Food waste should be placed in the General Waste MGBs.

Bulky Hard Waste

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

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.

Appendix A - Site Plans

