

# H. Waste Management Plan

Prepared by Leigh Design



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*waste management plans for all urban developments*

Leigh Design Pty Ltd  
ABN 37 139 522 437  
PO Box 115  
Carnegie VIC 3163

P +61 3 8516 5399

E [info@leighdesign.com.au](mailto:info@leighdesign.com.au)  
I [www.leighdesign.com.au](http://www.leighdesign.com.au)

# Waste Management Plan



**Proposed Masterplan: School Extension**  
**815 Riversdale Road, Camberwell, Victoria**

**Prepared for:**  
**Siena College**

## Document Control

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Prepared By: Carlos Leigh, MIEAust

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**WASTE MANAGEMENT SUMMARY**

- The operator, as defined below, shall be responsible for managing the waste system and for developing and implementing adequate safe operating procedures.
- Waste shall be stored within the development.
- Users shall dispose sorted waste into waste receptacles. The operator shall transfer waste to the collection bins.
- Wheelie bins shall be collected within the subject land.
- A private contractor shall provide waste collection services.

**GLOSSARY**

**Operator:** refers to the Facility Management, who shall manage site operations (via cleaners and contractors, if required).

**User:** refers to students and school teachers/staff, who shall utilise the waste system.

# 1     **SPACE AND SYSTEM FOR WASTE MANAGEMENT**

## 1.1   **Development Description and Use**

This Waste Management Plan (WMP) pertains to a Masterplan Application of the whole site.

The current waste system shall be adjusted in order to accommodate waste from the extended facility.

## 1.2   **Estimated Garbage and Recycling Generation**

The following table summarises the waste estimate (m<sup>3</sup>/week):

Table 1: Waste Estimate

Waste Source	Base Qty (est.)	Garbage	Recycling
Extended School	No. of Students =   950	13.30	2.99
<b>TOTAL (m<sup>3</sup>/wk)</b>		<b>13.30</b>	<b>2.99</b>

Note: Waste figures are based on the existing waste system.

## 1.3   **Collection Services**

As per current practice, a private contractor shall continue to collect waste.

Note: Every rateable tenement is liable to pay the municipal Environmental Levy irrespective of the level of collection services provided by Council.

## 1.4   **Location, Equipment, and System Used for Managing Waste**

The waste management system is summarised as follows:

- Waste receptacles in teaching/work/amenity areas.
- Bin Area located at Ground Level.
- Collection bins (kept within the Bin Area - refer to Table 2).

The various collection waste-streams are summarised as follows:

Garbage: General waste shall be placed in tied plastic bags and stored within bins.

Recycling: All recyclables shall be sorted onsite into the following collection bins: 1) Commingled (for loose paper, cardboard, glass, aluminium, steel, and plastics); and 2) Cardboard. If required in future, some recycling bins shall be changed into glass bins.

Green Waste: Garden organics shall be collected and disposed by the landscape maintenance contractor.

Food Organics: Selected compostable waste shall be placed into Organics bins or into an onsite composting facility. Approved compostable liners shall be considered for these bins and associated receptacles.

**Other Waste Streams:** The disposal of hard/electronic/liquid and other wastes (polystyrene, batteries, paint, chemicals and detox items, etc) shall be organised with the assistance of the operator.

Also, the operator shall arrange for the appropriate disposal of secured paper and toner/printer cartridges.

The following table summarises bin quantity/capacity, collection frequency, and area requirements (based on Table 1):

**Table 2: Bin Schedule and Collection Frequency**

Waste Source	Waste Stream	Bin Qty	Bin Litres	Collections per Week	Net Area m <sup>2</sup>
Whole School	Garbage	1	3,000	3	3.5
	Comm. Recyc.	3	240	1	1.5
	Cardboard	1	3,000	1	3.5
	Food Organics	2	240	3	1.0
	Hard/Other Waste	-	-	At Call	3.0
<b>Net Waste Storage Area (excludes circulation), m<sup>2</sup>:</b>					<b>12.5</b>

Notes:

- Private bins shall be sourced by the operator (either purchased from a supplier or leased from the collection contractor).
- Subject to stakeholders' preference/capability (and as built constraints), private bin sizes and quantities can be changed. Also, private recyclables can be either commingled or split into bins for separate recycling streams.

### 1.5 Planning Drawings, Waste Areas, and Management of the Waste System

Masterplan drawings illustrate sufficient space for onsite bin storage, as required by the above schedule (refer to drawings TP4.1, TP4.2 and TP4.3 from McGlashan Everist Pty Ltd Architects).

Notwithstanding the above, collection days shall be staged appropriately and the operator shall stipulate procedures for effective management of the available space.

### 1.6 Collection Bin Information

The following bins shall be utilised (see Sect. 4.4 for signage requirements):

**Table 3: Bin Details**

Capacity (litres)	Height (mm)	Width (across front, mm)	Depth (side on, mm)	Empty Weight (kg)	Average* Gross Weight (kg)
240	1060	585	730	13	45
4500 FLB	1930	2050	1650	~500	1100

Notes:

- \* = Average Gross Weight is based on domestic waste studies (which vary subject to locality and waste-type). Expect greater weight for wet or compacted waste.

- Use the above details as a guide only – variations will occur.
- The above is based on Sulo plastic (HDPE) bins and Wastech front lift bins (FLB). For front-lift bins, consider counter-weight lids (for ease of opening) and swivel / lockable / rubber-lined castors (for ease of bin movements).

Table 4: AS 4123.7-2006 Plastic Bin Colour Coding

<b>Bin</b>	<b>Garbage</b>	<b>Recyclables</b>	<b>Green Waste</b>
Lid	Red	Yellow	Lime Green
Body	Dark Green / Black	Dark Green / Black	Dark Green / Black

Note: Private bins shall be labelled to identify the waste generator and site address. For Food Waste / organics bins, AS 4123.7 bins have a Burgundy lid and a Dark Green or Black body.

## **2 ACCESS FOR USERS, COLLECTORS, AND COLLECTION VEHICLES**

### **2.1 User Access to Waste Facilities**

Users shall dispose sorted waste into waste receptacles. The operator shall transfer waste to the collection bins (if required, using a suitable trolley and the lift).

Note: If required, the operator shall have access to the Bin Area to rotate the bins, ensuring that empty bins are available along the circulation area so that users are able to reach them.

### **2.2 Collection Arrangements and Access to Waste Facilities**

- Waste shall be collected within the subject land.
- Plastic wheelie bins (240L) shall be collected by rear-lift vehicles (nom. 8.8m long, 4m operational height, and 24 tonnes gross vehicle mass).
- Front-lift bins (4500L) shall be collected by front-lift trucks (nom. 11.5m long, 6.5m operational height, and 30 tonnes gross vehicle mass). Due to their weight, front-lift bins need to be stored in a position that minimises the task of shifting these to the truck (collection vehicles need to be able to drive-up to the bins).
- The waste collection shall be carried-out by side/rear-lift vehicles (nom. 10.5m long, 4m operational height, and 24 tonnes gross vehicle mass).

### **3 AMENITY, LOCAL ENVIRONMENT, AND FACILITY DESIGN**

#### **3.1 Noise Minimisation Initiatives**

- Local laws shall be observed for all operations in public and private areas.
- The collection of waste must be conducted as to not cause any unreasonable disturbance to nearby residential properties and may only take place during the following times:
  - Monday to Friday: 7:00am to 6:00pm
  - Saturday and Public Holidays: 9:00am to 6:00pm
  - Sunday: no collection allowed
  - To the satisfaction of the responsible authority.

#### **3.2 Litter Reduction and Prevention of Stormwater Pollution**

The operator shall be responsible for:

- Promoting adequate waste disposal into the bins (to avoid waste-dumping).
- Restricting access to waste areas (whilst affording access to users/staff/contractors).
- Preventing overfilled bins, keeping lids closed and bungs leak-free.
- Abating any site litter and taking action to prevent dumping and/or unauthorised use of waste areas.
- Requiring the collection contractor to clean-up any spillage that might occur when clearing bins.

The above will minimise the dispersion of site litter and prevent stormwater pollution (thus avoiding impact to the local amenity and environment).

#### **3.3 Ventilation, Washing, and Vermin-Prevention Arrangements**

Waste areas shall feature:

- Ventilation in accordance with Australian Standard AS1668.
- Suitable flooring (also, smooth, slip-resistant, and appropriately drained).
- A graded bin wash area, mixing hosecocks, hose, and a suitable floor-waste connected in accordance with relevant authority requirements (alternatively, the operator shall engage a suitable contractor to wash bins in a mobile bin-wash vehicle). The bin and wash areas may overlap, as stored bins can be moved so that a bin can be washed.

The operator shall regularly clean waste areas/equipment. Also, access doors and bin-lids shall be kept closed.

#### **3.4 Design and Aesthetics of Waste Storage Areas and Equipment**

Waste shall be placed within collection bins and stored in designated onsite areas. Following waste collection activities, bins shall be returned to the storage areas as soon as practicable.



Waste facilities shall be constructed of durable materials and finishes, and maintained to ensure that the aesthetics of the development are not compromised. These facilities and associated passages shall be suitably illuminated (this provides comfort, safety, and security to users, staff, and contractors). Access doors shall feature keyless opening from within.

The design and construction of waste facilities and equipment shall conform to the Building Code of Australia, Australian Standards, and local laws.

## **4 MANAGEMENT AND SUSTAINABILITY**

### **4.1 Waste Sorting, Transfer, and Collection Responsibilities**

Garbage shall be placed within tied plastic bags prior to transferring into collection bins. Cardboard shall be flattened and recycling containers un-capped, drained, and rinsed prior to disposal into the appropriate bin. Bagged recycling is not permitted.

Refer to Section 2 for waste transfer requirements and collection arrangements.

### **4.2 Facility Management Provisions to Maintain & Improve the Waste System**

The operator shall manage site operations (refer to the glossary in page 2).

It shall be the responsibility of the operator to maintain all waste areas and components, to the satisfaction of users, staff, and the relevant authority (users shall maintain their internal waste receptacles).

The operator shall ensure that maintenance and upgrades are carried-out on the facility and components of the waste system. When required, the operator shall engage an appropriate contractor to conduct services, replacements, or upgrades.

### **4.3 Arrangements for Protecting Waste Equipment from Theft and Vandalism**

It shall be the responsibility of the operator to protect the equipment from theft and vandalism. This shall include the following initiatives:

- Label the bins according to property address.
- Waste bins shall be collected within the subject land (bins shall not be placed on the street).

### **4.4 Arrangements for Bins/Equipment Labelling and Ensuring Users and Staff are Aware of How to Use the Waste System Correctly**

- The operator shall provide appropriate signage for the bins. Signage is available at the following internet address: [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au).
- The operator shall publish/distribute "house rules" and educational material to:
  - Inform users/staff about the waste management system and the use/location of the associated equipment (provide the summary in page 2 of this report).
  - Improve facility management results (lessen equipment damage, reduce littering, and achieve cleanliness).
  - Advise users/staff to sort and recycle waste with care to reduce contamination of recyclables.

### **4.5 Sustainability and Waste Avoidance/Reuse/Reduction Initiatives**

The *Environment Protection Act 1970* includes principles of environment protection and guidance for waste management decision making. Also, the *Sustainability Victoria Act 2005* established Sustainability Victoria as the statutory authority for delivering programs on integrated waste management and resource efficiency.

From a design perspective, the development shall support the acts by providing an adequate waste system with ability to sort waste.

The operator shall promote the observance of the acts (where relevant and practicable) and encourage users and staff to participate in minimising the impact of waste on the environment. For improved sustainability, the operator shall consider the following:

- Observe the waste hierarchy in the *Environment Protection Act 1970* (in order of preference): a) waste avoidance, b) reuse, c) recycle, d) recovery of energy, e) treatment, f) containment, and g) disposal.
- Peruse the Sustainability Victoria website: [www.sustainability.vic.gov.au](http://www.sustainability.vic.gov.au).
- Participate in Council and in-house programs for waste minimisation.
- Establish waste reduction and recycling targets; including periodic waste audits, keeping records, and monitoring of the quantity of recyclables found in landfill-bound bins (sharing results with users/staff).

#### **4.6 Waste Management Plan Revisions**

For any future appropriate Council request, changes in legal requirements, changes in the development's needs and/or waste patterns (waste composition, volume, or distribution), or to address unforeseen operational issues, the operator shall be responsible for coordinating the necessary Waste Management Plan revisions, including (if required):

- A waste audit and new waste strategy.
- Revision of the waste system (bin size/quantity/streams/collection frequency).
- Re-education of users/staff.
- Revision of the services provided by the waste collector(s).
- Any necessary statutory approval(s).

**5     SUPPLEMENTARY INFORMATION**

- The operator shall ensure that bins are not overfilled or overloaded.
- Waste incineration devices are not permitted, and offsite waste treatment and disposal shall be carried-out in accordance with regulatory requirements.
- For bin traffic areas, either level surfaces (smooth and without steps) or gentle ramps are recommended, including a roll-over kerb or ramp. Should ramp gradients, bin weight, and/or distance affect the ease/safety of bin transfers, the operator shall consider the use of a suitable tug.
- The operator and waste collector shall observe all relevant OH&S legislation, regulations, and guidelines. The relevant entity shall define their tasks and:
  - Comply with Worksafe Victoria's Occupational Health and Safety Guidelines for the Collection, Transport and Unloading of Non-hazardous Waste and Recyclable Materials (June 2003).
  - Assess the Manual Handling Risk and prepare a Manual Handling Control Plan for waste and bin transfers (as per regulatory requirements and Victorian COP for Manual Handling).
  - Obtain and provide to staff/contractors equipment manuals, training, health and safety procedures, risk assessments, and adequate personal protective equipment (PPE) to control/minimise risks/hazards associated with all waste management activities. As a starting point, these documents and procedures shall address the following:

Task (to be confirmed)	Hazard (TBC)	Control Measures (TBC)
Sorting waste and cleaning the waste system	Bodily puncture. Biological & electrical hazards	Personal protective equipment (PPE). Develop a waste-sorting procedure
Bin manual handling	Sprain, strain, crush	PPE. Maintain bin wheel-hubs. Limit bin weight. Provide mechanical assistance to transfer bins
Front Lift Bins	Sprain, strain, crush	PPE, staff training. Use a mechanical bin-tipper. Provide direct access for collection vehicle to each bin
Bin transfers and emptying into truck	Vehicular strike, run-over	PPE. Develop a Hazard Control Plan for transfers and collections. Maintain visibility. Use a mechanical bin-tipper
Truck access (reversing & manoeuvring)	Vehicular incident, strike, run-over	PPE. Use a trained spotter. Develop a truck-manoeuving and traffic-control procedure

Note: The above shall be confirmed by a qualified OH&S professional who shall also prepare site-specific assessments, procedures, and controls (refer to Section 6).

## **6 CONTACT INFORMATION**

**City of Boroondara** (local Council), ph 03 9278 4444

**Visy** (private waste collector), ph 13 84 79

**Premier Waste** (private waste collector), ph 1300 219 001

**FJP Safety Advisors Pty Ltd** (OH&S consultant), ph 03 9255 3660

**Sabco Commercial** (supplier of cleaner's trolleys), ph 1800 066 522

**Sulo MGB Australia** (bin supplier), ph 1300 364 388

**One Stop Garbage Shop** (bin supplier), ph 03 9338 1411

Note: The above includes a complimentary listing of contractors and equipment suppliers. The stakeholders shall not be obligated to procure goods/services from these companies. Leigh Design does not warrant (or make representations for) the goods/services provided by these suppliers.

## **7 LIMITATIONS**

The purpose of this report is to document a Waste Management Plan, as part of a Planning Permit Application.

This report is based on the following conditions:

- Operational use of the development (excludes demolition/construction stages).
- Drawings and information supplied by the project architect (Drawing reference TP102 Revision E dated 2-4-20).
- The figures presented in this report are estimates only. The actual amount of waste will depend on the development's occupancy rate and waste generation intensity, the user's disposition toward waste and recycling, and the operator's approach to waste management. The operator shall make adjustments, as required, based on actual waste volumes (if the actual waste volume is greater than estimated, then the number of bins and/or the number of collections per week shall be increased, STCA).
- This report shall not be used to determine/forecast operational costs, or to prepare feasibility studies, or to document operational/safety procedures.