CODE OF PRACTICE

Code Title: **SITE WASTE MINIMISATION AND MANAGEMENT CODE**

Reason for Code: To minimise residual waste from demolition activities and to manage activities to maximise resource recovery.

Code Details: This code covers:

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1. Introduction

1.1 Objectives

The objectives in pursuit of sustainable waste management include:
Waste minimisation

- To minimise resource requirements and construction waste through reuse and recyclingand the efficient selection and use of resources.
- To minimise demolition waste by promoting adaptability in building design and focussingupon end of life deconstruction.
- To encourage building designs, construction and demolition techniques in general whichminimise waste generation.
- To maximise reuse and recycling of household waste and industrial/commercial waste.

Waste management

- To assist applicants in planning for sustainable waste management, through the preparationof a site waste minimisation and management plan.
- To assist applicants to develop systems for waste management that ensure waste istransported and disposed of in a lawful manner.
- To provide guidance in regards to space, storage, amenity and management of wastemanagement facilities.
- To ensure waste management systems are compatible with collection services.
- To minimise risks associated with waste management at all stages of development.

1.2 Application

This Code applies to the following types of development.

- demolition
- construction
- change in use

1.3 The Development Approval Process

1.31. Complying Development

The Council or an accredited certifier must have regard to the provisions of this Code inissuing a complying development certificate.

1.3.2 Exempt Development

Preparation of a Site Waste Minimisation and Management Plan (SWMMP) is not required forexempt development. However, persons carrying out exemptdevelopment are encouraged to minimise the generation of waste in the construction andoperation of any such use or activity and deal with any waste generated in accordance with theobjectives herein.

1.4 How to Use This Code

This section outlines how to interpret and apply the provisions herein for the planning anddesigning of site waste minimisation and management.

1.5 Definitions

Other than those listed below, terms in this document have the meanings found in the Eurobodalla Local Environmental Plan 2011dictionary.

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1.6 Summary Guide to Using This Code

This Code shall be generally used as follows:

1. Read Section 1 – Introduction

This section provides a background to waste minimisation and management, details aimsand objectives of waste minimisation and management associated with local developmentand the application of the Code.

2. Read Section 2 – Submission Requirements

This section provides specific advice in respect of information to accompany submission of aDevelopment Application (DA) and highlights the requirements of a Site WasteMinimisation and Management Plan.

3. Read Section 3 and 4 – Assessment Criteria/Controls

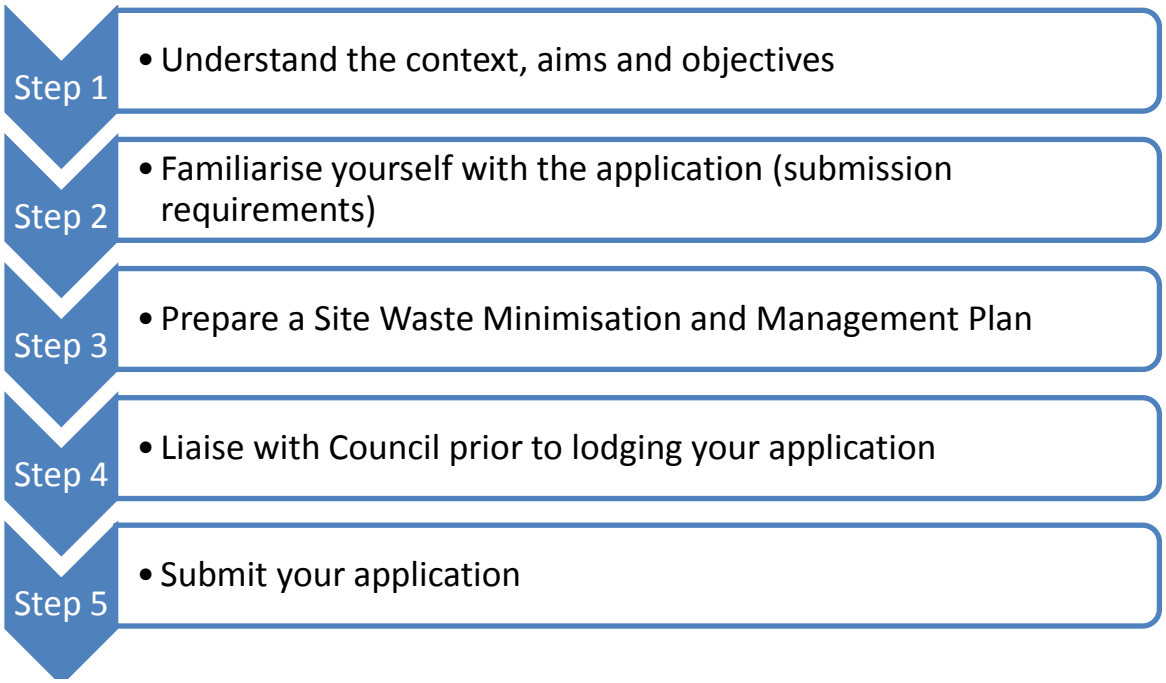
These sections detail the criteria/controls Council will consider in assessing the adequacy ofthe Site Waste Minimisation and Management Plan, in addressing the principles ofsustainable waste management. Section 3 details general criteria and controls for alldemolition and all constructions, while Section 4 adds additional criteria and controls forspecific types of constructions.

4. Read the Appendices — Further Information

This section provides useful information in interpreting this Code, understanding thewaste minimisation and management environment and documenting the centralsubmission requirement – a Site Waste Minimisation and Management Plan.

1.7 Steps in the Preparation and Submission of an Application

The actions involved in preparing and submitting a development application, which satisfactorilyaddresses waste minimisation and management obligations are summarised in the following chart.



2. Submission/Application Requirements

2.1 Documentation to be submitted to Comply with the Requirements ofthis Code

All applications for development, including demolition, construction and the ongoing use of asite/premise, must be accompanied by a Statement of Environmental Effects (SEE). ThisStatement is to include a SWMMP as the central document of compliance with this Code'srequirements.

In addition to submission of a SWMMP (as part of the SEE), the waste management facilitiesproposed as part of the development, shall be clearly illustrated on the plans of the proposeddevelopment, accompanying the development application (DA).

2.2 Site Waste Minimisation and Management Plans

A Site Waste Minimisation and Management Plan (SWMMP) outlines measures to minimise andmanage waste generated during:

- demolition
- construction
- ongoing use of the site/premises.

In doing so, the SWMMP nominates:

- volume and type of waste and recyclables to be generated
- storage and treatment of waste and recyclables on site
- disposal of residual waste and recyclables
- operational procedures for ongoing waste management once the development is complete.

The SWMMP highlights the method of recycling or disposal and the waste management serviceprovider. **Appendix A**provides a template for the compilation of a SWMMP.

2.3 Submission of a SWMMP

2.3.1 Development Generally

A SWMMP must be submitted for all types of development including demolition, constructionand ongoing use of the site/premises; including local development, integrated developmentand state significant/major project development (as defined by the *Environmental Planning andAssessment Act and Amendments*). More details are required in SWMMPs for larger and morecomplex developments. The amount of supporting information and diagrams also increases.

Where a DA is required, with or without the need for a Construction Certificate (CC), a SWMMP mustbe submitted at development application stage. Where only a CC is required, a SWMMP shall besubmitted at the construction certificate stage. Maximum waste minimisation and managementbenefits are achieved when the SWWMP is considered from the earliest stages of the development.
It is for this reason that a SWMMP is required with the earliest approval application.

Note to Council Planners: An alternative method is to require the majority of the SWMMP atDA stage, except page 3 regarding construction waste to be submitted with the CC when itis more likely that the builder has been appointed. A benefit of this staged SWMMP approachcan be closer involvement of the builder and building certifier/inspector in formulation,approval and monitoring of SWMMPs.However discussion with council's building sectionshould be undertaken before adopting this alternative.

2.3.2 Complying Development

A Site Waste Minimisation and Management Plan (SWMMP) is required for developmentidentified as Complying Development in accordance with Council's adopted Exempt andComplying Development criteria. Site waste minimisation and management must be carried outin accordance with an approved SWMMP, and dockets retained on site to show to where anyconstruction and or demolition waste has been transported.

2.3.3 Exempt Development

A SWMMP is not required in association with Exempt Development carried out in accordancewith Council's adopted Exempt and Complying Development criteria.

However, a person carrying out exempt development should seek to minimise the generation ofwaste in the construction and operation of any such use or activity and deal with any wastegenerated in accordance with the objectives herein.

2.4 Waste/Recycling Generation Rates

In the absence of project specific calculations, the rates specified in **Appendix B.**

Waste/Recycling Generation Rates and Council's current rate of provision of services toresidential properties can be used to inform the compilation of a SWMMP.

3. Development Guidelines

3.1 Demolition of Buildings or Structures

3.1.1 General

The demolition stage provides great scope for waste minimisation. Proponents are activelyencouraged to consider possible adaptive reuse opportunities of existing buildings/structures,reuse of materials or parts thereof.

3.1.2 Aim

The principal aim of managing this activity is to maximise resource recovery and minimiseresidual waste from demolition activities.

3.1.3 Objectives

- Optimise adaptive reuse opportunities of existing building/structures.
- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate storage and collection of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping.
- Promote improved project management.

3.1.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) must accompany thedemolition application.
- Pursue adaptive reuse opportunities of buildings/structures.
- Identify all waste likely to result from the demolition, and opportunities for reuse ofmaterials. Refer to Figure 1.
- Facilitate reuse/recycling by using the process of 'deconstruction', where various materialsare carefully dismantled and sorted.
- Reuse or recycle salvaged materials onsite where possible.

- Allocate an area for the storage of materials for use, recycling and disposal (givingconsideration to slope, drainage, location of waterways, stormwater outlets, vegetation, andaccess and handling requirements).
- Provide separate collection bins or areas for the storage of residual waste.
- Clearly 'signpost' the purpose and content of the bins and storage areas.
- Implement measures to prevent damage by the elements, odour and health risks, andwindborne litter.
- Minimise site disturbance, limiting unnecessary excavation.

When implementing the SWMMP the applicant must ensure:

- Footpaths, public reserves, street gutters are not used as places to store demolitionwaste or materials of any kind without Council approval.
- Any material moved offsite is transported in accordance with the requirements of theProtection of the Environment Operations Act (1997).
- Waste is only transported to a place that can lawfully be used as a waste facility.
- Generation, storage, treatment and disposal of hazardous waste and special waste(including asbestos) is conducted in accordance with relevant waste legislationadministered by the EPA and relevant Occupational Health and Safety legislationadministered by WorkCover NSW.
- Evidence such as weighbridge dockets and invoices for waste disposal or recyclingservices are retained.

Note: Materials that have an existing reuse or recycling market should not be disposed of in alandfill. **Figure 1** provides a list of some potential reuse/recycling options. Reuse and recyclingopportunities are decreased when asbestos is not carefully removed and segregated from otherwaste streams.

Material	Reuse/recycling potential
Concrete	Reused for filling, levelling or road base
Bricks and Pavers	Can be cleaned for reuse or rendered over or crushed for use in landscaping and driveways
Roof Tiles	Can be cleaned and reused or crushed for use in landscaping and driveways
Untreated Timber	Reused as floorboards, fencing, furniture, mulched or sent to second hand timber suppliers
Treated Timber	Reused as formwork, bridging, blocking and propping, or sent to second hand timber suppliers
Doors, Windows, Fittings	Sent to second hand suppliers
Glass	Reused as glazing or aggregate for concrete production
Metals (fittings, appliances and wiring)	Removal for recycling
Synthetic Rubber (carpet underlay)	Reprocessed for use in safety devices and speed humps
Significant Trees	Relocated either onsite or offsite
Overburden	Power screened and used as topsoil
Garden Waste	Mulched, composted
Carpet	Can be sent to recyclers or reused in landscaping
Plasterboard	Removal for recycling, return to supplier

Figure 1: Examples of demolition materials and potential reuse/recycling opportunities(based on the *Combined Sydney Regional Organisation of Councils Model DCP 1997*)

3.2 Construction of Buildings or Structures

3.2.1 General

Attention to design, estimating of materials and waste sensitive construction techniques andmanagement practices can achieve significant rewards in managing waste.

3.2.2 Aim

The principal aim of managing this activity is to maximise resource recovery and minimiseresidual waste from demolition activities.

3.2.3 Objectives

- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate collection and storage of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping.
- Promote improved project management.
- Optimise adaptive reuse opportunities of existing building/structures.

3.2.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompany theapplication.

Note: The type of construction determines whether a development application, constructioncertificate or complying development statement is required. In all cases a SWMMP must becompleted. Maximum waste minimisation and management benefits are achieved when theSWMMP is considered from the earliest stages of the development.

- Estimate volumes of materials to be used and incorporate these volumes into a purchasingpolicy so that the correct quantities are purchased. For small-scale building projects see therates in Appendix B Waste/Recycling Generation Rates for a guide.
- Identify potential reuse/recycling opportunities of excess construction materials.
- Incorporate the use of prefabricated components and recycled materials.
- Arrange for the delivery of materials so that materials are delivered 'as needed' to preventthe degradation of materials through weathering and moisture damage.
- Consider organising to return excess materials to the supplier or manufacturer.
- Allocate an area for the storage of materials for use, recycling and disposal (considering slope,drainage, location of waterways, stormwater outlets and vegetation).
- Arrange contractors for the transport, processing and disposal of waste and recycling.Ensure that all contractors are aware of the legal requirements for disposing of waste.
- Promote separate collection bins or areas for the storage of residual waste.
- Clearly 'signpost' the purpose and content of the bins and storage areas.

- Implement measures to prevent damage by the elements, odour and health risks, andwindborne litter.
- Minimise site disturbance and limit unnecessary excavation.
- Ensure that all waste is transported to a place that can lawfully be used as a waste facility. Retain all records demonstrating lawful disposal of waste and keep them readily accessible forinspection by regulatory authorities such as council, DECC or WorkCover NSW.

4. Development-Specific Guidelines

4.1 Single Dwellings, Semi-Detached and Dual Occupancy

4.1.1 General

The design of waste and recyclables storage areas within the home and property affectease of use, amenity, the movement and handling of waste for the life of the development.

4.1.2 Aim

To encourage source separation of waste, reuse, and recycling by ensuring appropriatestorage and collection facilities for waste, and quality design of waste facilities.

4.1.3 Objectives

- Maximise reuse and recycling of materials.
- Minimise waste generation.
- Ensure appropriate collection and storage of waste.
- Minimise the environmental impacts associated with waste management.
- Avoid illegal dumping

4.1.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompanythe application.

Note: The type of construction determines whether a development application,construction certificate or complying development statement is required. In all cases aSWMMP must be completed. Maximum waste minimisation and management benefitsare achieved when the SWMMP is considered from the earliest stages of the development.

- Plans submitted with the SWMMP must show:
  - The location of an indoor waste/recycling cupboard (or other appropriate storagespace) for each dwelling.
  - The location of an onsite waste/recycling storage area for each dwelling, that is ofsufficient size to accommodate Council's waste, recycling and garden waste bins.Indicative bin sizes are shown in **Appendix C Indicative Bin Sizes.**
  - An identified onsite location for a compost container.
  - An identified kerbside collection point for the collection and emptying ofCouncil's waste, recycling and garden waste bins.
- Waste containers are to be stored in a suitable location so as to avoid vandalism,nuisance and adverse visual impacts.
- A designated area for composting that should not impact on adjoining properties.

- Where possible, the waste/recycling storage area should be located in the rear yardand minimise the distance of travel to the collection point.
- The waste storage area is to be easily accessible and have unobstructed access toCouncil's usual collection point.
- Thereshould be sufficient space within the kitchen (or an alternate location) for theinterim storage of waste and recyclables.
- The placement of bins for collection at the nominated collection point should ensureadequate traffic and pedestrian safety is maintained.

Note: It is the responsibility of dwelling occupants to move bins to the identifiedcollection point no earlier than the evening before collection day and to then returnthe bins to their storage area no later than the evening of collection day. Bins are toremain in their on-site storage area at all other times.

4.2 Multi Dwellings Housing, Residential Flats Building and Tourist and VisitorAccommodation

4.2.1 General

The design of waste and recycling storage areas within the unit and property affects ease ofuse, amenity, movement and handling of waste for the life of the development. Multiplehouseholds within the property increase challenges with regard to waste volumes, ease ofaccess and operation of waste sorting and removal systems. Resources such as the *BetterPractice Guide for Waste Management in Multi-Unit Dwellings* should be used to inform designof multi-unit dwellings.

Note to Council Planners: The *Better Practice Guide for Waste Management in Multi-UnitDwellings* gives detailed information about waste recycling/storage rooms and facilities. TheGuide was substantially reviewed in 2007 and is available on the Department of Environmentand Climate Change NSW website (www.environment.nsw.gov.au). Further updates will bepublished as information from social research and waste stream audits become available.

4.2.2 Aim

To encourage source separation of waste, reuse, and recycling by ensuring appropriatestorage and collection facilities for waste, and quality design of waste facilities.

4.2.3 Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management systems are as intuitive for occupants as possible and arereadily accessible.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste andrecycled material, and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

4.2.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shallaccompany the development application.

- Plans submitted with a development application must show:
  - The location of an indoor waste/recycling cupboard (or other appropriate storagespace) for each dwelling.
  - The location of individual waste/recycling storage areas (such as for townhousesand villas) or a communal waste/recycling storage room(s) able to accommodateCouncil's waste, recycling and garden waste bins.
  - The location of any garbage chute(s) and interim storage facilities for recyclablematerials.
  - The location of any service rooms (for accessing a garbage chute) on each floor ofthe building.
  - The location of any waste compaction equipment.
  - An identified location for individual compost containers or communal compostcontainer.
  - An identified collection point for the collection and emptying of Council's waste,recycling and garden waste bins.
  - The path of travel for moving bins from the storage area to the identifiedcollection point (if collection is to occur away from the storage area).
  - The on-site path of travel for collection vehicles (if collection is to occur on-site),taking into account accessibility, width, height and grade.
- Systems should be designed to maximise source separation and recovery of recyclables.
- Waste management systems should be designed and operated to prevent thepotential risk or injury or illness associated with the collection, storage and disposal ofwastes.

The following minimum collection and storage facilities shall be provided:

- Each dwelling unit should be provided with an indoor waste/recycling cupboard(or other appropriate storage space) for the interim storage of a minimum oneday's garbage and recycling generation.
- Residential flat buildings must include communal waste/recycling storage facilities inthe form of a waste/recycling storage room (or rooms) designed in accordance withAppendix D Waste Recycling/Storage Rooms in Multi-Unit Dwellings and theBetter Practice Guide for Waste Management in Multi-Unit Dwellings.
- Multi-unit housing in the form of townhouses and villas must include eitherindividual waste/recycling storage areas for each dwelling or a communal facilityin the form of a waste/recycling storage room (or rooms) designed in accordancewith Appendix D Waste Recycling/Storage Rooms in Multi-Unit Dwellings andthe Better Practice Guide for Waste Management in Multi-Unit Dwellings.
- Space must be provided for an individual compost container for each dwelling(such as in townhouse and villa developments) or for a communal compostcontainer; the siting of which will have regard to potential amenity impacts.
- The waste/recycling storage area(s) or room(s) must be of a size that cancomfortably accommodate separate garbage, recycling and garden wastecontainers at the rate of Council provision.
- For multi-storey developments that include ten or more dwellings, a dedicatedroom or caged area must be provided for the temporary storage of discardedbulky items which are awaiting removal. The storage area must be readilyaccessible to all residents and must be located close to the main waste storageroom or area.

The following location and design criteria shall apply to collection and storage facilities:

- Development involving six or more dwellings on a single lot must include provision for the storage and removal of waste on site.

- In townhouse and villa developments with individual waste/recycling storageareas, such areas should be located and designed in a manner which reducesadverse impacts upon neighbouring properties and upon the appearance of thepremises.
- There must be an unobstructed and Continuous Accessible Path of Travel (as perAustralian Standard 1428 Design for Access and Mobility - 2001) from thewaste/recycling storage area(s) or room(s) to:
    - the entry to any Adaptable Housing (as per Australian Standard 4299 AdaptableHousing - 1995)
    - the principal entrance to each residential flat building
    - the point at which bins are collected/emptied.

In instances where a proposal does not comply with these requirements, Councilwill consider alternative proposals that seek to achieve a reasonable level ofaccess to waste/recycling storage area(s) or room(s).

- Communal waste storage areas should have adequate space to accommodateand manoeuvre Council's required number of waste and recycling containers.
- Each service room and storage area must be located for convenient access byusers and must be well ventilated and well lit.
- Where site characteristics, number of bins and length of street frontage allow, binsmay be collected from a kerbside location. In instances where kerbside bin collectionis not appropriate, bins must be collected onsite. Bins that are collected onsite are tobe collected either from their usual storage point or from an onsite temporaryholding area located inside the property boundary and close to a property entrance.
- Where bins cannot be collected from a kerbside location or from a temporary holdingarea located immediately inside the property boundary, the development must bedesigned to allow for on-site access by garbage collection vehicles (of dimensionsdetailed at **Appendix E Garbage Truck Dimensions for Residential WasteCollection)**. In these instances, the site must be configured so as to allow collectionvehicles to enter and exit the site in a forward direction and so that collection vehiclesdo not impede general access to, from or within the site. Access driveways to be usedby collection vehicles must be of sufficient strength to support such vehicles.

Note: As a minimum requirement for collection vehicle access, Council will requireindemnity against claims for loss or damage to the pavement or other driving surface.Council may also require indemnity against liabilities, losses, damages and any otherdemands arising from any on-site collection service. In all cases, a hazard assessmentwill need to be conducted prior to Council agreeing to undertake the service.

- Should a collection vehicle be required to enter a property, access driveways andinternal roads must be designed in accordance with Australian Standard 2890.2Parking Facilities – Off-Street Commercial Vehicle Facilities – 2002.
- If Council waste collectors and/or waste collection vehicles are required to enter a sitefor the purpose of emptying bins, then site specific arrangements must be in place.
- If bins need to be moved from normal storage areas to a different location forcollection purposes, it is the responsibility of agents of the owners' corporation tomove the bins to the collection point no earlier than the evening before collectionday and to then return the bins to their storage areas no later than the evening ofcollection day. Bins are to remain in their on-site storage areas at all other times.
- Residents should have access to a cold water supply for the cleaning of bins andthe waste storage areas. Storage areas should be constructed and designed to beweather proof and easy to clean, with wastewater discharged to sewer.

- The design and location of waste storage areas/facilities should be such that theycompliment the design of both the development and the surrounding streetscape.
- Developments containing four or more storeys should be provided with a suitablesystem for the transportation of waste and recyclables from each storey to wastestorage/collection areas.
- Garbage chutes must be designed in accordance with **Appendix F Garbage Chutes**,the Building Code of Australia and Better Practice Guide for Waste Management in Multi-Unit Dwellings. Garbage chutes are not suitable for recyclable materials and must beclearly labelled to discourage improper use. Alternative interim disposal facilities forrecyclables should be provided at each point of access to the garbage chute system.

The following management responsibilities shall be addressed:

- Agents of the owners' corporation must take responsibility for the management ofwaste and recyclable materials generated upon the site. Arrangements must be inplace in regards to the management, maintenance and cleaning of allwaste/recycling management facilities.

4.3 Commercial Developments and Change of Use (Shops, Offices, FoodPremises,Hotels, Motels, Licensed Clubs, Education Establishments,Entertainment Facilities andHospitals)

4.3.1 General

A range of non-residential uses present an array of unique waste minimisation opportunitiesand management requirements. Flexibility in size and layout is often required to cater for thedifferent needs of multiple tenants as well as future changes in use.

Note: Storage and disposal of liquid waste, such as oils and chemicals, are not covered bythis Site Waste Minimisation and Management Code.

4.3.2 Aim

To ensure new developments and changes to existing developments are designed tomaximise resource recovery (through waste avoidance, source separation and recycling);and to ensure appropriate well-designed storage and collection facilities are accessible tooccupants and service providers.

4.3.3 Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management systems are as intuitive for occupants as possible andreadily accessible to occupants and service providers.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste andrecycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

4.3.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shallaccompany the application.

- Note: The nature of the development or change in use will determine whether adevelopment application or construction certificate is required. In all cases a SWMMPmust be completed. Maximum waste minimisation and management benefits areachieved when the SWMMP is considered from the earliest stages of the development.
- Non-residential development must include provision for the storage and removal of waste on site.
- Plans submitted with the SWMMP must show:
  - The location of the designated waste and recycling storage room(s) or areas, sizedto meet the waste and recycling needs of all tenants.
  - The location of temporary waste and recycling storage areas within each tenancy.
  - These are to be of sufficient size to store a minimum of one day's worth of waste.
  - An identified collection point for the collection and emptying of waste, recyclingand garden waste bins.
  - The path of travel for moving bins from the storage area to the identifiedcollection point (if collection is to occur away from the storage area).
  - The on-site path of travel for collection vehicles (if collection is to occur on-site).
- There must be convenient access from each tenancy to the waste/recycling storageroom(s) or area(s). There must be step-free access between the point at which bins arecollected/emptied and the waste/recycling storage room(s) or area(s).
- Every development must include a designated waste/recycling storage area or room(s)(designed in accordance with **Appendix G Commercial/Industrial Waste andRecycling Storage Areas**).
- Depending upon the size and type of the development, it may be necessary to includea separate waste/recycling storage room/area for each tenancy.
- All commercial tenants must keep written evidence on site of a valid contract with alicensed waste contractor for the regular collection and disposal of the waste andrecyclables that are generated on site.
- **SECTION 4**. Development-Specific Assessment Criteria/Controls
- Department of Environment and Climate Change NSW 19
- Between collection periods, all waste/recyclable materials generated on site must be keptin enclosed bins with securely fitting lids so the contents are not able to leak or overflow.Bins must be stored in the designated waste/recycling storage room(s) or area(s).
- Arrangements must be in all parts of the development for the separation of recyclablematerials from general waste. Arrangements must be in all parts of the development forthe movement of recyclable materials and general waste to the main waste/recyclingstorage room/area. For multiple storey buildings, this might involve the use of a goods lift.
- The waste/recycling storage room/area must be able to accommodate bins that are ofsufficient volume to contain the quantity of waste generated (at the rate described in**Appendix B Waste/Recycling Generation Rates**) between collections.
- The waste/recycling storage room/area must provide separate containers for theseparation of recyclable materials from general waste. Standard and consistentsignage on how to use the waste management facilities should be clearly displayed.
- The type and volume of containers used to hold waste and recyclable materials mustbe compatible with the collection practices of the nominated waste contractor.
- Waste management facilities must be suitably enclosed, covered and maintained so asto prevent polluted wastewater runoff from entering the stormwater system.
- Where possible, waste/recycling containers should be collected from a rear lane accesspoint. Consideration should be given to the time of day at which containers arecollected so as to

minimise adverse impacts upon residential amenity, pedestrianmovements and vehicle movements.

- The size and layout of the waste/recycling storage room/area must be capable ofaccommodating reasonable future changes in use of the development.
- A waste/recycling cupboard must be provided for each and every kitchen area in adevelopment, including kitchen areas in hotel rooms, motel rooms and staff foodpreparation areas. Each waste/recycling cupboard must be of sufficient size to hold aminimum of a single day's waste and to hold separate containers for general wasteand recyclable materials.
- Premises that discharge trade wastewater must do so only in accordance with a writtenagreement from the local sewer authority. In the Sydney Metropolitan Area (SMA) this isSydney Water. Sydney Water defines trade wastewater as "any liquid, and any substancecontained in it, which may be produced at the premises in an industrial and commercialactivity, but does not include domestic wastewater (e.g. from hand-basins, showers andtoilets)."
- Premises which generate at least 50 litres per day of meat, seafood or poultry wastemust have that waste collected on a daily basis or must store that waste in a dedicatedand refrigerated waste storage area until collection.
- Arrangements must be in place regarding the regular maintenance and cleaning ofwaste management facilities. Tenants and cleaners must be aware of their obligationsin regards to these matters.
- Any garbage chutes must be designed in accordance with the requirements of**Appendix F Garbage Chutes**, the Building Code of Australia and Better Practice Guidefor Waste Management in Multi-Unit Dwellings. Garbage chutes are not suitable forrecyclable materials and must be clearly labelled to discourage improper use.

4.4 Mixed Use Developments (Residential/Non-Residential)

4.4.1 General

Where residential and commercial land uses occur within the one building or developmentwaste management will necessitate a balancing of variable demands, includingpreservation of residential amenity.

4.4.2 Aim

To ensure new developments and changes to existing development are designed tomaximise resource recovery (through waste avoidance, source separation and recycling)and to ensure appropriate, well-designed storage and collection facilities are accessible tooccupants and service providers.

4.4.3 Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management facilities are safely and easily accessible to occupants andservice providers.
- Ensure appropriate resourcing of waste management systems, including servicing.
- Minimise risk to health and safety associated with handling and disposal of waste andrecycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.

- Discourage illegal dumping by providing on site storage, and removal services.

4.4.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shall accompanythe application.
- The controls at Section 4.2.4 Multi-Unit Dwellings apply to the residential component ofmixed-use development.
- The controls at Section 4.3.4 Commercial Developments apply to the non-residentialcomponent of mixed-use development.
- Non-residentialdevelopment and development involving six or more dwellings on a single lot must include provision for the storage and removal of waste on site.
- Mixed Use development must incorporate separate and self-contained wastemanagement systems for the residential component and the non-residential component.
- In particular, the development must incorporate separate waste/recycling storagerooms/areas for the residential and non-residential components. Commercial tenants mustbe prevented (via signage and other means), from using the residential waste/recyclingbins and vice versa.
- The residential waste management system and the non-residential waste managementsystem must be designed so that they can efficiently operate without conflict. Conflict maypotentially occur between residential and non-residential storage, collection and removalsystems, and between these systems and the surrounding land uses. For example,collection vehicles disrupting peak residential and commercial traffic flows or causingnoise issues when residents are sleeping.

4.5 Industrial

4.5.1 General

Industrial developments typically produce a diverse range of waste products. Some of thesewaste products may be hazardous and require compliance with established laws/protocolsthat are additional to this Code. Other waste products are similar in nature to commercialand domestic waste streams. Mixing waste products limits potential reuse and recyclingopportunities and may distribute toxic material through a larger volume of wastes.

4.5.2 Aim

To ensure new developments and changes to existing developments are designed tomaximise resource recovery (through waste avoidance, source separation and recycling)and to ensure appropriate, well-designed storage and collection facilities are accessible tooccupants and service providers.

4.5.3 Objectives

- Ensure appropriate waste storage and collection facilities.
- Maximise source separation and recovery of recyclables.
- Ensure waste management facilities are as intuitive for occupants as possible andreadily accessible to occupants and service providers.
- Ensure appropriate resourcing of waste management systems, including servicing.

- Minimise risk to health and safety associated with handling and disposal of waste andrecycled material and ensure optimum hygiene.
- Minimise adverse environmental impacts associated with waste management.
- Discourage illegal dumping by providing on site storage, and removal services.

4.5.4 Guidelines

- A completed Site Waste Minimisation and Management Plan (SWMMP) shallaccompany the application.
- Non-residential development must include provision for the storage and removal of waste on site.
- Plans submitted with the SWMMP must show:
  - The location of designated waste and recycling storage room(s) or areas sized tomeet the waste and recycling needs of all tenants. Waste should be separatedinto at least 4 streams, paper/cardboard, recyclables, general waste, industrialprocess type wastes.
  - The on-site path of travel for collection vehicles.
- Evidence of compliance with any specific industrial waste laws/protocols. For example,those related to production, storage and disposal of industrial and hazardous wastesas defined by the Protection of the Environment Operations Act 1997.
- There must be convenient access from each tenancy and/or larger waste producingarea of the development to the waste/recycling storage room(s) or area(s). There mustbe step-free access between the point at which bins are collected/emptied and thewaste/recycling storage room(s) or area(s).
- Every development must include a designated general waste/recycling storage area orroom(s) (designed in accordance with **Appendix G Commercial/Industrial Waste &Recycling Storage Areas**), as well as designated storage areas for industrial wastestreams (designed in accordance with specific waste laws/protocols).
- Depending upon the size and type of the development, it might need to include separatewaste/recycling storage room/area for each tenancy and/or larger waste producing areas.
- All tenants must keep written evidence on site of a valid contract with a licensed wastecontractor for the regular collection and disposal of all the waste streams andrecyclables which are generated on site.
- Between collection periods, all waste/recyclable materials generated on site must be keptin enclosed bins with securely fitted lids so the contents are not able to leak or overflow.Bins must be stored in the designated waste/recycling storage room(s) or area(s).
- Arrangements must be in place in all parts of the development for the separation ofrecyclable materials from general waste. Arrangements must be in place in all parts ofthe development for the movement of recyclable materials and general waste to themain waste/recycling storage room/area.
- The waste/recycling storage room/areas must be able to accommodate bins that areof sufficient volume to contain the quantity of waste generated between collections.
- The type and volume of containers used to hold waste and recyclable materials mustbe compatible with the collection practices of the nominated waste contractor.
- Waste management storage rooms/areas must be suitably enclosed, covered andmaintained so as to prevent polluted wastewater runoff from entering the stormwatersystem.
- A waste/recycling cupboard must be provided for each and every kitchen area in thedevelopment. Each waste/recycling cupboard must be of sufficient size to hold aminimum of a single day's waste and to hold separate containers for general wasteand recyclable materials.

- Premises that discharge trade wastewater must do so only in accordance with awritten agreement from the local sewer authority. In the Sydney Metropolitan Areathis is Sydney Water. Sydney Water defines trade wastewater as 'any liquid, and anysubstance contained in it, which may be produced at the premises in an industrial andcommercial activity, but does not include domestic wastewater (e.g. from hand-basins,showers and toilets).'
- Arrangements must be in place regarding the regular maintenance and cleaning ofwaste management facilities. Tenants and cleaners must be aware of their obligationsin regards to these matters.
- Production, storage and disposal of hazardous wastes (such as contaminated or toxicmaterial or products) require particular attention. The appropriate laws and protocolsshould be observed.

Appendix A: Site Waste Minimisation andManagement Plan Template

Applicant and Project Details (All Developments)	
Applicant Details	
Application No	
Name	
Address	
Phone number(s)	
Email	
Project Details	
Address of development	
Existing buildings and other structures currently on the site	
Description of proposed development	
This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, DECC or WorkCover NSW	
Name	
Signature	
Date	

Demolition (All Types of Developments)

Address of development:

Refer to Section 3.1 of the DCP for objectives regarding demolition waste.

	most favourable ⇦ least favourable			
	Reuse	**Recycling**	**Disposal**	
Type of waste generated Estimate	Volume (m3) or Weight (t) Estimate	Volume (m3) or Weight (t) Estimate	Volume (m3) or Weight (t)	Specify method of on site reuse, contractor and recycling outlet and /or waste depot to be used
Excavation material				
Timber (specify)				
Concrete				
Bricks/pavers				
Tiles				
Metal (specify)				
Glass				
Furniture				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden organics				
Containers (cans, plastic, glass)				
Paper/cardboard				
Residual waste				
Hazardous/special waste e.g. asbestos (specify)				
Other (specify)				

Construction (All Types of Developments)

Address of development:

Refer to Section 3.2 of the DCP for objectives regarding construction

	most favourable ⇦ least favourable			
	Reuse	**Recycling**	**Disposal**	
Type of waste generated Estimate	Volume (m3) or Weight (t) Estimate	Volume (m3) or Weight (t) Estimate	Volume (m3) or Weight (t)	Specify method of on site reuse, contractor and recycling outlet and /or waste depot to be used
Excavation material				
Timber (specify)				
Concrete				
Bricks				
Tiles				
Metal (specify)				
Glass				
Plasterboard (offcuts)				
Fixtures and fittings				
Floor coverings				
Packaging (used pallets, pallet wrap)				
Garden organics				
Containers (cans, plastic, glass)				
Paper/cardboard				
Residual waste				
Hazardous/special waste (specify)				

Ongoing Operation (Residential, Multi Unit, Commercial, Mixed Useand Industrial)

Address of development:

Show the total volume of waste expected to be generated by the development and theassociated waste storage requirements.

		Recyclables	Compostables	Residual waste*	Other
Amount generated (L per unit per day)					
Amount generated (L per development per week)					
Any reduction due to compacting equipment					
Frequency of collections (per week)					
Number and size of storage bins required					
Floor area required for storage bins (m2)					
Floor area required for manoeuvrability (m2)					
Height required for manoeuvrability (m)					

* Current “non-recyclables” waste generation rates typically include food waste that might befurther separated for composting.

Construction Design (All Types of Developments)
Outline how measures for waste avoidance have been incorporated into the design, material purchasing and construction techniques of the development (refer to Section 3.2 of the DCP):
Materials
Lifecycle
Detail the arrangements that would be appropriate for the ongoing use of waste facilities as provided in the development. Identify each stage of waste transfer between residents’ units/commercial tenancies and loading into the collection vehicle, detailing the responsibility for and location and frequency of, transfer and collection.

Plans and Drawings (All Developments)

The following checklists are designed to help ensure SWMMPs are accompanied bysufficient information to allow assessment of the application.

Drawings are to be submitted to scale, clearly indicating the location of and provisions forthe storage and collection of waste and recyclables during:

a) demolition
b) construction
c) ongoing operation.

Demolition

Refer to Section 3.1 of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Construction

Refer to Section 3.2 of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Size and location(s) of waste storage area(s)	
Access for waste collection vehicles	
Areas to be excavated	
Types and numbers of storage bins likely to be required	
Signage required to facilitate correct use of storage facilities	

Ongoing Operation

Refer to Section 4 of the DCP for specific objectives and measures.

Do the site plans detail/indicate:

	Tick Yes
Space	
Size and location(s) of waste storage area(s)	
Recycling bins placed next to residual waste bins	
Space provided for access to and the manoeuvring of bins/equipment	
Any additional facilities	
Access	
Access route(s) to deposit waste in storage room/area	
Access route(s) to collect waste from storage room/area	
Bin carting grade	
Location of final collection point	
Clearance, geometric design and strength of internal access driveways and roads Direction of traffic flow for internal access driveways and roads	
Amenity	
Aesthetic design of waste storage areas	
Signage – type and location	
Construction details of storage rooms/areas (including floor, walls, doors, ceiling design, sewer connection, lighting, ventilation, security, wash down provisions etc)	

Appendix B: Waste/Recycling Generation Rates

Construction Waste

'Rule of Thumb' for renovations and small home building

- Timber 5-7% of material ordered
- Plasterboard 5-20% of material ordered
- Concrete 3-5% of material ordered
- Bricks 5-10% of material ordered
- Tiles 2-5% of material ordered

Source: Waste Planning Guide for Development Application, Inner Sydney Waste Board, 1998

Ongoing Operation

Premises type	Waste generation	Recyclable material generation
Backpackers' Hostel	40L/occupant space/week	20L/occupant space/week
Boarding House, Guest House	60L/occupant space/week	20L/occupant space/week
Food premises: Butcher Delicatessen Fish Shop Greengrocer Restaurant, Café Supermarket Takeaway food shop	 80L/100m2 floor area/day 80L/100m2 floor area/day 80L/100m2 floor area/day 240L/100m2 floor area/day 10L/1.5m2 floor area/day 240L/100m2 floor area/day 80L/100m2 floor area/day	 Variable Variable Variable 120L/100m2 floor area/day 2L/1.5m2 floor area/day 240L/100m2 floor area/day Variable
Hairdresser, Beauty Salon	60L/100m2 floor area/week	Variable
Hotel, Licensed Club, Motel	5L/bed space/day 50L/100m2 bar area/day 10L/1.5m2 dining area/day	1L/bed space/day 50L/100m2 bar area/day 50L/100m2 dining area/day
Offices	10L/100m2 floor area/day	10L/100m2 floor area/day
Shop less than 100m2 floor area Shop greater than 100m2 floor area	50L/100m2 floor area/day 50L/100m2 floor area/day	25L/100m2 floor area/day 50L/100m2 floor area/day
Showroom	40L/100m2 floor area/day	10L/100m2 floor area/day
Multi-Unit Dwellings1	80L/unit/week	40L/unit/week

Sources: Adapted from Waverley Council Code for the Storage and Handling of Waste.
[1]Appendix A, Better Practice Guide For Waste Management In Multi-Unit Dwellings 2007

Appendix C: Indicative Bin Sizes

Bin type	Height	Depth	Width
80 Litre Bin	870mm	530mm	450mm
120 Litre Bin	940mm	560mm	485mm
140 Litre Bin	1065mm	540mm	500mm
240 Litre Bin	1080mm	735mm	580mm

These dimensions are only a guide and differ slightly according to manufacturer, if binshave flat or dome lids and are used with different lifting devices.

Appendix D: Waste Recycling/Storage Rooms inMulti–Unit Dwellings

Building Code of Australia

Waste/recycling storage rooms must be constructed in accordance with the requirementsof the *Building Code of Australia (BCA)*.

Location and Appearance

Waste/recycling storage rooms must be integrated into the design of the overalldevelopment. It is preferable that such rooms be located behind the front buildingline. Wherever possible, the room should be in a basement location within the mainbuilding envelope (rather than a separate stand-alone structure). Materials andfinishes visible from outside should be similar in style and quality to the externalmaterials used in the rest of the development.

Waste/recycling storage rooms must be located and designed in a manner thatreduces adverse impacts upon the inhabitants of any dwellings on the site and uponneighbouring properties. The location and design of the room should minimiseadverse impacts associated with:

- the proximity of the room to any dwellings
- the visibility of the room
- noise generated by any equipment located within the room
- noise generated by the movement of bins into and out of the room
- noise generated by collection vehicles accessing the site; and
- odours emanating from the room

Size

Waste/recycling storage rooms must be of adequate size to comfortablyaccommodate all waste and recycling bins associated with the development.

Layout

The gradient of waste/recycling storage room floors and the gradient of any associated accessramps must be sufficiently level so that access for the purpose of emptying containers canoccur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Within waste/recycling storage rooms, containers used for the storage of recyclablematerials should be kept separate from (but close to) general waste containers — so thatthe potential for contamination of recyclable materials is minimised.

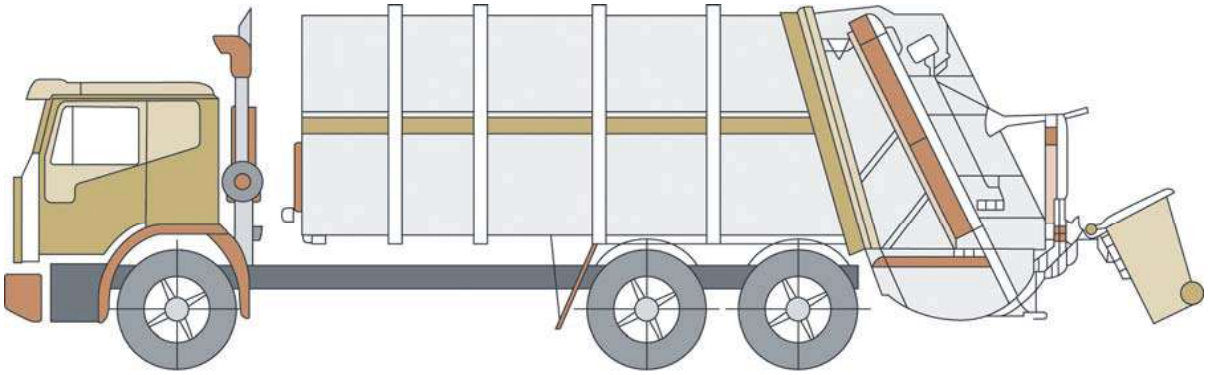
Appendix E: Garbage Truck Dimensions forResidential Waste Collection

This page includes information regarding the dimensions of garbage trucks that aretypically used for the collection of residential waste. Developments that require Councilgarbage trucks to enter the site for the collection of residential waste must be designed toaccommodate on-site truck movement.

Requirements regarding vehicle turning circles and driveway width/gradient are containedin *Australian Standard 2890.2 2002/Planning Facilities — off street commercial vehicles*.

It is recommended that an applicant speak with Council's Waste Services Coordinator inregards to the design of development proposals that involve garbage trucks entering thesite. Services will not be provided where there are undue risks.

Typical Council Garbage Truck used for Domestic Waste Collection	
Length overall	8.0 metres
Width overall	2.5 metres
Operational height	4.3 metres
Travel height	4.3 metres
Weight (vehicle and load)	22.5 tonnes
Weight (vehicle only)	13 tonnes
Turning Circle	25.0 metres



Picture: Example of a Council garbage truck.
Source of diagram: Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECC 2008.

Appendix F: Garbage Chutes

Garbage chute design

Garbage chutes must be constructed in accordance with the requirements of the*Building Code of Australia (BCA).*

Garbage chutes must be located and insulated in a manner that reduces noise impacts.

Chutes, service openings and charging devices must be constructed of material (suchas metal) that is smooth, durable, impervious, non-corrosive and fire resistant.

Chutes, service openings and charging devices must be capable of being easily cleaned.

Chutes must be cylindrical and should have a diameter of at least 500mm.

There must not be any bends (or sections of reduced diameter) in the main shaft of the chute.

Internal overlaps in the chute must follow the direction of waste flow.
Chutes must deposit rubbish directly into a bin or compactor located within awaste/recycling storage room.

A cut-off device must be located at or near the base of the chute so that the bottom ofthe chute can be closed when the bin or compacting device at the bottom of thechute is withdrawn or being replaced.

The upper end of a chute should extend above the roofline of the building.

The upper end of a chute should be weather protected in a manner that doesn'timpede the upward movement of air out of the chute.

Garbage chute service room design

The service opening (for depositing rubbish into the main chute) on each floor of thebuilding must be located in a dedicated service room.

The charging device for each service opening must be self-closing and must notproject into the main chute.

Branches connecting service openings to the main chute are to be no more than 1m long.

Each service room must include containers for the storage of recyclable materials. Signageregarding the materials that can be recycled should be displayed near these containers.

Each service room must be located for convenient access by users and must be wellventilated and well lit.

The floors, walls and ceilings of service rooms must be finished with smooth, durablematerials that are capable of being easily cleaned.

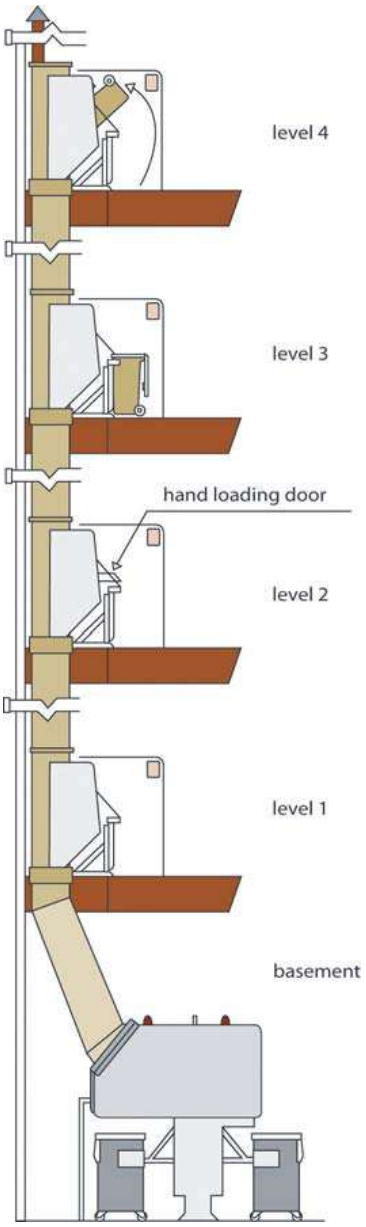
Service rooms must include signage that clearly describes the types of materials thatcan be deposited into the garbage chute and the types of materials which should bedeposited into recycling bins.

Management

Garbage chutes are not to be used for the disposal of recyclable materials. Signage tothis effect should be displayed near service openings.

Arrangements must be in place for the regular maintenance and cleaning of garbagechutes and any associated service rooms, service openings and charging devices.

Arrangements must be in place for the regular transferral of recyclable materials(which are stored in service rooms) to the main waste/recycling storage room.



Picture: Example of a garbage chute system.

Source: Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECC, 2008.

Appendix G: Commercial/Industrial Waste andRecycling Storage Areas

Building Code of Australia

Waste/recycling storage areas must be constructed in accordance with therequirements of the Building Code of Australia (BCA).

Location and appearance

Waste/recycling storage areas must be integrated into the design of the overalldevelopment. Materials and finishes that are visible from outside should be similar instyle and quality to the external materials used in the rest of the development.

Waste/recycling storage areas must be located and designed in a manner that reducesadverse impacts upon neighbouring properties and the streetscape. The location anddesign of the areas should minimise adverse impacts associated with:

- the proximity of the area to dwellings
- the visibility of the area
- noise generated by any equipment located within the area
- noise generated by the movement of bins into and out of the area
- noise generated by collection vehicles accessing the site; and
- odours emanating from the area.

Size

Waste/recycling storage areas must be of adequate size to comfortably accommodateall waste and recycling bins associated with the development.

Waste/recycling storage areas must be able to accommodate separate general wastebins and recycling bins which are of sufficient volume to contain the quantity of wastegenerated (at the rate described in **Appendix B**) between collections.

Layout

The gradient of waste/recycling storage area floors and the gradient of any associatedaccess ramps must be sufficiently level so that access for the purpose of emptyingcontainers can occur in accordance with WorkCover NSW Occupational Health andSafety requirements.

Within waste/recycling storage areas, containers used for the storage of recyclablematerials should be kept separate from (but close to) general waste containers — sothat the potential for contamination of recyclable materials is minimised.

Access: waste/recycling collection

The development must be designed to allow access by collection vehicles used by thenominated waste contractor. Wherever possible, the site must be configured to allowcollection vehicles to enter and exit the site in a forward direction and so collectionvehicles do not impede general access to, from and within the site. Access driveways tobe used by collection vehicles must be of sufficient strength to support such vehicles.

Servicing arrangements for the emptying of bins must be compatible with theoperation of any other loading/unloading facilities on-site.

Access for the purpose of emptying waste/recycling storage containers must be able tooccur in accordance with WorkCover NSW Occupational Health and Safety requirements.

Access: general

In commercial development, public buildings and industrial development, there mustconvenient access from each tenancy to the waste/recycling storage area(s). Theremust be step-free access between the point at which bins are collected/emptied andthe waste/recycling storage area(s).

Arrangements must be in place so that the waste/recycling storage area is notaccessible to the general public.

Vermin must be prevented from entering the waste/recycling storage area.

Surfaces

Waste/recycling storage areas must have a smooth, durable floor and must beenclosed with durable walls/fences that extend to the height of any containers whichare kept within.

Doors/gates

Doors/gates to waste/recycling storage areas must be durable. There must be a signadjacent to the door/gate that indicates that the door/gate is to remain closed whennot in use. All doors/gates are able to be opened from both inside and outside thestorage area and must be wide enough to allow for the easy passage ofwaste/recycling containers.

Services

Waste/recycling storage areas must be serviced by hot and cold water providedthrough a centralised mixing valve. The hose cock must be protected from the wastecontainers and must be located in a position that is easily accessible when the area isfilled with waste containers.

The floor must be graded so that any water is directed to a sewer authority approveddrainage connection located upon the site. In the SMA this is Sydney Water.

Signage

Waste/recycling storage areas must include signage that clearly describes the types ofmaterials that can be deposited into recycling bins and general garbage bins.

Management

Arrangements must be in place for the regular maintenance and cleaning ofwaste/recycling storage areas. Waste/recycling containers must only be washed in anarea which drains to a sewer authority approved drainage connection.

The *Better Practice Guide for Waste Management in Multi-Unit Dwellings* gives detailedinformation about waste recycling/storage rooms and facilities. The Guide wassubstantially reviewed in 2007 and is available on the Department of Environment andClimate Change NSW website (www.environment.nsw.gov.au). Further updates will bepublished as further information from social research and waste stream auditsbecomes available.