**J D MACDONALD**

# WASTE MANAGEMENT PLAN

**February 2009**

# Proposed mixed hotel, residential development

**33 CROSS STREET,**
**DOUBLE BAY**

PREPARED FOR ARCHITECTUS SYDNEY
FOR SUBMISSION TO NSW DEPARTMENT OF PLANNING

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## 1.0 INTRODUCTION

The waste management plan to follow pertains to the Stamford Plaza Redevelopment located at 33 Cross Street, Double Bay. This waste management plan is an operational waste management plan and will address the operational phases of the development.

The plan outlines measures to achieve the following purposes:

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

For the purpose of this report the proposed development will consist of:

- **Residential Apartments** – 39 residential apartments located in various residential cores.
- **Commercial Hotel** – 66 Bed Hotel
- **Retail Space** – 1376 Square metres in total.

Each section of this development has 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 Project 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 Sydney City 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 Local Authorities.

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

## 2.0 GENERATED WASTE VOLUMES

This assessment of waste volumes is an estimate only and will be influenced by the development's management and occupant's attitude to waste disposal and recycling We have based our calculations seven (7) days per week of waste generation. Figures could be affected however, by apartment occupancy rates.

### 2.1 Residential Apartments

Projected waste quantities during the operational phase of the residential section of the development are listed below. Waste source generation has been separated into general and recyclable waste.

**General Waste:**

| Location | Waste Generation Rate | General Waste Generated |
|---|---|---|
| *Unit Nos.* | *L/unit/collection* | *L/collection* |
| North tower (4) | 80 | 320 |
| North Podium (8) | 80 | 640 |
| East Tower (12) | 80 | 960 |
| East Podium (3) | 80 | 240 |
| West Tower (12) | 80 | 960 |
| | **Total** | **3120** |

**Recyclable Waste:**

| Location | | Waste Generation Rate | General Waste Generated |
|---|---|---|---|
| *Type* | *Unit Nos.* | *L/unit/week* | *L/week* |
| Paper | 39 | 20 | 780 |
| Green Bottle | 39 | 10 | 390 |
| Brown Bottles | 39 | 10 | 390 |
| Clear Bottle | 39 | 10 | 390 |
| | | **Total** | **1950** |

## 2.2 Commercial Hotel

Projected waste quantities during the operational phase of the Hotel section of the development are listed below. Waste source generation has been separated into general and recyclable waste.

**General Waste:**

| Location | Waste Generation Rate | General Waste Generated |
|---|---|---|
| *No Beds.* | *L/bed/day* | *L/per day* |
| 66 | 5 | 330 |
| | **Total p/wk** | **2310** |

**Recyclable Waste:**

| Location | | Waste Generation Rate | General Waste Generated |
|---|---|---|---|
| *Type* | *Bed Nos.* | *L/100m$^2$/bar – dinning areas/day* | *L/day* |
| Mixed | 66 | 2 | 136 |
| | | **Total p/wk** | **952** |

## 2.3 Retail space

Projected waste quantities during the operational phase of the retail space section of the development are listed below. Waste source generation has been separated into general and recyclable waste.

**General Waste:**

| Location | Waste Generation Rate | General Waste Generated |
|---|---|---|
| *Total NLA.* | *50L/100m2/day* | *L/per day* |
| 1376 | 50 | 688 |
| | **Total** | **4816** |

**Recyclable Waste:**

| Location | Waste Generation Rate | General Waste Generated |
|---|---|---|
| *Total NLA.* | *25L/100m2/day* | *L/per day* |
| 1376 | 25 | 344 |
| | **Total** | **2408** |

## 3.0 WASTE MANAGEMENT RECOMMENDATIONS

### 3.1 General Waste

**Residential Apartments**

**North Podium (8 apartments)**
Residents will be required to transport general waste from their apartment to the proposed central refuse storage area located at the Upper Basement Level on a daily basis or as appropriate via the use of the passenger lift.
Each resident will be provided with a waste cupboard space within their apartment for the storage of general waste until it is disposed of.

**North Tower (4 apartments)**
Residents will deposit their general waste in the garbage chute located adjacent to the lift on a daily basis or as appropriate. The garbage chute will transport the waste into a garbage room located at upper basement level.

**East Tower (12 apartments)**
Residents will deposit their general waste in the garbage chute located adjacent to the lift on a daily basis or as appropriate. The garbage chute will transport the waste into a garbage room located at upper basement level.

**East Podium (3 apartments)**
Residents will deposit their general waste in the garbage chute located adjacent to the lift in the Tower on a daily basis or as appropriate. The garbage chute will transport the waste into a garbage room located at upper basement level.

**West Tower (12 apartments)**
Residents will deposit their general waste in the garbage chute located adjacent to the fire stairs on a daily basis or as appropriate. The garbage chute will transport the waste into a garbage room located at upper basement level.

### 3.2 Recyclable Waste

**Residential Apartments**
The recycled waste will be stored via the use of a 240L and 120L colour-coded receptacles as adopted by the “Australia and New Zealand Environment and Conservation Council” (ANZECC).
Recycling will be collected in these bins at each floor and removed by cleaning staff to the centrally located refuse storage room located on upper basement level.

### 3.3 Commercial Hotel:

**General Waste / Recycling:**
Garbage and recycling to be collected by cleaning staff and transported via goods lift to upper basement and stored in dedicated centrally located garbage storage room.

### 3.4 Retail space:
**General Waste / Recycling**
Garbage and recycling to be transported by retail staff via use of public lift located in the North West corner of the site and stored in dedicated centrally located garbage storage room in the upper basement.

### 3.5 External Collection of Waste:

**Residential Apartments**
Residential apartment waste / recycling will be collected by a private contractor's collection vehicle. Prior to collection, the waste caretaker for the development will transport all general waste / recycling bins from the separate garbage rooms to the centrally located garbage room located at upper basement ready for collection. Once collection is complete, the waste caretaker will transport the bins back to the appropriate garbage rooms at Upper Basement Level. The private contractor will collect all Waste / Recycling directly from inside the development in the loading dock located on the upper basement level. This loading dock is adjacent to the main centrally located garbage room.

**Commercial Hotel / Retail**
Hotel waste and recycling will be stored in the dedicated commercial refuse room and collections again are to occur from the adjacent loading dock area at Upper Basement.

### 3.6 Organic Waste

It is recommended that all organic waste be handled and managed by the personnel responsible for maintaining landscaped areas.

## 4.0 WASTE EQUIPMENT RECOMMENDATIONS

The following waste equipment and quantity recommendations have been made based on expected waste generation quantities.

### 4.1 Residential

**General Waste**
Based on the previously stated waste generation our recommendations for waste handling equipment are as follows:

***Collection Containers –*** A private contractor is to engaged to provide a twice-weekly collection service for residential general waste. Therefore, utilising the previously calculated *General Waste* for the residential section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required – Thirteen (13) 240L bins collected weekly in total***

**Recycled Waste**
Based on the previously stated recycled waste generation our recommendations for waste handling equipment are as follows:

***Collection Containers –*** A private contractor to provide a weekly collection service for residential recycling. Therefore, utilising the previously calculated *Recyclable Waste* for the residential section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required –***
***Three (3) 240L bins collected weekly for paper recyclables***
***Five (5) 240L bins for mixed bottle recyclables***

**Commercial Hotel**

***General Waste***

***Collection Containers –*** A private contractor is to engaged to provide a twice-weekly collection service for residential general waste. Therefore, utilising the previously calculated *General Waste* for the residential

section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required – Ten (10) 240L bins collected weekly in total***

**Recycled Waste**

***Collection Containers –*** A private contractor to provide a weekly collection service for residential recycling. Therefore, utilising the previously calculated *Recyclable Waste* for the residential section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required – four (4) 240L bins collected weekly***

### Retail Space

***General Waste***

***Collection Containers –*** A private contractor is to engaged to provide a twice-weekly collection service for residential general waste. Therefore, utilising the previously calculated *General Waste* for the residential section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required – Twenty (20) 240L bins collected weekly in total***

### Recycled Waste

***Collection Containers –*** A private contractor to provide a weekly collection service for residential recycling. Therefore, utilising the previously calculated *Recyclable Waste* for the residential section, the following ***240L Mobile Garbage Bins*** are required:

***Qty Required – Ten (10) 240L bins collected weekly in total***

## 5.0 GARBAGE ROOMS & GARBAGE AREAS

Space has been allocated for refuse storage and collection areas, for the proposed mixed use development at upper Basement Level. Floor plans of the garbage rooms are included on the DA drawings submitted with this application. Private contractors will collect general waste on a twice-weekly basis for all sections of the development. All recyclable waste will be collected on a weekly basis. All collections of waste will occur from the loading dock located adjacent to the main refuse storage room at upper basement level.

Please refer to DA drawings submitted with this application for garbage room layouts as prepared by *Architectus*.

Construction of both the garbage areas and garbage rooms is to meet all requirements set out in Typical Council Codes, BCA and Australian Standards.

The garbage rooms are to be constructed to the following requirements:

- The floors of the garbage rooms shall be constructed of concrete at least 100mm 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 and drainage to sewer;
- Hose cocks shall be located and protected so they cannot be damaged and fitted with an adequate length of hose;
- There is adequate ventilation either natural or mechanical;
- The waste area shall be appropriately signposted e.g. for recycling bins.