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# Operational Waste Management Plan

Proposed Residential Development

At 110 Sparks Road Norlane 3214

On behalf of Meraq Pty Ltd





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# 1 Introduction

## 1.1. Background

Colliers International Engineering & Design has been engaged by Meraq Pty Ltd to prepare an OWMP to support the proposed residential development located at 110 Sparks Road, Norlane. This OWMP will has been prepared to satisfy the waste requirements for Greater Geelong City Council.

## 1.2. Scope

The content of this OWMP is intended to provide information in reverse order to the typical movement of waste streams from disposal to collection. The reverse order provides context for refuse collection, storage, and transfer. Information on refuse disposal and collection points is given for each use within the development. Recommendations in this report related to the operational phase of the development only. Additional requirements for refuse management during or after demolition or construction phases are not included and require a dedicated plan. The items covered within the report are explained in Table 1-1.

Table 1-1: Scope Items

Item	Explanation
Refuse streams	Identification of refuse streams & anticipated development refuse volumes likely to be produced.
Refuse separation	Recommendations for appropriate segregation methods for each refuse stream
Refuse collections	Assessment of refuse collection vehicle (RCV) access and manoeuvring
Refuse storage	Detailed analysis of refuse storage facilities and design
Refuse transfer	Assessment of refuse transfer between refuse storage and collections areas
Refuse disposal	Recommendations for refuse disposal within the development
Refuse management equipment	Identification of recommended and optional refuse management systems and equipment
Refuse management operations	Recommendations for operational efficiency and ongoing management, including refuse minimisation, tenant education and safety
Building design	Recommendations for design of refuse management facilities

Detailed information including site plans and drawings, recommended refuse management equipment and system specifications, common refuse signage as well as a list of terms and abbreviations are provided in the appendices.

The provisions outlined in this OWMP are considered appropriate for this type of development. It is noted that the refuse storage areas are suitably sized to accommodate the refuse generated and number of bins proposed based on standard storage and collection methods.



## 1.3. Regulatory Considerations

### 1.3.1. Council's waste requirements

The plan satisfies Greater Geelong City Council requirements by providing the following information:

- Type and quantity of refuse materials to be generated during the occupancy of the proposed site – General waste, commingled recycling, glass (when available) and food organics.
- Refuse collection, storage, transfer, and disposal arrangements during occupancy of the completed development – Shared bins presented at the kerbside on both street frontages of the proposed development for collection.
- Recommended operational requirements for the operational phase of the development, and design requirements for the building and refuse management facilities.

Table 1-2: Council requirements and compliance

Council requirement	Compliance
A minimum 2.5m length per dwelling for one set of garbage, recycling/glass and garden organic bins (3 bins presented at a time)	A shared bin solution is proposed where two residences share 1 x 240L bin for each stream – this is a performance outcome solution since a majority of the residences are 1-bedroom units
Leave 300mm space between bins	Complies
Provide 1 metre clearance around trees, parked vehicles, driveway and street infrastructure such as light and power poles, sign boards etc	Complies
4.5m height clearance above the bins	Complies
Bins must be presented on the left-hand side of the waste collection truck access route	Complies
Consideration should also be given to large households who may have additional bins	Complies – the largest residences comprise of 3 bedrooms only.

## 1.4. Site Location

The site is located at 110 Sparks Road, Norlane as shown in Figure 1.1. The land use type for the development is residential.

The site has dual road frontages on to Sparks Road to the South, and Gerbera Avenue to the North. Waste collection vehicles will collect bins from the kerbside of both streets

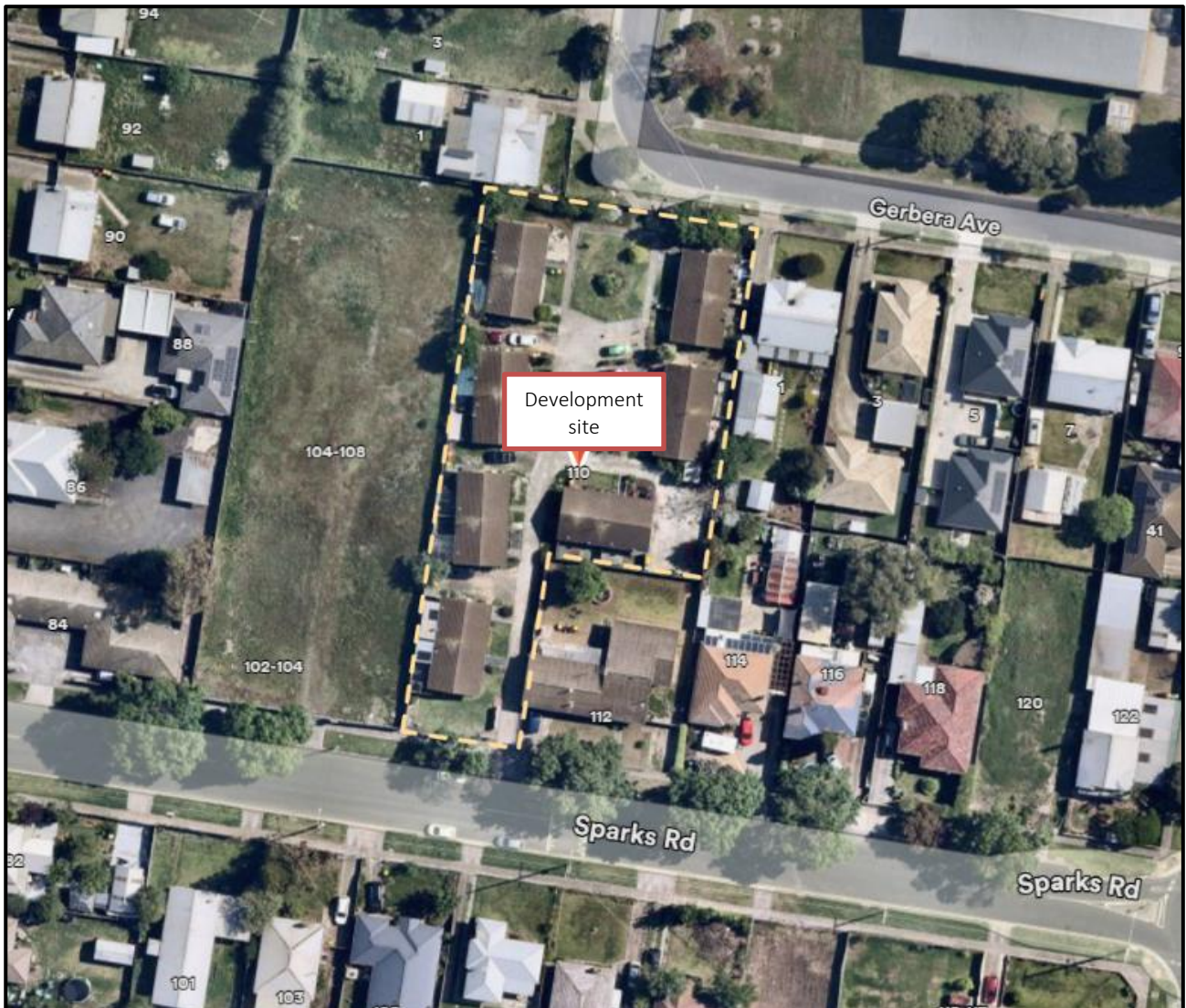


Figure 1-1: Site Location

Source: Nearmap, 29/10/2025



## 1.5. Development Summary

Table 1-3 provides a summary of the development, in relation to refuse generating areas for use with the refuse calculations provided in Section 2.

Table 1-3: Development Summary

Description	Quantity
3 Bedroom residences	1 Residence
2 Bedroom residences	1 Residence
1 Bedroom residences	17 Residences



## 2 Refuse Management

This section provides the detailed refuse calculations and describes the arrangements for the collection, storage, transfer, and disposal of refuse within the development. This includes associated bin quantities, storage capacities, equipment details, collection frequencies and site access details.

### 2.1. Refuse Calculations

The generation rates used for the calculation of refuse produced by the development have been applied based on the waste generation rates outlined in *Sustainability Victoria's Waste Management and Recycling in Multi-unit Developments Better Practice Guide (2019)*, *Advice from Greater Geelong City Council*, and best practice waste standards.

#### 2.1.1 Refuse Generation Rates

Refer to Table 2-1 for the accepted refuse generation rates.

Table 2-1: Refuse Generation Rates

Generation Rate	Applied To	Measure	General Waste	Commingled Recycling	Food Organics	Glass*	Source
Individual dwelling	19 Residences	L / Unit / Week	120	120	120	TBD	Sustainability Victoria

\*30% of all shared recycling bins to be replaced with glass bins when available from council

#### 2.1.2 Refuse Volume Calculations

Refer to Table 2-2 for the accepted refuse volume provisions.

Table 2-3: Refuse bin provisions

Bin area	Collection Strategy	General Waste Bins	Commingled Recycling Bins	Food Organics Bins	Glass* Bins
Residences 1 - 19	Shared – Council collection	240	240	240	240
<b>Quantity</b>		10	10	10	TBD*
Collection schedule		Once a week	Once a fortnight	Once a fortnight	Once a Fortnight

\*30% of all shared recycling bins to be replaced with glass bins when available from council

Residences are provided with shared 240L bins to allow council collection to be feasible. Given that a majority of these residences are single bedroom dwellings, it is anticipated that they will produce less than 120L/fortnight.

## 2.2. Refuse Storage

Residences will utilise the shared bins distributed between two waste storage areas (see Appendix A for architectural site drawings). Residents from units 1-8 will transfer their waste to the southern refuse storage area while residents from units 9-19 will transfer their waste to the northern waste refuse storage area.

The storages areas provided is approximately 13sqm (north) and 20sqm (south) which is adequate to accommodate all the bins required. Adequate circulation space is also provided to allow for easy access for disposal and manoeuvring for collection.



Figure 2-1: Bin storage areas (Shared bins)

Source: Meraq, 110 Sparks Road Norlane, Site plan – Ground Floor



The following features in Table 2-4 should be implemented in order to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safer area.

Table 2-4: Refuse Storage Design Requirements

<b>Positioning Considerations</b>
Not located adjacent to or within any habitable portion of a building or place used in connection with food preparation (including food storage) except for food organics bins.
Is positioned away from entrances to residential premises
Is over 5m from any door, window or fresh air intake for main living spaces.
<b>Functional Design Considerations</b>
Is of sufficient size to accommodate the bins with sufficient clearance around the combined bin area
Doors/ openings wide enough to allow for the easy transfer of the largest container to be stored.
The height of the bin area allows for waste bins to be opened and closed.
Does not have any steps or lips.
<b>Bin Washing and Maintenance Considerations</b>
A hose cock provided for cleaning bins or a third-party contractor to be engaged.
The floors and equipment are to be designed and constructed of impervious material with a smooth finish to allow for easy cleaning.
The floors to be graded to fall to a drainage point.
Drainage points connected to sewer in accordance with trade waste requirements.
<b>Transfer Path Considerations</b>
The bins to be transferred via a hard stand pathway.
Allows bins to be easily manoeuvred.
Does not extend through any habitable parts of a building.
Does not have any lips, stairs or steps for bins to be manoeuvred easily.



### 2.3. Refuse Collection and Bin Presentation Point

Site management/homeowner’s corporation will be responsible for transferring bins to kerbside for collection either on Sparks Road or Gerbera Avenue. The site comprises of two separate street frontages, therefore there is adequate space for the bins to be presented.

These bins will be collected by the Council appointed waste contractor utilising a side loader waste collection vehicle. Council’s collection contractor will stand adjacent the kerbside and service the bins directly.

Bins will be placed in a single row with 300mm clearance provided between bins and any kerbside fixtures. Figure 2-3 below illustrates the bin presentation areas.

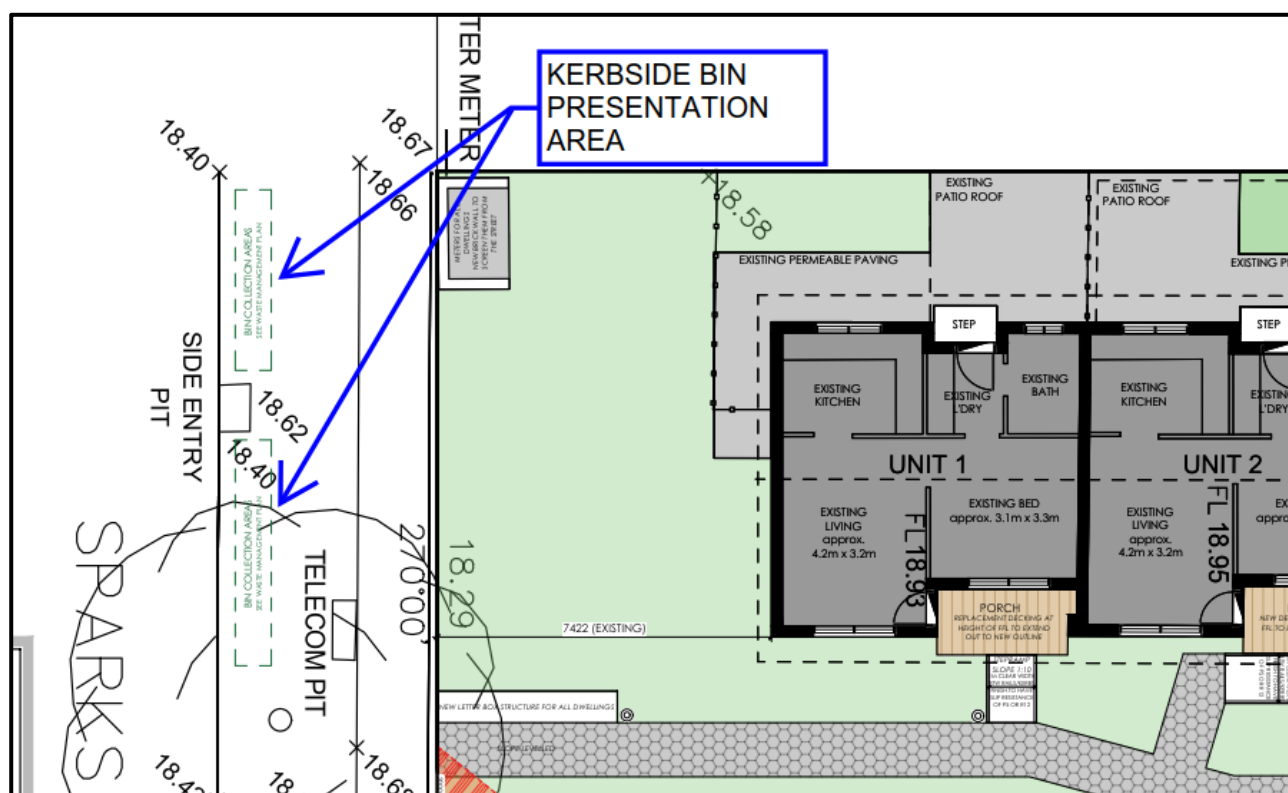


Figure 2-2 Bin Presentation – Sparks Rd

Source: Meraq, 110 Sparks Road Norlane, Site plan – Ground Floor

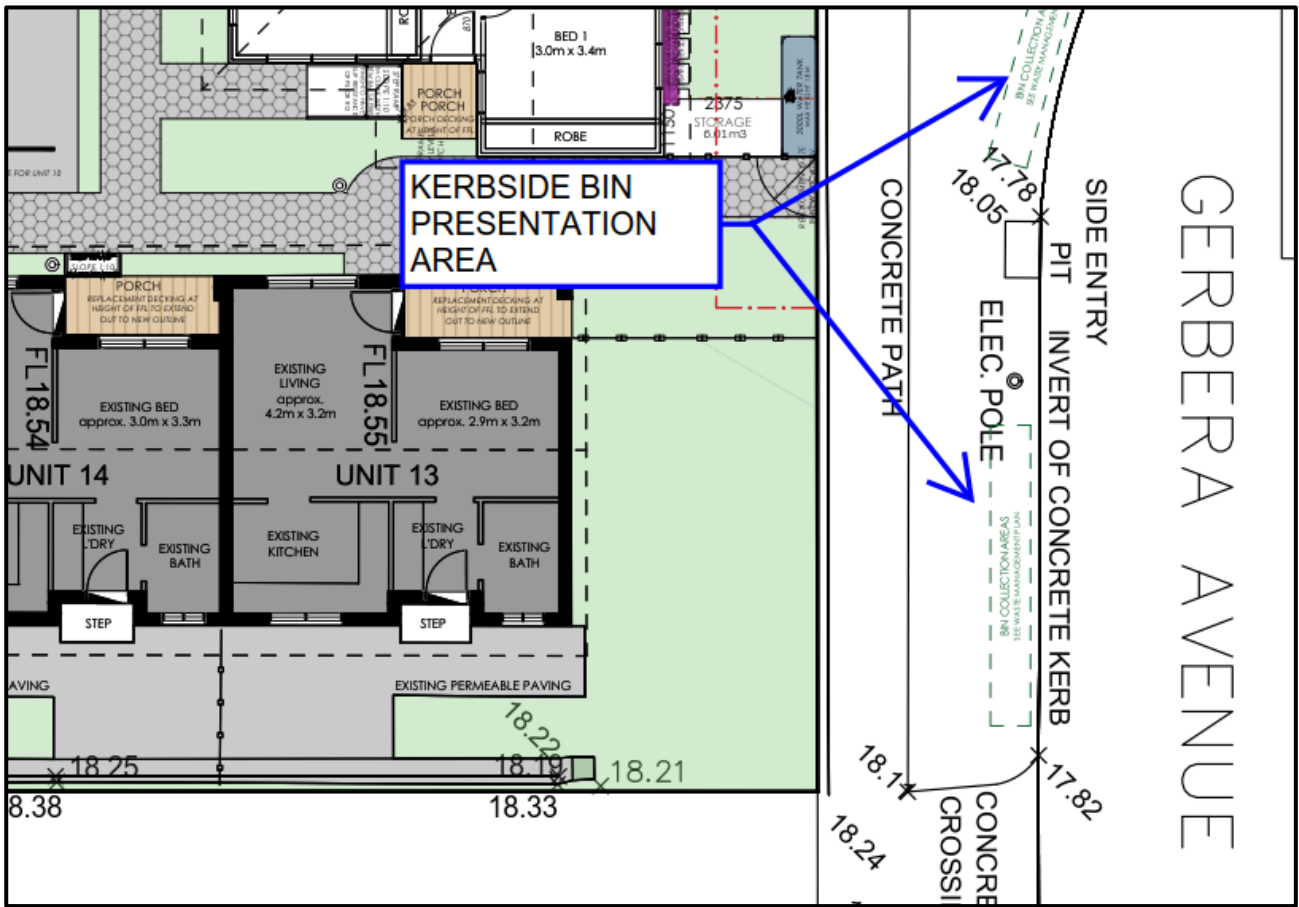


Figure 2-3: Bin Presentation – Gerbera Ave

Source: Meraq, 110 Sparks Road Norlane, Site plan – Ground Floor



## 2.4. Refuse Transfer

Bins will be transferred to the kerbside by site management/homeowner’s corporation the night prior to the scheduled Council collection. Site management/homeowner’s corporation will also be responsible for transferring bins back to their respective refuse storage area upon collection.

Minimal transfer is required by the waste collection contractor to service the bins. The contractor will service the bins directly from kerbside.

The Council waste collection contractor will require minimal bin transfer if at all and can service the bins directly from the bin presentation points on kerbside.

The bin transfer paths are shown in Figure 2-4 below.



Figure 2-4: Bin transfer path

Source: Meraq, 110 Sparks Road Norlane, Site plan – Ground Floor



### 3.1. Refuse Disposal

The tables in this section summarise general recommended disposal arrangements for frequently generated in infrequently generated refuse for each use within the development.

Table 2-5: Disposal of Residential Waste

Refuse Stream	Disposal Details
<b>WASTE</b>	
<b>General Waste</b>	General waste receptacles are to be provided for each unit to hold up to a day's worth of waste. Each day or as required, all refuse will be transferred by residents to the shared 240L bins. General waste is to be disposed of bagged. Waste bins should be accompanied by a commingled recycling bin to facilitate separation of general waste and recycling.
<b>Food Organics &amp; Garden Organics (FOGO)</b>	Separating food organics from general waste is recommended to reduce the total amount of general waste produced. Food scraps from the kitchen can be disposed of in a kitchen caddy and decanted into the shared 240L bins as required. Garden organics, also referred to as green waste, will be produced from landscaped areas or potted plants around this development. Green waste is produced largely on a weather or seasonal dependent basis and based on plant selections. Green waste is usually removed by the designated maintenance contractor organised by the body corporate. If a contractor is engaged, they will be required to send this material to a composting (if available) or resource recovery facility rather than to a landfill.
<b>RECYCLING</b>	
<b>Commercial Comingled, including</b> <ul style="list-style-type: none"> <li>• aluminum</li> <li>• steel cans</li> <li>• tins</li> <li>• glass</li> <li>• cardboard</li> <li>• semi rigid plastics</li> </ul>	Commingled recycling receptacles are to be provided for each unit to hold up to a day's worth of waste. Each day or as required, all recycling will be transferred by residents to the shared 240L bins. Commingled recycling is to be disposed of loosely.
<b>Glass (future provision)</b>	If a glass collection is provided, 30% of the commingled recycling drop off bins will be substituted with glass drop off bins. Glass receptacles are to be provided for each unit to hold up to a day's worth of waste. Each day or as required, all glass waste will be transferred by residents to the shared drop off bins. Glass waste is to be disposed of loosely.

Table 2-6: Disposal of Infrequently Generated Waste

Refuse Stream	Disposal Details
<b>Hard Waste</b>	Hard waste will be transferred to the front of the development ONLY during the booked collection day. Residents will manage their own Council hard waste collection via the online service portal. Each unit is provided with one free hard waste collection per year. Body corporate will assist in coordinating alternate collection arrangements for the development.



## 3.2. On-going Management

The tables below are not assessable as part of the development application instead for the demonstration of required tasks during the operational phase of the development and therefore intentionally left blank.

Responsibilities must be assigned for all on-going refuse management operations. This is generally done by a body corporate or building manager. The following lists (Table 2-7 to Table 2-11) are designed to help managing responsibilities and monitor the refuse operations in order to maintain efficient services and a safe environment.

### 3.2.1. Safety

From a safety perspective we can identify the manoeuvring of bins as a "manual handling" task and therefore risk assessment is required. Therefore, body corporate must ensure that a full risk assessment of equipment, surfaces and related gradients is complete.

Table 2-7: Safety Checklist

Objectives	Checked	Remarks
Abiding by all relevant occupational health and safety legislation, regulations and guidelines to ensure site safety for residents, visitors, and contractors.		
Assessment of any manual handling risks and preparation of a manual handling control plan for waste and bin transfers to kerbside.		
Provision of equipment manuals, training, health and safety procedures, risk assessments and personal protective equipment to residents if required.		

### 3.2.2. Signage

All receptacles, bins and other refuse management equipment will have adequate signage. Standard signage will be provided in and around waste collection and storage areas and should be colour coded in accordance with Greater Geelong City Council bin guidelines or as per AS 4123.7-2006 mobile waste containers (see Appendix B).

Table 2-8: Signage Checklist

Objectives	Checked	Remarks
Ensuring compliance of signage with government, local council regulations.		
Ensuring that labelling on bins, refuse room etc. is appropriate and clear and easy to read and updated if required.		



### 3.2.3. Cleaning and Maintenance

Regular cleaning and maintenance of all shared bins and the bins storage area is important to maintain a safe and hygienic environment for residents, visitors, staff and contractors.

Table 2-9: Cleaning and Maintenance Checklist

Objectives	Checked	Remarks
General cleaning of all refuse holding and transfer areas including <ul style="list-style-type: none"> <li>• Refuse rooms and storage areas</li> <li>• Refuse bins</li> <li>• Refuse transfer areas</li> <li>• Any other refuse management equipment</li> </ul>		Taps and drain pits provided in residence outdoor areas can be used to wash bins if necessary. Frequency will depend on refuse generation.
Coordination of specialised cleaning contractors if required.		

### 3.2.4. Refuse Minimisation

Refuse minimisation is an important part of any site operation, it is strongly recommended that the manager is actively involved in encouraging and assisting staff to follow the refuse hierarchy. At a minimum, the following should be implemented. Additional refuse minimisation options can be found in the Appendices.

Refuse minimisation requires regular reviewing to ensure operational sustainability of refuse volumes, equipment and economic feasibility. It is recommended that refuse weights and movements are noted and reviewed. An external review is usually conducted 12 to 18 months after the implementation of the plan.

Table 2-10: Refuse Minimisation Checklist

Objectives	Checked	Remarks
Regularly review quantities to avoid over-ordering and food waste.		
Consideration of secondary and recycled materials where possible.		
Encouraging refuse minimisation through education and signage (see below).		
Reduce refuse through conscious purchasing and using less single use material.		



### 3.2.5. Monitoring and Review

Regular monitoring and inspections of waste and related equipment and facilities from the development should be conducted by the manager or designated staff for maintenance and sustainability.

Table 2-11: Monitoring and Review Checklist

Objectives	Checked	Remarks
Regular review of refuse management equipment and facilities such as bin volumes, refuse storage capacities and stormwater management arrangements.		

## Appendix A Site plans



## Appendix B Refuse Signage and Colour

All waste stream signage used should be colour coded to be compliant with AS 4123.7–2006 Mobile waste containers – Part 7: Colours, markings and designation requirements or Greater Geelong City Council standard bin colours as follows:

- General waste: dark green body with red lid/ dark green lid
- Commingled recycling: dark green body with yellow lid
- FOGO: black body with lime green lid

An example of waste signage provided by Sustainability Victoria as follows:



## Appendix C Terms and Abbreviations

In this OWMP, a term or abbreviation has the following meaning unless indicated otherwise:

TERM	ABBREVIATION	DEFINITION
<b>Equipment</b>		
Bin (Refuse Bin)		A plastic or steel container for disposal and temporary storage of waste or recycling items. Various types and sizes exist for different items and purposes. Examples include residential unit bins, bulk bins, MGB, steely bins and specialised for medical waste or cigarette butts.
Bin Storage Area		An enclosed area designated for storing on-site refuse bins or a refuse compactor within the property.
Bulk Bin		A galvanized or steel bin receptacle that is greater than 360L in capacity generally ranging from 1.00m <sup>3</sup> to 4.50m <sup>3</sup> used for the storage of refuse that is used for on-site refuse collection.
Bulk Mobile Garbage Bin	Bulk MGB	A plastic (polypropylene) receptacle that is greater than 360L in capacity generally ranging from 660L to 1100L used for the storage of refuse.
Collection Point		An identified position where refuse bins are stored for collection and emptying. The collection point can also be the bin storage area.
Compactor		A receptacle that provides for the mechanical compaction and temporary storage of refuse. It allows to reduce bin numbers and collection frequency.
Composter		A container or machine used for composting specific food scraps and/or organic materials.
Food Waste Recycling System		Defined as a vacuum or pump-based system for shredding, macerating, or pulping of food waste. The food waste is transferred through pressure (service) pipes to sealed liquid storage tanks.
Green Waste		All vegetated organic material such as small branches, leaves and grass clippings, tree and shrub pruning, plants and flowers.
Liquid Waste		Non-hazardous liquid waste generated by commercial premises should be connected to sewer or collected for treatment and disposal by a liquid waste contractor (including grease trap waste).
Mobile Garbage Bin	MGB	A plastic (polypropylene) bin or bins used for the temporary storage of refuse that is up to 360L in capacity and may be used in kerbside refuse collection or on-site collection.
Putrescible Waste		Putrescible waste is the component of the waste stream liable to become putrid and usually breaks down in a landfill to create landfill gases and leachate. Typically applies to food, animal and organic products.
Recycling		Recycling contains all material suitable for re-manufacture or re-use, e.g. glass bottles and jars; plastics such as PET, HDPE and PVC; aluminium aerosol and steel cans and lids; milk and juice cartons; soft drink, milk and shampoo containers; paper, cardboard, junk mail, newspapers and magazines.
Refuse		Refuse is material generated and discarded from residential and commercial buildings including general waste, recyclables, green waste and bulky items.
Refuse Storage Room		An area identified for storing on-site MGBs or Bulk Bins within the property.
Refuse Trolley		A cart on wheels that can be used to collect smaller quantities of refuse from different areas or rooms of a building or site, and wheel the collected refuse to a (bulk) bin storage area where it is disposed. Refuse trolleys are commonly used in hotels or offices.
Regulated Waste		Regulated waste is waste prescribed under legislation as regulated waste.
Transfer (Manual Transfer)		Manual transfer means physical transfer of refuse material and associated bulk bins or trolleys without assistance.
Waste		Waste is referred to as refuse material with the exclusion of recycling, green waste, hazardous waste, special waste, liquid waste and restricted solid waste.

TERM	ABBREVIATION	DEFINITION
Waste (General Waste)		General waste is generally referred to as material free of any actual or apparent contamination such as pathological / infectious, radioactive materials and / or hazardous chemical. Reporting use is for material considered to be free of food waste.
Wheelie Bin		A MGB of up to 360L, usually with two wheels for easy transfer. A common type is a 240L wheelie bin used for kerbside collection in many residential areas.
<b>Measures</b>		
Cubic Metre	m <sup>3</sup>	Volume in cubic metre(s) related to refuse management equipment.
Ground Floor Area	GFA	The GFA of all storeys of a building is measured from the outside of the external walls or the centre of a common wall. It is commonly measured in square metres.
Kilogram	kg	Kilogram(s) related to refuse weight.
Litre	L	Litre(s) related to refuse volumes.
Square Metre	m <sup>2</sup>	Square metre(s) related to refuse areas.
Ton	T	Ton(s) related to refuse weight.
<b>Collection Vehicles</b>		
Body Truck		A conventional heavy vehicle with a covered loading area. It is generally not specifically designed for emptying the content of bins into the truck during refuse collections, but can be used to carry entire (full) bins for servicing by bin swap-over.
Refuse Collection Vehicle	RCV	A vehicle specifically designed for collecting and emptying refuse bins and refuse compactors.
Rear-End-Loading Refuse Collection Vehicle	REL RCV	A truck specially designed to collect municipal solid waste and recycling, typically 240L wheelie bins to 1100L bulk bins, from rear loading mechanism and haul the collected waste to a solid waste treatment facility.
Tank Truck		An RCV that is specifically designed to collect liquid wastes such as waste cooking oil and food waste pulp. The waste is typically pumped from a waste storage tank into the truck via a hose. Liquid waste management equipment is often provided by the contractor who collects the waste and operates the truck.