WASTE MANAGEMENT PLAN

MAY 2012

KENSINGTON LANE STUDENT ACCOMODATION BLOCKS 3B, 3C & 10

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FOR FRASERS BROADWAY PTY. LTD.

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1.0 INTRODUCTION

The waste management plan to follow pertains to the proposed student housing and retail development at Block 3B, 3C & 10, located at Kensington Street Precinct, Chippendale. This waste management plan is an operational waste management plan and will address the operational phases of the development. A Construction Waste Management Plan will need to be prepared by the contractor engaged for the construction stage of the development.

The plan outlines measures to achieve the following purposes:

- Avoid the generation of unnecessary waste;
- Minimise the quantities of wastes generated ending up as landfill;
- Recover, reuse and recycle waste generated on site where possible;
- Compliance with any codes and policies that may apply to the development.

The proposed development consists of two (2) primary sections as follows:

- **Boarding House/ Multi-Unit Residential**
- **Ground Level Retail**

The above sections of the development have been examined individually within this report; however, the waste management process must be effectively coordinated between the various sections for the system to work. The principles outlined in this Waste Management Report will be incorporated into the building design and submitted with the intended building application.

All figures and calculations are based on building areas and room numbers as shown on architectural drawings. Calculations have been made using waste generation rates devised from industry guidelines and using calculations listed within City of Sydney (COS) Council's "Policy for Waste Minimisation in New Developments". All recommendations for waste facilities and equipment will be in compliance with Australian Standards, BCA and Sydney City Council.

All waste facilities and equipment are to be designed and constructed to be in compliance with Sydney City Council Codes, BCA, Australian Standards and Statutory Requirements.

A plan indicating the proposed ground floor storage and access to the operational waste is included in Appendix A.

2.0 OPERATIONAL WASTE MANAGEMENT

2.1 General Waste Management

The residential and retail waste management and storage requirements below are based on the general, space, access, amenity, construction, and management requirements outlined in Section A All Developments and Section D Mixed Use Developments in the COS Waste Policy.

Waste storage has been designed so that residential waste and retail waste are stored separately and are self-contained. General waste and recyclable waste storage are physically separated within each room as indicated on plan attached in Appendix A.

A 5% contingency allowance is made for additional waste capacity in the event of waste collection failure on a particular week.

2.2.1 Residential Waste

Occupants will be allocated with receptacles inside their unit to store one day's volume of each of the waste, recyclables and compostables.

A chute system has not been devised in the development due to the applicant's previous experience and management consultant advice on high personal safety risks and hazards pertaining to such a system in a student accommodation setting.

Instead, each occupant will be provided with a single page summary sheet of waste management policy, encouraging waste be transferred to the centralised residential waste storage area daily. The residential waste storage area is located in close proximity to the ground floor lifts.

Both general and recyclable waste are proposed to be stored in separate 240 L Mobile Garbage Bins (MGB) in the centralised waste storage area and are assumed to be collected by a private contractor twice a week.

2.2.2 Retail Waste

All retail premises have been designed within the Ground floor level.

Each retail premise will be required to have a dedicated and enclosed space within their own premise to store one day's volume of each of the recyclables and compostable waste. Waste must be transferred to the centralised waste storage room at least daily.

Both general and recyclable waste are proposed to be stored in separate 240 L Mobile Garbage Bins (MGB) in the centralised waste storage area and are assumed to be collected by a private contractor twice a week.

2.2 Waste Estimation

This assessment of waste volumes is based on waste generation rates for retail and boarding house development provided in the COS Waste Policy. The calculations are based on a seven- (7) day working week and do not include areas such as car parking levels that produce no waste. Waste source generation has been separated into general and recyclable waste.

2.2.1 Residential Waste Estimation

	No. of occupants	Generation Rate (L / occupant / week)	General Waste (L/week)
Block 3B + 3C	211		
Waste		40	8440
Recycle		20	4220
Total			**12660**
Block 10	56		
Waste		40	2240
Recycle		20	1120
Total			**3360**

2.2.2 Retail Waste Estimation

	Total Area (m2)	Generation Rate (L / 100m2 / floor area / day)	General Waste (L / 100m2 / floor area / day)
Block 3B + 3C	380		
Waste		50	190
Recycle		50	190
Total			**380**
Block 10	270		
Waste		50	135
Recycle		50	135
Total			**270**

2.3 Waste Storage Requirements

The following waste storage requirements have been calculated based on the assumption of nil compaction units and waste collection by a private contractor twice weekly.
Additional bins and floor area have been allowed for to provide for contingency.

	Waste stored between collections (L) *	Storage Bins: Minimum Required	Storage Bins: Proposed	Floor area: Minimum required**	Floor area: Proposed
Block 3B + 3C					
Total Residential Waste + Recycle	6330	27	27	23m2	26m2
Total Retail Waste + Recycle	1330	6	10	7m2	15m2
Block 10					
Total Residential Waste + Recycle	1680	7	12	6m2	13m2
Total Retail Waste + Recycle	945	4	8	3m2	9m2

*Based on the assumption of waste collection twice a week.
** Based on twice the area of 240L MGBs, to allow for sufficient clearance and circulation for safe handling of bins.
(Based on size of 240 L bin provided in Appendix F of COS Waste Policy)

Bulk storage has not been provided, as all residential occupancies are fully furnished tenancies. Bulk waste collection will need to be arranged privately between Building Manager and Council for collection during the year.

2.4 Waste Storage Access

The waste storage rooms have been conveniently planned on ground floor for retail access and in proximity to the lifts for residential access. All rooms open directly out to street level for ease of collection, with the exception of residential waste storage room for Block 10, where access is via the bike store. In all cases the building manager will be responsible for the transfer of empty bins to front of room and the transfer of bins to and from storage area and collection point.

The pathway for wheeling bins is designed level with ground floor plane and rooms located within 5 metres of street front for ease of waste collection.

2.5 Waste Storage Amenity

The waste storage rooms have been located at ground level and at rear of the buildings, away from retail premises to minimise noise and odour. With the absence of waste chutes in the development, residents will not experience noise generated from shafts. Waste storage on street level will enable noise and odour separation of bin collection from residential component of the development.

Bin wash facilities have been provided within each waste storage room for occasional use by building management. A private contractor will be employed to remove and clean bins where larger number of bins are concerned.

The storage rooms have been designed with fixed external louvers for natural ventilation and mechanical ventilation from internal exhaust release through the roof. Vermin proof screens will be installed to prevent ingress of vermin into storage areas. Vertical external louvers will be devised for aesthetic consistency with the glazing frame to ground floor and Level 1.

2.6 Waste Storage Construction

The waste storage rooms are to be constructed to the following requirements:

- The floors of the garbage rooms shall be constructed of concrete at least 75mm thick or other impervious material, graded and drained to an approved connection to the sewer;
- The floor shall be finished to a smooth even surface coved at the intersection with walls and plinths;
- Waste areas or bins shall be constructed to prevent the entry of vermin;
- An adequate supply of hot and cold water shall be provided to all waste areas;
- Hose cocks shall be located and protected so they cannot be damaged and fitted with an adequate length of hose;
- There shall be adequate ventilation both natural and mechanical;
- Close fitting and self-closing doors are installed in the waste storage rooms that are openable from inside.
- The waste area shall be appropriately signposted e.g. for recycling bins;
- Artificial lighting shall be installed with controls from both inside and outside of rooms;
- Adequate lighting will be provided to ensure safe access in the area with;
- Bin equipment is protected from theft and vandalism via storage within locked waste storage rooms;
- Clear signage and warning signs are devised where required;
- All waste management facilities will be compliant with the Building Code of Australia (BCA) and all the relevant Australian Standards.

2.6 Ongoing Waste Management

The following summary outlines measures that will need to be taken for effective ongoing waste management on site:

- The residents and retail tenancies will be responsible for transfer of their waste to their dedicated centralized waste storage areas on ground level.

- The building manager will be responsible for monitoring general waste removal from residences to the waste storage area, removal of waste from retail premises to the waste storage area, the cleaning of the waste storage areas, clear labeling of all bins, and providing instructions on waste management system to all tenancies.

- Transfer of bins storage area to and from collection point is to be carried out by private contractors and monitored by the building manager. Waste containers are not to be stored on the public domain with transfer of bins back to internal storage areas on same day of service.

- A private contractor will be employed to remove and clean bins where larger number of bins are concerned.

- Green waste is to be stored in a section of the retail waste storage area on occasion where onsite treatment cannot accommodate all green waste

Construction of the waste storage areas are to meet all requirements set out in Sydney City Council's "Policy for Waste Minimisation in New Developments", BCA and Australian Standards.

It is recommended that the waste management system be monitored in the initial stages to ensure that sufficient bins have been provided to handle the waste generated. The bin numbers above are only an approximate and the number of bins provided and collection frequency will need to be monitored and adjusted to suit the needs of the individual tenants. Also, the bin size above is only a recommendation. Tenants may nominate an appropriate bin size to suit their needs.

3.0 GREEN WASTE

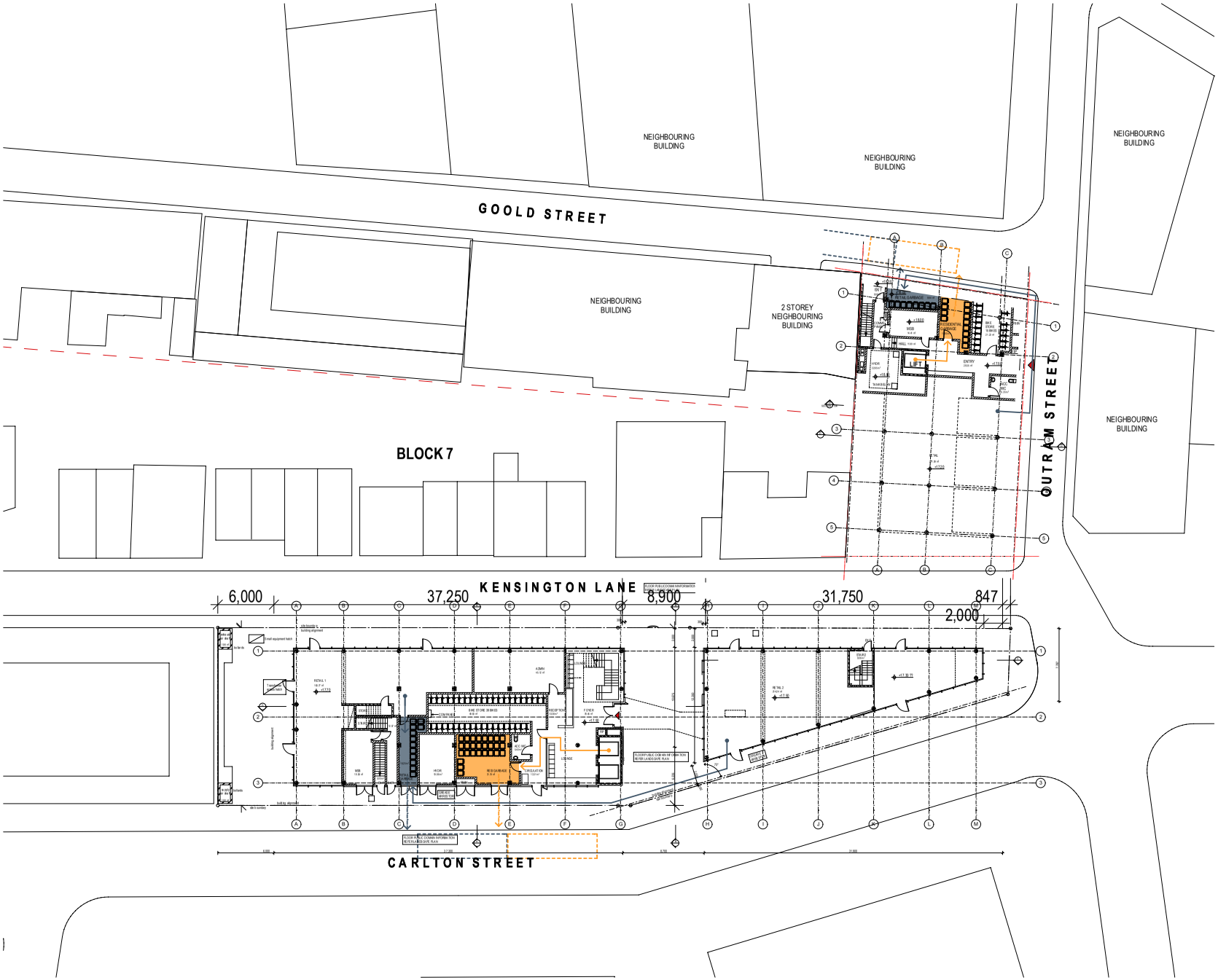
Green waste is proposed to be treated onsite with the provision of composting and worm farming on the communal roof terraces. Where onsite treatment cannot accommodate all green waste, it is to be stored in the retail section of waste storage area on ground level and disposed of to a suitable green waste facility.

4.0 SUMMARY

This operational waste management plan demonstrates that the proposed student housing and retail development at Block 3B, 3C & 10, located at Kensington Street Precinct, Chippendale complies with local Authority requirements with respect to waste generation, storage and collection services. The waste areas are appropriately sized and located with sufficient redundant contingency to satisfactorily service the occupants of the building.

APPENDIX A

Waste Management Plan Diagram



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