Ku-ring-gal Municipal Council





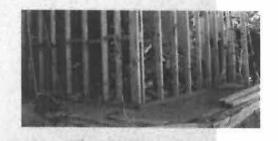
NO. 40 AND POLICY FOR

CONSTRUCTION

AND DEMOLITION

WASTE MANAGEMENT



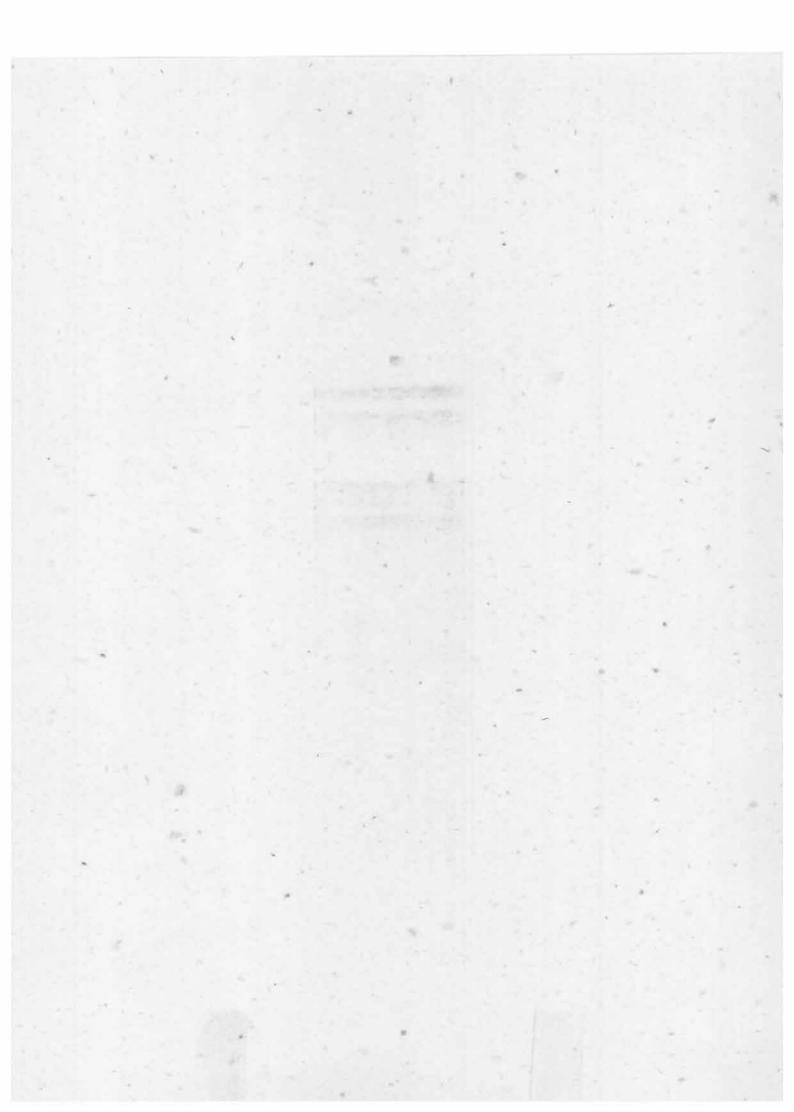








Adopted by Council on 5 May, 1998



PREFACE

CITATION

This document may be cited as Ku-ring-gai Municipal Council's Construction and Demolition Waste Management Policy.

COMMENCEMENT

The policy is effective from 5 June, 1998.

ACKNOWLEDGMENT

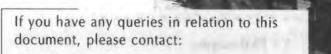
The policy is based on Waste Not - A Model Development Control Plan and Local Approvals Policy, February 1996. This was an initiative of the Combined Sydney Regional Organisations of Councils in response to New South Wales growing waste problem.

ASSESSMENT CRITERIA

This policy is a performance based document. It sets performance objectives and criteria in order for the policy's aims to be achieved. In addition, Council standards are included which are minimum standards that will satisfy the performance objectives. Where a proposed development does not comply with the specific minimum standards, the applicant must demonstrate to the Council how the development satisfies the aims of the policy.

There are two important points to note when dealing with performance based assessments:

- 1. The context is dynamic;
- The process involves balance and tradeoff.
- (R. Bardsley-Smith, Integrated Site Design Pty Ltd)



Development Control Ku-ring-gai Municipal Council Phone (02) 9424-0888, Monday - Friday 8:30am - 4:30pm











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1.0 INTRODUCTION

1.1 PHILOSOPHY

State and Local Governments recognise that uncontrolled waste generation and waste disposal by landfilling is not sustainable. With current waste management practices used in the region and the limited life expectancy of landfill sites, Sydney has approximately 5 to 10 years of landfill remaining.

Since the early 1990's Australia's waste reduction program has targeted the domestic sector of the community through a nation wide kerbside recycling campaign. However, a major proportion of Sydney's waste that is disposed of to landfill is generated through construction activities and via the commercial and industrial sectors. Much of Sydney's waste production can be reduced with industry action at the point of production. A further high percentage can be re-used and recycled if we take the time to separate recyclables at the source, promote local markets and arrange for transportation.

In response to this issue the State Government enacted the Waste Minimisation and Management Act, 1995. The aims of the Act are to:

- Reduce the tonnages of waste being disposed of to landfill by 60% by the year 2000 (based on 1990 figures); and
- Enforce the waste hierarchy, set down by the Act of: AVOID, REUSE, REDUCE AND DISPOSE.

Local Government has a key role to play in implementing measures for waste minimisation as a service provider and through the regulation of development activities. This DCP is Ku-ring-gai Municipal Councils initiative to ensure that the waste generated by development activities is minimised.

1.2 AIMS AND OBJECTIVES

1.2.1 AIM

This DCP aims to facilitate sustainable waste management in Ku-ring-gai in accordance with the principles of ecologically sustainable development.

1.2.2 OBJECTIVES

The key objectives of this DCP are:

- To encourage building design and construction techniques which will minimise waste generation;
- To implement the principles of the waste hierarchy of avoiding, reusing and recycling building and construction materials, household-generated waste and industrial/ commercial waste;
- To minimise the environmental impacts of waste;
- To promote the principles of ecologically sustainable development;
- To meet Council's responsibilities in relation to the Northern Sydney Regional Waste Plan; and
- To assist in achieving the Federal and State Government waste minimisation targets.

The objectives are met in the DCP through:

- Advice to applicants on how to complete the required Waste Management Plan proforma;
- Advice to applicants on how to reduce and manage wastes during the planning, demolition and construction phases of development and information on what facilities should be provided after construction has been completed; and
- Detailed appendices providing advice on calculating waste generation rates, waste facility design, suggested minimum design standards, and waste services available to assist applicants in the form of a supplementary waste register.

1.3 HOW TO USE THE DCP

Figure 1: Flow chart - How to use this document.

STEP 1

Read Chapter 2 carefully - turn to Page 6. This will tell you when this DCP is applicable and what the applicant must submit to Council.

STEP 2

Read the Waste Management Guidelines in Chapter 3 which are relevant to your particular type of proposal eg. multi-unit, residential or restaurant. Refer to page 7. If you are proposing a mix of uses, consult all relevant sections.

STEP 3

Read the detailed **Appendices** you are referred to in **Chapter 3.** Refer to page 29. This will help you with steps 4 and 5.

STEP 4

Complete the Waste Management Plan proforma - separate document available from Council. Refer to Page 22 for a sample of a completed Waste Management Plan.

STEP 5

Include all relevant details in your Waste Management Plan and ensure any drawn plans include details of your proposed waste management arrangements.

2.0 APPLICATION REQUIREMENTS

2.0 APPLICATION REQUIREMENTS

2.1 WHEN DOES THIS DCP APPLY?

This DCP applies to all development and building work in the Ku-ring-gai Municipal Council area that requires:

 A DEVELOPMENT APPLICATION (under Environmental Planning and Assessment Act, 1979);

and/or

- An application to the Council under Section 68 of the Local Government Act 1993 to:
 - Demolish a building;
 - Erect a building;
 - Undertake alterations and additions to a building (not exempted by Council's Local Approvals Policy);
 and
 - Place a waste storage container (such as skip) in a public place (such as the footpath).

This Construction and Demolition Waste Management DCP should be read in conjunction with all other relevant Council Plans, Codes and Policies, details of which are available from Council on request.

2 2 EXEMPTIONS FOR CERTAIN WASTE MANAGEMENT ACTIVITIES

Section 68 of the Local Government Act also requires Council approval for the following WASTE-RELATED ACTIVITIES:

- C1 For fee or reward, transport waste over or under a public place.
- C2 Place waste in a public place.

However, the Local Government (Approvals) Regulation provides AN EXEMPTION FROM THE NEED FOR THESE APPROVALS in the following circumstances:

- C1 Transport Waste. The transporting of waste over or under a public place for fee or reward, if the activity is liable to be licencsed under the Waste Minimisation and Management Act 1995 and Waste Minimisation and Management Regulation 1996. (i.e. Environment Protection Autority licence)
- C2 Place Waste in a public place. The placing of waste in a public place, if it is done in accordance with arrangements instituted by the Council (i,e, "normal" waste collection services.)

2.3 WHAT INFORMATION DOES COUNCIL REQUIRE?

This DCP requires an applicant to submit a completed proforma **WASTE MANAGEMENT PLAN**, refer to separate document available from Council.

WHAT IS A WASTE MANAGEMENT PLAN?

A WASTE MANAGEMENT PLAN is a checklist that provides Council with details of the following:

| 1 | The volume and type of waste to be |
|---|------------------------------------|
| | generated; |

| 1 | How the waste is to be stored and |
|---|-----------------------------------|
| | treated on site; |

| / | How and where the non-reuseable, or |
|---|---------------------------------------|
| | recyclable residual is to be disposed |
| | of: and |

| / | How ongoing waste management for | OI |
|---|----------------------------------|----|
| | the site will operate. | |

The following table provides a guide to the sections of the pro-forma Waste Management Plan that are to be submitted by applicants for specific activities.

Note: A worked example of the proforma Waste Management Plan is located at the end of Chapter 3 - "Waste Management Guidelines". Refer page 23.

TABLE 1: SUBMISSION REQUIREMENTS FOR SPECIFIC ACTIVITIES

| LAND USE OR ACTIVITY REQUIRING A WASTE MANAGEMENT PLAN | SECTIONS OF WASTE MANAGEMENT PLAN TO BE COMPLETED (completed sample proforma on page 23) |
|--|--|
| Demolition, including major renovations and excavation | SECTION 1 - Refer to page 16 for waste management guidelines relating to demolition activities. |
| Placing a waste storage container (a skip) in a public place (eg. on the footpath) | Section 1 - Refer to page 20 for waste management guidelines on waste storage containers. |
| Class 1a - single domestic dwellings. | Section 2, 3 and 4 -Refer to page7 for waste management guidelines on single domestic dwellings. |
| Class 1b, Class 2, Class 3 & Class 4 - Multi Unit Dwellings eg. boarding houses, town houses and residential flat buildings | Section 2, 3 and 4 - Refer to page 8 for waste management guidelines on multi-uni residential development. |
| Classes 5 & 6 Shops, offices and restaurants | Section 2, 3 and 4 - Refer to page 9 for waste management guidelines on shops, offices, and restaurants. |
| Classes 7, 8 & 9 Industry, health care buildings and assembly buildings (including schools) | Section 2,3 and 4 - Refer to pages 12 - 14 for waste management guidelines on light industry, health care buildings, and assembly buildings. |
| 0.1 0.0 | |

SECTION 2

Other Classes eg. Class 10 Landscaping

3.0 WASTE MANAGEMENT GUIDELINES

3.0 WASTE MANAGEMENT GUIDELINES

3.1 DESIGN STAGE

3.1.1 INTRODUCTION

The information presented in this section provides advice on how the principles of sustainable waste management can be incorporated into new developments. The suggestions provided are minimum design standards that can be utilised by developers to encourage waste minimisation and to ensure the efficient storage and collection of waste materials. In addition it is intended that these design suggestions will facilitate source separation of wastes, reuse and recycling of materials. The design criteria presented are not the only options available and Council actively encourages other innovative design suggestions. Council considers innovation and flexibility the keys to the successful implementation of sustainable waste management.

3.1.2 SINGLE DOMESTIC DWELLING

A single domestic dwelling is deemed to be a Class 1a dwelling as defined in Part A of the Building Code of Australia.

WASTE CUPBOARD

Each dwelling should have a waste cupboard of sufficient size to temporarily hold a single day's waste and to enable source separation of recyclable and non-recyclable materials.

WASTE AND RECYCLING STORAGE AREA

Each building should be provided with an area capable of accommodating:

 Council's standard garbage and recycling container (see APPENDIX B for details); and A composting bin and/or worm farm.

The area should have unobstructed access to Council's usual collection point and should be located within the rear yard to maintain visual amenity. Where this is impractical and/or inaccessible, waste containers may be stored at the front of the dwelling or within the garage or carport, with composting facilities in a separate location.

PURPOSE OF MINIMUM DESIGN STANDARDS

- To encourage waste minimisation (source separation, reuse and recycling) and ensure efficient storage and collection of waste.
- O This may be achieved by:
- providing an appropriate space within the dwelling for temporary storage of recyclables, waste and compost materials;
- providing an accessible and user friendly waste storage area on-site; and
- providing an area suitable for composting and/or worm farms.

YOUR APPLICATION SHOULD INCLUDE:

- Complete Sections 2, 3 and 4 of the Waste Management Plan.
- The following details are to be included on your drawn plans;
- location and details of temporary storage space within the dwelling
- location and details of waste and recycling storage area relative to the usual collection point.
- location and details of composting and/or worm farm areas.

3.1.3 MULTI UNIT RESIDENTIAL DEVELOPMENT

A mulit unit residential development includes Class 1b, Class 2, Class 3 or Class 4 buildings as defined in Part A of the Building Code of Australia.

WASTE CUPBOARD

Each dwelling should have a waste cupboard of sufficient size to temporarily hold a single day's waste and to enable source separation of recyclable and non-recyclable materials.

WASTE AND RECYCLING STORAGE AREA/FACILITY

Individual facilities are required where there are six or less domestic units. The facilities required for SIX or less units are the same as for single domestic units.

Waste and recycling storage areas for multiunit residential construction such as dual occupancies, small-scale town houses and villa home developments where the number of single occupancies is SIX or less can be the responsibility of each individual unit. In these circumstances a waste storage area should be allocated, preferably at the rear of each unit. The area should be easily accessible to the external collection point as individual unit occupants are responsible for on-street placement. For this type of development the collection point would usually be at the kerbside.

COMMUNAL FACILITIES ARE REQUIRED WHERE THERE ARE MORE THAN SIX DOMESTIC UNITS. Communal waste and recycling storage areas and an on-site (internal) collection point/s should be provided in the following circumstances:

- Multi unit developments where the number of occupancies exceeds SIX;
- Where site characteristics make access to the street difficult for individual unit holders, eg steep sites; and
- Where communal arrangements would suit the collection service.

The waste area should be capable of accommodating Council's required number of standard waste containers (see Appendix B for details of waste containers) and should be designed in accordance with the minimum standards provided in Appendix C and D. Where such an area is proposed, additional space for the storage of bulky waste, such as clean-up materials awaiting removal, or additional recycling, should be provided.

For large scale developments and/or sites with two street frontages, there should be a number of on-site waste and recycling storage areas in order to minimise travel distances, prevent on-site pollution and assist collection. These areas may work in conjunction with an internal collection area, especially where there may be a number of waste facilities operating in the development. These should be designed so that each room can be serviced directly by Council's waste collection service.

VOLUME REDUCTION EQUIPMENT

Where it is considered necessary, compactors and other volume reduction equipment may be provided in the waste recycling and storage area. Such equipment could save space on-site where such restrictions exist. If you are proposing to utilise volume reduction equipment it will be necessary to seek Council's advice on this matter **prior** to the installation of the equipment in order to maintain visual and noise amenity for the neighbourhood.

Volume reduction equipment should not be used on recyclables. Removing contaminants from compacted recyclables is almost impossible and compacted loads containing any contaminants will be rejected by markets. Council considers that waste and recycling storage facilities should allow for possible changes in on-site waste management arrangements.

COMMUNAL COMPOSTING AREAS

Council requires an area to be nominated for on-site communal composting. While the operation of such a facility will depend upon the interest of residents the potential should exist. This area should be incorporated in the landscaping plans for the development.

The following advice should be noted:

- Location should consider proximity to units (including adjoining developments), odour and location of the drainage system;
- The facility should be purpose-built. There are a variety of composting systems available and advice on this and public health considerations can be obtained from Council;
- The composting area will be the responsibility of the body corporate; and
- The area should be carefully signposted.

PURPOSE OF MINIMUM DESIGN STANDARDS

- To encourage waste minimisation (source separation, reuse and recycling) and ensure efficient storage and collection of waste and quality design of facilities.
- This can be achieved by:
- providing an appropriate space within each unit for temporary storage of recyclables, waste and compost material;
- ensuring that in circumstances where individual occupancy storage is proposed, an accessible and useable waste and recycling storage area is provided within each unit;
- ensuring that in circumstances where communal facilities are proposed, the facilities are of a sufficient size to store Council's standard bin size and is easily accessible from each unit and from Council's designated collection point;
- locating and designing facilities that complement the development;

- providing adequate space for on-site composting; and
- implementing acceptable administrative arrangements for ongoing waste management.

YOUR APPLICATION SHOULD INCLUDE:

- Section 2, 3 and 4 of the Waste Management Plan, completed; and
- 2. The following details should be included on your drawn plans:
- location of temporary storage space within each dwelling unit;
- design details and location of waste and recycling storage area per dwelling;
- if applicable the location of a communal internal collection point/s;
- location of the communal waste and recycling storage facilities, where applicable;
- location of communal composting area;
- location of volume reduction equipment where applicable;
- access for waste vehicles, noting clearance heights, overhangs and vehicle turning circles; and
- details of a legal access agreement when the waste collection vehicle is required to enter the site.

3.1.4 SHOPS, OFFICES AND RESTAURANTS

When designing waste facilities and waste management practices it is the intent of this policy to have business/commercial premises consider the nature and type of waste to be produced and how this should be managed on site. The minimum standards set out below and in the attached Appendix encourage business/commerical operators to become more responsible for the planning and ongoing management of

the waste they produce. These standards aim to encourage developers to incorporate the principles of sustainable waste management into new developments.

WASTE CUPBOARD

Individual commercial occupancies should have a waste cupboard of sufficient size to temporarily hold a single day's waste and to enable source separation of recyclable and non-recyclable materials.

WASTE AND RECYCLING STORAGE AREA/FACILITY

Developments of a commercial nature should be provided with waste and recycling storage areas designed and constructed to meet the requirements of the building, the occupants and the standards set down in Appendix C and D. In all cases source separation of materials (eg for recyclables) is required and should be encouraged through the design and construction of the area. The size and layout of the area should cater for future changes of use of the building and should be located for ease of use by the occupants and servicing by the waste and recycling contractors.

The size of the waste and recycling area is to be calculated on the following basis:

- The proposed and potential use of the building;
- The floor area of the building;
- The number of separate occupancies;
- Waste generation rates;
- Type and amount of waste to be produced;and
- The proposed bin sizes.
- Calculation of waste generation rates should be based on industry standards such as those provided in Appendix A.

COMMUNAL FACILITIES

Where multiple tenancies are proposed, such as a series of shops or an office complex, communal facilities may be appropriate. For instance:

- Where the design makes it difficult for all occupants to have ready access to the collection point; and
- Where site characteristics restrict entry of vehicles.

The area should be of adequate size so that it accommodates a sufficient number of commercial containers that will cater for the quantity of waste and recyclable material generated.

COMMUNAL COMPOSTING AREAS

Council considers that an area should be nominated for on-site communal composting. While the operation of such a facility will depend upon the interest of the occupants the potential should exist. This area should be incorporated in the landscape plans for the development.

The following advice should be noted:

- Location should consider proximity to occupancies (including adjoining developments), odour and location of the drainage system;
- The facility should be purpose-built. There are a variety of composting systems available and advice on this and public health considerations can be obtained from Council;
- The composting area will be the responsibility of the development manager; and
- The area should be carefully signposted.

VOLUME REDUCTION EQUIPMENT

Where it is considered necessary, compactors and other volume reduction equipment may be provided in the waste recycling and storage area. Such equipment could save space on-site where there are restrictions. If you are proposing to utilise volume reduction equipment it will be necessary to seek Council's advice on this matter **prior** to the installation of the equipment in order to maintain visual and noise amenity for the precinct.

Volume reduction equipment should not be used on recyclables. Removing contaminants from compacted recyclables is almost impossible and compacted loads containing any contaminants will be rejected by markets.

PAPER AND CARDBOARD

For offices and commercial premises particular attention should be paid to paper and cardboard recycling. Paper recycling companies are in demand of high quality office paper for recycling as it has a high level of durability and can be used in the manufacture of a more diverse range of products. Therefore provisions should be made for paper and cardboard recycling areas.

FOOD, RESTAURANTS AND REFRIGERATED GARBAGE

Special attention should be paid to food scrap generation. Specialised containment should be provided and a regular/daily collection service arranged for these putrescible wastes. When considering the mangement of this type of waste commercial composting or worm farming systems may be a viable option.

Refrigerated garbage rooms should be provided when large volumes of perishables (such as seafood) are involved and/or the collection service provided is infrequent. Grease traps must be provided, where appropriate. Contact should be made with Sydney Water to obtain the trade waste and construction requirements for grease traps.

NOTE: Any construction for food premises must be in accordance with the National Code for the Construction and Fitout of Food Premises please contact Council for a copy of this Code and advice on the construction of food premises.

SPECIAL WASTE/ HAZARDOUS WASTE

Where special or hazardous waste material is to be generated, as defined by "Environmental Guidelines: Assessment, Classification and Management of Non-Liquid Waste", suitable arrangements will need to be made for its disposal. For more information concerning special or hazardous waste contact the Council and/or the Environment Protection Authority.

PURPOSE OF MINIMUM DESIGN STANDARDS

- To encourage waste minimisation at commercial premises (source separation, reuse and recycling), to ensure storage and collection of waste is carried out efficiently and to encourage quality design of facilities.
- This can be achieved by:
- ensuring that the system for waste management is compatible with collection service/s:
- facilitating on-site separation of waste and other materials;
- providing appropriately designed and well located on-site waste storage and recycling area/s (including arrangements for special/hazardous waste where applicable);
- ensuring unimpeded access for the collection service vehicles and staff; and
- implementing effective administrative arrangements for ongoing waste management.

YOUR APPLICATION SHOULD INCLUDE:

- 1. Section 2, 3 and 4 of the completed Waste Management Plan
- 2. The following details should be included on your drawn plans:
- location and design of waste and recycling storage areas (per commercial unit or communally);
- location of volume reduction equipment where applicable;
- access for waste vehicles, noting clearance heights, overhangs and vehicle turning circles;
- legal access agreement when waste collection vehicles are required to enter the site;
- location of grease traps where applicable; and
- location for storage of special or hazardous waste where applicable.

3.1.5 LIGHT INDUSTRY

When designing waste facilities and waste management practices it is the intent of this policy to encourage business/commercial premises consider the nature and type of waste to be produced and how this should be managed on site. The minimum standards set out below and in the attached Appendix encourage business/commerical operators to become more responsible for the waste they produce. These standards also encourage developers to incorporate the principles of sustainable waste management into new developments.

WASTE AND RECYCLING STORAGE FACILITY

Every building should be provided with a waste and recycling storage facility, designed and constructed to meet the requirements of APPENDIX C.

The facility/s should be capable of providing source separation of paper, metal, plastics, putrescible and liquid waste and be flexible in size and layout to cater for future changes of use. The size is to be calculated on the basis of waste generation rates and proposed bin sizes.

Calculation of waste generation rates should be based on industry standards and discussed with Council. Advice on anticipated generation rates is provided at APPENDIX A. In all cases source separation (eg. for recyclables) is required.

In calculating generation rates and area requirements, the operation of staff kitchen facilities should also be included.

Where possible, access should be from the rear of the property and in all cases, access to the internal collection point should be unimpeded.

COMMUNAL FACILITIES

Light industry unit developments are less predictable than single-use operations. A number of basic decisions and assumptions need to be made up-front:

- Will individual or communal facilities be required?
- What degree of source separation is envisaged?
- How to estimate generation rates (and therefore area requirements)?

In the following circumstances a communal area should be provided:

- Where the design makes it difficult for all units to have ready access to a collection point; and
- Where site characteristics restrict the entry of vehicles.

The waste and recycling storage facilities should be designed to enable each separately tenanted area within the building or complex to be provided with a designated and clearly identified space. In addition, the area should be of adequate size to accommodate the quantity of waste and recyclable material generated. The facility/s should be flexible in design so as to allow for future changes of use of the units.

The use of volume reduction equipment may be appropriate in some circumstances, however, there may not be a reduction in area requirements where such equipment is proposed. If you are proposing to utilise volume reduction equipment it will be necessary to seek Council's advice on this matter prior to the installation of the equipment in order to maintain visual and noise amenity for the precinct. Volume reduction equipment should not be used on recyclables. Removing contaminants from compacted recyclables is almost impossible and compacted loads containing any contaminants will be rejected by markets.

SPECIAL WASTE/HAZARDOUS WASTE

Where special or hazardous waste material is to be generated, as defined by "Environmental Guidelines: Assessment, Classification and Management of Non-Liquid Waste", suitable arrangements will need to be made for its disposal. For more information concerning specialor hazardous waste contact the Council and/or the Environment Protection Authority.

ADDITIONAL CRITERIA

This DCP also considers that applicants should consider the following additional criteria (where applicable) when dealing with this type of land use:

- Does the site require a contaminated land assessment?
- What type of waste is going to be produced from this light industry?
- Is the waste to be produced hazardous?

Will a special storage area need to be designed to handle the type of waste to be produced?

PURPOSE OF MINIMUM DESIGN STANDARDS

- To encourage waste minimisation (source separation, reuse and recycling) and to ensure efficient storage and collection of waste and quality design of facilities.
- This can be achieved by:
- ensuring that the system for waste management is compatible with collection service/s;
- facilitating on-site separation of waste and other materials;
- providing appropriately designed and well located on-site waste storage and recycling area/s (including arrangements for special/hazardous waste where applicable);
- ensuring unimpeded access for the collection service vehicles and staff; and
- implementing effective administrative arrangements for ongoing waste management.

YOUR APPLICATION SHOULD INCLUDE:

- Section 2, 3 and 4 of the completed Waste Management Plan
- The following details should be included on your drawn plans:
- location and design of waste and recycling storage areas (per commercial unit or communally);
- location of volume reduction equipment where applicable;
- access for waste vehicles, noting clearance heights, overhangs and vehicle turning circles;
- legal access agreement when waste collection vehicles are required to enter the site; and
- location for strorage of special or hazardous waste where applicable.

3.1.6 HOSPITALS, NURSING HOMES, SCHOOLS

When designing waste facilities and waste management practices it is the intent of this policy to have these types of premises consider the nature and type of waste to be produced and how this should be managed on site. The minimum standards set out below and in the attached Appendix encourage such operators to become more responsible for the waste they produce. These standards also encourage developers to incorporate the principles of sustainable waste management into new developments.

WASTE AND RECYCLING STORAGE FACILITY

Every building should be provided with a waste and recycling storage facility, designed and constructed to meet the requirements of Appendix C. The facility/s should be capable of providing source separation of paper, metal, plastics, putrescible and liquid waste and be flexible in size and layout to cater for future changes of use.

The size is to be calculated on the basis of waste generation rates and proposed bin sizes. Calculation of waste generation rates should be based on industry standards and discussed with Council. Advice on anticipated generation rates is provided at Appendix A. In all cases source separation (eg. for recyclables) is required.

In calculating generation rates and area requirements, the operation of kitchen facilities should also be included.

Where possible, access should be from the rear of the property and in all cases, access to the internal collection point should be unimpeded.

The waste and recycling storage facilities should be designed to be of adequate size to accommodate the quantity of waste and recyclable material generated. The facility/s should be flexible in design so as to allow for future changes of use of the site.

The use of volume reduction equipment may be appropriate in some circumstances, however, there may not be a reduction in area requirements where such equipment is proposed. If you are proposing to utilise volume reduction equipment it will be necessary to seek Council's advice on this matter prior to the installation of the equipment in order to maintain visual and noise amenity for the precinct. Volume reduction equipment should not be used on recyclables. Removing contaminants from compacted recyclables is almost impossible and compacted loads containing any contaminants will be rejected by markets.

SPECIAL WASTE/ HAZARDOUS WASTE

Where special or hazardous waste material is to be generated, as defined by "Environmental Guidelines: Assessment, Classification and Management of Non-Liquid Waste", suitable arrangements will need to be made for its disposal. For more information concerning special or hazardous waste contact the Council and/or the Environment Protection Authority.

3.0 WASTE MANAGEMEN GUIDELINES

ADDITIONAL CRITERIA

This DCP also considers that applicants should consider the following additional criteria (where applicable) when dealing with this type of land use:

- What type of waste is going to be produced from this type of land use?
- Is the waste to be produced contaminated or hazardous?
- Will a special storage area need to be designed to handle the type of waste to be produced?
- Will one or more waste facility be required?
- What degree of source separation will be required?
- How to estimate generation rates (and therefore area requirements).

PURPOSE OF MINIMUM DESIGN STANDARDS

- To encourage waste minimisation (source separation, reuse and recycling) and to ensure efficient storage and collection of waste and quality design of facilities.
- This can be achieved by:
- ensuring that the system for waste management is compatible with collection service/s;
- facilitating on-site separation of waste and other materials;
- providing appropriately designed and well located on-site waste storage and recycling area/s (including arrangements for special/hazardous waste where applicable);
- ensuring unimpeded access for the collection service vehicles and staff; and
- implementing effective administrative arrangements for ongoing waste management.

YOUR APPLICATION SHOULD INCLUDE:

- 1. Section 2, 3 and 4 of the completed Waste Management Plan
- The following details should be included on your drawn plans:
- location and design of waste and recycling storage areas;
- location of volume reduction equipment where applicable;
- access for waste vehicles, noting clearance heights, overhangs and vehicle turning circles;
- legal access agreement when waste collection vehicles are required to enter the site; and
- location for storage of special or hazardous waste where applicable.

3.2 DEMOLITION OF BUILDINGS AND STRUCTURES

INTRODUCTION

Demolition is the stage of building with the greatest potential for waste minimisation. In Sydney, and particularly in Ku-ring-gai where there are high levels of redevelopment, relatively high tipping charges and where quarry materials are located at some distance necessitating significant transport waste minimisation is an important consideration.

The waste generated by demolition activities in the Sydney metropolitan area has contributed 17% to the total waste stream. However, between 1993 and 1994, the volume of demolition waste generated increased by 21% and has continued to grow disproportionately. To prevent a further rise, waste that has previously been perceived as an unvalued resource should be viewed as a resource that has the potential for reuse and recycling.

HOW CAN WASTE MINIMISATION BE IMPLEMENTED ON SITE?

This DCP aims to create a shift in attitude from one of "trashing the building" to "total recycling". Developers should consider whether it is possible to re-use existing buildings, or parts of buildings for the proposed new use. Some examples of materials that have the potential to be reused and recycled are provided in Table 2 on page 18.

With careful on-site sorting and storage and by staging work programs, it is possible to re-use many materials either on-site or off-site. To facilitate on site separation of materials you may require a number of colour-coded or clearly labelled bins. There also exist financial incentives for separated waste at Waste Service NSW disposal sites. Applicants can save considerable money by not duplicating on materials, disposal costs and ordering/delivery costs.

Completion of the WASTE MANAGEMENT PLAN will help to determine what materials are on the site and how and where they will be stored, re-used/recycled and eventually disposed of. Council's assessment of the WASTE MANAGEMENT PLAN will take into consideration the volatile nature of waste markets. It should be remembered that this policy is a performance based document and as such the approach to on site waste management should be flexible from the perspective of both Council and developers. A list of local outlets and other waste disposal facilities can be obtained from Council's Waste Services Directory and from the NSW Waste Services pamphlet.

To promote sustainable on site waste management the education of staff and contractors will need to be undertaken. To assist in this regard Council is developing a Waste Management Education program for the Construction and Demolition Sector other information may be available from sources such as TAFE.

ADDITIONAL CRITERIA

This policy also considers that applicants should consider the following additional criteria (where applicable) when planning and undertaking demolition activities:

- Does the site require a contaminated land assessment?
- What type of waste is going to be produced from this site?
- Is the waste to be produced hazardous? (eg. does it contain lead paint or asbestos?)
- Will special arrangements need to be made for the removal and disposal of hazardous materials?
- Have the correct pollution control measures been put inplace? (eg. sediment & siltation control measures, noise and dust control mesaures)

3.0 WASTE MANAGEMENT

PURPOSE OF WASTE MINIMISATION STANDARDS

- To promote sustainable on-site waste management, maximise reuse and recycling of materials and to minimise the potential for creating environmental pollution.
- This can be achieved by:
- completing section 1 of the Waste Management Plan and providing details of on-site storage on plans;
- maximising the re-use and recycling of material;
- minimising waste disposal to landfill;
- providing evidence that specified arrangements have been implemented; and
- implementing measures that prevent and minimise environmental pollution.

SPECIAL REQUIREMENTS FOR HERITAGE ITEMS

It is important to remember that in Ku Ring-Gai there exists many items of heritage significance. Consequently, Ku-Ring-Gai Council has developed specific guidelines to assess the conservation significance of these items. Therefore, if demolition of a heritage item is proposed, it will be necessary to contact Council's Heritage Conservation Planner.

YOUR APPLICATION SHOULD INCLUDE:

- Section 1 of the Waste Management Plan, completed
- 2. The following details should be included on your drawn plans:
- Location of on-site storage space for materials and containers for recycling and disposal (with reference to space limitations due to the foot print of the building, tree protection, and landscaping); and
- Measures that prevent pollution (refer to Council's Draft Water Management DCP 1998, Code for the Control and Regulation of Noise on Building Sites, NSW Environment Protection Authority Guidelines for Removal of Lead Paint and Asbestos)

This table provides examples of materials that have the potential to be $\ \ re-used$ and $\ \ recycled$.

TABLE 2: Reuse, recycling potential during demolition

| MATERIALS ON-SITE | REUSE/RECYCLING POTENTIAL |
|---|--|
| Concrete | Filling, levelling materials, road base |
| Bricks | Removed and cleaned for reuseor rendered over |
| Roof-tile | 1. Cleaned and reused 2. Crushed, for use in landscaping and driveways |
| Hardwood beams | Second hand timber supplies Floorboards, fencing, furniture |
| Other Timber | Second hand timber supplies Formwork, bridging, blocking and propping |
| Doors, windows, fittings | Second hand building supplies |
| Glass | 1. Reused as glazing 2. Aggregate for concrete production |
| Synthetic and recylced rubber (eg. under carpets) | Used for safety barriers, speed humps |
| Significant trees | Relocated on-site or off-site |
| Overburden | Power screened for topsoil |
| Asbestos | Special treatment required |
| Green waste | Mulching, composting, for reuse as landscaping/fertiliser |
| Carpet | Landscaping |
| Plasterboard | Removal for recycling |

3.3 CONSTRUCTION

INTRODUCTION

At the construction stage of development there are a number of steps that can be taken to reduce the quantity of waste generated. Careful planning and design considerations can assist in promoting sustainable waste management.

PURCHASING POLICY

Before construction begins the usage of resources can be optimised when the applicant/builder organises the purchasing policy for the proposed development.

The following measures should be taken into consideration:

- Without compromising design quality and innovation, modular construction and generic designs should be utilised to reduce off cuts;
- Prefabrication of elements where possible;
- Ordering the correct quantities of materials;
- Minimising site disturbance by avoiding unnecessary excavation;
- Careful demolition of a building so that components can be easily dismantled for reuse/recycling; and
- Choice of landscaping to reduce waste.

CONSTRUCTION STAGE

It is known that 10% of timber delivered for residential construction is frequently wasted, while up to 30% of plasterboard is wasted on certain projects. The following are examples of construction wastes that are 100% recyclable if properly source separated and kept uncontaminated: steel, non-ferrous metals, glass, paper, concrete, plasterboard and cardboard packaging material. When devising a plan to minimise the level of waste developed while building works are being carried out the following measures should be considered:

- Careful source separation of off-cuts to facilitate re-use, resale or efficient recycling;
- Reusing formwork;
- Prefabrication of materials where possible;
- Coordination / sequencing of various trades; and
- Minimising site disturbance by avoiding unnecessary excavation.

Another important consideration is to implement measures to prevent stormwater pollution and information in regards to this matter can be obtained from Council's Draft Water Management DCP 1998.

PURPOSE OF WASTE MINIMISATION STANDARDS

- To promote improved project management, maximise re-use and recycling of materials and to minimise the potential for creating stormwater pollution.
- This can be achieved by:
- completing section 2 of the Waste Management Plan and providing details of on-site storage;
- maximising the re-use and recycling of material:
- minimising waste disposal; and
- implementing measures that prevent and minimise stormwater pollution.

YOUR APPLICATION SHOULD INCLUDE:

- Section 2 of the Waste Management Plan, completed
- 2. The following details should be included on your drawn plans:
- Location of on-site storage space for materials and containers for recycling and disposal(with reference to space limitations due to the foot print of the building, tree protection, and landscaping).

3.4 PLACING A WASTE STORAGE CONTAINER IN A PUBLIC PLACE

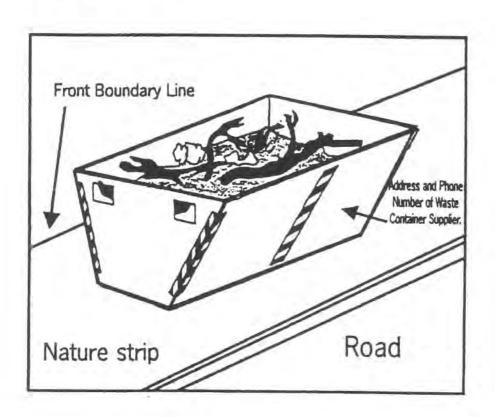
Approval is required under the Local Government Act 1993 to place a waste storage container (skip) in a public place, such as over a footpath. Where a DA or BA is required, details can be provided with that application. Where no DA or BA is required, Council approval must still be obtained for an environmental assessment.

The following matters should be considered for public safety:

- Waste containers should:
 - be clearly visible;
 - be located in a well lit area;
 - be lightly coloured;
 - not contain hazardous, flammable or explosive materials;
 - have rear marking plates complying with requirements for heavy vehicles/ trailers under Clause 56A of Part IV A of the Motor Traffic Regulations, have reflective tape; and
 - have the name, address and phone number of the supplier of the waste container.

These measures are noted in Figure 2 below.

FIGURE 2: Safety features for waste storage containers (Source: Traffic Authority of NSW)



PURPOSE OF WASTE CONTAINER GUIDELINES

- To encourage source separation and to ensure that containers are located in areas that are not a hazard to the community or the environment.
- O This can be achieved by:
- ensuring that the type and number of containers is appropriate to the materials being stored and transported;
- locating the container in a position that does not disturb normal stormwater flow;
- ensuring that containers are clearly visible; and
- using appropriately sized container/s for the location.

YOUR APPLICATION SHOULD INCLUDE:

- Section 1 of the Waste Management Plan, completed
- A Plan showing the proposed location of the container/s together with:
- Details of the public liability insurance cover; and
- Details of waste container supplier such as name, address and phone number.

ADDITIONAL CONSIDERATIONS

Numbers and Types of Containers: It is normal practice for single skips to be provided for large-scale operations. However, where a variety of distinct materials will be stored and transported consideration should be given to planning the operation so that materials can be handled separately. This will assist in maximising the re-use and recycling potential of suitable materials and minimising the need for disposal at landfill. Applicants are also encouraged to source separate materials of value, such as doors and windows.

Size OF THE CONTAINER: The size of the container should be appropriate to the nature of waste generated and the constraints of the site. In addition waste should not protrude beyond the internal dimensions of the container. Therefore the waste in the container should not be overflowing.

In general, the following dimensions are the acceptable range:

Length: 2-5.5m

Width: 1.5 - 2.2m

Height: 1.0 - 1.5m

Location & Use of Containers: Approval will not be given:

- For skips fronting adjoining properties (without neighbour's approval);
- For on-road locations;
- For placement on footpath locations at an intersection or within 6 metres of a corner, where there are large volumes of pedestrian traffic or where obstruction to vehicle access, sight lines or service facilities is likely; and
- Where skips are to be used to store putrescible, inflammable or explosive material or other material specified as prohibited by the Waste Service Facilities. Contact should be made with the NSW Environment Protection Authority.

In assessing proposed locations for waste containers, Council will be assessing the following matters:

- Disturbance to traffic flow;
- The nature of the waste being disposed of; and
- Impediments to stormwater drainage.

3.5 COMPLETED <u>SAMPLE</u> WASTE MANAGEMENT PLAN

| Outline of Proposal |
|--|
| Site Address: 7 Jones St. Anytown. |
| Applicant's name and address: J. Smith & Associates |
| P.O. Box 3, Anytown 2999. |
| Phone: 3333 000 Fax: 3333 001. |
| |
| Buildings and other structures currently on the site: Brick |
| dwelling-house, concrete slab & |
| driveway, timber fencing. |
| Brief Description of Proposal: Two-storey commercial |
| premises (retailing electrical goods). |
| plus office. Metal frame, brick |
| construction. |
| The details provided on this form are the intentions for managing waste relating to this project |
| Signature of Applicant: Date: 23.2.96 |

| MATERIAL | THE NO. | | DESTINATION | |
|---------------------|-----------------------------|---|---|---|
| MAIERIAL | MAIERIALS ON-SITE | REUSE A | REUSE AND RECYCLING | DISPOSAL |
| Type of Material | Estimated Volume (m³) | ON-SITE * specificy proposed reuse or on-site recycling methods * see page 18 for suggestions | OFF-SITE * specify contractor and recycling outlet | * specify contractor and landfill site |
| Excavation | 700 | Keep & re-use topsoil for land scaping. Store on-site. Use some behind retaining | | Remainder to landfill site by Waste Contacts. |
| Green Waste | 09 | Separated. Some chipped a stored on-site for re-use on landscaping. | Remainder to Landscape Supplies for composting/ re-use | strunks separated trunks separated to be landfill |
| Bricks | 00 | Clean & re-use line Mortar bricks for footings. Broken bricks for internal | 1 1 | Contacts. Nil. |
| Concrete | <u>-</u> | Existing driveway to remain during construction. | on completion to Crushing a Recycling Company | Z. Z. |

| | | | DESTINATION | |
|---|-----------------------------|---|--|--|
| MATERIALS ON-SITE | ON-SITE | REUSE A | REUSE AND RECYCLING | DISPOSAL |
| Type of Material | Estimated Volume (m³) | ON-SITE * specificy proposed reuse or on-site recycling methods * see page 18 for suggestions | OFF-SITE * specify contractor and recycling outlet | ★ specify contractor and landfill site |
| Timber - Please specify oregon Pine | رما ما | Re-use for formwork & studwork. Chip remainder for use in landscaping. | To stockpile at Transfer Station by Waste Contractor. | Ni. |
| Plasterboard | М | Break-up & use in landscaping. | Remainder to Landscape Supplies | N.Y. |
| Metals - Please specify: hot water . Pipes | | J. N | To Metal Regulers. | |
| Other-Please Specify. | ru | Broken files for fill. | Remainder to Building Supply Company | <u>.</u> Z |

Note: Details of site area to be used for onsite separation, treatment and storage (including weather protection) should be provided on the plan drawings accompanying your application

| THE OTHER PROPERTY. | 140 | | DESTINATION | |
|---------------------------------|-----------------------------|---|--|--|
| MAIENIAL | S ON-SILE | REUSE | REUSE AND RECYCLING | DISPOSAL |
| Expected Waste Materials | Estimated Volume (m³) | ON-SITE * specificy proposed reuse or on-site recycling methods * see page 18 for suggestions | OFF-SITE * specify contractor and recycling outlet | ★ specify contractor and landfill site |
| Excavation Material Green Waste | | covered in Section 1 as part of demolition. | | |
| Bricks | 7 | Use for fill behind retaining walls | Remainder to Crushing & Recycling | ر ا ا |
| Concrete | Ŋ | Use for fill behind retaining walls | Remainder to Crushing & Recycling Company | Z : Z |

| MATERIALS ON-SITE | | DESTINATION | |
|-----------------------------|---|--|--|
| | REUSEA | REUSE AND RECYCLING | DISPOSAL |
| Estimated Volume (m³) | ON-SITE * specificy proposed reuse or on-site recycling methods * see page 18 for suggestions | OFF-SITE * specify contractor and recycling outlet | * specify contractor and landfill site |
| | Chip for landscaping Sell some on site for firewood. | Remainder to Londscape Supplies for chipping & composting. | Zi.Z. |
| | Break-up and use in landscaping. | Remainder to Landscape Supplies. | Ni.L. |
| | 7.7 | Some to Metal Recyclers for reuse | Remainder to landfill site by Waste Contractors. |
| | 73 Z | | To Landfill sike 6y Waske Contractors |

Note: Details of site area to be used for onsite separation, treatment and storage (including weather protection) should be provided on the plan drawings accompanying your application

| DESTINATION | ing * recycling * disposal ing * specify contactor | Paper/Cardboard to Ps, Recyclers Glass/alvminious & plastics to Recyclers Pallets, electrical fittings & CFCs to manufacturers | To landfill site by Waste Contractors. |
|---|---|--|--|
| PROPOSED ON-SITE STORAGE AND TREATMENT FACILITIES | For example: * waste storage and recycling area * garbage chute * on-site composting * compaction equipment | Temporary storage bins in upstairs office (scraps, recyclables) deles for paper/cardboard) & two crates (for glass, plashis, aluminium) in Waster Storage & Recycling Area. Note: specific area for removal/storage of | Temporary storage bius in upstairs office. Two 240 litre bius in on-site Waste storage a Recycling Area. |
| EXPECTED VOLUME PER WEEK | ★ litres or m³ ★ see Appendix A for estimates | 360 litres. 50 litres 5 per week 5 litres 2 units | 50 litres 240 litres 25 litres |
| TYPE OF WASTE TO BE GENERATED | Please specify. For example: glass, paper, food waste, offcuts, etc. | Recyclables: Office/retail paper & Cardboard. Z. Glass, aluminium & Plashc (60 Hles). 3. Timber pallets 4. Electrical filtings 5. Reject trade-ins. | Non-recyclables: 1. Foodscraps etc. 2. Other plastics (eg wrapping). 3. Uhrecyclable retail waste |

Note: Details of onsite waste management facilities should be provided on the plan drawings accompanying your application

SECTION FOUR - ON-GOING MANAGEMENT

Describe how you intend to ensure on-going management of waste on-site (eg. lease conditions, caretaker/manager on-site).

The company will prepare an Environmental Management System addressing of & retail waste & recycling. This wi include expectations & achievable objectives for sorting & separating wast Also, a regular waste audit. An information kit for employees. Followed-up every The Waste Storage & Recycling be suitably located & bins clearly labelled. staff member (or cleaner tor transferring & keeping

Thank you for the information.

APPENDICES

- : A. WASTE GENERATION : RATES
- B.COUNCIL'S STANDARD BIN SIZES
- C.LOCATION AND ACCESS REQUIREMENTS
- D.DESIGN OF WASTE FACILITIES
- E. GLOSSARY OF TERMS

: F, LIST OF ABBREVIATIONS



APPENDIX A

WASTE GENERATION RATES

TABLE 3: WASTE GENERATION RATES (SOURCE: WAVERLEY COUNCIL. CODE FOR THE STORAGE AND HANDLING OF WASTE)

| TYPE OF PREMISES | WASTE GENERATION R | ECYCLING GENERATION | |
|---------------------------------|--|--|--|
| Backpackers Accommodation | 40 L/ occupant/week | 20 litres /occupant/week | |
| Boarding House, Guest House | 60 L / occupant/ week | 20 litres/occupant/week | |
| FOOD PREMISES: | | | |
| Butcher | 80 L/100m ² floor area/day | Discretionary | |
| Delicatessen | 80 L/100m ² floor area/day | Discretionary | |
| Fish Shop | 80 L/100m ² floor area/day | Discretionary | |
| Greengrocer | 240 L/100m ² /day | 120 L/100m ² /day | |
| Restaurant | 10 L/1.5m ² floor area/day | 2L/1.5m ² /day dining | |
| Supermarket | 240 L/100m ² floor area/day | 240 L/100m ² /day | |
| Takeaway | 80L/100m ² floor area/day | Discretionary | |
| Hairdresser | 60 L/100m ² floor area/day | Discretionary | |
| Hotel | 5L/bed/day | 50L/100m ² /bar area/day | |
| | 50L /100m²/ bar area/day 10L /100m²/ bar & dining area/ | | |
| Licensed Club | 50 L / 100m ² /bar area/day 10L /1.5m ² /of dining area/d | 50 L / 100m²/of bar & ay dining area/day | |
| Motel | | | |
| (without public restaurant) | 5L/ bed/day 10L/1.5m²/of dining area/da | 1L/bed/day ay | |
| Offices | 10L/100m ² /day | 10L/100m ² /day | |
| RETAIL (other than food sales) | | | |
| Shop less than 100m² floor area | 50L 100m² floor area/day | 25L /100m² floor area/day | |
| Shop over 100m² floor area | 50L/100m ² floor area/day | 50L./100m² floor area/da | |
| Showrooms | 40L /100m² /floor area/day | 10L 100m² floor area/ day | |

APPENDICES

APPENDIX B

COUNCIL'S STANDARD BIN SIZES

DOMESTIC BIN SIZE

LANDFILL COLLECTION CONTAINERS:

- 55 Litre Multi-Unit Residency > 6 units
- 120 Litre Single Mobile
 Garbage Bin Domestic dwelling
 multi unit residential units < 6

COMMERCIAL BIN SIZES

LANDFILL COLLECTION CONTAINERS:

- 55 Litre
- 240 Litre
- 340 Litre
- 1.5m3
- 3.0m3

RECYCLE COLLECTION CONTAINERS

- 50 Litre crate for glass only
- 240 Litre Mobile garbage bin - for paper, cardboard, aluminium, PET, HDPE (plastic milk bottles)

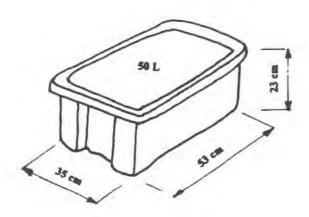
GREEN WASTE COLLECTION CONTAINER

- 240 Litre Mobile Garbage Bin OR
- 340 Litre Mobile Garbage Bin

RECYCLE COLLECTION CONTAINERS:

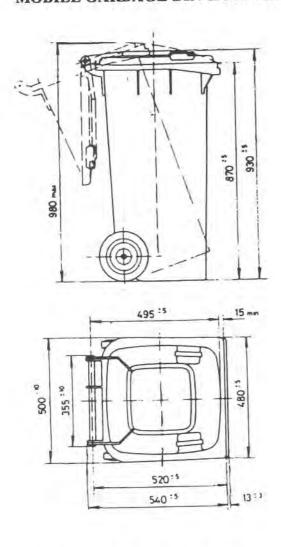
- ▶ 50 Litre crate
- 240 Litre colour coded mobile bins for:
 - Paper / cardboard
 - * Aluminium
 - · Glass
- 360 Litre blue mobile bin for cardboard and paper

RECYCLING CONTAINER 50 LITRE



MOBILE GARBAGE BIN 120 LITRE

MOBILE GARBAGE BIN 240 LITRE



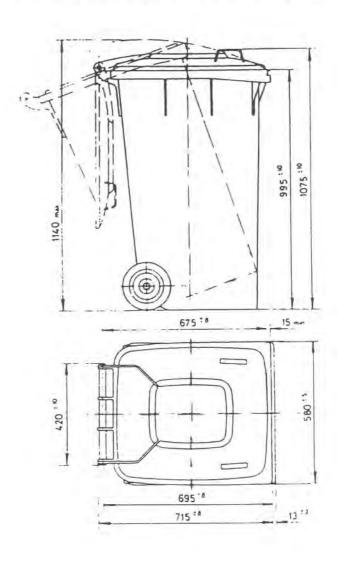


Figure 3. Council's Standard Bin Sizes

APPENDIX C

LOCATION AND ACCESS REQUIREMENTS

DEFINITIONS

- INTERNAL COLLECTION POINT, is a designated hard stand area suitable in size for the number and type of containers utilised by the development. Waste and recyclable materials are placed at the collection point, by the occupant, for collection on the day of service and are then returned to the designated waste storage area. Applicable to residential development where the number of units is SIX or more and for commercial and light industry.
- EXTERNAL COLLECTION POINT, means the usual (or agreed) point on the footpath/roadway, where waste and recyclables are loaded onto vehicles. The waste and recycling containers are placed on the footpath, by the occupant of the property, just prior to the collection day and removed after the waste is picked up by Council's contractors. Applicable to residential development where the number of units does not exceed SIX.
- Waste Cupboard, temporary storage area that is designed to hold at least a single days waste. The waste cupboard is typically located in the kitchen. It should be designed to enable some separation of recyclables and non-recyclables.
- WASTE AND RECYCLING STORAGE AREA, means a designated area or a combination of designated areas upon each allotment where waste containers are to be stored. Applicable to single residential dwellings or multiresidential dwellings where the number does NOT EXCEED SIX.
- WASTE AND RECYCLING STORAGE FACILITIES, designed for the permanent storage of waste and recycling materials within or external to the building design. Compaction equipment may be provided and rooms may need to be refrigerated for commercial uses.

The type of facilities used will depend upon the nature and size of the land use and the site constraints. The facilities can also be used in combination.

C.1 LOCATION AND DESIGN OF WASTE FACILITIES

GENERAL PRINCIPLES

There are a number of general principles for the design and on-site location of waste management facilities.

Waste management facilities should:

- Be conveniently located to enable easy access for on- site movement and collection;
- Have sufficient space for the quantity of waste generated and to promote source separation of materials (eg recyclables);
- Have sufficient space to adequatelycontain any on -site treatment facilities (eg compaction systems);
- Have adequate weather protection: where appropriate to be enclosed or undercover;
- Be secure and lockable, where appropriate;
- All structures should be well-ventilated and have fall to a floor waste and drain to the sewer. In addition such facilities should be appropriately designed as per the design criteria noted in the following section;
- Be attractive, adding to the scene, not detracting from it;
- Be carefully signposted to ensure appropriate use; and
- Consider the proximity to site occupants, in terms of noise and odour control.

The most important matter to consider for waste collection services is accessibility. If the collection point is on the street, the concern is with manoeuvrability through the streets.

The first decision is whether access onto the site is required. This would depend on the following:

- The size of the development whether travel distances for occupants require onsite collection;
- The volume of waste whether the number of bins is too great for the width of street frontage.

If access onto the site is required, the following matters should be considered:

- The convenient placement of waste and recycling storage facilities;
- Proposed truck sizes to be entering the site;
- Adequate driveway widths and height at entrance way;
- Turning circles or three point turn arrangements so that vehicles enter and leave the site moving in a forward direction;
- On- site manoeuvrability, for all site users; and
- Ensuring legality of access. This could be by the creation of an easement. In some circumstances, private arrangements such as legal agreements may be necessary for such on site collection.

C.2 ACCESS REQUIREMENTS

SINGLE DOMESTIC DWELLING and Multi-Unit Residential (Where the number of units does not exceed SIX): The occupier of the residential premises stores their waste containers within the bounds of the property, preferably in the rear yard to minimise visual clutter, and on collection day their respective containers are placed on the kerb-side fronting the property and are removed after collection.

MULTI UNIT RESIDENTIAL FACILITIES: (WHERE THE NUMBER OF RESIDENTIAL UNITS EXCEEDS SIX) A waste and recycling storage facility should be provided and be centrally located for ease of use by residents and servicing by the waste contractor. The waste contractor enters the property, by agreement with the body corporate, to service receptacles from within the bin rooms or a central waste/recycling collection point.

NOTE: WHEN COUNCIL OR PRIVATE WASTE COLLECTION VEHICLES MUST ENTER THE SITE, LEGAL ACCESS AGREEMENTS MUST BE OBTAINED.

To ensure access to the subject property, the road providing access to the waste/ recycling collection point/s or waste and recycling storage facility/s needs to be designed by a qualified practising engineer to facilitate the use of a vehicle having the following dimensions

Overall length: 5.5m

Overall width: 1.8m

Height: 2.26m

Loaded Weight: 6 tonnes

A minimum clearance height of 2.44 metres is to be provided over the full width of the driveway/s between the entry, and the waste and recycling storage facility/s and collection points. Such properties should have access and egress in a forward direction with the maximum number of manoeuvres within the property being a three point turn.

APPENDICES

In the case of a waste and recycling storage facility doorways to the facility should have a minimum clear opening width to enable the use of the following containers:

55, 240L or 340 litre bin - width 1.0m or
 1.5 m³ - width 1.5m or
 3.0 m³ - width 3.0m

Commercial and Industrial Facilities:
Waste and recycling storage facilities should be provided within all commercial buildings and be located for ease of use by occupants of the building and servicing by the trade waste contractor to the satisfaction of the Council. The facility/s can be accessed directly by the waste service contractor or at a waste/recycling collection point/s. In the latter case the waste containers are placed at the collection point just prior to collection day and removed after the waste is collected.

Access to the facilities and/or collection point should be designed to facilitate safety and stability for a vehicle. The road construction and layout should be designed by a practising engineer to ensure it is suitable for use by a vehicle with the following dimensions:

Wheel base: 5.0m

Overall length: 8.8m

Track: 2.5m

Overall width: 3.0m

Loaded weight: 22 tonnes

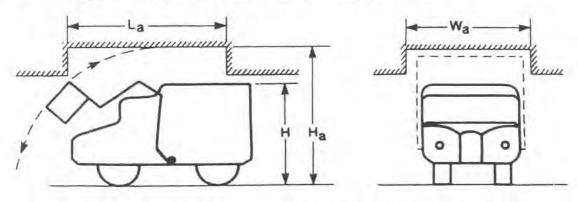
Lifting clearance height: 5.2m

Doorways to commercial waste storage areas should have a minimum clear opening width to enable the use of the following containers:

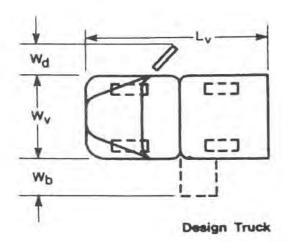
55, 240L or 340 litre bin - width 1.0m or
 1.5 m³ - width 1.5m or
 3.0 m³ - width 3.0m

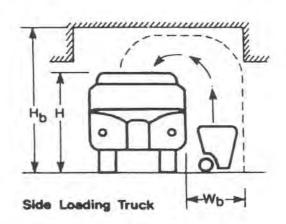
A minimum clearance height of 3.6m should be provided where access for the commercial waste collection vehicle is to be arranged. LIQUID WASTE: To ensure compliance the proposed method of collection, storage and disposal of oil/liquid waste from the site are to be submitted to Council for approval. It is advised that prior to submitting the application to the Council, the applicant should consult with the trade waste officer of Sydney Water, to determine the requirements of that authority for the disposal of liquid trade waste. Details of this are to be submitted to the Council.

GARBAGE VEHICLE CHARACTERISTICS



Front Loading Truck





| Design | Length | L | 11000 mm |
|-------------------------------|--------------------|----------------|----------|
| Truck | Width | Wv | 2500 |
| | Door Open | Mq | 960 |
| | Height | Н | 4300 |
| Front | Extended Height | Ha | 5800 |
| Loading | Overhead | La | 7600 |
| (top charge) | Clearance Area | Wa | 3000 |
| Side Loading (side charge) | Extended Width | Мр | 1700 |
| Side Loading | Extended Height | Нь | 6400 |
| (top charge) | Extended Width | МР | 1700 |
| Roll-Off | Extended | H _d | 6800 |
| Rear Hoist | Height | He | 4600 |

Figure 4. Garbage Vehicle Characteristics

Source: Metropolitan Waste Disposal Authority

APPENDIX D

DESIGN OF WASTE FACILITIES

In some cases, an internal collection point could simply be a nominated area of the site, well drained and be easily accessible, eg. single-unit dwellings or multi-unit residences/factory units, where each unit is responsible for their own waste. In other cases, such as where a communal area is required, a more detailed design is required.

The first step in designing collection points and facilities is to calculate floor area requirements. Table 4 presents a step-by-step guide on how to calculate area requirements. Once area requirements are considered, a more detailed design can proceed.

TABLE 4: HOW TO CALCULATE FLOOR AREA REQUIREMENTS FOR AREAS AND ROOMS

RESIDENTIAL USES

STEP 1

Check Council's required number and size of garbage and recycling bins for the type of development. (See APPENDIX B)

STEP 2

Calculate space required to store and easily manoeuvre number of bins required.

STEP 3

Allow a reasonable amount for extra space for manoeuvrability and for special purpose collections.

NON-RESIDENTIAL USES

STEP 1

Estimate volume and type of waste to be generated from industry data and discussion with Council. (See APPENDIX A for general figures). Check to see if the waste to be produced has any special requirements for storage or collection, eg. it may be hazardous waste or require refrigeration.

STEP 2

Negotiate with the waste service provider on frequency of collection, calculate size and number of garbage and recycling bins required.

STEP 3

Calculate space required to store and easily manoeuvre number of bins required.

STEP 4

Allow a reasonable amount for extra space for manoeuvrability and for special purpose collections.

Table 5 overleaf lists the performance criteria that should be addressed in locating and designing waste and recycling storage areas. The facility may be a free standing building separate from the main building, however, it may be more appropriate in larger-scale residential and commercial developments, to provide a waste and recycling storage facility that is within the building.

WASTE AND RECYCLING STORAGE FACILITIES

TABLE 5: WASTE STORAGE AND RECYCLING FACILITY

| MINIMUM DESIGN STANDARDS | PERFORMANCE CRITERIA | STANDARDS-BASED SOLUTION |
|---|--|---|
| | | |
| Adequate dimensions to accommodate garbage & recyclables. | The area is of adequate size. Note: follow the steps on previous page to calculate area. | The size of the area should be calculated according to the: |
| | Ceiling height is appropriate to type of service to be provided. | OProposed and potential occupancies; OFloor area of the building; ONumber of separate |
| | Door width is sufficient for installation & maintenance. Wider for containers. | occupancies; OVolume and type of commercial waste likely to be generated. |
| | Storage and drainage racks are of durable, impervious, non-corrosive material and separated from walls to allow easy access. | Refer to diagrams on page 41. |
| | Equipment is carefully installed: clear of walls & supported on plinths or legs. | |
| | | |
| To be aesthetically pleasing. | Materials, design & landscaping complement the building. | COUNCIL DOES NOT PERMIT WASTE AND RECYCLING STORAGE FACILITIES TO BE LOCATED BETWEEN THE FRONT BOUNDARY LINE AND THE BUILDING LINE. |
| Provide ready access to waste receptacles. | The area is accessible for occupants. | A Waste and Recycling Storage |
| | The area is accessible for collection service operators. This may require the provision of a collection area readily accessible from | Facility should be provided within all home unit developments and should be centrally located for the ease of use by residents and servicing by the waste contractor. |

the room.

MINIMUM DESIGN STANDARDS

PERFORMANCE CRITERIA

STANDARDS-BASED SOLUTION

If on-site collection is required:
Oniveways are of adequate strength, width and design
Vehicle movement is in a

- OEntrance heights allow access for collection vehicles
- On-site manoeuvrability is unimpaired for all site users.

MULTI-UNIT RESIDENTIAL

DEVELOPMENT:
The road construction and layout should be designed to forward direction ensure that it is suitable for use by waste vehicles.
For waste vehicle access specifications refer to Appendix C "Access Requirements". For waste management facility design suggestions refer to the diagrams on page 41.

Commercial and Industrial:
The road construction and layout should be designed to ensure that is suitable for use by waste collection vehicles. For waste vehicle specifications refer to Appendix C "Access Requirements". For waste management facility design suggestions refer to the diagrams on page 41.

Clean & healthy: free from dust, litter, odour and noise for safety and comfort of occupants and waste collectors. The area is located away from the living/working space in buildings and is protected from the weather.

There is adequate ventilation Omechanical; or Onatural

There is adequate water supply;

- hot water for commercial uses
- hose cocks protected
- hose available.

The room is well drained and drains to the sewer.

Flooring, walls and ceilings are of impervious material.

For waste management facility design suggestions refer to the diagrams on page 41.

Provision of suitable lighting and if necessary ventilation. Refer Building Code of Australia (BCA).

Walls and floors should have a cement render steel trowel or similar finish with all intersections of walls and floors covered to a minimum radius of 25mm.

| MINIMUM | DESIGN |
|----------|--------|
| STANDARD |) \$ |

PERFORMANCE CRITERIA

STANDARDS-BASED SOLUTION

Entry of vermin is prevented. Manoeuvrability for all bins is easy: with adequate space and ease of movement. Floors should be graded and drained to the Sydney Water's sewer line.

Doors are reinforced and there is adequate separation from walls where large containers are used.

Hose cocks should be provided with hot and/or cold water.

Ramps should be installed where there is a variation in levels between commercial waste areas and surrounding ground level. Such ramps should be suitably graded to enable easy use of a mobile container from the commercial waste storage area.

Refer WorkCover Authority requirements.

Safety for both occupants and waste service providers.

Manoeuvrability of a full bin is easy: adequate space and ease of movement.

Refer WorkCover Authority requirements.

The area is appropriately signposted eg. for recycling bins.

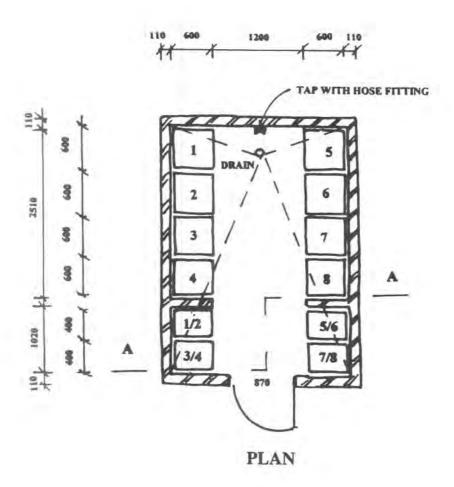
Adequate lighting, controllable from inside & outside.

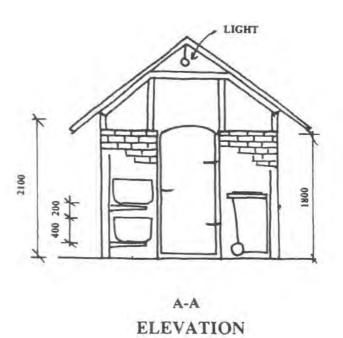
The room is fire protected.

Refer BCA

The room is well ventilated.

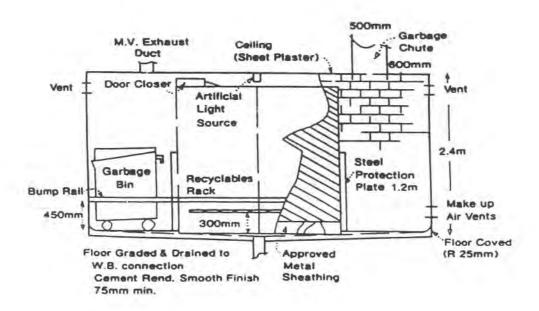
Refer BCA





Plan and Elevation of Waste Storage and Recycling Room

Internal Wall Bump Rail 5m Coment rendered Galv. steel Trowelled linish 50mm from wall. Recyclables Rack Bin **Drainage Trap** 4m Hot & Cold Water Taps with 8 ----protection & Bin Hose fitting Garbage 2.2m min. Door Entry Bin Graded to Door Steel Protection Truck Loading Area Plate (Flat) PLAN



ELEVATION

Commercial / Industrial Garbage and Recycling Rooms

Source: Modified City of Sydney Council. 'Code for Waste Handling in Buildings'

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APPENDIX E

GLOSSARY OF TERMS

For the purposes of these Guidelines the following words have the meaning specified.

CLASS means the classification of a building as determined by the Building Code of Australia.

CLINICAL WASTE means any waste having the potential to cause infection and that has been generated by medical, nursing, dental, veterinary, pharmaceutical or other related activities, inleudes infectious substances, pathogenic substances, pharmaceuticals and pharmaceutical residues, cytotoxic substances, and wastes from the production and preparation of pharmaceutical products.

COMMERCIAL WASTE is refuse or waste material arising from any trade or industry but excludes liquid waste, demolition waste, building waste, contaminated waste, green waste or recyclable waste.

Compost means vegetative material capable of being converted to humus by a biological decay process.

Contaminated Waste is a waste which has the potential to cause injury, infection or offence. Sources include medical, nursing, dental, veterinary, pharmaceutical and similar facilities engaged in treatment, investigation, teaching or research. Domestic sources include sharps and associated medical waste generated as a result of home based treatment of a medical condition (such as those associated with a diabetes sufferer or dialysis patient).

Dwelling is a room or number of rooms occupied or used, or, so constructed or adapted as to capable of being occupied or used, as a separate domicile.

GREEN WASTE refers to organic garden waste. This includes any waste material that in its raw form comprises vegetation (such as grass, leaves, mulch, plants, branches, twigs and tree loppings). Green waste does not refer to wood wastes such as tree stumps or kitchen vegetable scraps.

ECOLOGICALLY SUSTAINABLE DEVELOPMENT is development that uses, conserves and enhances the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life now and in the future can be increased. (Source: National Strategy for Ecologically Sustainable Development, 1992).

EXTERNAL COLLECTION POINT means the usual (or agreed) point on the footpath/roadway, or on site, where garbage and recyclables are loaded onto vehicles.

HAZARDOUS WASTE has the meaning specified in the Waste Minimisation and Management Regulation 1996 and includes dangerous goods, poisons, liquids and other waste containing hazardous components. If in doubt contact the NSW Environment Protection Authority or Council.

INTERNAL COLLECTION POINT is the location where waste, compost material or recycle containers are transferred from a building's storage area for collection by Council's waste vehicle for removal from the site.

PUTRESCIBLE WASTE means food or animal matter (including dead animal parts), or unstable or untreated biosolids.

RECYCLABLE describes material capable of being reprocessed into useable material and includes any item collected by Council's Recycling Service.

Storey is a habitable or occupied space within a building between one floor level and the next floor level above, or if there is no floor level above, the roof.

Sustainable Waste Management involves managing and controlling the generation of waste so that the needs of the current generation are met without limiting the options and capacity of future generations to met their own needs.

VOLUME REDUCTION EQUIPMENT means devices which reduce the volume of waste or recyclable material, including compressing devices such as compactors, balers and shredding, pulverising or crushing devices.

WASTE as defined by the Waste Minimisation and Management Act 1995 includes:

 (a) any substance (whether solid, liquid or gaseous) that is discharged, emitted or deposited in the environment in such

volume, constituency or manner as to cause an alteration in the environment, or

- (b) any discarded, rejected, unwanted, surplus or abandoned substance, or
- (c) any otherwise discarded, rejected, unwanted, surplus or abandoned substance intended for sale or for recycling,

reprocessing, recovery or purification by a separate operation from that which produced the substance, or

(d) any substance prescribed by the regulations to be waste for the purposes of the Act.

Waste Cupboard relates to a temporary storage cupboard (usually located in the kitchen) that is able to hold at least a single days waste (including recycling).

Waste and Recycling Storage Area, means a designated area or a combination of designated areas upon each allotment where approved waste containers are to be stored. Applicable to single residential dwellings or multi-residential dwellings where the number does not exceed six.

Waste and Recycling Storage Facility is a designated area or a combination of designated areas upon the site of a building for the housing of approved containers to store all waste material (including recyclable material) likely to be generated by the buildings' occupants.

APPENDIX F

LIST OF ABBREVIATIONS

BA Building Application

BCA Building Code of Australia

DA Development Application

DCP Development Control Plan

EP&A ACT Environmental Planning & Assessment Act 1979

EPA NSW Environment Protection Authority

LAP Local Approvals Policy

