



# Waste Minimisation and Management Guidelines

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## 1. INTRODUCTION

The purpose of these guidelines is to provide clear requirements that encourage efficient waste minimisation and resource recovery for *demolition*, *construction* and *ongoing use* of developments including subdivisions. The guidelines also seek to ensure that ongoing development provides for efficient and safe waste collection from all premises in the Shoalhaven local government area.

The guidelines acknowledge that there are vastly different types and levels of development and that these have different implications for waste management. However, all development, through *demolition* of existing buildings and/or removal of vegetation, *construction* of buildings and other structures, or the *ongoing use* of a building or land will typically result in waste streams that need to be considered. These waste streams may include hazardous waste, such as asbestos or acid sulfate soils, for which Council has separate policies.

In considering waste collection options, Council emphasises that there are both commercial waste contractors, as well as Council's kerbside collection service that may be possible. Council's kerbside collection service may not be available in all areas or to all development and early discussion of options with Council and local waste contractors is encouraged.

### 1.1. Context of the Guidelines

These guidelines support the overarching context of waste minimisation policy of the NSW Government under the Waste Avoidance and Resource Recovery (WARR) Strategy. The WARR Strategy provides for targets across six key results areas as follows:

- Key Result Area 1: Avoid and reduce waste generation
- Key Result Area 2: Increase recycling
- Key Result Area 3: Divert more waste from landfill
- Key Result Area 4: Manage problem wastes better
- Key Result Area 5: Reduce litter
- Key Result Area 6: Reduce illegal dumping

These guidelines particularly relate to the first three of these. The guidelines are designed to work in conjunction with other NSW Government guidelines including:

- Better Practice Guide for Waste Management in Multi-unit Dwellings (Department of Environment and Climate Change NSW 2008);
- Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (NSW Environment Protection Authority - 2012);
- Waste Wise Events Guide (Department of Environment and Conservation NSW - 2007); and
- *Protection of the Environment Operations (Waste) Regulation 2014*.

Where relevant, reference is made to these documents for consistency with overarching State objectives.

## **1.2. Objectives of the Guidelines**

The objectives of the guidelines are to:

- Minimise waste to landfill;
- Increase resource recovery opportunities;
- Ensure waste systems are easy to use;
- Ensure that waste collection vehicles are able to remove waste safely and without obstruction;
- Ensure safe practices for storage and handling of waste;
- Ensure that waste areas minimise potential for pollution from runoff and litter;
- Ensure health and amenity for those that use or are exposed to waste facilities; and
- Ensure waste management infrastructure is considered in the creation of subdivisions.

## **2. DEVELOPMENT ASSESSMENT PROCESS**

This section provides an outline of the development assessment process as it relates to the provision of waste services and infrastructure needed to support these services. The development assessment process is set out in Section 2.1, whilst the specific requirements for various development types are outlined in Section 3.

### **2.1. Development Assessment Process**

The following steps are to be undertaken to ensure that your development meets relevant waste requirements:

#### *Step 1: Prelodgement Advice / Meeting*

When seeking prelodgement advice, Council's Development Assessment staff will consult with Council's Waste Services wherever necessary.

Discussions regarding proposed waste facilities are also encouraged directly with Council's Waste Services, particularly for larger developments including multi-unit development and commercial operations. Contact Council's Waste Services on 02 4429 3111.

You may also be requested to contact Council's local waste contractor to ensure your development proposal can be serviced by that local waste contractor. The intent of such discussions would be to confirm that the contractor is confident that they will be able to service the proposal in a safe manner - it does not automatically mean that Council will concur with the proposed waste system and Council will still undertake an assessment of consistency with these guidelines. Relevant records of discussions undertaken prior to lodgement of the application should be included with your Waste Management Plan. Council's local waste contractor will liaise with Council as part of the assessment process.

#### *Step 2: Development Application Submission*

A Waste Management Plan is required for all development applications, complying development applications and construction certificate applications.

The Waste Management Plan should provide information on the type of waste generated, waste storage and waste collection for all stages of the development. The amount of detail required in the Waste Management Plan will depend on the type and scale of the development.

The Waste Management Plan will be assessed as part of the development application and where applicable, appropriate conditions of consent will be applied to ensure the implementation of the Waste Management Plan as approved by Council.

Note:

A Waste Management Plan is a separate document that must be completed, without exception, and submitted with a development application or an application for a complying development certificate. A pro forma Waste Management Plan is available on Council's website at <https://shoalhaven.nsw.gov.au/Planning-amp-Building/Development-forms> and may be used for developments with minor impacts. For larger mixed used developments, commercial and industrial proposals additional detail may be required. This additional information should be provided as a separate written document and should consolidate all waste related information

appearing in any statement of environmental effects, any site plans, any swept path assessments and any other documents submitted with the development application.

### *Step 3: Construction Certificate*

A modified Waste Management Plan may be required as a condition of consent, typically to be approved by Council prior to the issue of a construction certificate. Alternatively, confirmation may be sought that an approved Waste Management Plan for the development remains unchanged.

### *Step 4: Occupation Certificate*

Council, or where applicable a certifying authority, must certify that waste facilities and systems conform to the approved Waste Management Plan prior to issuing the occupation certificate.

## **2.2. Need for a Waste Management Plan**

Council must assess the environmental impact of waste generated by all developments. A Waste Management Plan provides Council with information relating to the waste generated during various stages of development including subdivisions being:

- **Demolition** including site preparation;
- **Construction**; and
- **Ongoing use** of the premises or in undertaking the proposed activity.

For each stage of the development (demolition, construction and ongoing use), the Waste Management Plan should provide information on the type of waste generated, storage and collection, resource recovery and specific waste systems which may be used depending on the type of development, location, local conditions, requirements and issues. A Waste Management Plan is likely to place obligations on the builder, developer or end user to dispose of waste generated in an environmentally acceptable manner that is safe and which minimises any risk.

By encouraging the considered reuse of materials during demolition and construction, and the implementation of an effective waste system for ongoing use, there are opportunities to achieve savings on disposal costs and to decrease waste to landfill as desired under relevant State Government and local strategies.

For development applications that require Asbestos removal, refer to Council's Asbestos Policy (POL16/57) and Demolition and Renovation of Buildings Containing Asbestos Policy (POL16/236) for further information.

## **2.3. When is a Waste Management Plan Not Required?**

A Waste Management Plan is not required, but would still be encouraged, for exempt and complying development that is not subject to development consent or issuing of a construction certificate.

## **2.4. Information to Assist in Preparing Your Waste Management Plan**

There are a number of information sources that are available to assist in preparing your Waste Management Plan. These Guidelines, and the information contained in the appendices, should

be the primary source of necessary information. To assist in preparing your Waste Management Plan the following appendices are provided in these Guidelines.

- Appendix A - Reference List;
- Appendix B - Estimating Quantities of Waste; and
- Appendix C - Waste Collection Vehicle Information.

Supporting information may also be found in NSW Government documents including those documents identified in Section 1.1.

Council produces an annual *Waste Services, Depots & Recycling – Fees, Charges & Information* booklet which provides the location and outlines the types of waste accepted at Council's Recycling and Waste Depots and associated costs for disposal. This information may assist you in completing your Waste Management Plan. Further information on Council and private recycling and waste services providers in the Shoalhaven can be found on Council's website - <https://www.shoalhaven.nsw.gov.au/Environment/Waste-and-recycling>

## **2.5. Choosing a Waste System for the Ongoing Use of Your Development**

A waste system includes all aspects of waste management during the operation of the building or activity - its "ongoing use". This could include, for example, a combination of the following facilities:

- Waste storage and recycling areas, where waste and recyclable material are stored prior to collection;
- Garbage and recycling rooms within buildings, for the holding of waste and recyclable material from multiple sources (e.g. a single room for a number of residential or commercial units). Such rooms may include compaction equipment and the rooms could be refrigerated;
- Garbage chute systems, for transporting waste in multi storey buildings;
- Collection areas separate from storage areas, where waste is located immediately before collection; and
- Hardstand waste pad at street level, to allow on site collection when a basement can't be accessed for waste collection.

The facilities to be used will depend on the nature and size of the development and its intended use. In larger projects it is important to discuss your waste needs with Council and where applicable, with local waste contractors / commercial waste providers.

You should not assume that the only option for waste collection is via Council's kerbside pickup service. If a development proposal does not meet the requirements for kerbside collection to the satisfaction of Council, an alternative service provider will be required, and a condition included in any consent to this effect. That is, an alternative service may be required, and conditions will be applied to any consent to this effect, in perpetuity.

Whatever system is selected, it will need to meet the requirements of these guidelines as further outlined in Section 3.

### 3. DEVELOPMENT REQUIREMENTS

Specific development requirements for various development types are outlined in this section under the following areas:

- General requirements for all development types;
- Specific requirements for residential development;
- Specific requirements for commercial/industrial development;
- Specific requirements for mixed use development; and
- Specific requirements for subdivisions.

The requirements set out in these guidelines are based around practical development needs under the following areas:

- Design requirements: including siting of waste containers and bins;
- Space requirements: including calculating the size of storage areas;
- Access requirements: including physical design requirements for vehicle access;
- Amenity requirements: including separation of waste areas and site location requirements;
- Construction requirements: including construction related specifications; and
- Management requirements: including ongoing management processes.

#### 3.1. Requirements for All Development

##### 3.1.1. Plan Requirements

All applicants are required to submit a Waste Management Plan with a development application or an application for a complying development certificate. Subdivisions are not exempt from this requirement.

Note:

In all instances when a Council kerbside collection will not occur, details of the collection process and collection vehicle are to be included in the Waste Management Plan.

In addition to the Waste Management Plan form, the following will also be required as applicable:

- A site plan showing storage area for reusable materials and recyclables during demolition including site preparation and/or construction; and
- Plans of the proposed development that highlight the location of and space allocated to the waste management system (including all dimensions), nominated waste collection point and the path of access for both users and collection vehicles (swept path diagrams where necessary).

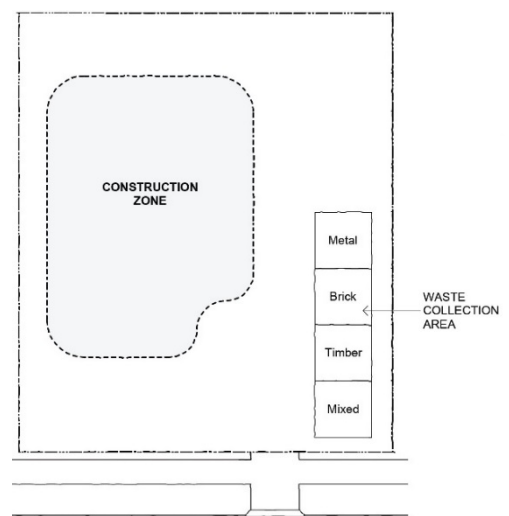


Figure 3.1 - Sample construction plan



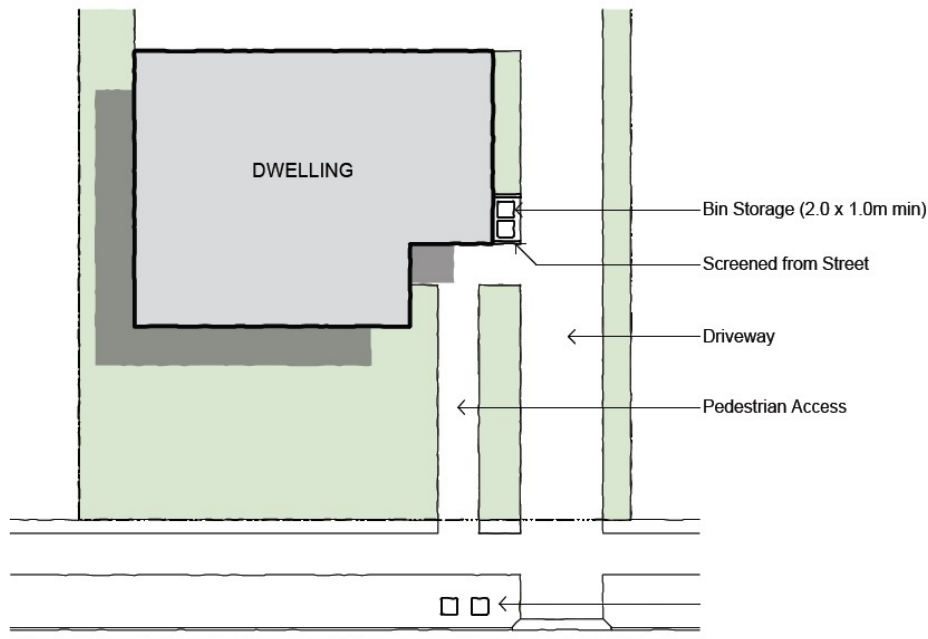


Figure 3.2 - Sample plan showing relevant planning information

### 3.1.2. Design Requirements

- Waste bins must be stored within the boundary of the subject site at all times when not being displayed for collection.
- Waste incineration devices are not permitted without the appropriate licences, permission or approvals.
- Waste storage areas must comply with the Building Code of Australia (BCA) and all relevant Australian Standards.

### 3.1.3. Space Requirements

During demolition including site preparation and construction, space is to be identified on site for the sorting and storage of separate waste streams (e.g. timber, bricks, metal, green waste). Such areas should:

- Be conveniently located to enable easy access and encourage use;
- Have sufficient space for the expected amount of waste to be generated;
- Have adequate weather protection (enclosed or under cover where required);
- Be secured and lockable where appropriate; and
- Have appropriate signage and labelling to assist in use.

In terms of ongoing use of the site, sufficient space is to be permanently provided on the site (within or outside the building) in close proximity to the vehicle or pedestrian entrance for the storage of waste between collections. Council collection information is provided in Waste Services, Depots & Recycling – Fees, Charges & Information. Further information is also available at Council's website - <https://www.shoalhaven.nsw.gov.au/Environment/Waste-and-recycling>.

The space allocated must be sufficient to store in separate waste containers, such as Mobile Garbage Bins (i.e. wheelie bins), the volume of general waste (to landfill) and recycling likely to be generated during the period between collections. Indicative generation rates for various development types are provided in Appendix B. Calculators are available to assist in

determining the waste that is likely to be generated. Information on calculators is available on Council's website - <https://www.shoalhaven.nsw.gov.au/Environment/Waste-and-recycling>.

#### 3.1.4. Access Requirements

- The space for the storage of waste must be located in a position which is convenient for both users and, where applicable, waste collection staff within the building footprint or the boundary of the site.
- Collection vehicles must be able to service the development efficiently and effectively. The Roads & Maritime Services Guide to Traffic Generating Developments and Council's Development Control Plan provide for further advice in this respect.

Where collection vehicles are required to enter private land:

- A path of travel of the collection vehicle must be provided in accordance with Australian Standard AS2890 (or as otherwise directed by Council) to demonstrate an acceptable level of access has been provided. Proponents are encouraged to consult with Council to determine the current dimensions of waste collection vehicles operated prior to determining the applicable design parameters. Dimensions of the vehicles used by Council's Domestic Waste Contractor at the time of writing are provided in Appendix C;
- A minimum vertical clearance of 6 metres is to be provided along the collection path, and 8 metres clearance at the collection point where bulk bins are to be retrieved from within a building or on site;
- A minimum horizontal distance of 1 metre is to be provided behind the bin to enable space for the collection truck lifting mechanism to operate;
- A waste collection point (and access to that collection point) must be provided on level ground that does not impede the movement of other vehicles. Ramps can't be used to convey waste to a collection point;
- Access to an approved collection point must enable all collection vehicles to enter and exit the site in a forward direction;
- The path for wheeling bins between the storage and collection points must be level and free of steps or like impediments. The travel distance should be less than 10 metres for Mobile Garbage Bins (wheelie bins) and 3 metres for bulk bins/skips;
- Pavements and gutters must be engineered to an appropriate standard to carry the maximum weight of the collection vehicles that are expected to service the site. Maximum weight of the vehicles used by Council's Domestic Waste Contractor at the time of writing are provided in Appendix C; and
- A condition of consent will be included in any approval requiring that Council is indemnified for any damage caused by Council's Domestic Waste Contractor.

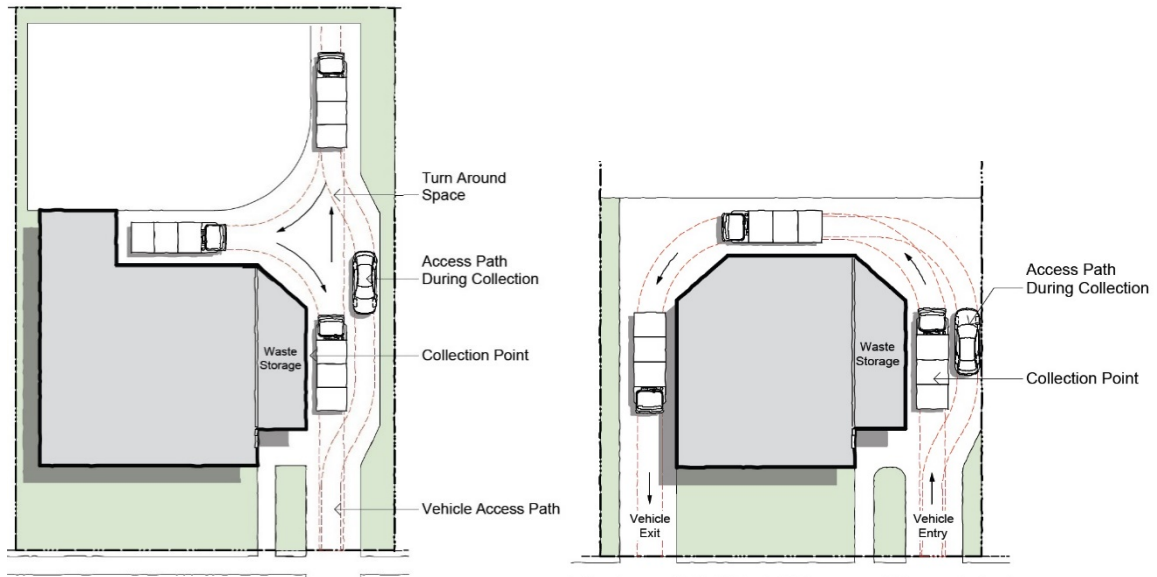


Figure 3.3 - Sample plans to demonstrate collection vehicle access and egress in forward direction.

### 3.1.5. Amenity Requirements

- The potential for noise and odour impacts on occupants and those adjacent to the development must be minimised.
- All putrescible waste that is stored awaiting collection is to be stored in a Council approved container (such as a Mobile Garbage Bin (wheelie bin) or bulk bin). All such containers shall have permanent, tight fitting lids and a smooth, washable internal surface.
- Waste storage areas must be screened from public view to avoid detracting from the streetscape.
- Plant selection along boundaries must not impede the ability to provide waste collection.
- Waste storage areas must be designed to be visually complementary to the design of the building including in terms of colours and materials.



Figure 3.4 - Example of poor quality design of bin storage space added to outside of building with high street exposure, poor accessibility for residents and lack of adequate cleaning space.



Figure 3.5 - Examples of integrated design solutions with positive street presentation

### 3.1.6. Construction Requirements

- For development that requires construction of any waste storage area, the floor of waste storage areas shall be of concrete construction to an appropriate engineering standard, providing for unimpeded access (i.e. with no steps or stairs) and walls shall be constructed of robust materials and be easy to clean and maintain.
- Where applicable, floors shall drain to an approved drainage fitting located within the space.
- Where applicable, ceilings of waste storage areas shall be constructed of a rigid, non-absorbent and easily cleaned material.
- Where a waste storage area is proposed within a building (for example residential flat buildings):
  - Either a self-closing door openable from within the storage area must be fitted, or other access arrangement to the satisfaction of Council;
  - Signage is to be erected in a prominent location stating that the doors must be kept closed at all times when not in use;
  - Appropriate signage is to be used to ensure that bins are correctly utilised;
  - Rooms must be constructed in a way that prevents access by vermin and pests;
  - Rooms must be ventilated by permanent, unobstructed natural ventilation to a minimum equivalent of 5% of the total floor space of the storage area, or, be provided with mechanical ventilation to the satisfaction of Council;
  - Rooms must be provided with artificial light controlled from both outside and inside the room; and
  - Any proposed use of volume reduction equipment (such as compactors) to be used in conjunction with waste system must be installed in accordance with manufacturer specifications and in a way which is safe for use and child proof.

### 3.1.7. Management Requirements

- Unless otherwise outlined in an approved Waste Management Plan, the land owner/occupier will be responsible for:
  - The transfer of Mobile Garbage Bins (wheelie bins) from the storage area to collection point on the day of, or day prior to, collection;
  - The transfer of Mobile Garbage Bins (wheelie bins) from the collection point to the storage locations on the same day as collection; and
  - Cleaning and maintenance of storage areas and Mobile Garbage Bins (wheelie bins) or other waste containers.

## 3.2. Additional Requirements for Residential Development

### ***Single Residential Dwelling House***

#### 3.2.1. General Requirements

- Council's standard Domestic Kerbside Waste Service (excluding the rural service) is outlined in Waste Services, Depots & Recycling – Fees, Charges & Information. At the time of writing, this includes:
  - Weekly 80/120/240 litre red-lid landfill bin collection; and
  - Fortnightly 240 litre yellow-lid recycling bin collection.

**Note:**

Contact Council's Waste Services on 02 4429 3111 for information and eligibility for a rural waste service.

- Where a dwelling house is intended to be used for holiday lettings, a 240-litre sized landfill bin will be required as a minimum (as well as the 240 litre recycling bin).

#### 3.2.2. Space Requirements

- Space must be allocated within each property boundary for the storage of Council specified waste and recycling bins as above and as outlined in the Waste Services, Depots & Recycling – Fees, Charges & Information. A minimum area of 2.0 x 1.0m is suggested (i.e. one square metre of storage space per bin).

#### 3.2.3. Management Requirements

- All waste and recycling material is to be stored inside the dwelling or in the standard bins as outlined above to avoid inadvertent littering, vermin attraction and pollution.
- Only waste presented in the standard bins as outlined above will be collected as part of Council's kerbside collection arrangements.

### ***Multi-unit Residential Dwellings***

#### 3.2.4. General Requirements

- Council's standard Domestic Kerbside Waste Service (excluding the rural service) is outlined in Waste Services, Depots & Recycling – Fees, Charges & Information. At the time of writing, this includes:
  - Weekly 80/120/240 litre red-lid landfill bin collection; and
  - Fortnightly 240 litre yellow-lid recycling bin collection.

- Where residential dwelling units are intended to be used for holiday lettings, consideration will be given to increased bin sizes to meet peak demand - e.g. such as 660-1100 litre Mobile Garbage Bins may be required. This may mean that standard kerbside pick-up services are not appropriate, and an alternative service is required.
- Where more than six (6) residential units are proposed, an alternative service arrangement is to be investigated and may be required where deemed necessary by Council or Council's Domestic Waste Contractor contractors.

### 3.2.5. Space Requirements

- Where all multi-unit residential dwellings have a ground floor level, individual waste storage areas may be possible, where they can meet the same requirements for single residential dwelling houses as above.
- Where desired, or if individual storage is not practical, a centralised waste storage area (such as a hardstand waste pad) must be provided as near as practicable to the collection point that has the capacity to store all wastes that would be expected to be generated in the entire building between normal collection periods. In such circumstances, Mobile Garbage Bins (wheelie bins) are the preferred bin storage method, in 240 litre configurations, with an allowance of at least one square metre per bin excluding circulation spaces.
- Where sufficient kerb space for all Mobile Garbage Bins (wheelie bins) cannot be demonstrated, an alternative service arrangement, potentially utilising a larger bin service (e.g. 660, 1100 or 1500 litre Mobile Garbage Bins), will be required.

#### Note:

For kerbside collection, an allowance of one (1) linear metre per Mobile Garbage Bin (wheelie bins) is required to enable service vehicles to empty each bin. For example, if up to 10 Mobile Garbage Bins (wheelie bins) are required to be collected on any one day, at least 10 linear metres of kerbside area free from driveways and other obstacles will be required. If the development is unable to meet these requirements either an acceptable on-site collection arrangement or an alternative service arrangement will need to be demonstrated.

For buildings of more than three storeys:

- A waste chute is recommended to be available within 45 metres from any dwelling;
- A waste chute is recommended to be available on each habitable floor of the building (though not from the ground floor);
- A waste chute is recommended to discharge only to a dedicated waste storage room; and
- The size of a bin to which the waste chute deposits shall of sufficient size to cater for the expected level of waste between collection or changeover arrangements.

#### Note:

It may be more efficient to have waste chutes discharging into waste compaction units. Discussions should be undertaken with Council staff where volume reduction equipment such as compaction units are proposed. Applicants should also note Building Code of Australia requirements.

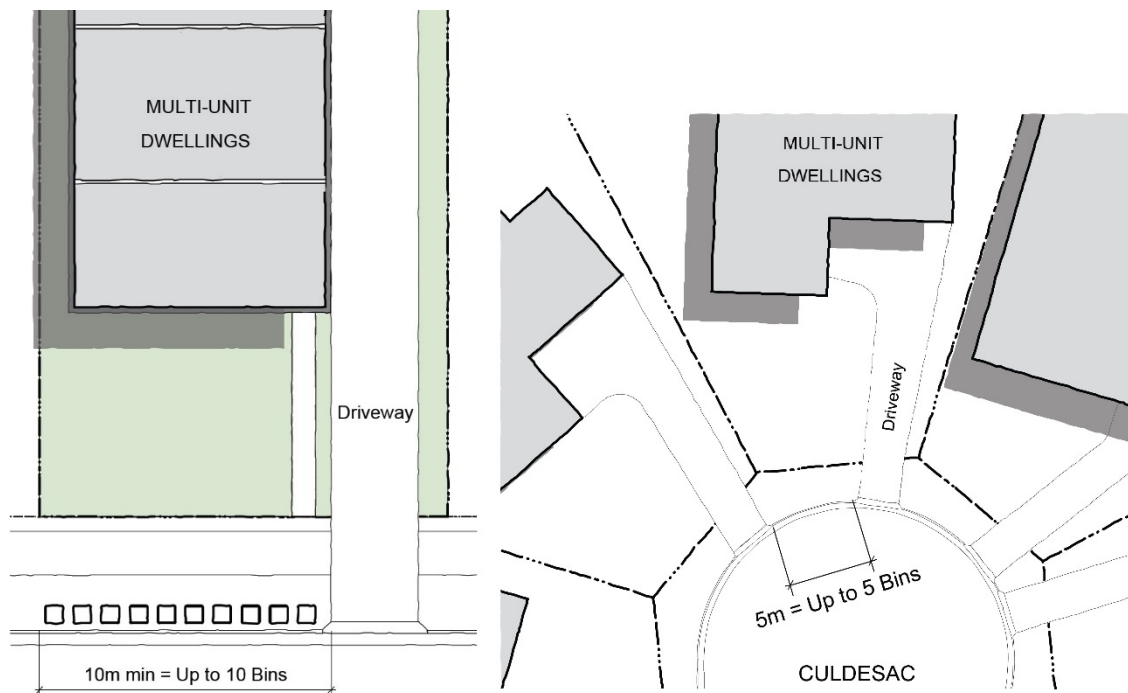


Figure 3.6 - Allow one metre per Mobile Garbage Bin (wheelie bin) to ensure adequate kerbside space is available. (Reference: Better Practice Guide for Waste Management in Multi-unit Dwellings (Department of Environment and Climate Change NSW 2008))

### 3.2.6. Amenity Requirements

- Where residential units are located adjacent or above a waste storage area or waste chute, appropriate measures are to be taken to ensure a high level of noise and odour amelioration including, but not limited to, additional insulation or design to avoid habitable spaces adjoining waste facilities etc.

### 3.2.7. Construction Requirements

- Where an enclosed storage area is proposed, the area must be provided with a water supply point within or adjoining the storage area to enable its regular cleaning.
- Adequate signage identifying waste and recycling storage areas, as well as waste and recycling bins must be prominently displayed and maintained.

## 3.3. Additional Requirements for Commercial / Industrial Development

### 3.3.1. General Requirements

- Requirements for commercial or industrial development are in addition to general requirements as outlined in these guidelines.
- Where not otherwise participating in domestic kerbside pickup, businesses must have written evidence, held on site, of a valid and current contract with a licensed collector for waste and recycling collection and disposal.

### 3.3.2. Space Requirements

- All new commercial and industrial premises must have an enclosed waste and recycling storage area.
- Sufficient space must also be allocated within an enclosed waste and recycling storage area (such as a hardstand waste pad) for the storage of other waste materials that are

not permitted in standard waste and recycling Mobile Garbage Bins (i.e. wheelie bins) (e.g. electronics, chemical, paints, oils and the like).

Note:

This area is not to be used for the storage of other items such as furniture, hard waste or storage boxes or equipment of any type.

- Sufficient space must also be allocated within an enclosed waste and recycling storage area for the storage of reusable items such as crates, pallets and the like.
- Where more than 10 cubic metres of uncompacted waste and recycling is likely to be generated per day, then volume reduction equipment, such as a compactor, must be used on site prior to collection.
- Where office space catering for more than 30 employees is envisaged, separate space within the waste and recycling storage area is encouraged for separate paper and cardboard recycling. Storage of paper and cardboard must be in a dry, vermin proof area and must be collected at least every two weeks.

### 3.3.3. Management Requirements

- Contracts with cleaners, building managers and tenants must clearly outline the waste management and collection processes and responsibilities.
- Where the generation, storage, treatment and disposal of hazardous or special waste (including medical, clinical, asbestos and other) is expected, appropriate private contracting services will be required in accordance with advice of Council's Environmental Management and Waste Services staff and indicated in the Waste Management Plan for the site or business operating from the site.

### 3.3.4. Construction Requirements

- Where an enclosed storage area is proposed, the area must be provided with a water supply point within or adjoining the storage area to enable its regular cleaning.

## 3.4. Additional Requirements for Mixed Use Development

### 3.4.1. General Requirements

- Requirements for mixed use development are in addition to all other general, residential or commercial / industrial requirements as outlined in these guidelines.
- Where there are more than six (6) residential units, or where predicted waste streams exceed maximum standard domestic kerbside collection allowances, separate commercial and residential waste and recycling storage areas are to be provided. Each area shall comply with the relevant sections of these guidelines.

### 3.4.2. Amenity Requirements

- Measures must be taken to ensure that potential for impact on noise and odour from commercial waste does not impact on residents.

## 3.5. Additional Requirements for Subdivisions

### 3.5.1. General Requirements



- A Waste Management Plan must be submitted with a development application for subdivision, regardless of whether or not the subdivision is staged.
- Proposed subdivisions containing cul-de-sacs must consider future waste collection from the lots located in the cul-de-sac heads.
- Where fill/ spoil is to be removed from a site the approved location that it is being moved to must be included in the Waste Management Plan.

#### 4. GLOSSARY OF TERMS

**Alternative service** means a waste collection service other than Council's kerbside collection. This service could be provided by Council's Domestic Waste Contractor or another contractor.

**Collection point** means the usual (or agreed) point on the footpath/roadway, or on-site, where garbage and recyclables are loaded onto collection vehicles.

**Council** means Shoalhaven City Council.

**Development** has the same meaning as in the *Environmental Planning and Assessment Act 1979* (NSW).

**Dwelling** means a room or suite of rooms occupied or used or so constructed or adapted as to be capable of being occupied or used as a separate domicile.

**Dwelling house** means a building containing only one dwelling.

**Green waste** means vegetative matter including trees, branches, shrubs, cuttings, lawn clippings and untreated timber and wood products.

**Hazardous waste** means any waste that, because of its physically, biologically or chemically damaging properties, is capable of causing a danger to the life or health of any living thing if it is released into the environment, and is, or contains, a substance specified in Schedule 1 of the Waste Minimisation and Management Regulation 1996. These include a range of wastes (other than special waste or liquid waste) that have been pre-classified by the NSW EPA.

**Liquid waste** means any waste (other than special waste) that has an angle of repose of less than 5 degrees above horizontal, becomes free-flowing at or below 60 degrees Celsius or when it is transported, is generally not capable of being picked up by a spade or shovel, or is classified as liquid waste under an EPA gazettal notice.

**Mobile garbage bin** means a waste container generally constructed of plastic with wheels with a typical kerbside capacity of 80, 120 or 240 litres, or in larger 660 or 1,000 litres configurations collected by waste contractors. 80, 120 or 240 litre Mobile Garbage Bins are commonly referred to as wheelie bins.

**Putrescible waste** means a component of the waste stream likely to become putrid and which typically breaks down in a landfill, such as foods and animal products.

**Recyclable** means capable of being reprocessed into usable material or re-used.

**Special waste** means a waste that posed or is likely to pose an immediate or long-term risk to human health or the environment. This includes clinical and related waste, asbestos waste, waste tyres, and anything classified as special waste under an EPA gazettal notice.

**Volume reduction equipment** means devices, which reduce the volume of waste or recyclable material including compressing devices such as compactors and balers, and shredding, pulverising or crushing devices.

**Waste** has the same meaning as in the *Protection of the Environment Operations Act 1997*.

**Waste chute** means a duct in which deposited material descends from one level to another within the building, due to gravity.

**Waste management plan** means a plan prepared in accordance with the Waste Minimisation and Management Guidelines. Such a plan would typically include a table showing the volume and type of waste to be generated, stored and treated on site, how the residual is to be disposed of and how ongoing management will operate.

**Waste storage area** means a designated area or a combination of designated areas upon the site for the housing of approved containers to store all waste material (including recyclable material) likely to be generated by the building's occupants.

**Waste storage room** is a type of waste storage area incorporating a fully enclosed room where waste streams are stored, awaiting reuse or removal from the premises.

## **5. REVIEW**

This policy will be reviewed by the Waste Services manager every three years, or earlier should circumstances arise to warrant revision.

## Appendix A - Reference List

### Waste Minimisation and Management Guidelines - Reference List

The following references are made in this guideline and provide additional information that may be required:

*Asbestos Policy - Policy Number: POL16/57 (Shoalhaven City Council)*

*Better Practice Guide for Waste Management in Multi-unit Dwellings (Department of Environment and Climate Change NSW - 2008)*

*Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities (NSW Environment Protection Authority - 2012)*

*Demolition and Renovation of Buildings Containing Asbestos Policy - Policy Number: POL16/236 (Shoalhaven City Council)*

*Environmental Planning and Assessment Act 1979 (NSW)*

*Food Premises Policy - Policy Number: POL08/180 (Shoalhaven City Council)*

*House Deconstruction Information Booklet (NSW Department of Environment, Climate Change and Water - 2010)*

*Protection of the Environment Operations (Waste) Regulation 2014*

*Roads & Maritime Services Guide to Traffic Generating Developments*

*Waste Avoidance and Resource Recovery (WARR) Strategy*

*Waste Wise Events Guide (Department of Environment and Conservation NSW - 2007)*

*Waste Services, Depots & Recycling – Fees, Charges & Information (Shoalhaven City Council - Booklet produced annually)*

## Appendix B - Estimating Quantities of Waste

### Waste Minimisation and Management Guidelines - Estimating Quantities of Waste

A Waste Management Plan requires you to estimate the quantities of waste generated as part of the demolition including site preparation, construction and ongoing use of your development. These rates will depend on the type of development. The following information is designed to assist you in estimating the quantities of waste involved. This is not a one size fits all calculation and is only a guide.

Reference should also be made to State Government guidance on waste generation rates. Wherever possible, efforts have been made to provide rates that are consistent between these Guidelines and recent State Government documents. However, where inconsistencies occur, contact should be made with Council's Waste Services to clarify any requirements. Applicants are also encouraged to seek the advice of local service providers to assist with the calculation of waste and the types of waste services/systems which may best suit the waste generating activity and the type of development.

Calculators are also available to assist in determining the amount of waste generated during each stage (demolition, construction and ongoing use). Information on calculators is available on Council's website - <https://www.shoalhaven.nsw.gov.au/Environment/Waste-and-recycling>.

#### Demolition

The following table provides an indication of the extent of waste streams from the demolition of a range of typical dwelling types. Where the area of the building or structure to be demolished differs from the below table, a proportional response is considered to be acceptable.

**Table 1: Estimated quantities of waste during demolition**

Waste Generated (tonnes)							
Building Type							
Waste Type	Asbestos (150m <sup>2</sup> )	fibro	Weatherboard (160m <sup>2</sup> )	Brick (200m <sup>2</sup> )	Veneer	Full (150m <sup>2</sup> )	brick
Asbestos	1.8	-	-	-	-	-	-
Fittings	1		1	1.5		1.5	
Roof Tiles	5		5	12		8	
Plaster-board	2		2	2.5		1	
Timber	5.3		7.2	9.6		6.9	
Concrete / Bricks	20		50	120		180	
<b>Total</b>	<b>35</b>		<b>65</b>	<b>146</b>		<b>197</b>	

Table based on House Deconstruction Information Booklet, NSW Department of Environment, Climate Change and Water 2010

## Construction

The following table provides an indication of the extent of waste streams from the construction of a range of typical dwelling types. Where the area of the building or structure to be constructed differs from the below table, a proportional response is considered to be acceptable.

**Table 2: Estimated quantities of waste during construction**

Waste Generated (tonnes)					
Building Type					
Waste Type	2 bed brick townhouse (100m <sup>2</sup> )	3 bed brick house (120m <sup>2</sup> )	Block of flats per 1,000m <sup>2</sup>	Factory per 1,000m <sup>2</sup>	Office block per 1,000m <sup>2</sup>
Timber	0.25	0.35	0.7	0.25	5.1
Concrete	0.35	0.4	6.7	2.1	18.8
Bricks	0.55	0.75	3.2	1.65	8.5
Plaster-board	0.2	0.2	1.3	0.45	8.6
Sand/soil	1.3	2.5	28.7	4.8	8.8
Metal	0.05	0.1	1.3	0.6	2.75
Other	0.3	0.44	0.6	0.5	5
<b>Total</b>	<b>3</b>	<b>4.74</b>	<b>42.5</b>	<b>10.35</b>	<b>57.55</b>

Alternatively, for renovations, small home building or where the above do not apply, the following process may assist you estimate quantities of waste from construction:

- i. quantify the extent of materials needed for the project;
- ii. use the margin normally allowed in ordering (using the percentages / rates “rule of thumb” as set out below); and
- iii. copy these amounts of waste into your Waste Management Plan.

**Table 3: Waste “Rules of Thumb” as % of material order**

Material	Waste Generated (%)
Timber	5 - 7 %
Plasterboard	5 - 10%
Concrete	3 - 5%
Bricks	5 - 10%
Tiles	2 - 5%

**Table 4: Converting volume to weight**

Material	Weight Generated (tonnes per m <sup>3</sup> )
Timber	0.5 tonnes per m <sup>3</sup>
Plasterboard	2.4 tonnes per m <sup>3</sup>
Concrete	1.0 tonnes per m <sup>3</sup>
Bricks	0.75 tonnes per m <sup>3</sup>
Tiles	2 - 4 tonnes per m <sup>3</sup>

## On-going Use

The following table provides an indication of the extent of waste streams that can be expected from the ongoing use of a premises under various type of land uses. These generation rates are to be used in calculating the expected waste generation of the development and the waste system that is to be used to cater for this demand.

**Table 5: Estimated quantities of waste generated during operation**

Land use type	Waste Generated	
	Waste (to landfill)	Recycling
Multi-unit Dwellings	120 L/unit/week	60 L/unit/week
Assembly rooms (entertainment/recreation/ religious/ social)	50 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Backpackers, boarding / guest house	30 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Showrooms	10 L/100m <sup>2</sup> /day	25 L/100m <sup>2</sup> /day
Butcher	185 L/100m <sup>2</sup> /day	100 L/100m <sup>2</sup> /day
Delicatessen	30 L/100m <sup>2</sup> /day	30 L/100m <sup>2</sup> /day
Fish shop	250 L/100m <sup>2</sup> /day	85 L/100m <sup>2</sup> /day
Greengrocer	310 L/100m <sup>2</sup> /day	410 L/100m <sup>2</sup> /day
Hairdresser	40 L/100m <sup>2</sup> /day	40 L/100m <sup>2</sup> /day
Restaurants / takeaway	190 L/100m <sup>2</sup> /day	190 L/100m <sup>2</sup> /day
Supermarket	140 L/100m <sup>2</sup> /day	75 L/100m <sup>2</sup> /day
Hotels, bars, pubs	80 L/100m <sup>2</sup> /day	35 L/100m <sup>2</sup> /day
Licensed club	25 L/100m <sup>2</sup> /day	20 L/100m <sup>2</sup> /day
Motel	20 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Offices	8 L/100m <sup>2</sup> /day	6 L/100m <sup>2</sup> /day
Primary education	7 L/100m <sup>2</sup> /day	2 L/100m <sup>2</sup> /day
Tertiary education	25 L/100m <sup>2</sup> /day	3 L/100m <sup>2</sup> /day
Cafes	215 L/100m <sup>2</sup> /day	130 L/100m <sup>2</sup> /day
Bakeries	295 L/100m <sup>2</sup> /day	165 L/100m <sup>2</sup> /day
Services	55 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Chemists	55 L/100m <sup>2</sup> /day	55 L/100m <sup>2</sup> /day
Grocery and convenience stores	25 L/100m <sup>2</sup> /day	90 L/100m <sup>2</sup> /day
Dry cleaning	35 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Home and kitchenware shops	10 L/100m <sup>2</sup> /day	70 L/100m <sup>2</sup> /day
Newsagents and stationery shops	15 L/100m <sup>2</sup> /day	215 L/100m <sup>2</sup> /day
Medical and optical	35 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Shopping centres	15 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Variety gift stores	15 L/100m <sup>2</sup> /day	35 L/100m <sup>2</sup> /day
Pawnbrokers	20 L/100m <sup>2</sup> /day	10 L/100m <sup>2</sup> /day
Shops less than 100m <sup>2</sup> floor space	80 L/100m <sup>2</sup> /day	80 L/100m <sup>2</sup> /day
Shops more than 100m <sup>2</sup> floor space	80 L/100m <sup>2</sup> /day	65 L/100m <sup>2</sup> /day



<b>Land use type</b>	<b>Waste Generated</b>	
	Waste (to landfill)	Recycling
All food retail	180 L/100m <sup>2</sup> /day	135 L/100m <sup>2</sup> /day
All non-food retail	40 L/100m <sup>2</sup> /day	50 L/100m <sup>2</sup> /day
All retail	80 L/100m <sup>2</sup> /day	70 L/100m <sup>2</sup> /day

*L/100m<sup>2</sup>/day = Litres per 100m<sup>2</sup> of Gross Floor Area (GFA) per day*

*Other uses are to be determined based on evidence and in discussion with Council's Waste Services staff.*

*Table generally based on Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities – 2012*

## Appendix C - Waste Collection Vehicle Information

### Typical Waste Collection Vehicle Information

Waste vehicles come in a variety of sizes depending on the type of service being provided. The table below provides a range of typical dimensions and information that may assist with early planning for your project.

Note:

Truck dimensions and technologies can change, and you should contact Council's Waste Services on 02 4429 3111 to confirm this information is current.

### Typical waste collection vehicle dimensions

Typical Dimensions and other information						
Vehicle Type	Overall Length	Overall Width	Height (travel)	Height (in operation)	Weight (incl. payload)	Turning Circle
Kerbside collection side lift (Mobile Garbage Bin's to 240 litres)	9.8m	2.5m	3.8m	4.2m	22.5t	25m
Commercial rear lift (Mobile Garbage Bin's to 1,100 litres)	8.0m	2.5m	3.4m	3.4m	22.5t	25m
Commercial front lift (bulk containers to 4.5m <sup>3</sup> )	11.0m	2.5m	4.2m	8.5m	27.5t	25m
Commercial roll-on, roll-off (bulk skips to 31m <sup>3</sup> )	9.2m	2.5m	4.3m	5.6m	27.5t	25m