

Nepean Gardens

Operational Waste Management Plan

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1 Introduction

This Waste Management Plan (WMP) has been prepared on behalf of the Catholic Cemeteries Board to accompany a Development Application for Nepean Gardens, located at 13 Park Rd, Wallacia NSW.

The Plan has been developed with consideration of Penrith City Council'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 *Penrith Development Control Plan 2014*.

The Plan relates to the ongoing operation of development, which involves the construction of a memorial and funeral service facility and administration building

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 staff 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 staff to segregate appropriate materials that can be recycled; displaying signage in all 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

Other wastes may be generated, but these would be in small volumes and irregular in terms of when generated. The management of the site will conduct a waste assessment once the site is operational to determine the additional types and quantities of wastes that may be generated. Following this, appropriate management systems will be implemented and where necessary generators advised of these management requirements.

It is not expected that significant quantities of garden waste will be generated. The appointed gardener will be required to manage this waste by disposal at a composting facility or used on-site.

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 in Penrith City Council's *Penrith Development Control Plan 2014, C5: Waste Management*, it is estimated that the entire development will generate a total of approximately **1,325 litres** of waste and recyclables per week (this is total). Per stream this is:

- **925 litres** of waste per week
- **400 litres** of recyclables per week

The volumes are based on correct segregation of waste and recyclables

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 as detailed above tables for the development. The systems refer to the outside waste storage bins onsite, rather than the internal bins that may be used within the development.

Waste Stream	Bin Size	No. of bins	Clearance (frequency/ week)	Capacity (Weekly)	Estimated Volume/Week	Footprint per bin (m2)	Total Footprint
General waste	240	4	1	960	925	0.44	1.76
Recycling	240	2	1	480	400	0.44	0.88
TOTAL		6		1,440	1,325		2.64

3.2 Waste Storage

The following diagrams illustrate the outside location of waste bins. These outside bin storage areas have been selected to maximise pickup efficiency and the effective management of each building’s waste. They refer to the aforementioned waste systems, rather than the internal bins that will be utilised within the development.

Figure 1 - Location of Bin Storage near Chapel

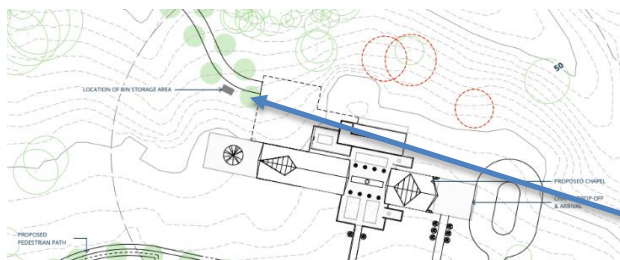
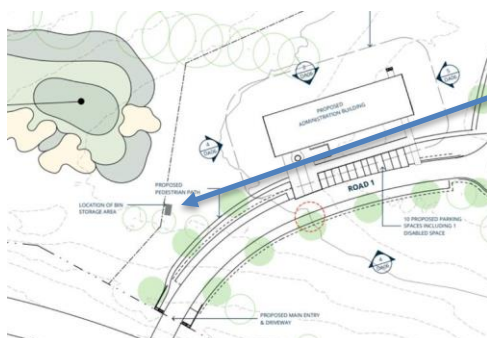


Figure 2 – Location of Bin Storage near Administration Building



Bin Locations

The waste areas will be accessed by cleaning and grounds staff where they will dispose of wastes/recyclables into the designated bins provided.

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 staff and cleaners.

Appendix A contains example of bin types and other equipment that could be used for managing waste/recyclables within this development

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.

Each stream will be located in a designated area. This will assist in easy identification of correct bins by cleaners and staff.

3.4 Waste Management Systems

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

All cleaning and grounds staff will be briefed on the proper use of waste management systems. Staff will be encouraged to maximise the separation of general waste and mixed recyclables to aid the proper disposal of all materials.

Cleaners, grounds staff and management will monitor recycling streams as it is imperative that they remain free of contamination to ensure compliance with Penrith City Council and Suez – which will be the waste contractor utilised for the collection and depositing of waste and recyclables.

Waste/recyclables will be transported from internal bins to the larger bins located in the outside waste areas on a daily basis by staff. This process will take place for each individual building located onsite. Due to the small amounts of waste and recyclables produced by the Chapel and Administration buildings, outside bin storage areas have been selected.

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 Ongoing Management

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

Cleaners and grounds staff will be adequately trained and educated on the management of waste and recycling so as to ensure that segregated materials are placed in the correct systems. While site management will carry out monitoring of the system on a regular basis.

In addition, cleaners and grounds staff will be required to feed back to site management any non-compliance issues they observe during their cleaning activities and garbage collection service. This may include contamination of recycling, non-participation in the recycling system, or missing or damaged bins. In this way issues can be promptly dealt with by management.

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.

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

5 Staff Education

All staff will receive information regarding the waste collection systems including how to use the system, which items are appropriate for each stream and collection times. Appropriate signage and updated information will also be provided, as well as receiving feedback on issues such as contamination of the recycling stream or leakage of the recyclables into the general waste. The building management will be responsible for carrying out these tasks.

All waste receptacles will be appropriately signed. Examples of signage are included in Appendix B.

It is recommended that all signs should:

- Clearly identify the waste/recycling stream;
- Use correct waste/recycling stream colour coding;
- Identify what can and cannot be disposed of in the receptacle; and
- Include highly visual elements to accommodate for individuals with inadequate English literacy.
- As part of the staff induction process, a waste and recycling toolkit will be provided. This toolkit will include the details of each of the systems in place; acceptance criteria for each stream and how each stream is managed.

On a quarterly basis waste and recycling performance reports will be reported back to staff so that they are aware of their performance and areas for improvement. An active waste monitoring program will be employed.

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



Figures 4, 5, 6 and 7 – Bin movers and tugs





Appendix B – Example Signage

