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WASTE MANAGEMENT PLAN

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DWYER'S SITE DEVELOPMENT STAGE 1

PREPARED FOR BELMORGAN PROPERTY DEVELOPMENT
FOR SUBMISSION TO DEPARTMENT OF PLANNING



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1.0. INTRODUCTION

The waste management plan to follow pertains to the proposed retail, entertainment & leisure development, Dwyer's Site – Stage 1, located at the corner of Crown Street and Corrimal Street, Wollongong. This waste management report will pertain to the DA application for Stage 1 of the development. This waste management report pertains to the operational phase of the development. A Construction Waste Management Plan will be prepared by the nominated contractor prior to construction works commencing.

For the purpose of this report, the proposed development will consist of one (1) primary section as follows:

1. Retail & Commercial Tenancies

- Retail Tenancies incl. a food court.
- Mini Major Tenancy.
- Supermarket.
- Commercial Offices.
- Cinemas.

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 building application.

All figures and calculations are based on room numbers as advised by our client and shown on architectural drawings. Calculations have been made using typical waste generation calculation information supplied by Wollongong Council.

All waste facilities and equipment are to be designed and constructed to be in compliance with Wollongong 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 hotel management and its employees attitude to waste disposal and recycling
- ◆ We have based our calculations on a seven- (7) day working week. Figures could be affected, however, by occupancy rates.
- ◆ In calculating the waste generated for this site we have allowed for the maximum volumes as specified in Wollongong Council's Typical Waste Generations rates.

2.1 RETAIL & COMMERCIAL SECTION – Basement Level 1 to Level 4.

Waste Calculations as per "Retail & Commercial Generation Calculation Table" Spreadsheet (See Appendix A of this report)

- ◆ Total Waste Generated: 24.5m³ / Day
- ◆ Total Recycled Generated: 20.5m³ / Day

3.0. WASTE MANAGEMENT RECOMMENDATIONS

It has been determined that all waste generated from the two (2) sections of this development should be internally transported to the dedicated central garbage rooms at Ground Level as it is proposed all collection will be performed by an appointed private waste caretaker.

The requirements for the transportation of the waste generated from the associated sections of this development will be described under the appropriate following report sub-sections 3.1 & 3.2.

The requirements for storage of general & recycled waste will be described in Section 4.0 Waste Equipment Recommendations.

The requirements for General & Recycled Waste collection will be described in section 5.0 External Waste Collection Requirements.

3.1 RETAIL & COMMERCIAL SECTIONS

General Waste

Retail & Commercial

It is recommended that each retail & commercial tenant be responsible for their own in house storage of general waste. At the end of the day, staff from the retail tenancies will transport the waste to the retail/commercial garbage room located on Level 1. A designated refrigerated garbage room will be provided for the storage of putrescible waste generated by the restaurants (food retail) section of the Dwyers Site. A compactor unit will be supplied to store and remove all retail & commercial general waste. It is recommended that this compactor have a capacity of 30m³.

All retail & commercial waste will be collected by a private waste contractor. All waste will be collected utilising the dedicated loading dock accessed off Crown Street. It is proposed that due to the large scale of the development and the large amount of general waste generated, that a daily collection cycle be implemented.

Supermarkets & Major Tenancies

The supermarket tenancies will store all its waste on site and will be responsible for its storage, management and removal. A dump bin area will be provided for the storage of all general waste.

Recyclable Waste

Retail & Commercial

Storage in-house of recyclable glass/plastic and paper/cardboard should be provided. Alternatively, all recyclable material can be stored together and sorted into the appropriate containers in the garbage rooms. Either way, separation of the glass/plastic and paper/cardboard will have to be carried out by the tenants. It is expected that the majority of recyclable waste generated by these tenants will most likely be paper recyclable products such as cardboard boxes and paper products. Designated compactors will be provided for the storage and removal of all cardboard and paper recyclable material.

Supermarket & Major Tenancies

The proposed supermarket and major tenancies will utilise the compactors for the storage of all paper and cardboard recyclable material.

3.2 WASTE CARETAKER

It is strongly recommended that a full time caretaker be employed to manage the garbage system of this development. Furthermore, it is recommended that a part time caretaker be employed to manage the system in the full time caretaker's absence, i.e. on weekends and Public Holidays when the waste generation is expected to peak.

The caretaker's duties would include the following:

- ◆ Organising, maintaining and cleaning the central garbage rooms as required. Due to the nature of the waste it is recommended that in addition to cleaning, the garbage room be deodorised **(recommended at least once per week)**.
- ◆ Sorting recycled waste into appropriate receptacles.
- ◆ Replacing full bins under the garbage chute with empty ones as required.
- ◆ Organising for both Garbage and Recycled Waste pick-ups as required.

4.0. WASTE EQUIPMENT RECOMMENDATIONS

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

As stated previously it will be assumed that the receptacles for each individual section can be held in house until the end of each day. The receptacles will then be transported by the particular section's personnel to the holding areas allocated.

4.1 RETAIL & COMMERCIAL SECTIONS

DAILY COLLECTION (RECOMMENDED)

◆ Retail & Commercial

Waste Generated: 24534 L/day

Recycled Waste Generated: 20502 L/day

Equipment Required: Four- (4) off 1100 litre Plastic Refuse Containers for General Food Waste, Emptied Daily

One (1) Macapak 2000 stationary compactor complete with 30m³ container for general waste, emptied twice weekly or as required.

Two (2) Macapak 2000 stationary compactors complete with 30m³ containers for recyclable paper products. This includes the unit for the supermarket tenancy. This will be emptied twice-weekly or as required.

Two – (2) off 1100 litre Plastic Refuse Containers for Container Recycling, emptied every two (2) days

All waste generation rates and nominated bin sizes are approximate only. Tenants may nominate bin sizes and quantities to suit their needs.

4.2 GARBAGE STORAGE ROOM(S)

It is recommended the garbage storage area(s) be refrigerated to a temperature of 3-5°C or alternatively tempered with conditioned air.

Note that both hot and cold water should be supplied to the garbage room(s) to allow for wash down of the area and all bins.

Construction of both the garbage areas and garbage rooms is to meet all requirements set out in Wollongong City Council Codes, 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.

5.0. EXTERNAL WASTE COLLECTION REQUIREMENTS

5.1 RETAIL & COMMERCIAL SECTION

Retail waste will be collected by a nominated private waste contractor. The collection vehicle will enter the development off Crown Street. Collection will occur utilising the dedicated loading dock.

It is recommended that collection of retail & commercial waste be on a daily basis due to the nature of the waste being produced. This will need to be monitored in the early stages and adjusted to suit the needs of the development. The compactor units will be collected twice-weekly or as required.

6.0 STATEMENT OF COMMITMENTS

This waste management report relates to Stage 1 of the Dwyer's Development. The main recommendations of this report include:

- Dedicated compactors to be used for general and recyclable waste for retail & commercial tenants;
- A dedicated refrigerated garbage room for food putrescible waste to be provided;
- Major tenancies to implement and manage their own waste management systems, equipment and collections;
- It is proposed that 1100L mobile garbage bins be used as a recommended size but tenants may nominate a more appropriate size for their particular use.
- Daily collection cycle is recommended for putrescible waste generated but can be modified to suit the tenant's particular needs.
- A waste caretaker to be employed to manage the waste management system for the development.

7.0 APPENDIX A – WASTE GENERATION CALCULATION SPREADSHEET

RETAIL & COMMERCIAL WASTE GENERATION CALCULATION TABLE

Type of Premises	Nett Area	Waste Generation		Recycling Generation		Waste Generated		Recycling Generated	
Supermarket	3760	240	L/100sq.m /day	240	L/100sq.m /day	9024	Litres/Day	9024	Litres/Day
Mini Majors	2034	50	L/100sq.m /day	50	L/100sq.m /day	1017	Litres/Day	1017	Litres/Day
Major Retail	5390	50	L/100sq.m /day	50	L/100sq.m /day	2695	Litres/Day	2695	Litres/Day
Food Retail	566	80	L/100sq.m /day	50	L/100sq.m /day	453	Litres/Day	283	Litres/Day
Restaurants	1232	5	L/1.5sq.m /day	2	L/1.5sq.m /day	4107	Litres/Day	1643	Litres/Day
General Retail	7336	50	L/100sq.m /day	50	L/sq.m /day	3668	Litres/Day	3668	Litres/Day
Cinemas	3312	100	L/100sq.m /day	50	L/sq.m /day	3312	Litres/Day	1656	Litres/Day
Offices	2584	10	L/100sq.m /day	20	L/sq.m /day	258	Litres/Day	517	Litres/Day
Total						24534	Litres/Day	20502	Litres/Day
						24.530	cu.m/Day	20.500	cu.m/Day