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waste management plans for all urban developments

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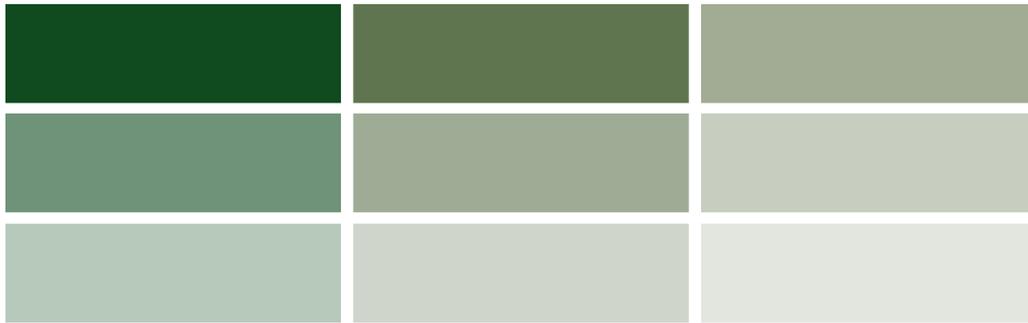
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Waste Management Plan



Proposed Development: Hospital Expansion (Stage 2B)
535-559 Police Road, Mulgrave, Victoria

Prepared for:
Health Care Australia

Report Date: 13 October 2023 (supersedes all prior reports)

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 safe operating procedures.
- Waste shall be stored within the development (hidden from external view).
- Users shall place sorted waste into designated collection bins. Trained staff shall operate the baler.
- Waste shall be collected within the subject land. The collection contractor shall transfer bins between the Bin Store and the truck.
- 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 staff and commercial tenants, who shall utilise the waste system.

1 SPACE AND SYSTEM FOR WASTE MANAGEMENT

1.1 Development Description and Use

This five-level proposal shall consist of an expansion of the existing hospital. The planning application number shall be advised.

The existing waste system shall be adjusted to accommodate added waste from the expansion.

The site faces Police Road and Blanton Drive, and is zoned as a Neighbourhood Residential Zone. For waste services, accesses to the development shall be via Blanton Drive.

In general, this report complies with Council's 2020 guidelines for preparing a Waste Management Plan. Refer to the enclosed City of Monash WMP purpose, which states the following points:

- Demonstrate the development of an effective waste management system that is compatible with the design of the multi-unit development (MUD) and the adjacent built environment. An effective waste management system is hygienic, clean and tidy, minimises waste going to landfill, and maximise recycling.
- Provide a waste management system for a MUD that is supported by scaled drawings to ensure the final design and construction of the MUD is compliant with the WMP, and is verifiable.
- Form a document that achieves effective communication of the waste management system so that all stakeholders can be properly informed of its design, and the roles and responsibilities involved in its implementation. Stakeholders are defined (but not limited to): owners, occupiers, body corporate, property managers/real estate agents, Council, neighbours and collection contractors.
- Ensure residents of MUDs are not disadvantaged in their access to recycling and other responsible waste management options.
- Avoid existing legacy issues that plague many MUDs due to poor design and insufficient consideration for waste management.
- Improve outcomes for compliance with regulatory tools and the State Planning Strategies, such as:
 - Town Planning Permits.
 - Monash Planning Scheme.
 - Clause 19.03-5 of the State Planning Policy Framework.
 - Direction 6.7 of Plan Melbourne.
 - Clause 55 Standard B34 of the Planning Scheme.
 - Clause 55.07 and Clause 58.06 of the Planning Scheme.

1.2 Estimated Waste Generation

The following table summarises the waste estimate (m³/week):

Table 1: Waste Estimate

Waste Source	Base Qty (est.)	Garbage	Cardb.	Recyc.
<i>Existing Hospital: 12 emerg. beds, 176 overnight</i>		<i>95.10</i>	<i>14.00</i>	<i>6.16</i>
<i>beds, 10 theatres, 240m² admin, 7 consult. suites (979m²), 42m² retail, 34m² café.</i>				
Addit. Emerg. Beds	No. of beds = 26	3.64	1.82	0.13
Addit. Overnight Beds	No. of beds = 120	12.00	4.80	0.96
Addit. Theatres	No. of beds = 6	0.60	0.26	0.04
Addit. Admin/Office	Area (m ²) = 480	0.34	0.34	0.00
Addit. Consult. (6 suites)	Area (m ²) = 900	0.63	0.63	0.00
Addit. Retail	Area (m ²) = 168	0.59	0.59	0.00
Addit. Café	Area (m ²) = 64	1.34	0.45	0.45
Addit. Ancillary		5.50	0.55	0.25
TOTAL (m³/week)		119.73	23.43	7.99

Notes:

- Waste figures from the existing hospital were derived from the capacity of the current waste system.
- Waste volumes from additional offices (admin and consulting suites), retail, and cafe are based on Council guidelines.
- Figures from beds, theatres, and ancillary areas are based on discretionary rates.

1.3 Collection Services

As per current practice, waste shall continue to be collected privately (costs to be borne by the Operator).

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 for Managing Waste

The waste management system is summarised as follows:

- Waste receptacles at internal areas.
- Public waste receptacles located at selected areas.
- Bin Store and Clinical Waste Store located at Lower Ground Level.
- Collection bins (kept within the above waste 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:

- In general, recyclables shall be commingled into a single type of collection bin (for paper, glass, aluminium, steel, and plastics).
- A baler for cardboard shall be retained (plus optional bins).
- For office paper, security bins shall be employed.
- Also, should glass separation is required in future, dedicated glass bins shall be adopted.

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

Food Organics: Users shall place organic waste into Food Organics bins.

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, 8th edition, 2020). A specialist clinical waste contractor shall be engaged to review the code, check the existing Clinical Waste Store, and confirm/adjust operational details and revise the Clinical WMP as required.

Other Waste Streams: Hard/electronic/liquid and other wastes (polystyrene, batteries, paint, chemicals, detox items, etc) shall be kept within each tenement. Users shall organise “at call” private collection from within the subject land. E-waste must not be disposed in landfill.

The Operator shall arrange the storage of used cooking oil and its collection by a recycler. The Operator shall organise Grease Interceptor Trap servicing.

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 ²
Whole Hospital (shared system)	Garbage	16	1,100	7	25.6
	Food Organics	6	240	2	3.0
	Recycling	11	240	2	5.5
	Future Glass	6	240	2	3.0
	Security Paper	14	240	2	7.0
	Cardboard (bins)	3	660	3	3.6
	Cardboard (baler and 4 pallets)			2	14.0
	Hard/Other Waste	-	-	TBA	4.0
Net Bin Storage Area (excludes circulation), m²:					65.7

Notes:

- Secured Paper bins are shall be kept within the offices.

- Private bins shall be sourced by the Operator.
- Also, the additional bins and containers shall be provided for storage at the Clinical Waste Store For clinical waste, “clean” and “dirty” areas shall be provided.
- 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 drawings shall 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. 4.4 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
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 flat-lid bins.

Table 4: Monash Colour Coding

Bin	Garbage	Commingled Recycling	Food/Green Waste
Lid	Red	Yellow	Green
Body	Dark Grey	Dark Grey	Dark Grey

Note: Victorian publications illustrate bins with purple lids for glass bins. Private bins shall be labelled to identify the waste generator and site address. For private bins, AS4123.7 bin colours can be adopted.

2 ACCESS FOR USERS, COLLECTORS, AND COLLECTION VEHICLES

2.1 User Access to Waste Facilities

Users shall dispose sorted waste into the various internal receptacles.

The Operator shall transfer waste from the internal receptacles to the bins located within the Bin Store (if required, using a suitable trolley and the lift).

Trained staff shall load cardboard into the baler and operate the unit.

Note: If required, the Operator shall have access to the Bin Store to rotate the bins.

2.2 Collection Arrangements and Access to Waste Facilities

- Waste shall be collected within the subject land.
- The collector (driver and assistant) shall transfer collection bins between the Bin Store and the truck.
- The bin collection shall be carried-out by rear-lift vehicles (nom. 8.8m long, 4m operational height, and 24 tonnes gross vehicle mass). A similar size truck shall collect cardboard bales.
- The Operator shall provide a suitable pallet truck for bale transfers.

3 AMENITY, LOCAL ENVIRONMENT, AND FACILITY DESIGN

3.1 Noise Minimisation Initiatives

- Collection bins shall feature rubber wheels for quiet rolling during transfers.
- The waste system and collections shall meet relevant acoustic requirements.
- Local laws shall be observed for all operations in public and private areas.
- Private collection time restrictions shall apply as per City of Monash Local Law No.3 and EPA Guidelines, as follows:
 - a) Collections occurring once a week should be restricted to the hours 6:00am to 6:00pm, Monday to Saturday;
 - b) Collections occurring more than once a week should be restricted to the hours 7:00am to 6:00pm, Monday to Saturday;
 - c) Compaction should only be carried out while on the move;
 - d) Bottles should not be broken up at the point of collection;
 - e) Routes that service entirely residential areas should be altered regularly to reduce early morning disturbance; and
 - f) 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.
- Adequate vermin-proofing and tight-fitting doors.
- 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 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 (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). 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.

The cardboard baler supplier shall provide training to all users and include appropriate safety features, operating instructions, and signage to ensure safe operation and prevent unauthorised use. Access to the baler shall be restricted to trained personnel only.

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/baler. Bagged recycling is not permitted.

Refer to Section 1.4 for all other waste streams and details of the waste system. Also, Section 2 outlines waste transfer requirements and collection arrangements.

4.2 Facility Management Provisions Including Maintenance & Improvements

The development's owner/applicant shall appoint an Operator whilst providing the planning permit, this report, and any other relevant documentation associated with the waste system.

The Operator shall be responsible for managing the waste system and for developing and implementing safe operating procedures (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 land (waste shall not be placed for collection outside the site boundary).

4.4 Communication Strategy - Arrangements for System Labelling and Ensuring Users and Staff are Aware of How to Use the System Correctly

- The Operator shall provide appropriate signage for the bins. Signage is available at the following internet address: 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 how to sort waste with care to minimise contamination of various waste streams.

- For user safety when disposing waste, the Operator shall develop and provide safety instructions.
- Further educational material is available at www.mwrrg.vic.gov.au/planning/multi-unit-developments-toolkit/. Also, the Operator shall provide their contact details to Council.

4.5 Sustainability and Waste Avoidance/Reuse/Reduction Initiatives

The *Environment Protection Amendment Act 2018* (and the principal EPA Act of 2017) includes fundamentals 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 *Environment Protection Amendment Act 2018* principle of waste management hierarchy, which states that waste should be managed in accordance with the following order of preference, so far as reasonably practicable: a) avoidance, b) reuse, c) recycling, d) recovery of energy, e) containment, and f) waste disposal.
- Peruse the Sustainability Victoria website: 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 observe local laws and ensure that bins aren't 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/disposing waste and cleaning the waste system	Bodily puncture. Biological & electrical hazards	Personal protective equipment (PPE). Develop a waste-sorting procedure
Waste/bin manual handling	Sprain, strain, crush	PPE, staff training. Maintain bin wheel-hubs. Limit waste/bin weight. Provide mechanical assistance to transfer bins.
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 for transfers and collections. Maintain visibility. Use a mechanical bin-tipper
Truck access	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

Monash City Council (local Council), ph 03 9518 3555

Wasteflex (private waste broker), ph 1300 927 833

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

Eco-Safe Technologies (odour control equipment supplier), ph 03 9706 4149

PuraAir (odour control equipment supplier), ph 1300 972 736

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

Electrodrive (tug & trailer supplier – for bin transfers), ph 1300 934 471

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

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

Wastech Engineering (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:

- Ongoing use of the development (excludes demolition/construction phases). In particular, for occupation and fit-out phases, the Operator shall determine specific waste procedures.
- 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 patronage, occupancy rate, 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.