

HANSEN YUNCKEN

WASTE MANAGEMENT PLAN

NOVEMBER 2008

PROPOSED INDUSTRIAL DEVELOPMENT

LENORE LANE – ERSKINE PARK – SITE H
Target Off-site Facility

PREPARED BY HANSEN YUNCKEN PTY. LIMITED.
FOR SUBMISSION TO THE DEPARTMENT OF PLANNING.



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1.0 INTRODUCTION

The waste management plan to follow pertains to the proposed industrial development, located at Site H, Lenore Lane, Erskine Park. 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 two (2) primary sections as follows:

1. Off-Site Reserve:

Off-site reserve area with approximate nett lettable area of 12,500m².

2. Offices:

Ancillary office areas for the administration of the off-site reserve, with approximate nett lettable area of 200m².

Considering the size and scale of the development, it is proposed that tenants will store their waste in large waste bins located in convenient places on site around the development. This is due to the large sizes of bins being utilised and for ease of collection.

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 building areas as shown on architectural drawings. Calculations have been made using waste generation rates devised from industry guidelines and previous experience. All recommendations for waste facilities and equipment will be in compliance with Australian Standards, BCA and Penrith City Council *Controls for the Management and Minimisation of Waste*.

2.0 GENERATED WASTE VOLUMES

- ◆ This assessment of waste volumes is an estimate only and will be influenced by the building management and its employee's attitude to waste disposal and recycling.
- ◆ We have based our calculations on a six- (6) day working week. Figures could be affected, however, by unit occupancy rates.
- ◆ In calculating the waste generated for this site we have allowed for the maximum volumes as devised from industry guidelines and previous experience and using rates as listed by Penrith City Council.

2.1 Off-Site Reserve Area

Projected waste quantities during the operational phase of the off-site reserve section of the development are listed below. These calculations do not include areas such as car parking areas which will produce no waste. Waste source generation has been separated into general and recyclable waste.

General Waste:

General Waste					
Location	Waste Generation Rate	Floor Area	Waste Generation	Collection Frequency	Waste Generation
Reference	L / 100sq.m / day	sq.m	L / day	days	L / collection
Off-Site Reserve Area	10	12,500	1,250	4	5,000

Recyclable Waste:

Recyclable Waste					
Location	Waste Generation Rate	Floor Area	Waste Generation	Collection Frequency	Waste Generation
Reference	L / 100sq.m / day	sq.m	L / day	days	L / collection
Off-Site Reserve Area	10	12,500	1,250	4	5,000

2.2 Office/Administration Area



Projected waste quantities during the operational phase of the offices section of the development are listed below. These calculations do not include areas such as car parking levels which will produce no waste. Waste source generation has been separated into general and recyclable waste.

General Waste:

General Waste					
Location	Waste Generation Rate	Floor Area	Waste Generation	Collection Frequency	Waste Generation
<i>Reference</i>	<i>L / 100sq.m / day</i>	<i>sq.m</i>	<i>L / day</i>	<i>days</i>	<i>L / collection</i>
Office Area	10	200	20	4	80

Recyclable Waste:

Recyclable Waste					
Location	Waste Generation Rate	Floor Area	Waste Generation	Collection Frequency	Waste Generation
<i>Reference</i>	<i>L / 100sq.m / day</i>	<i>sq.m</i>	<i>L / day</i>	<i>days</i>	<i>L / collection</i>
Office Area	10	200	20	4	80

3.0 WASTE MANAGEMENT RECOMMENDATIONS



The following section will highlight the options available for management of the developments waste and the internal collection of the waste for storage in the waste containers until external collection occurs.

3.1 Office Area

Commercial waste will be separated on site by the occupying tenants into the following streams using appropriate storage containers:

- General Waste (Garbage);
- Security Shredding Paper;
- Recyclable paper and containers (recyclable waste co-mingled)

It is recommended that the offices in the factory unit section of the development be responsible for their own in house storage of the waste material. Generally each desk in the office will be provided with an individual waste bin. What this bin will be used for will depend on the collection technique utilised. It is advisable that any non-recyclable material be stored separate from the recyclable material, especially the recyclable paper.

General Waste

Suitable collection containers are placed on each level of office. The cleaners will empty these containers into the larger collection containers for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that general waste is placed in the appropriate collection container.

Recyclable Waste

Paper: Due to the majority of waste from the office section of the development being predominantly paper, it is proposed that the individual waste bins allocated to each desk be used for its storage. The office cleaners will then empty these individual containers into the cardboard compactors to be supplied.

-AND-

Glass/plastic: Any glass and/or plastic recyclable material will be sorted from the general waste by the office cleaners who will then transport the recyclable material to the larger collection containers for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that recyclable waste is placed in the appropriate collection container.

Dedicated paper recycling bins both for general paper recycling and for security document storage will be provided adjacent to photocopying facilities for easy access and to promote recycling by office staff. Any additional



cardboard boxes shall be stored on each level and removed by cleaning staff as required. Cardboard boxes will need to be flattened by tenants to assist in transportation.

The off-site reserve area within the development will be provided with dedicated general waste and recycling containers located adjacent to the office areas for the disposal and storage of waste prior to collection.

3.2 Off-Site Reserve Area

It is recommended that the off-site reserve area be responsible for their own in house storage of both general waste and recyclable material. Each afternoon or evening or as appropriate, the staff from the off-site reserve will transport the waste to the appropriate general and recyclable waste containers and place the waste in the containers provided for collection purposes. These containers will be conveniently located for ease of access around the development site and will be easily identified so that general and recyclable waste is placed in the appropriate collection container. Cardboard compactors will be provided for the disposal and storage of any cardboard waste.

General Waste

Most of the non-recyclable material from the off-site reserve section will be predominantly trade waste. This should be stored in suitable containers in each off-site reserve until transported to the storage containers for collection purposes.

Recycled Waste

It is expected the off-site reserve section will produce mainly recyclable paper, cardboard, glass and plastic. These should be stored in suitable containers in each off-site reserve for transport to the collection containers located throughout the site.

Any recyclable waste generated by the off-site reserves (most likely cardboard boxes/paper) should be stored with any recyclable waste generated by the office section of factory unit. All cardboard waste will be disposed and stored within the compactors provided.



4.0 WASTE EQUIPMENT RECOMMENDATIONS

The equipment required for waste handling will depend on the space allocated for storage and the associated number of collections. The following assumptions have been incorporated in the waste storage design for this development:

- The proposed bin sizes are only a recommendation. Consultation with proposed tenants should be undertaken in determining appropriate bin sizes and collection frequencies to suit their needs;
- The estimated waste volumes are based on industry guidelines therefore individual tenant waste requirements and generation rates may vary and the system should be monitored and varied to suit as required.
- Bin sizes listed are standard bins and will be available from the nominated private waste contractor engaged to manage the waste for the proposed development.

4.1 Off-site reserve & Office Area

Off-site reserve 1:

General Waste

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

Collection Containers – It is recommended that 4.5m³ containers be utilised for the storage of general waste.

$$\begin{aligned} \text{Bins required} &= (\text{Waste Generated})/(\text{Bin Capacity}) \\ &= 5,080\text{L} / 4,500\text{L} \\ &= 2 \end{aligned}$$

This size bin will adequately cover the storage requirements of general waste.

Qty Required – Two (2)

Recycled Waste

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

Collection Containers - It is recommended that 4.5m³ containers be utilised for the storage of recyclable waste – glass and containers.



$$\begin{aligned}\text{Bins required} &= (\text{Waste Generated})/(\text{Bin Capacity}) \\ &= 2,540\text{L} / 4,500\text{L} \\ &= 1\end{aligned}$$

This size bin will adequately cover the storage requirements of the trade centre recyclable waste.

Qty Required – One (1) for recyclable glass and containers

Cardboard Compactor – Macapak 2000 Static Compactor or equivalent complete with 40m³ “hook-lift” type container to suit local contractor.

Qty Required – Two (2) static compactors for cardboard waste



5.0 GARBAGE AREAS & COLLECTIONS

Due to the large scale of the development and the large storage containers to be utilised, the containers will be located in conveniently placed locations of the site. This method will aid in ease of collection as the site is easily accessible for large collection vehicles. Floor plans of the garbage containers and positioning will be included in the DA drawings submitted with the application. It is recommended that bins be positioned adjacent to administration/office areas for each off-site reserve for ease of access by tenants.

Collection of waste generated by off-site reserve development will occur from the various site locations of the proposed containers by a private contractor. On collection days, the collection vehicle would enter the development using the access driveway accessed from Templar Road and proceed to each of the various containers where the garbage would be collected.

The cardboard compactors will be collected as required by the nominated waste contractor.

Construction of all garbage areas is to meet all requirements set out in Penrith City Council *Controls for the Management and Minimisation of Waste*, BCA and Australian Standards.