301-305 Kent Street, Sydney

Waste Management Plan

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1 Introduction

This Waste Management Plan (WMP) has been prepared on behalf of Romanous Pty Ltd to accompany a Development Application for the 301-305 Kent Street, Sydney development.

The Plan has been developed with consideration of the Council of the City of Sydney's and other Authority's requirements. It is intended to inform the design of the waste services by identifying the estimated waste profile for the development and providing the total area required by the recommended equipment/systems.

In doing so this Plan, which includes waste estimates and related management requirements, has been developed in accordance with the Council of the City of Sydney's *Policy for Waste Minimisation in New Developments*, and the NSW Environmental Protection Authority's *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*.

The subject Development Application seeks concept approval for a 30-storey hotel development. Key components of the development include:

- Hotel entrance lobby from Kent Street at Upper Ground Level;
- Hotel facilities and outdoor terraces at Level 2;
- Twenty four (24) storeys of hotel (comprising indicatively 360 rooms);
- Rooftop bar and outdoor landscaped terrace; and
- One level of plant services, hotel back of house and loading dock at Lower Ground Level, and five (5) basement levels including 77 car parking spaces with vehicle access from Erskine Street.

Waste audit and management strategies are recommended for new developments to provide support for the building design and promote strong sustainability outcomes for the building. All recommended waste management plans will comply with council codes and any statutory requirements.

To assist building management in achieving effective waste and recycling management, this waste management plan has three key objectives:

i. **to minimise the environmental impacts of the operations of the development** – this will be achieved by ensuring maximum diversion of waste from landfill; correct containerisation and transport of materials; correct segregation of materials into appropriate management streams; awareness among tenants of waste avoidance practices.

ii. **to minimise the impact of the management of waste within the development on local residents** – this will be achieved by ensuring waste is managed so as to avoid odour and litter and collected during suitable times.

iii. **to ensure waste is managed so as to reduce the amount landfilled and to minimise the overall quantity generated** – this will be achieved by implementing systems that assist tenants to segregate appropriate materials that can be recycled; displaying signage in all tenant areas to remind and encourage avoidance and recycling to staff; and through associated signage in the commercial areas to reinforce these messages.

2 Waste Generation

2.1 Waste Streams

Based on the development profile, the following waste streams would be expected:

- General waste
- Commingled recycling

2.2 Waste Generation Estimates

Based on averages for quantity of waste generated and composition as determined by industry data (i.e. data/information provided by WACS' waste audits conducted in a broad range of sectors) as well as consideration of the waste generation rates as detailed by the Council of the City of Sydney's *Policy for Waste Minimisation in New Developments* and the EPA's *Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities*, it is estimated that the entire development will generate a total of **23,057 litres** of waste and recyclables per week.

The following tables summarise the expected quantities of waste and recyclables generated for the development in terms of volume per week.

Note: Volumes are based on correct segregation of waste and recyclables.

Table 1 – Waste/recycling generation

	L/week
General Waste	19,890
Commingled Recycling	3,167
Total	**23,057**

3 Waste Management Systems and Spatial Requirements

3.1 Waste Systems and Bin Requirements

The following tables show the recommended systems required to manage the estimated waste profile for the development as detailed in Section 2.2. The systems refer to the basement waste storage system rather than the internal bins that may be used within the development.

Table 2 – Waste Systems

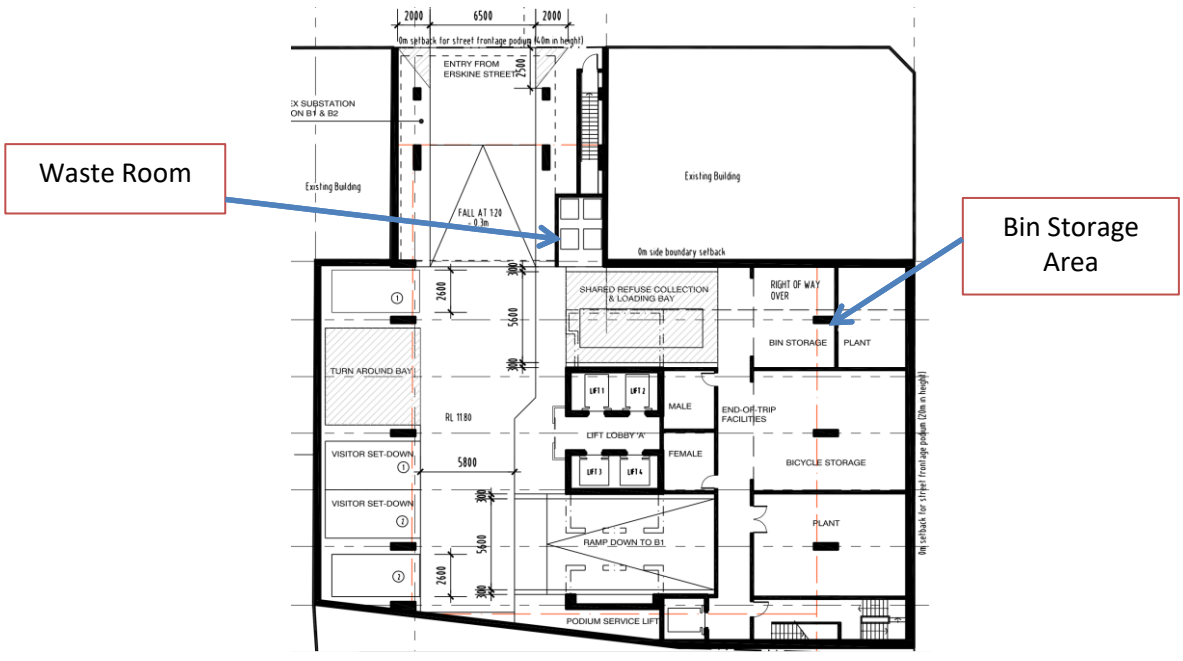
Waste Stream	Bin Size	No. of bins	Clearance (frequency/ week)	Capacity (Weekly)	Estimated Volume/Week	Footprint per bin (m2)	Total Footprint
General waste	1100	7	3	23,100	19,890	1.32	9.24
Commingled Recycling	660	3	2	3,960	3,167	0.98	2.94
TOTAL		**10**		**27,060**	**23,057**		**12.18**
						Plus 30%	**15.83**

Based on the estimates of waste generation and the number of bins required (with the collection schedule as noted), as well as allowing for 30% space for bin movement, the minimum size of the waste storage facility should be approximately **16 m²**.

3.2 Waste Storage

The following diagram illustrate the location of the lower ground waste room and bin storage area.

Diagram 1 – Waste Room and Bin Storage



The waste areas will be accessed by the site cleaning/maintenance staff only, tenants will not have access to these areas as they will either dispose of wastes/recyclables via the chute system or be removed by the cleaning/maintenance staff.

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by tenants and cleaners.

3.3 Storage Design

In keeping with best practice sustainability programs, all waste areas; reuse areas and waste and recycling bins will be clearly differentiated through appropriate signage and colour coding to Australia Standards to reflect the materials contained.

There will be a need to ensure that there is sufficient space to allow for bin movement. As a general rule, it is recommended that an additional 30% of the estimated footprint for bins be allocated to this (and this has been calculated in estimating the waste storage space requirements).

The waste and recycling bins will be colour coded and clearly signed. Each stream will be located in a designated area. This will assist in easy identification of correct bins by cleaners and staff.

Photographs 1 & 2 - Examples of waste room colour coding

The waste storage room will contain the following to minimise odours, deter vermin, protect surrounding areas, and make it a user-friendly and safe area:

- waste room floor to be sealed with a two pack epoxy;
- waste room walls and floor surface is flat and even;
- all corners coved and sealed 100mm up, this is to eliminate build-up of dirt;
- a water facility with hose cock must be provided for washing the bins;
- any waste water discharge from bin washing must be drained to sewer in accordance with the relevant water board;
- tap height of 1.6m;

- storm water access preventatives (grate);
- all walls painted with light colour and washable paint;
- equipment electric outlets to be installed 1700mm above floor levels;
- the room must be mechanically ventilated;
- light switch installed at height of 1.6m;
- waste rooms must be well lit (sensor lighting recommended);
- optional automatic odour and pest control system installed to eliminate all pest types and assist with odour reduction – this process generally takes place at building handover – building management make the decision to install;
- all personnel doors are hinged and self-closing;
- waste collection area must hold all bins – bin movements should be with ease of access;
- conform to the Building Code of Australia, Australian Standards and local laws; and
- childproofing and public/operator safety shall be assessed and ensured.

Occupational Health and Safety issues such as slippery floors in waste rooms and the weight of the waste and recycling receptacles will need to be monitored. Cleaners will monitor the bin storage area and will attend to all spills immediately, as they occur.

3.4 Waste Collection

A private waste contractor (TBA) will provide a waste and recycling collection service to an agreed schedule. On-site collection will be undertaken by a private waste contractor from the loading bay on lower ground level. Loading Bay is accessible via Erskine street entry. Collection vehicle will enter and exit the premises in a forward direction.

4 Waste Management Systems

The following summarises the recommended waste and recycling systems that will be implemented. These recommendations are based on the Council of the City of Sydney's requirements and systems implemented for similar developments.

4.1 Systems

All hotel staff (and contractors) will be briefed on the proper use of waste management system and recycling streams will be monitored and reported by cleaners/building management as it is imperative that the recycling stream remain free of contamination to ensure compliance with City of Sydney Council and appointed waste service contractor collection protocols. Staff will be encouraged to maximise the separation of general waste and recyclables to aid the proper disposal of all materials.

Cleaners will dispose of general waste utilising a garbage chute on each level. Building management/caretaker(s) will then monitor the general waste bins located in lower ground the lower ground level waste room. Cleaners will dispose of commingle recycling utilising a recycle chute on each level. Building management/caretaker(s) will then monitor the general recycle bins located in lower ground the lower ground level waste room. It will be responsibility of building management/caretaker(s) to replace full bin with an empty one beneath the chute.

Any green waste produced onsite will be removed from the site and correctly disposed of by contractors.

In addition, other recycling systems such as e-waste; batteries; mobile phones etc. may be required on an ad-hoc basis. Systems for these streams will be available upon request from site management.

Signage will be a crucial element of the waste management system. Appendix B contains examples of signage. These are the type of signs that should be used throughout the commercial tenancies and waste storage area(s).

4.2 Summary of management process

The following summarises the management system for wastes and recyclables.

Table 3 – Overview of management process

Stream	System	Comment
General Waste	**1100**L MGBs	Cleaners separate general waste and then deposit into the garbage chute system. Caretaker(s) replace full bins beneath chute with empty ones.
Commingled Recycling	**660**L MGBs	Cleaners separate commingled materials and then deposit into the recycling chute system. Caretaker(s) replace full bins beneath chute with empty ones.

4.3 Disposal of Wastes/Recyclables

The following table summarises the disposal pathway for the wastes and recyclables generated once the development is operational. Note that specific recycling and landfill facilities will be determined by the appointed private waste contractor.

Table 4 – Waste Disposal Pathways

Type of material	Destination
Commingled recycling	Transported to a recycling facility for recycling by the appointed contractor
General waste	Transported to a landfill for disposal by the appointed contractor

5 Waste Stream Acceptance Criteria

5.1 Acceptance Criteria

General Waste:

General waste bins will be in 1100L MGB's. The lids and signage should be colour-coded red. The general waste stream does not include hazardous material (such as batteries, fluorescent light tubes, light bulbs and/or toner cartridges), recyclable material or electronic equipment such as computers, TVs and mobile phones.

Commingled (Mixed Recycling):

The comingled recycling system will be 660L MGB's and should accept all recyclable plastic containers, aluminium containers, glass bottles and steel cans, paper and cardboard. It does not include contaminated recyclables. Commingled recycling bin lids and signage should be colour-coded yellow.

5.2 Bin Requirements

Containers located within the development for waste and recycling should be consistent. The following table outlines the colour coding that has been developed by Standards Australia.

Table 5: Standards Australia waste/recycling container colour coding

Waste Stream	Bin Body Colour	Lid Colour
Paper Recycling	Blue	Blue
Cardboard Recycling	Green	Blue
Food Organics	Burgundy	Burgundy
Commingled Recycling	Green	Yellow
Used Cooking Oil Recycling	NA	NA
General Waste	Green	Red

Appendix A contains illustrations of bins (and other waste management equipment) that could be used within the various tenancies and commercial areas. The pictures provide examples of the different options for equipment such as MGB, tugs for transporting bins, trolley unit and a wheelie-safe trolley.

6 Other Systems

In addition to the diversion system that will be implemented, other waste diversion and minimisation practices may also be implemented. The following provide an example of these types of systems:

Fluorescent Light Tubes

A fluorescent light tube recycling stream may be required depending on the contractual arrangements for replacing light tubes. Recycling of used fluorescent light tubes could be a contractual requirement of the electrician responsible for servicing the lights. Alternatively, if lights are services using in-house staff a fluorescent light tube recycling receptacle should be located in the recycling area.

Toner Cartridges

A toner cartridge recycling bin/box should be placed in key printing areas to capture used cartridges. These can be recycled on an as-needed basis.

E-Waste

Electronic equipment should be recycled on an as-needed basis.

Mobile Phones

Mobile phones can be collected in secure receptacles at centralised collection points. Alternatively, boxes containing postage satchels can be placed in centralised areas for use as needed.

7 Ongoing Management

Having suitable systems in place is only one element of an effective waste management system. Compliance by all stakeholders is essential.

Prior to acceptance of the cleaning contract, the private waste contractor will be required to demonstrate how the management of waste and recycling will be carried out so as to ensure that segregated materials are placed in the correct systems. This process will be agreed upon and a training program implemented by building management to ensure full understanding by all tenants and building management/caretakers.

In addition, building management/caretaker(s) will be responsible for managing any non-compliance issues they observe during their activities. This may include contamination of recycling, non-participation in the recycling system, or missing or damaged bins.

Waste and recycling contractors will be required to report actual volumes collected by stream so that site management can monitor performance and feed this back to stakeholders.

It is highly recommended that a basic reporting program be set up at the site which would include bin tally sheets that detail the number of bins collected and how full they are at the time of collection, in addition to communication procedures to allow waste contractors to provide feedback regarding contamination and leakage.

All tenants should be educated and made aware of any changes to the existing waste systems.

Appendix A – Waste Management Equipment

The following diagrams illustrate colours and sizes of different bins that could be used within the development.

Figure 1 – MGB bin

Figure 2 – MGB bin

Figure 3 – Indicative size of MGB

Figure 3 – Recycling crate

Figures 4, 5, 6 and 7 – Bin movers and tugs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Appendix B – Example Signage