

**LEIGH DESIGN**

*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 [leo@leighdesign.com.au](mailto:leo@leighdesign.com.au)  
I [www.leighdesign.com.au](http://www.leighdesign.com.au)

## **WASTE MANAGEMENT PLAN**

**Proposed Development: Stages 1 and 3  
149 and Part of 127–139 Nicholson Street, Brunswick East,  
Victoria**

**Prepared for:  
Banco Group of Companies**

### **Document Control**

Report Date: 1 June 2018

Prepared By: Leonardo Russi, BEng (Mech), MEng (Env)

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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 (hidden from external view).
- Residents and commercial tenants shall sort their waste and dispose garbage and recyclables into their respective collection bins and/or cardboard baler.
- Waste shall be collected within the development. The collection contractor shall transfer bins between the storage areas and the waste truck.
- A private contractor shall provide waste collection services.

### GLOSSARY

**Operator:** refers to the Owners Corporation, who shall manage site operations (via staff and contractors, if required).

**User:** refers to residents, site staff and commercial tenants, who shall utilise the waste system.

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

## **1.1 Development Description and Use**

This development shall consist of residential apartments and commercial tenancies. The number of residences and commercial floor-areas are stated in Table 1 (below).

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

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

Table 1: Waste Estimate

<b>Waste Source</b>	<b>Base Qty (est.)</b>	<b>Garbage</b>	<b>Commingled Recycling</b>
Lot 1 Apartments (1 bed)	No. of units = 38	2.28	2.28
Lot 1 Apartments (2 bed)	No. of units = 26	2.08	2.08
Lot 1 Retail Shops	area (m <sup>2</sup> ) = 877	3.07	3.07
Lot 2 Apartments (1 bed)	No. of units = 85	5.10	5.10
Lot 2 Apartments (2 bed)	No. of units = 52	4.16	4.16
Lot 2 Apartments (3 bed)	No. of units = 14	1.12	1.12
Lot 2 Supermarket	area (m <sup>2</sup> ) = 2376	21.38	40.15
Lot 3 Apartments (1 bed)	No. of units = 16	0.96	0.96
Lot 3 Apartments (2 bed)	No. of units = 39	3.12	3.12
Lot 3 Apartments (3 bed)	No. of units = 1	0.08	0.08
Lot 3 Retail Shops	area (m <sup>2</sup> ) = 1445	5.06	5.06
Lot 3 Medical Suites	area (m <sup>2</sup> ) = 546	0.82	0.30
Lot 3 Rooftop Cinema	area (m <sup>2</sup> ) = 575	0.75	0.17
Lot 4 Apartments (1 bed)	No. of units = 67	4.02	4.02
Lot 4 Apartments (2 bed)	No. of units = 88	7.04	7.04
Lot 4 Retail Shops	area (m <sup>2</sup> ) = 1787	6.25	6.25
Lot 8 Offices	area (m <sup>2</sup> ) = 2550	1.79	1.91
Lot 9 Apartments (1 bed)	No. of units = 36	2.16	2.16
Lot 9 Apartments (2 bed)	No. of units = 22	1.76	1.76
Lot 10 Apartments (1 bed)	No. of units = 9	0.54	0.54
Lot 10 Apartments (2 bed)	No. of units = 30	2.40	2.40
Lot 10 Apartments (3 bed)	No. of units = 5	0.40	0.40
<b>TOTAL (m<sup>3</sup>/wk)</b>		<b>76.34</b>	<b>94.14</b>

Note: Waste figures are based on adjusted Sustainability Victoria Guidelines.

### **1.3 Collection Services**

Residential Waste: The municipal wheelie bin service would be unsuitable due to the insufficient kerbside length for the estimated 312 wheelie bins.

Commercial Waste: Municipal services would be insufficient as these are limited to a pair of weekly wheelie bins per tenement. Therefore, a private contractor shall be engaged to collect waste.

For both residential and commercial waste, the operator shall choose a waste collection provider, negotiate a service agreement, and pay for these services.

Note: Every rateable tenement is liable to pay for municipal charges 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:

- Apartment receptacles for garbage and recycling.
- Tenancy receptacles at work/amenity areas.
- Lot 3, 4 and 10 Residential Bin Stores located at Basement Level 1.
- Lot 1, 2 and 9 Residential Bin Stores located at Basement Level 2.
- Lot 8 Commercial Bin Store located at Basement Level 1.
- Lot 1, 2, 3 and 4 Commercial Bin Stores located next to internal Loading Bays at Ground Level.
- Collection bins (kept within the above waste storage areas - 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 commingled into a single type of collection bin (for loose paper, cardboard, PET, glass, aluminum, steel, and HDPE containers).

Note: The supermarket shall allow for recycling of plastic-wraps/bags. Also, a cardboard baler shall be provided.

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

Compost: At this development, composting is considered impractical, as there would be minimal onsite demand for compost.

Clinical Waste: Clinical waste (medical, infectious, cytotoxic, sharps, chemical, pharmaceutical, radioactive, etc) shall be managed in accordance with the Industry Code of Practice for the Management of Biohazardous Waste (including Clinical & Related wastes, 7<sup>th</sup> edition, 2014). A specialist clinical waste contractor shall be engaged to implement the code, provide facility design and operational details (incl. a Clinical WMP) for the safe handling and disposal of clinical waste, and for waste collection and treatment (refer to suggested contacts in Sect. 6).

A suitable Clinical Waste Store shall be provided (store size/design and all clinical waste streams/bins shall be specified by a specialist consultant).

Office Waste:

- For the security of information printed on waste paper (intellectual property, sensitive material, and/or personal details), paper bins shall remain within each office (adjacent the photocopier or in the stationery cupboard) until transferred to a secured collection point (or swapped in-situ by a shredding/recycling contractor). Alternatively, office managers may utilise a paper shredder and dispose waste into the paper/cardboard bins (kept within Lot 8 Bin Store).
- Office managers shall store spent printer/toner cartridges until collected for recycling by the cartridge supplier.
- Office managers shall encourage the recycling of electronic waste (computers and printers). The computer supplier or a suitable contractor shall be engaged to recycle/reuse outgoing units when supplying new ones.

Other Waste Streams: The disposal of hard/electronic/liquid/putrescible waste, and home detox (paint/chemicals), etc shall be organised with the assistance of the operator.

The supermarket shall arrange the storage and collection of cooking oil and animal fat, if any. Also, the Grease Interceptor Trap, if any, shall be serviced periodically.

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

Waste Source	Waste Stream	Bin Qty	Bin Litres	Collections per Week	Bin Area m <sup>2</sup>
Lot 1 Residential (shared bins)	Garbage	3	660	3	3.6
	Recycling	3	660	3	3.6
Lot 1 Commercial (shared bins)	Garbage	2	660	3	2.4
	Recycling	2	660	3	2.4
Lot 1	Hard/Other Waste	-	-	TBA	3.0
Lot 2 Residential (shared bins)	Garbage	6	660	3	7.2
	Recycling	6	660	3	7.2
	Hard Waste	-	-	TBA	2.0
Lot 2 Supermarket (shared bins)	Garbage	7	1,100	3	11.2
	Cardboard (baler and 4 pallets)			3	12.0
	Mixed Containers	1	240	2	0.5
Lot 3 Residential (shared bins)	Garbage	3	660	3	3.6
	Recycling	3	660	3	3.6
Lot 3 Commercial (shared bins)	Garbage	3	660	3	3.6
	Recycling	3	660	3	3.6
Lot 3	Hard/Other Waste	-	-	TBA	3.0
Lot 4 Residential (shared bins)	Garbage	6	660	3	7.2
	Recycling	6	660	3	7.2
Lot 4 Commercial (shared bins)	Garbage	4	660	3	4.8
	Recycling	4	660	3	4.8
Lot 4	Hard/Other Waste	-	-	TBA	3.0
Lot 8 (shared bins)	Garbage	1	660	3	1.2
	Recycling*	1	660	3	1.2
	Hard Waste	-	-	TBA	1.0
Lot 9 (shared bins)	Garbage	2	660	3	2.4
	Recycling	2	660	3	2.4
	Hard Waste	-	-	TBA	1.0
Lot 10 (shared bins)	Garbage	2	660	3	2.4
	Recycling	2	660	3	2.4
	Hard Waste	-	-	TBA	1.0
<b>Net Bin Storage Area (excludes circulation), m<sup>2</sup>:</b>					<b>114.5</b>

Notes:

- \* = Should waste office paper require confidential disposal, tenants shall organise 120 litre private secured paper bins (kept within each office and at each level).
- The operator shall organise hard waste collections (as required).
- Bins and the cardboard baler 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), bin sizes and quantities can be changed. Also, 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

The plans illustrate sufficient space for onsite bin storage, as required by the above schedule.

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. 4.3 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)
120	930	480	545	10	26
660	1250	1240	780	43	130
1100	1330	1240	1070	65	210

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.
- For 1100L bins, flat lids are recommended (instead of dome lids). However, the operator shall consult with the waste collection contractor to specify and select the appropriate lid.

Table 4: Moreland Colour Coding

Bin	Garbage	Commingled Recycling	Green Waste
Lid	Green	Yellow	Lime
Body	Green	Green	Green

Note: For private bins, AS4123.7 bin colours can be adopted. Private bins shall be labeled to identify the waste generator and site address.

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

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

Residents and commercial tenants shall dispose sorted garbage and recyclables into their respective collection bins located within the Bin Stores (access via lifts/stairs).

Trained supermarket staff shall load cardboard into the baler and operate the unit. The operator shall utilise a suitable pallet truck for bale transfers.

Note: The operator shall have access to the Bin Stores 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**

Lot 8 / Residential Lots 1-4 and 9-10: Waste shall be collected within the onsite carpark at Basement Levels 1 and 2. Collection staff (driver and assistant) shall have access to the Bin Stores and transfer bins to the truck and back to the stores.

Lots 1-4 - Commercial: Waste shall be collected within the onsite Loading Bays.

#### Collection vehicles:

- Waste bins shall be collected by rear-lift vehicles (nom. 6.4m long, 2.1m high, and 6.4 tonnes gross vehicle mass, needing a 2.3m high clearance when collecting 660-lt bins).
- Cardboard bales shall be collected by rear-lift vehicles (nom. 8.8m long, 4m operational height, and 24 tonnes gross vehicle mass).



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

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

- Collection bins shall feature rubber castors for quiet rolling during transfers.
- Waste areas shall meet BCA and AS2107 acoustic requirements.
- Local laws shall be observed for all operations in public and private areas.
- Site operations (including loading, unloading, and waste collections) must comply with State Environment Protection Policy (Control of Noise from Commerce, Industry and Trade) No. N-1.
- For private services, the hours of waste collections shall be as specified in council's local laws. Also, Section 5 of the Victorian EPA Noise Control Guideline Publication 1254 (see below) shall be observed to protect the acoustic amenity of the development and surroundings.

Victorian EPA Noise Control Guideline Publication 1254 October 2008 (excerpt)

[Section] 5. Domestic [and Commercial] Refuse Collection

The main annoyance produced by domestic refuse collections occurs in the early morning (i.e. before 7:00am). Therefore, if possible, routes should be selected to provide the least impact on residential areas during that time.

Collection of refuse should be restricted to the following criteria:

- Collection occurring once a week should be restricted to the hours: 6am to 6pm Monday to Saturday.
- Collections occurring more than once a week should be restricted to the hours: 7am to 6pm Monday to Saturday.
- Compaction should only be carried out while on the move.
- Bottles should not be broken up at the point of collection.
- Routes which service entirely residential areas should be altered regularly to reduce early morning disturbance.
- Noisy verbal communication between operators should be avoided where possible.

#### **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).
- Securing the 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.
- Impervious flooring (also, smooth, slip-resistant, and appropriately drained).
- A graded bin wash area, hot and cold mixing hosecocks, hose, and a suitable floor-waste connected in accordance with the relevant authority requirements. The bin and wash areas may overlap, as stored bins can be moved-out so that a bin can be washed.

The operator shall regularly clean waste areas/equipment. Also, 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 (hidden from external view). 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). Any access doors shall feature keyless opening from within.

The cardboard baler shall include appropriate safety features to ensure safe operation. Access to the baler shall be restricted to trained personnel only.

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 the collection bins. Cardboard shall be flattened and recycling containers un-capped, drained, and rinsed prior to disposal into the appropriate bin/baler. 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:

- Secure the waste areas.
- Label the bins according to property address.
- Waste shall be collected within the subject site.

### **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 their 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:

<b>Task (to be confirmed)</b>	<b>Hazard (TBC)</b>	<b>Control Measures (TBC)</b>
Sorting waste and cleaning bins	Biological hazard & bodily puncture	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
Cardboard baler operation	Crush/strike/cut and shear points	Staff training, signage and warning system, maintain access restrictions
Bin transfers and emptying into truck	Vehicular strike, run-over	PPE. Develop a hazard control plan and collection procedure. 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**

**Moreland City Council** (local council), ph 03 9240 1111

**Waste Wise Environmental** (private waste collector), ph 03 9359 1555

**Kartaway** (private waste collector), ph 1300 362 362

**Recall SDS** (office paper recycler), ph 1300 366 011

**Paper To Paper Australia** (office paper recycler), ph 1300 727 377

**Cleanaway Medi-Waste** (clinical waste collector), ph 9551 3833

**SteriCorp Limited** (clinical waste collector), ph 1300 667 787

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

**Electrodrive Pty Ltd** (tug & trailer supplier – for bin transfers), ph 03 9357 7699

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

**Sulo MGB Australia** (bin supplier), ph 03 9357 7320

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

**Elephant's Foot** (cardboard baler supplier), ph 02 9780 3500

**Wastech Engineering Pty Ltd** (cardboard baler supplier), ph 1800 465 465

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.
- 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.