WASTE AND RECYCLE MANAGEMENT CODE

for the

ACT

Version 2 – Revision 1 – October 2016

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1. DOCUMENT INFORMATION

Amendment history

Version	*Revision*	*Issue date*	*Amendment details*
1.0		May 2014	Initial release
2.0	1.0	October 2016	Revised to address industry/TCCS comments

Document Control

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Development Review and Coordination		7/11/16	

Document Approved by	*Michael Trushell Director ACTNOWaste*	*Date*	*Signature*
ACT NOWaste		7/11/16	

PART A GENERAL INFORMATION

1.1 Purpose

The ACT Government is implementing a strategy that aims to maximise resource recovery and minimise waste disposal. With increased building activity occurring within the ACT, sustainable waste management solutions are critical to this strategy.

This Waste and Recycle Management Code (the Code) directs professionals on how to incorporate best practice waste and recycling management principles and requirements into the design, construction and operation of new developments. This Code replaces the previous 2014 version.

Any proposed deviation from the requirements of this Waste and Recycle Management Code must be approved in writing by Transport Canberra and City Services (TCCS) - Development Review and Coordination prior to the submission of any Development Applications.

1.2 Aims and Objectives

The aims and objectives of The Code are to:

- Achieve best practice waste reduction, waste separation and resource recovery in the demolition, design, construction and operation of buildings;
- Define and standardise the minimum design requirements for the effective and efficient management, separation, storage and collection of wastes and recycling in buildings;
- Minimise the overall impacts of waste and recycling management in buildings by designing waste and recycling separation, storage and collection systems that are: hygienic; accessible; safe in all aspects and quiet to operate; adequately sized; and visually compatible with their surroundings;
- Minimise the overall impacts on access for other road users including pedestrians, cyclists, motorists and other service providers such as postal and delivery services;
- The manoeuvring of the waste and recycling collection vehicles can be undertaken in a safe and efficient manner, without detrimental impacts to any infrastructure or the road new work;
- Allow the Territory to provide waste and recycling collection services to all residential developments;
- Allow private sector contractors to provide waste and recycling collection services to all commercial, public and industrial developments; and
- Assist in achieving the ACT Government's goal of minimising the generation of waste and maximising the recovery of recyclable materials.

Developments that do not incorporate the necessary waste and recycling space in the planning requirements and do not provide adequate waste and recycling collection vehicle access as set out in the Code risk unsafe operation of waste and recycling collection vehicles, inadequate servicing, long term operational difficulties and poor outcomes for building owners, managers and users.

1.3 Structure of the Code

The Code is structured into three Parts:

Part A: Provides general information on the Code.

Part B: Provides details of the requirements for the design and operation of waste and recycling management facilities for various development types contained in the following sections:

Section 1 Single dwellings and dual occupancy dwellings;

Section 2 Multi-unit residential developments;

Section 3 Commercial, public and industrial developments; and

Section 4 Mixed use developments.

Each section includes the Development Controls and Submission Requirements for each development type.

Part C: Provides the requirements for demolition, excavation and construction activities including the Development Controls and Submission Requirements.

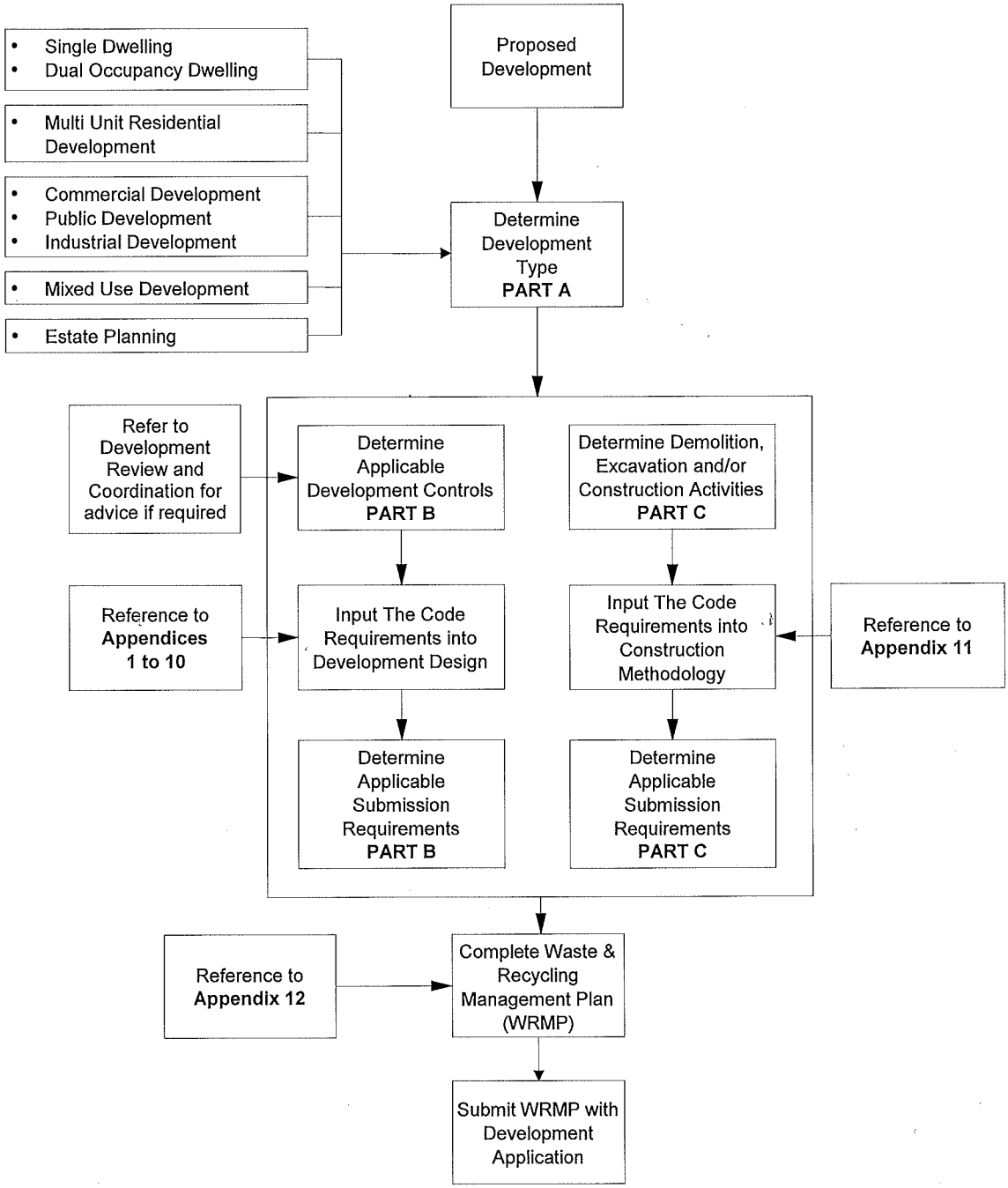
Supporting the Development Controls and Submission Requirements in Parts 2 and 3 are a number of Appendices including the pro-forma Waste and Recycling Management Plan (WRMP) in Appendix 12.

For developments and activities that are controlled by the Code a WRMP must be submitted with the Development Application.

1.4 How to use the Code

The following flow chart illustrates the steps required to work through the Code.

Figure 1: How to Use the Code



1.5 Application of the Code to Development Applications

The Code applies to the following Development Types:

- Single dwellings and dual occupancy dwellings – only if demolition or excavation activities generate more than 20m^3 of waste (Part B Section 1.1 and Part C apply);
- Multi-unit residential developments (Part B Section 2 and Part C apply);
- Commercial, public and industrial developments (Part B Section 3 and Part C apply);

- Mixed use developments (Part B Section 4 and Part C apply); and
- During estate development planning (Part B Sections 1.1, 2, 3 & 4 and Part C apply).

Non-habitable buildings and structures (such as garages, carports, sheds, fences, masts, retaining walls and swimming pools) are exempt from the Code.

Table 1 provides information on how the Code applies to these various development types:

Table 1: Application of the Code

Development Type	Detail	Mandatory Controls	WRMP Requirements	Submission Requirements	Process for Consideration
Single Dwellings & Dual Occupancy Dwellings	New building	None (See **Note A** below)	Not required	Not required	Code or Merit Assessment Track
	Demolition and/or excavation activities	Code Section 1.1	WRMP Sections 1 & 3 required if demolition or excavation waste is greater than $20m^3$	Code Section 3.3	Code or Merit Assessment Track
Multi-Unit Residential Developments (See **Note E** below)	Kerbside collection	Code Section 2.3	WRMP Sections 1 & 2 required (See **Note B** below)	Code Section 2.4	Code or Merit Assessment Track
			WRMP Sections 1, 2 & 3 required (See **Note C** below)	Code Section 2.4	Merit
	Collection within Property	Code Section 2.5	WRMP Sections 1 & 2 required (See **Note B** below)	Code Section 2.6	Merit (See **Note D** below)
			WRMP Sections 1, 2 & 3 required (See **Note C** below)		
Commercial, Public and Industrial Developments		Code Section 3.3	WRMP Sections 1, 2 & 3	Code Section 3.4	Merit or Impact (See **Note D** below)
Mixed Use Developments		Code Section 4.3	WRMP Sections 1, 2 & 3	Code Section 4.4	Merit or Impact (See **Note D** below)
Non-habitable buildings (e.g. garage, carport or shed) or structures (e.g. fence, mast retaining wall, swimming pool)		None	Not required	Not required	Exempt
Estate Development		Controls as for Single Dwellings & Dual Occupancy Dwellings and Multi-Unit Residential Developments as above			Merit or Impact (See **Note D** below)

Note A: Guideline is provided for Single Dwellings and Dual Occupancy Dwellings in **Appendix 2**

Note B: WRMP Section 3 not required if demolition or excavation waste is less than $20m^3$ and/or constructing 10 or less dwellings

Note C: WRMP Section 3 is required if demolition or excavation waste is greater than $20m^3$ and/or constructing 11 or more dwellings

Note D: It is recommended that Development Review and Coordination be contacted for advice regarding the design of waste and recycling management facilities in these development types. Development Review and Coordination may liaise with ACT NOWaste

Note E: Refer to **Appendix 3** for Bin types, their quantity and their collection location

1.6 What is a Waste and Recycling Management Plan?

The preparation and submission of a WRMP ensures that:

- The waste and recycling management impacts of a proposed development are assessed as part of the planning approval process; and
- Completed developments have adequate waste and recycling facilities capable of being serviced by the Territory provided waste collection services for residential developments, private sector collection services for commercial, public and industrial developments and both for mixed use developments.

The WRMP is divided into three sections. The WRMP Form is at **Appendix 12**:

- **Section 1 – Project and Applicant Details.** This Section provides details of the Development Application and provides an overview of the proposed development.
- **Section 2 – Design and Operation of Waste and Recycling.** This section describes the waste management practices associated with the ongoing use of the buildings.
- **Section 3 – Demolition, Excavation and Construction Waste and Recycling.** This section describes the type, volume and disposal methods for materials that will be generated during demolition, excavation and construction.

1.7 Contact Details for TCCS – Development Review and Coordination

Transport Canberra and City Services
Development Review and Coordination
Location: Macarthur House, 12 Wattle Street Lyneham
Mail Address: GPO Box 158 Canberra ACT 2601
Telephone: 02 6207 0019

Email: TCCS.DRC@act.gov.au (Subject line is Waste and Recycle Code)
http://www.act.gov.au/contact-us

PART B DEVELOPMENT CONTROLS

SECTION 1 DESIGN AND OPERATION OF WASTE AND RECYCLING MANAGEMENT FACILITIES WITHIN SINGLE DWELLINGS AND DUAL OCCUPANCY DWELLINGS

1.1 Single Dwellings and Dual Occupancy Dwellings

NOTE:

- No WRMP is required unless proposed demolition or excavation activities generate more than $20m^3$ of waste for the whole development.
- An average of $0.66m^3$ of demolition waste is produced for each $1m^2$ of floor area.

Appendix 2 provides guidance for Single Dwellings and Dual Occupancy Dwellings.

Appendix 11 provides guidance for demolition, excavation and construction.

Appendix 12 provides the Waste and Recycling Management Plan pro forma where required.

SECTION 2 DESIGN AND OPERATION OF WASTE AND RECYCLING MANAGEMENT FACILITIES WITHIN MULTI-UNIT RESIDENTIAL DEVELOPMENTS

2.1 Applicability

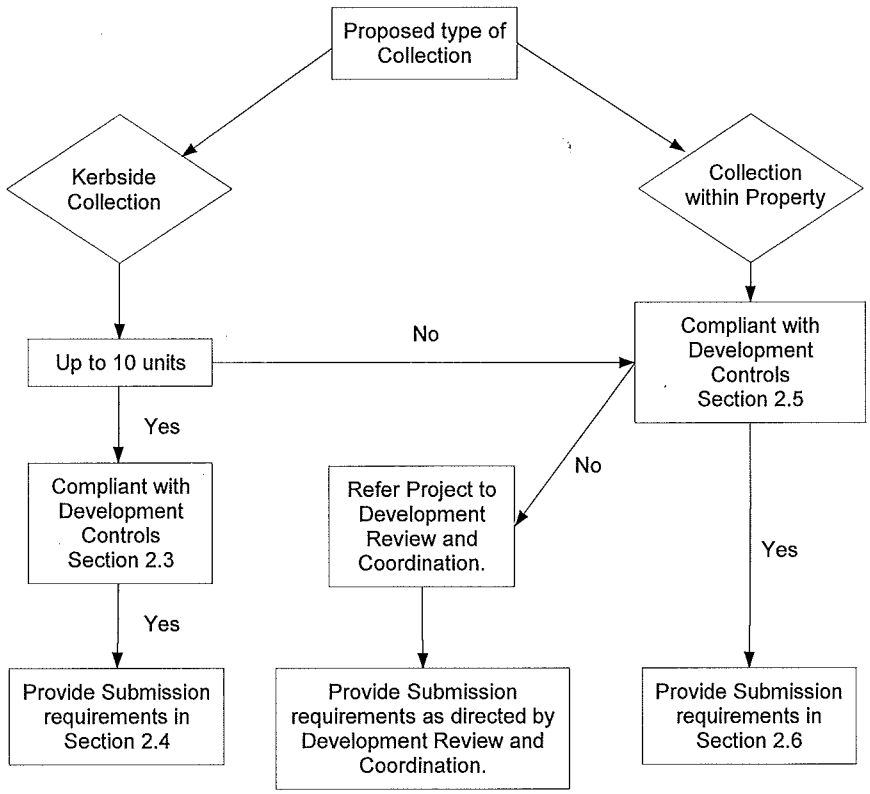
This Section applies to the following:

- Development Applications for new multi-unit residential developments; and
- Development Applications for alterations/additions to existing multi-unit residential developments of 3 or more dwellings if work will affect waste and recycling management.

2.2 How to Use this Section

This section includes mandatory controls to ensure that all dwellings in multi-unit residential developments are capable of receiving a Territory provided waste and recycling service, serviced by individual Mobile Garbage Bins (MGBs) or hoppers or a combination of both, collected at the kerbside or within the property boundary. To determine which development controls are applicable follow the flow diagram:

Figure 2: Multi-Unit Residential Developments Flow Chart



Note: Where a development has unique circumstances, such as incorporating a number of internal roads or multiple street frontages the applicant is to discuss their proposal with Development Review and Coordination to determine the most appropriate solution.

From Figure 2 the applicant is directed to one of the following Sections:

1. **Section 2.3** – Controls for developments that are serviced by individual MGBs for both waste and recycling which can be satisfactorily collected at kerbside by the Territory provided waste and recycling service.

2. **Section 2.5** – Controls for developments that are serviced by either individual MGBs or hoppers or a combination of both which can only be satisfactorily collected within the property boundary by the Territory provided waste and recycling service.

2.3 Serviced by Individual MGBs Collected at the Kerbside

Objective	**Each development must be designed and constructed to ensure Territory Waste and Recycling Services can be provided.**
Explanatory Note	**a.** To satisfy this Objective, the applicant must demonstrate compliance with Controls **C1** to **C5**.
Control	**C1** **Each dwelling or unit must be provided with an appropriate indoor waste and recycling storage space.**
Design Parameters	**a.** The indoor waste and recycling storage space should be sized to adequately hold a minimum of one (1) day's waste and recycling in separate containers. Refer to information in **Appendix 7**.
Control	**C2** **Each dwelling must include a waste and recycling storage area.**
Design Parameters	**a.** Each dwelling must have either: **(1)** an individual waste and recycling storage area adjacent to each dwelling; **or** **(2)** a communal waste and recycling storage area for the development. **b.** The waste and recycling storage area must be sized to comfortably accommodate separate waste and recycling MGBs provided by the Territory. Refer to **Appendix 3** for Territory provided services and details and dimensions of Territory provided waste and recycling MGBs. Refer to **Appendix 7** for waste and recycling storage areas information and **Appendix 8** for waste service compartments, garbage chutes, service lifts and compactors.
Control	**C3** **There must be a clear path of travel from:** **(i)** **the entrance of each dwelling to a waste and recycling storage area; and** **(ii)** **the waste and recycling storage area to the kerbside designated collection point where the MGBs are collected/emptied.**
Design Parameters	**a.** Maximum MGB carting distance must not exceed 75m. For aged care developments this distance must not exceed 50m.
Control	**C4** **MGBs must be collected from a kerbside designated collection point.**

Control	**C5**	**MGBs collected from a kerbside designated collection point must have available a minimum kerb frontage of 1.4 linear metres per dwelling in the development, measured at the rear of the kerb and excluding the 5.5m width of the access driveway to the development, if along same frontage.**
Design Parameters	**a.**	Developments consisting of 10 units or less must allow sufficient space for MGBs to be collected from the kerbside. Points to consider include • length of street frontage and location of street furniture and trees; • the number of street frontages (ie two or more active frontages) • road configuration and proximity to road intersections; • obstruction of sight line of vehicles entering/exiting properties when bins are placed for collection; • minimising traffic flow disruption; and • site and street character.

2.4 Submission Requirements

R1	Each Development Application must include a completed copy of all relevant Parts of the WRMP (refer to **Appendix 12**) as noted in Table 1: Application of The Code.
R2	Development Application submission documents must include plans, elevations, sections and written descriptions/specifications as applicable to show:
R2.1	Location and dimensions of the indoor waste and recycling storage space for each dwelling with tabulated calculations to demonstrate the adequacy of this space per dwelling type.
R2.2	Location and dimensions of individual or communal waste and recycling storage areas to accommodate the Territory provided waste and recycling MGBs with tabulated calculations to demonstrate the adequacy of this space.
R2.3	Path of travel for moving MGBs from individual storage area to the designated collection point indicating dimensions and clearances.
R2.4	Location of the designated collection point, dimensions of the available kerb frontage for the development, clearances to street trees and the indicative MGB presentation layout to ensure sufficient space.

2.5 Serviced by Shared MGBs or Hoppers (or Combination) Collected within the Property Boundary

It is recommended that Development Review and Coordination be contacted for advice regarding waste management facility designs that will require collections within the property boundary.

Objective	**Each development must be designed and constructed to ensure Territory Waste and Recycling Services can be provided.**	
Explanatory Note	**a.**	To satisfy this Objective, the applicant must demonstrate compliance with Controls **C6 to C11**.
Control	**C6**	**Each dwelling or unit must be provided with an appropriate indoor waste and recycling storage space.**
Design Parameters	**a.**	The indoor waste and recycling storage space must be provided in the kitchen or other suitable location.
	b.	The indoor waste and recycling storage space should be sized to adequately hold a minimum of one (1) day's waste and recycling in separate containers. Refer to information in **Appendix 7**.
Control	**C7**	**Each development must include an appropriate waste and recycling storage facility.**
Design Parameters	**a.**	The waste and recycling storage facility must be designed in accordance with **Appendix 7**.
	b.	The waste and recycling storage facilities may be either an individual area for each dwelling or a communal storage area.
	c.	The waste and recycling storage facilities must be sized to comfortably accommodate separate waste and recycling Bins provided by the Territory. Refer to **Appendix 3** for Territory provided services, details of the Territory provided waste and recycling services and for details and dimensions of Territory provided waste and recycling Bins.
Control	**C8**	**There must be a clear path of travel from:** **(i) the entrance of each dwelling to a waste and recycling storage facility or waste service compartments; and** **(ii) the waste and recycling storage facilities to the designated collection point where Bins are collected/emptied.**
Design Parameters	**a.**	Maximum MGB carting distance must not exceed 75m. For aged persons dwellings this distance must not exceed 50m
	b.	The maximum hopper roll out distance (from the roller door entrance) must not exceed 4.0m along a gradient that does not exceed 3%.
Control	**C9**	**Multi-unit residential developments with more than three (3) storeys must have convenient access to waste and recycling services for all residents.**
Design Parameters	**a.**	The waste and recycling storage facility must be: **(1)** readily accessible and conveniently located for all residents, such as adjacent to where residents enter and exit the building; **or** **(2)** waste service compartments must be located on each floor and must include an efficient and safe method of transferring waste and recycling to the centralised waste and recycling storage facility.
	b.	Garbage chutes may be used for transferring waste from waste service compartments on individual floors to the waste and recycling storage facility.
	c.	Lifts must be used to transfer recycling MGBs. In the absence of garbage chutes lifts must be used to transfer waste and recyclables.

		Refer to **Appendix 8** for the design of waste service compartments, chutes and service lifts.
Control	**C10**	**Hoppers and/or MGBs must be collected from a designated waste enclosure on-site.**
Design Parameters	**a.**	Facilities must be designed so that Bins are collected safely on-site. Territory provided hoppers must be collected from the designated bin storage area. MGBs and strata owned hoppers may be collected from the bin storage area.
Control	**C11**	**Developments with on-site collections must be designed to allow for unobstructed on-site access by collection vehicles.**
Design Parameters	**a.**	Unobstructed on-site access by collection vehicles must be in accordance with **Appendix 6.** Information on collection vehicles is included in **Appendix 5.**
	b.	The Territory waste and recycling collection contractor must be provided with full and free rights of access for the purpose of servicing waste and recycling Bins.

2.6 Submission Requirements

R1	A Development Application must include a completed copy of all Parts of the WRMP (refer to **Appendix 12**) as noted in Table 1: Application of The Code.
R2	Development Application submission documents must include plans, elevations, sections and written descriptions/specifications as applicable to show:
R2.1	Location and dimensions of the indoor waste and recycling storage space for each dwelling with tabulated calculations to demonstrate the adequacy of this space per dwelling type.
R2.2	Location and dimensions of individual waste and recycling storage areas or a communal waste and recycling facility to accommodate the Territory provided waste and recycling Bins with tabulated calculations to demonstrate the adequacy of the space.
R2.3	A method statement describing how waste and recycling must be transferred from each dwelling to the waste and recycling storage facility.
R2.4	If included in a proposed development, the location of any garbage chute/s and lifts and the location and dimensions of any waste service compartment on each floor of the building with tabulated calculations to demonstrate the adequacy of these facilities.
R2.5	Location of the designated collection point and/or hopper pad for the collection/ emptying of the Territory's waste and recycling Bins.
R2.6	Path of travel for moving Bins from the storage area to the designated collection point indicating dimensions, clearances and gradients, where applicable.
R2.7	Path of travel for collection vehicles if collection occurs on-site, indicating all clearances, travel, turning and manoeuvring paths, ramp access, clearances in all directions and pavement details, where applicable.

SECTION 3 DESIGN AND OPERATION OF WASTE AND RECYCLING MANAGEMENT FACILITIES WITHIN COMMERCIAL, PUBLIC AND INDUSTRIAL DEVELOPMENTS

3.1 Applicability

This Section applies to the following:
• Development Applications for new commercial, public or industrial developments; and • Development Applications for alterations/additions to existing commercial, public or industrial developments, if there is an effect on the provision of waste and recycling management.

3.2 How to Use this Section

This section includes mandatory controls to ensure that all commercial, public and industrial developments are capable of receiving a commercial waste and recycling service, serviced by individual MGBs or hoppers or a combination of both, collected within the property boundary. It is recommended that Development Review and Coordination be contacted for advice regarding waste management facility design.

3.3 Development Controls

Objective		**Each development must be designed and constructed to ensure that commercial waste and recycling services can be provided. Commercial developments are required to source their own waste and recycling contractors. Note that if smaller dimensions than those specified for the design of residential developments are used in a commercial, public or industrial development, a Government waste collection service will not be provided if the development reverts to residential use in the future.**
Explanatory Note	**a.**	To satisfy this Objective the applicant must demonstrate compliance with Controls C1 to C4.
	b.	Every development must be designed to allow for the physical separation of recycling materials from general waste, the movement of recycling and waste to the main waste and recycling storage facility and its ultimate collection.
Control	**C1**	**Each development must include conveniently located waste and recycling areas and must be designed to allow access by all building users.**
Design Parameters	**a.**	Waste and recycling generation rates must be calculated for each proposed activity in accordance with **Appendix 4**.
	b.	Waste and recycling storage areas must be provided for each kitchen area and other suitable locations (including all kitchen areas in hotel rooms, motel rooms and staff food preparation areas and in playgrounds for schools) to ensure that all parts of a development are serviced.
	c.	Waste and recycling storage areas should be sized to adequately hold a minimum of one (1) day's waste and recycling in separate containers.
	d.	Some developments may require individual waste and recycling holding facilities for each tenancy or each floor in addition to the waste and recycling storage areas.
Control	**C2**	**Each development must be provided with an appropriate waste and recycling storage facility.**
Design Parameters	**a.**	The waste and recycling storage facility must be designed in accordance with **Appendix 7**.
	b.	The waste and recycling storage facility area must be sized to adequately accommodate:

		- volumes of waste and recycling generated between collections in accordance with **Appendix 4**; - separate waste and recycling Bins in accordance with **Appendix 4**; and - any compaction equipment. Note that special rules apply for compaction equipment (refer to **Appendix 8**). **c.** The type, dimensions and capacity of waste and recycling Bins must be compatible with industry standard collection practices in the ACT. Developers are encouraged to consult with suitable commercial waste and recycling service providers to identify possible service options. This should be undertaken during the design stage to ensure Code compliance and serviceability. The ACT Government does not provide a waste and recycling collection service for non-residential developments. **d.** Premises generating a minimum of 50 litres per day of meat, seafood or poultry waste or whose waste contains 20% by weight or volume of this type of waste must have this waste collected daily or stored in a dedicated and refrigerated waste storage area until collected.
Control	C3	**There must be a clear step-free path of travel from each waste and recycling area and/or holding area to the waste and recycling storage facility.**
Design Parameters	**a.**	Some multi-storey developments may require service lift access from each tenancy to the waste and recycling holding area and/or storage facilities. **b.** The design of any garbage chutes and/or service lifts and/or waste compaction units incorporated into a development must be in accordance with **Appendix 8**.
Control	C4	**Hoppers and/ or MGBs must be collected from an agreed designated collection point on-site and must be designed to allow for unobstructed on-site access by collection vehicles.**
Design Parameters	**a.**	Unobstructed on-site access by collection vehicles must be provided in accordance with **Appendix 6**. Information on collection vehicles is included in **Appendix 5**. **b.** Facilities must be designed to allow Bins to be safely collected on-site either from the bin storage area a hopper pad located inside the property boundary and as close to a property entrance as practical. **c.** Consideration must be given to likely collection times to minimise adverse impacts upon adjoining developments, residential amenity, pedestrian and vehicle movements. **d.** Where applicants are unable to meet the requirements of control **C4** applicants are to discuss their proposal with Development Review and Coordination to determine the most appropriate solution.

3.4 Submission Requirements

R1	Each Development Application must include a completed copy of all Parts of the WRMP (refer to **Appendix 12**).
R2	Development Application submission documents must include plans, elevations, sections and written descriptions/specifications as applicable to show the following:
R2.1	List of wastes and recycling likely to be generated by each of the proposed activities accommodated in the development including likely volumes, storage requirements and proposed Bin types (MGBs and/or hoppers).
R2.2	Location and dimensions of all indoor waste and recycling spaces, individual waste and recycling storage/holding facilities and/or communal waste and recycling storage facilities (including refrigerated waste storage if used) for the entire development. These must include tabulated calculations to demonstrate the adequacy of the space.
R2.4	Documentation that adequately describes the method of transferring waste and recycling within the development from the point of origin to the waste and recycling storage facilities. Dimensions, clearances, gradients and any mitigation of odour and noise impacts must also be provided. A specific collection time is not permitted for the purpose of supporting a design proposal.
R2.5	Location of the designated collection point for the collection and emptying of waste and recycling MGBs, or if hoppers are used the location of the hopper pad/s.
R2.6	Path of travel for moving Bins from individual storage area to the designated collection point indicating dimensions, clearances and gradients.
R2.7	On-site path of travel for collection vehicles indicating all clearances, travel, turning and manoeuvring paths, ramp access and pavement details.
R2.8	Location of any service lifts and garbage chute/s and the location and dimensions of any service rooms on each floor of the building associated with these. These must include tabulated calculations to demonstrate the adequacy of the space.
R2.9	Location of any waste compaction equipment.

SECTION 4 DESIGN AND OPERATION OF WASTE AND RECYCLING MANAGEMENT FACILITIES WITHIN MIXED USE DEVELOPMENTS

4.1 Applicability

This Section applies to the following:
• Development Applications for new mixed use developments; and • Development Applications for alterations/additions to existing mixed use developments if there is an effect on the provision of waste and recycling management.

4.2 How to Use this Section

This section includes mandatory controls to ensure that all mixed use developments are capable of receiving waste and recycling services. Facilities must accommodate services delivered by, MGBs or hoppers or a combination of both that are, separately delivered to the residential and non-residential components. It is recommended that Development Review and Coordination be contacted for advice regarding waste and recycling management facility design.

4.3 Development Controls

Objective	**Each development must be designed and constructed to ensure waste and recycling services can be provided separately for residential and non-residential components of the development.**
Explanatory Note	**a.** To satisfy this Objective the applicant must demonstrate compliance with Controls **C1 to C3.**
Control	**C1 The controls in Section 2.3 and 2.5 (multi-unit residential developments) apply to the residential component of mixed use developments.**
Design Parameters	**a.** Design of all ***residential*** components of mixed use developments must ensure that Territory waste and recycling services can be provided.
Control	**C2 The controls in Section 3.3 (commercial, public and industrial developments) apply to the non-residential component of mixed use development.**
Control	**C3 Mixed use developments must incorporate separate and self-contained waste and recycling management systems for the residential component and the non-residential component.**
Design Parameters	**a.** Mixed use developments must incorporate physically separated waste and recycling storage rooms/areas for the residential and non-residential components. **b.** The waste and recycling management systems of the residential and non-residential components must be designed so that each can operate separately and without conflict. **c.** The waste and recycling management system for the non-residential part of a development must be designed to reduce the potential for adverse impacts on the residential component.

4.4 Submission Requirements

R1	A Development Application must include a completed copy of all Parts of the WRMP (refer to **Appendix 12**).
R2	The submission requirements in Section 2.4 and 2.6 (multi-unit residential developments) apply to the residential component of mixed use developments.
R3	The submission requirements in Section 3.4 (commercial, public and industrial developments) apply to the non-residential component of mixed use development.
R4	In addition, the submission documents must include written descriptions clearly identifying how residential and non-residential wastes and recycling are kept physically separated and methods that minimise the potential for commercial tenants to use residential waste and recycling Bins.

PART C DEMOLITION, EXCAVATION AND CONSTRUCTION

1.1 Applicability

This Section applies to the following:
• Demolition – Development Applications involving demolition where the quantity of demolition material is greater than $20m^3$ for the whole development. • Excavation – Development Applications involving excavation where the quantity of excavated material is greater than $20m^3$ for the whole development. • Construction – Development Applications involving: ~ Multi-Unit Residential Developments with 11 or more dwellings or ~ any Commercial, Public and Industrial Developments or ~ Mixed Use Developments.

NOTE:

- Single dwellings and dual occupancy dwelling developments:
  - Construction generating less than $20m^3$ of demolition or excavation materials is **exempt** from this Section and the WRMP is **not** required.
- Multi-unit residential developments: WRMP Section 3 is not required if:
  - Demolition waste is less than $20m^3$
  - Excavation waste is less than $20m^3$
  - The development being constructed contains 10 units or less.
- For background information relating to Demolition, Excavation and Construction Waste refer to **Appendix 11**.
- An average of $0.66m^3$ of demolition waste is produced for each $1m^2$ of floor area.

1.2 Development Controls

Objective	**The reuse and/or recycling of demolition, excavation and construction waste is to be maximised in accordance with these controls.**
Explanatory Note	**a.** A minimum of 90% (by weight) of all demolition waste generated on a development must be reused and/or recycled. **b.** A minimum of 90% (by weight) of all excavated waste generated on a development must be reused where appropriate. **c.** A minimum of 75% (by weight) of all construction waste generated on a development must be reused and/or recycled.
Control	**C1 Waste streams or surplus building materials generated during demolition and/or excavation and/or construction must be managed to facilitate sorting for reuse and recycling.**
Design Parameters	**a.** All waste streams or surplus building materials (such as: waste to landfill; recycling; materials to be reused on-site; and excavation materials) are to be stored separately on site. **b.** Recycling streams such as timber, concrete, bricks/tiles, plasterboard, metal and cardboard should be separated into designated Bins or stockpiled. **c.** Where space is a constraint, waste or surplus building materials must be removed to an off-site sorting and recycling facility. **d.** Where materials cannot be reused or recycled, they are to be disposed of at a licensed landfill.

		e. Easy vehicular access to waste and recycling material storage areas must be provided.
Control	**C2**	**Documentation on waste disposal and recycling from demolition, excavation and construction activities is to be kept from commencement to completion of work and retained for 12 months from certificate of occupancy by the developer/contractor.**
Design Parameters		**a.** This documentation is required to verify and provide an audit trail demonstrating that the targets for demolition, excavation and construction waste generated on a development have been met.
Control	**C3**	**Safe handling of hazardous materials must be undertaken during all demolition, excavation and construction activities.**
Design Parameters		**a.** Ensure safe handling and removal of hazardous materials such as asbestos, lead in paint or dust in roof cavities. Contact Worksafe ACT for the correct procedures.

1.3 Submission Requirements

R1	A Development Application must include a completed copy of Part 3 of the WRMP (refer to **Appendix 12**).
R2	Development Application submission documents must include plans, elevations, sections and written descriptions/specifications as applicable to show:
R2.1	Specify waste demolition, excavation and construction materials by type and volume and/or tonnage.
R2.2	Nominate reuse and recycling potential/uses of demolition, excavation and construction waste materials for either on-site or off-site use.
R2.3	Nominate on-site sorting and storage areas for demolition, excavation and construction waste materials.
R2.4	Describe the work method practices and specific procedures that will be adopted to maximise the reuse and recycling of waste materials.
R2.5	Identify access for demolition and construction waste collection vehicles.
R2.6	Supply details of waste/ recycling storage containers/skips that will be stored outside leased boundaries. Separate approval is required from Ranger Services.
R2.7	Specify location(s) and identify the operator of approved licensed sites for the recycling/reprocessing and/or landfill disposal of demolition, excavation and construction materials.
R2.8	Provide a draft site plan indicating the nominated on-site sorting and storage areas for demolition, excavation and construction waste materials and waste transport vehicle access locations. Existing regulated trees on the site must also be included in the site plan.

APPENDICES

Appendix 1 Glossary and Abbreviations

A glossary of terms used in The Code is provided below:

Glossary and Abbreviations

Term	Definition
ACTPLA	ACT Planning and Land Authority
ACT NOWaste	A business unit of the ACT Department of Transport and City Services, responsible for the provision of domestic waste and recycling management services and related operational policy
Development Review and Coordination	A business unit of the ACT Department of Transport and City Services responsible to ensure that proposed municipal engineering infrastructure assets, landscape works and waste collection meet relevant design standards, specifications, codes and guidelines so that they are safe for the community, fit for purpose and complement existing infrastructure
AS	Australian Standard
Basement	A storey either below ground level or partially below ground and used for non-habitable uses (such as parking, storage, utility, services)
Bins	A generic term for waste and recycling receptacle that includes Mobile Garbage Bins (MGBs) and hoppers
BCA	Building Code of Australia (specifically the ACT appendix and amendments)
Chute	Duct in which deposited material descends from one level to another within the building
Collection	Servicing of Bins to remove contents into a collection vehicle for transport to a waste or recycling facility
Collection Vehicle	A vehicle used to collected waste or recyclables. Refer to **Appendix 5**
Commercial waste	All solid waste generated by a commercially rated property, excluding any liquid, clinical or construction and demolition waste
Compactor	A machine for compressing waste
Compost	Materials high in organic matter (typically food wastes and green wastes) which have undergone aerobic decomposition resulting in a product rich in minerals and ideal as an organic fertiliser
Construction and Demolition waste (C&D)	Materials in the waste stream which arise from construction and demolition activities (C&D waste). Reference is made to the ACT's Environmental Standards: "Assessment & Classification of Liquid & Non-liquid Wastes definition for Building and Demolition Waste". In this code the term Construction and Demolition Waste is interchangeable with the term Building and Demolition Waste
Designated or approved collection point	Point where waste and recycling MGBs or hoppers are located and emptied into collection vehicles as approved by Development Review and Coordination
Designated Waste and recycling enclosure.	Storage facility or room for waste and recycling MGB's and/or waste and recycling hoppers
Development Applications	Development Application means an application in relation to a development proposal made under chapter 7 (Development Approvals)
Domestic Recycling	Materials collected separately for recycling including; rigid plastic containers, paper (including newspaper and cardboard, paper packaging, junk mail, printing and writing paper and envelopes), glass bottles and jars, steel cans, aluminium cans, trays and foil and all cartons

Term	Definition
Domestic waste	Household generated waste not including household hazardous waste
Dual Occupancy Dwellings	Dual occupancy housing means the use of land that was originally used or leased for the purposes of single dwelling housing for two dwellings
Dwelling (as defined in the *Planning and Development Regulation 2008*)	(a) means a class 1 building, or a self-contained part of a class 2 building, that— (i) includes the following that are accessible from within the building, or the self-contained part of the building: (A) at least 1 but not more than 2 kitchens; (B) at least 1 bath or shower; (C) at least 1 toilet pan; and (ii) does not have access from another building that is either a class 1 building or the self-contained part of a class 2 building; and (b) includes any ancillary parts of the building and any class 10a buildings associated with the building. (2) In this section: ***kitchen*** does not include— (a) outdoor cooking facilities; or (b) a barbeque in an enclosed garden room.
Excavation waste	Materials which arise from excavation activities
Green waste	Vegetative matter including trees, branches, shrubs, cuttings, lawn clipping and untreated timber and wood products
Hazardous materials	With respect to construction and/or demolition waste, hazardous materials include (but are not limited to) asbestos, lead paint, and a variety of chemicals and items which may be present in this type of waste.
Hopper	A waste or recycling container larger than a MGB constructed either of steel or plastic and fitted with wheels or skids
Hopper pad	A dedicated concrete pad with a gentle gradient (max. 3%) used for the purpose of locating a hopper prior to its emptying by a waste or recycling collection vehicle
Household hazardous waste	Hazardous waste is generated by households (in household appropriate quantities) and includes paint and paint-related products, pesticides and herbicides, solvents and household cleaners, motor oils, fuels, batteries, gas bottles, fire extinguishers, flares, pool chemicals, acids and alkalis, and hobby chemicals (such as photographic chemicals)
MGBs	Mobile Garbage Bins used for collection of waste or recycling
Mixed use development	Residential development integrated with non-residential commercial industrial and/or pubic uses
Multi-unit residential development (MUD)	Residential development comprising 3 or more dwellings
Owners' corporation	As defined in the *Unit Titles Act, 2001* (ACT)
Public development	A facility intended to provide a service to the community, and which may be accessible by members of the public. Examples include (but are not limited to) schools, hospitals, libraries, museums and sporting facilities.
Recyclable	Material that is capable of being reprocessed into useable material
Refrigerated waste Room	Waste Room refrigerated by a cooling system to a temperature below 5°C complying with Section G1 of the Building Code of Australia
Single dwelling	Single dwelling housing means the use of land for residential purposes for a single dwelling only.
Storey	Habitable floors excluding underground parking

Term	Definition
The Code	Current edition of the Development Control Code for Best Practice Waste Management in the ACT
Trade waste	Refuse or waste material arising from any trade or industry but excludes liquid waste, demolition waste, building waste, special waste, contaminated waste, recycling or green waste
Waste	Refuse, garbage or waste material other than trade waste, effluent, compost material, green waste or recyclable material
Wet Waste	Waste material primarily containing food organics
Waste and Recycling Management Plan (WRMP)	Plan that needs to be complete and included in **Appendix 12**

Appendix 2 Guideline for Single Dwellings and Dual Occupancy Dwellings

This guideline provides assistance to designers, developers and owners and their agents on how to incorporate best practice waste and recycling management practices in single dwellings and dual occupancy dwellings.

Guideline

SPACE PLANNING GUIDE	
G1	It is recommended that: • Each dwelling is provided with an indoor waste and recycling cupboard or appropriate storage space. This space must be provided in the kitchen or other suitable location near where most of the waste and recycling will be generated. • The indoor waste and recycling cupboard or appropriate storage space must be sized to adequately hold a minimum of one (1) day's waste and recycling. There must be space to ensure that recycling and waste can be stored in separate containers.
G2	Single and dual occupancy dwellings are provided with MGBs by the Territory as follows: • one 140 litre general waste MGB per dwelling, collected weekly; and • one 240 litre recycling MGB per dwelling, collected fortnightly.
G3	An external waste and recycling storage area must be included for each dwelling to store the Territory provided waste and recycling MGBs. The specifications of these MGBs are included in **Appendix 3**.
G4	Waste and recycling storage areas must be located, screened and designed to reduce adverse impacts on neighbouring properties and the appearance of the dwelling.
G5	In between collections all waste and recycling materials must be kept in Territory provided enclosed MGBs with securely fitting lids to prevent any overflowing and/or leakage of wastes and recycling. Facilities must accommodate this.
G6	It is recommended that each dwelling have an external space to accommodate an individual compost container / worm farm to encourage the separation of green and food wastes and the beneficial use of compost and mulches on gardens.
PLACEMENT OF MGBs	
G7	Each dwelling must have a designated collection point for the collection of waste and recycling by the nominated Territory collection contractor.
G8	Facilities must be designed to allow residents to place MGBs 300 to 600mm from the kerb with the lids opening towards kerb/road in a space free of obvious obstructions such as trees and street furniture.

Appendix 3 The Territory's Domestic Waste and Recycling Services and Waste and Recycling MGBs and Hoppers

Waste and Recycling Generation Rates

Waste and recycling generation rates for Residential Developments are based on the following:

Garbage

Single Dwellings and Dual Occupancy Dwellings.....140 litres per week per dwelling
Multi-Unit Residential Dwellings.....140 litres per week per dwelling

Recycling

Single Dwellings and Dual Occupancy Dwellings.....120 litres per week per dwelling
Multi-Unit Residential Dwellings:
- Between 1 and 10 Dwellings.....120 litres per week per dwelling
- 11 Dwellings or more.....A minimum of 40 litres per week per dwelling

Standard Domestic Waste and Recycling Services

Standard domestic waste and recycling services provided by the Territory for each dwelling type are detailed as follows:

Single Dwellings and Dual Occupancy Dwellings

Service	Service Type	Collection Frequency	Service Description
Garbage	Individual	Weekly	• One 140 litre MGB with red lid per dwelling with kerbside collection

and

Recycling	Individual	Fortnightly	• One 240 litre MGB with yellow lid per dwelling with kerbside collection

Multi-Unit Residential Developments

GARBAGE			
Service	**Service Type**	**Collection Frequency**	**Service Description**
Developments with up to 10 dwellings (See **Note 1**)	Individual	Weekly	• One 140 litre MGB with red lid per dwelling will be provided with kerbside collection
Developments with 11 or more dwellings (see **Note 2**)	Shared	Once a Week Minimum OR Twice a week Maximum	• Hopper service only with on site collection providing a minimum of 140 litres per week per dwelling • Hoppers sizes are 1500, 3000 and 4500 litres • The nominated hopper size, number of hoppers and collection frequency is at the sole discretion of the Territory. It is recommended that Development Review and Coordination be contacted for advice. Development Review and Coordination may liaise internally with ACT NOWaste

and

RECYCLING (see Notes 1 and 3)			
Service	**Service Type**	**Collection Frequency**	**Service Description**
Up to 10 dwellings	Individual	Fortnightly	• One (1) 240 litre MGB per dwelling with kerbside collection
11 to 13 dwellings	Shared	Fortnightly	• Three (3) 360 litre MGBs **or** equivalent collected inside property boundary
14 to 18 dwellings	Shared	Fortnightly	• Four (4) x 360 litre MGBs **or** equivalent collected inside property boundary
19 to 27 dwellings	Shared	Weekly	• One (1) x 1100 litre hopper collected inside property boundary
28 to 55 dwellings	Shared	Weekly	• Two (2) x 1100 litre hoppers collected inside property boundary
56 to 82 dwellings	Shared	Weekly	• Three (3) x 1100 litre hoppers collected inside property boundary
83 to 110 dwellings	Shared	Weekly	• Four (4) x 1100 litre hoppers collected inside property boundary
111 to 137 dwellings	Shared	Weekly	• Five (5) x 1100 litre hoppers collected inside property boundary
138 to 165 dwellings	Shared	Weekly	• Six (6) x 1100 litre hoppers collected inside property boundary
166 to 192 dwellings	Shared	Weekly	• Seven (7) x 1100 litre hoppers collected inside property boundary
Over 192 dwellings			• Contact Development Review and Coordination for advice regarding recycling hopper numbers

Note 1: General Comments on Kerbside Collection Services

Where a development has unusual circumstances, such as a number of internal roads or multiple street frontages the applicant is to discuss their proposal with Development Review and Coordination to determine the most appropriate servicing solution.

Note 2: General Comments on Waste Services

In general:

- The waste hoppers provided by the Territory to facilitate the waste collection are not to be used to transport waste around the development
- ACT NOWaste are likely to provide combinations of waste hoppers as set out on the following page to meet the required allocation for developments with greater than 11 dwellings
- If the applicant proposes multiple smaller waste hoppers these may be provided by the Territory at an additional cost.

Note 3: General Comments on Recycling Services

- For larger developments with waste service compartments (refer to **Appendix 8)** additional recycling MGBs are to be provided by the owner's corporation for location on each floor to ensure equal accessibility for recycling and waste services. When full, MGBs are to be emptied into the Territory provided 1100 litre recycling hoppers at the central waste and recycling storage area.
- The hoppers provided by the Territory to facilitate recycling collection are not to be used to transport recycling around the development.
- Where practical, a combination of different hopper and MGB sizes may be combined to provide the capacity appropriate for recycling collection at a multi-unit development.

Territory Provided Waste and Recycling Bins

The below provides details and dimensions of the Territory provided residential MGBs and hoppers:

MGB	Height	Depth	Width
140 litre MGB Waste Only	915mm	615mm	505mm
240 litre MGB Waste or Recycling	1060mm	730mm	550mm
360 litre MGB Recycling Only	1100mm	848mm	650mm

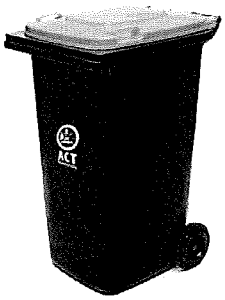
Hoppers (Recycling Only)	Height*	Depth	Width
1100 litre Hopper	1354mm	1073mm	1373mm

Hoppers (Waste Only)	Height*	Depth	Width
1500 litre Hopper	1330mm	1090mm	2050mm
3000 litre Hopper	1640mm	1530mm	2050mm
4500 litre Hopper	1520mm	1600mm	2050mm

* Height including wheels

140 litre MGB
Waste Only

240 litre MGB
Waste or Recycling



360 litre MGB
Recycling Only

1100 litre Hopper
Recycling Only

1500 litre Hopper
Waste Only

Note 1: A floor area of width+150mm x depth+150mm must be allocated for each MGB stored in a waste enclosure.

Note 2: Clearance space of 0.6m should be provided between hoppers, and between hoppers and MGBs to ensure user and servicing access. Clearance is measured at lids to account for sloped sides.

Mixed Use Developments

Residential components of a mixed use development must be designed to accommodate Territory services as provided to other multi-unit residential developments of the same size.

Manual and Mechanical Handling

Only 140 litre, 240 litre and 360 litre MGBs and 1100 litre hoppers should be manually handled by a single person.

Territory provided 1500 litre, 3000 litre and 4500 litre hoppers are only permitted to be manually handled by Territory contractors.

Should a waste management system require the movement of hoppers of these sizes within a site, Owners Corporation is required to provide them at their own expense. Special precautions associated with this, including manual handling training, development of appropriate safe work method statements and/or mechanical handling devices will be the responsibility of the Owners Corporation and delegation to the strata managers. Facilities must be designed to accommodate these parameters.

Hoppers Provided by Owners Corporation

The Owners Corporation are required to provide waste and/or recycling hoppers, if the design of the waste management system in a development requires waste and/or recycling to be transported within the site. A list of approved sized hoppers is available from TCCS. Larger hoppers of at least 3 cubic meters capacity are the preferred way to service developments of more than 100 dwellings. Prior to purchasing hoppers, Owners Corporation is advised to note the requirements for privately purchased hoppers, which can be found at http://www.tccs.act.gov.au and confirm requirements with the Domestic Contracts Inspector at ACT NOWaste on 13 22 81.

Appendix 4 Waste and Recycling Generation Rates for Commercial, Public and Industrial Developments

Source: Adapted from combined data sources from councils in the Sydney Region.

Commercial, Public and Industrial Developments

Premises Type	Waste	Recycling
Backpackers' hostel	40L/occupant/week	20L/occupant/week
Banks	5L/100m^2 floor area/day	25L/100m^2 floor area/day
Boarding house, Guest house	60L/occupant/week	20L/occupant/week
Food premises:		
Butcher	100L/100m^2 floor area/day	Discretionary
Delicatessen	80L/100m^2 floor area/day	40L/100m^2 floor area/day
Fish shop	100L/100m^2 floor area/day	Discretionary
Greengrocer [##]	240L/100m^2 floor area/day	120L/100m^2 floor area/day
Restaurant, Café [##]	660L/100m^2 floor area/day	135L/100m^2 floor area/day
Supermarket [##]	240L/100m^2 floor area/day	240L/100m^2 floor area/day
Takeaway food shop	100L/100m^2 floor area/day	Discretionary
Hairdresser, Beauty salon	60L/100m^2 floor area/day	10L/100m^2 floor area/day
Hotel and Motels		
Bedrooms	5L/bed/day	1L/bed/day
Bar	50L/100m^2 bar area/day	50L/100m^2 bar and dining areas/day
Restaurants [##]	660L/100 m^2 dining area/day	
Licensed Club		
Bar	50L/100m^2 bar area/day	50L/100m^2 bar and dining areas/day
Restaurants [##]	660L/100m^2 dining area/day	
Offices	20L/100m^2 floor area/day	25L/100m^2 floor area/day
Retail Trading Shops (non-food premises):		
Shop less than 100m^2 floor area	50L/100m^2 floor area/day	25L/100m^2 floor area/day
Shop greater than 100m^2 floor area	50L/100m^2 floor area/day	50L/100m^2 floor area/day
Showroom	40L/100m^2 floor area/day	10L/100m^2 floor area/day

Note: The separation and collection of organic waste is considered discretionary for all types of premises. Premises highlighted with [##] symbol are likely to generate higher proportions of organic waste and are encouraged to separate organic wastes and arrange for separate collection.

Waste and Recycling Generation Rates for Premise Types not listed above

Development types not listed above will be assessed individually. Applications seeking approval for a different waste generation rate must be supported by appropriately documented evidence through consultation with Development Review and Coordination.

Mixed Use Developments

Commercial, public and/or industrial components of a mixed-use development must be designed to accommodate the same service levels as for other Commercial, public and/or industrial developments of the same scale.

Commercial Waste and Recycling MGBs and Hoppers

Commercially available waste and recycling MGBs and hoppers are similar in characteristics and size to the Bins described in **Appendix 3**. Developers are encouraged to consult with suitable commercial waste and recycling service providers prior to finalising their development to identify suitable Bins and their methods of handling and ensure that their developments will accommodate these.

Appendix 5 Waste and Recycling Collection Vehicles used by the Territory Collection Contractor

Vehicles used by the Territory's contractor in providing waste and recycling services are:

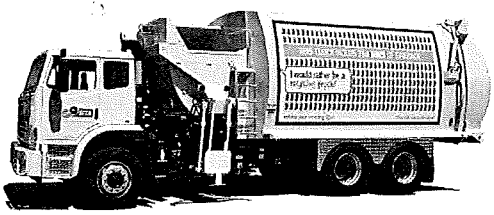
- Side-lift trucks;
- Front-lift trucks; and
- Rear-load trucks.

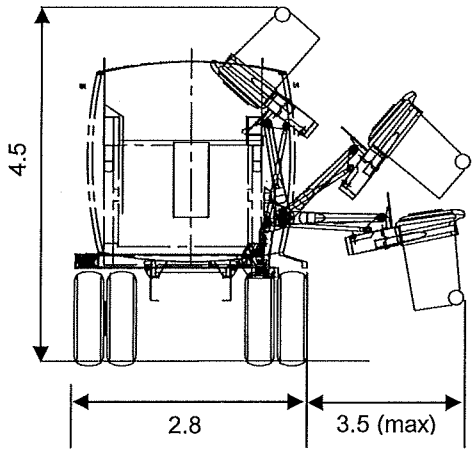
Clearance Dimensions

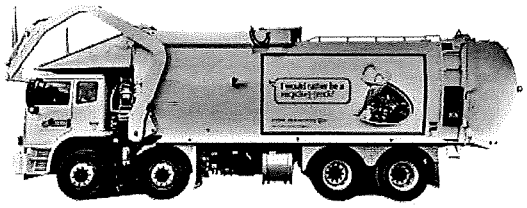
- To accommodate collection vehicles within the property boundary, the minimum height and width clearance of all structures and services will depend on the vehicles that will access the building. There must be a **minimum** vertical clearance of **300mm** to **all structures and services** from the maximum loading height and a **minimum** horizontal clearance of **500mm** on both sides (from side mirrors) of the collection vehicles accessing and operating within a development or building. All swept path clearance requirements still apply. For vehicle driveways, access and manoeuvrability requirements refer to **Appendix 6**.

- Designated loading areas must be sufficiently wide to allow for the vehicle width (**Appendix 5**) and an additional 1000mm for the driver of the collection vehicle to open the driver's door fully.

Indicative dimensions and weights of collection vehicles are set out below:

Side- lift Truck for MGBs	**Comments/Dimensions**	
	This type of vehicle is used for waste collections and recycling collections and is used to service MGBs of 140L, 240L and 360L capacity. Compaction vehicle has an automated MGB lifting device fitted to the left-hand side of the vehicle allowing for automatic loading of MGB into the vehicle hopper and compactor body. A single operator can operate these vehicles as the vehicle operator is not required to exit the vehicle cabin unless MGBs are incorrectly positioned and cannot be reached by the sidearm.	
29m^3 Side-lift Truck for MGBs **Approximate Dimensions & Weights of the most commonly used vehicle**	Length overall	10.2m
	Width overall	2.5m
	Width overall (with mirrors)	2.8m
	Loading height	4.5m
	Clearance width for side loading	6.2m
	Travel height	3.8m
	Wheel base	5.5m
	Rear Overhang	3.2m
	Weight (vehicle & load)	23.5 tonnes

Side loader operational dimensions and configuration	

Front-lift Truck for Hoppers	Comments/Dimensions	
	This type of vehicle is used for waste collections and is generally used to service 1500 litre, 2000 litre, 3000 litre and 4500 litre) capacity Hoppers. Front-loading arms on the collection vehicle lift the hoppers to empty into the compactor body. As the hoppers are raised over the truck body, attention is drawn to the height clearance requirements for this vehicle is **6.5m**. Designers must allow for this clearance if loading is to be undertaken within the building.	
31m³ Front-lift Truck for Hoppers Approximate Dimensions & Weights	Length overall	10.5m
	Width overall	2.5m
	Width overall (with mirrors)	2.8m
	Loading height	6.5m
	Travel height	4.2m
	Wheel Base	5.85m
	Rear overhang	3.1m
	Weight (vehicle & load)	27.5 tonnes

Rear-load Trucks	Comments
	This type of vehicle is used for recycling collections and is used to service MGBs and hoppers of 1100 litre capacity using a rear winch system. Collection operators manually manoeuvre the Bins to the rear of the vehicle. Hoppers are lifted using a hydraulic lifting device fitted to the rear of the vehicle.

19m³ Rear-load Truck Approximate Dimensions & Weights		
	Length overall	10.40m
	Width overall	2.50m
	Width overall (with mirrors)	2.80m
	Loading height	3.90m
	Travel height	3.90m
	Wheel Base	5.5m
	Rear overhang	3.3m
	Weight (vehicle & load)	22.5 tonnes

Designers of commercial, public, and industrial developments or mixed use developments serviced by private sector waste collection contractors are to check vehicle clearances during the design stage to provide sufficient height clearances and space for manoeuvrability to enable vehicles to service developments in accordance with this Code.

Appendix 6 Vehicle Access and Manoeuvrability Requirements

Driveway design of waste and recycling vehicles for developments must comply with the requirements of TCCS Design Standards of Urban Infrastructure and in conjunction with this code.

Access and manoeuvrability requirements from the block boundary and within the site must comply with the requirements of *AS2890.2–2002 "Parking facilities: Off-street commercial vehicle facilities"*.

General

The design of the driveway to a designated collection point is dependent on a combination of:

- The clearance height and width for the maximum size collection vehicle(s) that may use the facility;
- The frequency with which collection vehicles use the facility;
- On major or minor collector streets, the design must not force turning collection vehicles to cross the centreline.
- On access streets, collection vehicles may use any part of the pavement, in accordance with Australian Road rules.
- The driveway should be wide enough to accommodate the swept path of the collection vehicle (see **Appendix 5**; clearance dimensions).
- Driveway kerb faces must be located at least 600mm clear of wheel paths.
- Reverse manoeuvres at the property boundary, if permitted by Development Review and Coordination, must be limited to one only, either on entering or exiting, and must be subject to consideration of both safety and obstruction to other on-street traffic. Reverse manoeuvres will not be permitted from a major or minor collector street.
- Developments must be designed to allow the largest collection vehicles applicable for the development to manoeuvre on site in a predominantly forward direction unless involved in a 3 point turn to allow the vehicle to exit the site in a forward direction.
- Where reversing is required, the maximum reversing distance will be limited to three (3) times the length of collection vehicles (33 metres). Where a development has unique circumstances requiring in excess of this requirement, the applicant is to discuss their proposal with Development Review and Coordination to determine the most appropriate solution.

Public Roads

- Where a collection vehicle is required to turn at a cul-de-sac head in a public road or within a development, a bowl, 'T' or 'Y' shaped design must be used.
- In designing a bowl, 'T' or 'Y' shaped turning head the applicant must consider:
  - Placement of waste and recycling Bins outside dwellings, or in a common collection area;
  - Car parking locations on public roads and/or within access roads in developments and/or within building basements;
  - Collection vehicle geometry and overhang; and
  - Limiting U turns to 3-point turns.

Internal Circulation Roadways

The service area or circulation roadway must conform to AS 2890.2–2002.

- Collection vehicles must stand wholly within the site during the waste collection operation unless exceptional circumstances exist as demonstrated by the applicant and the alternative arrangements are approved by Development Review and Coordination.
- Circulation roadways must be designed to accommodate the swept path of the largest collection vehicle(s) using the facility plus the specified clearance from the vehicle's body.
- The full width of the access driveway may be used for both entering and exiting the site.
- Collection vehicles should be able to enter and exit in a forward direction. Where applicants are unable to meet this requirement applicants are to discuss their proposal with Development Review and Coordination to determine the most appropriate solution.
- Where both the public roadway and the service area are minor facilities a two-way access driveway would be considered.
- Driveway Ramp Grades must be as per AS 2890.2–2002 and TCCS Design Standard Drawing DS5-01. Attention is drawn to clause 3.4.4 of AS 2890.2–2002 Driveway Grade which states that The maximum grade on an access driveway together with the connecting circulation roadway for a distance extending from the property line to at least the longest wheelbase of any vehicle likely to use the driveway, shall be 1:20 (5%).

The following requirements apply to ramps that must be traversed by collection vehicles to access designated collection points:

- If building layouts require collection vehicles to stop and load /unload bins on ramps then these ramps must have a maximum gradient of 1:8.
- Collection vehicles are not permitted to stop and load /unload on any gradients steeper than 1:8.
- Ramps with gradients steeper than 1:8 must be designed in accordance with Table 3.2 of AS 2890.2–2002.
- A summary of Table 3.2 from AS 2890.2–2002 is shown below; however, readers are directed to refer to the Standard in full.

A summary from Table 3.2 of AS 2890.2–2002

MAXIMUM ROADWAY AND RAMP GRADES, AND RATES OF CHANGE OF GRADE		
Design vehicle	**Roadway/ramp grade* (max.)**	**Rate of change of grade (max.)**
Small rigid vehicle or smaller	1:6.5 (15.4%)	1:12 (8.3%) in 4.0m of travel
Medium rigid vehicle, Heavy rigid vehicle	1:6.5 (15.4%)	1:16 (6.25%) in 7.0 m of travel

- **Appendix 5** of The Code provides dimensions of common collection vehicle sizes. For a front-lift truck the load height is **6.5m**. For a side lift truck the load height is up to **4.5m** and the load width is an additional **3.5m** from the side of the vehicle.

Loading Area/Designated Collection Point

- Collection vehicles must stand wholly within the site.
- Loading areas must have a gradient no greater than 3% to allow for the manoeuvring and loading of MGBs and hoppers.
- For the loading of hoppers the collection vehicle must have front-on access to the hopper pad.
- Loading areas and turning circles for collection vehicles must be designated **'NO PARKING'** areas with clear signage.

Construction

- Concrete pavement is to be designed for a maximum wheel loading of 7 tonnes per axle and a minimum design life of 20 years in order to accommodate waste and recycling collection trucks. A pavement detail is to be provided for approval.

Appendix 7 Waste and Recycling Storage Spaces and Facilities

Waste and Recycling Storage Spaces

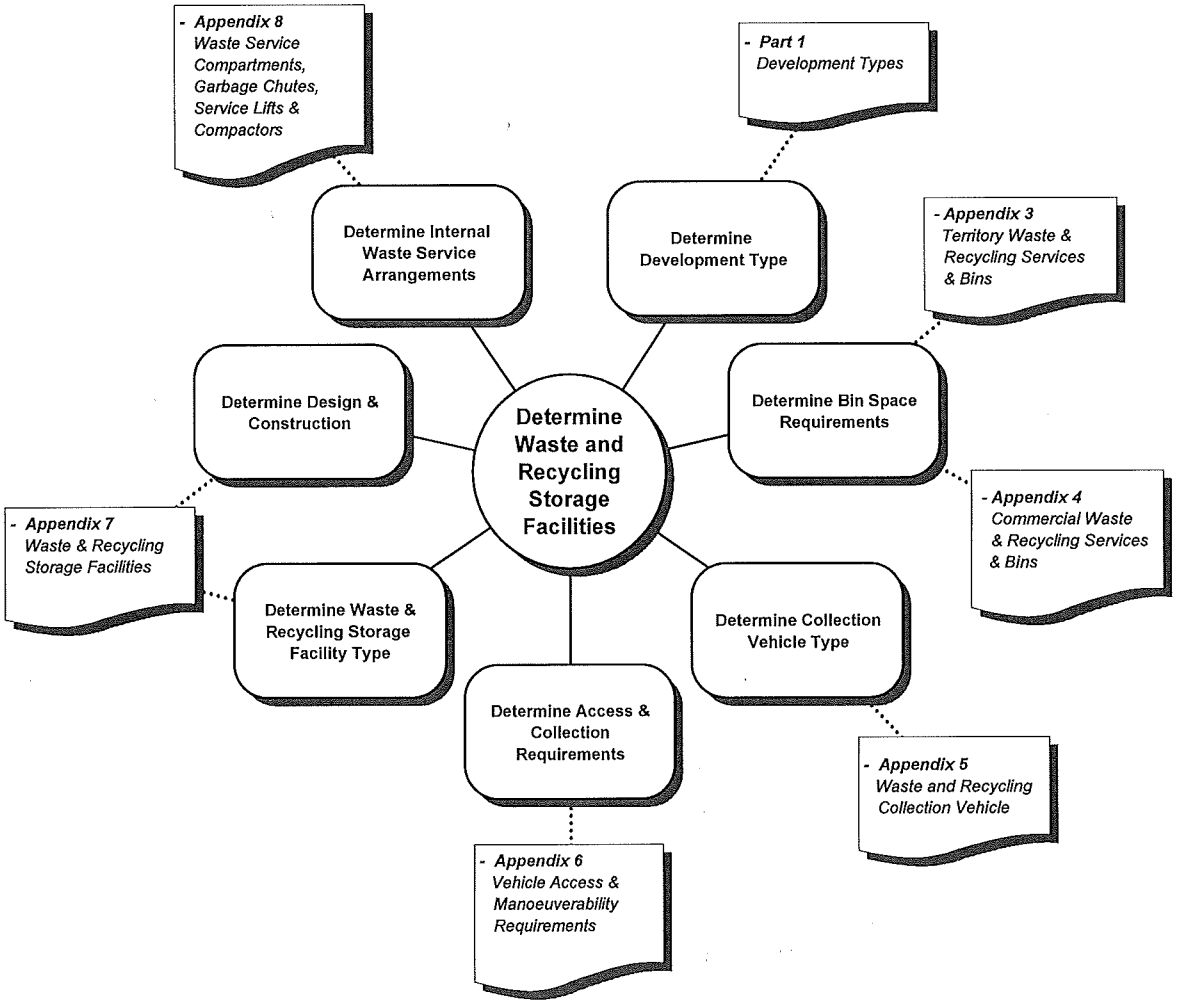
Within each dwelling or unit an appropriate indoor waste and recycling storage space is to be provided to adequately hold a minimum of one (1) day's waste and recycling in separate containers. The minimum volume of space required is set out below:

Dwelling Type	Waste (litres per day)	Recycling (litres per day)
Single Dwellings and Dual Occupancy Dwellings	20 litres	17 litres
Multi-Unit Residential Dwellings (up to 10 dwellings)	20 litres	17 litres
Multi-Unit Residential Dwellings (11 or more dwellings)	20 litres	6 litres

Process for Determining Storage Facility Type

The process for determining the type of waste and recycling storage facilities suitable for specific development types is shown below:

Process for Determining Waste & Recycling Storage Facilities



Various Waste and Recycling Storage Facilities

Each development must include dedicated space(s) for the storage of waste and recycling while it is awaiting collection. Below are three types of waste and recycling storage facilities and their potentially suitable development types:

Waste and Recycling Storage Facility	Potentially Suitable Development Types
Waste and Recycling Storage Area	Single dwellings and dual occupancy Multi-unit residential developments (such as townhouses)
Waste and Recycling Room	Multi-unit residential developments Commercial, public and industrial developments
Refrigerated Garbage Room	Any development generating a minimum of 50 litres per day of meat, seafood or poultry waste or whose waste contains 20% by weight or volume of this type of waste.

General Requirements

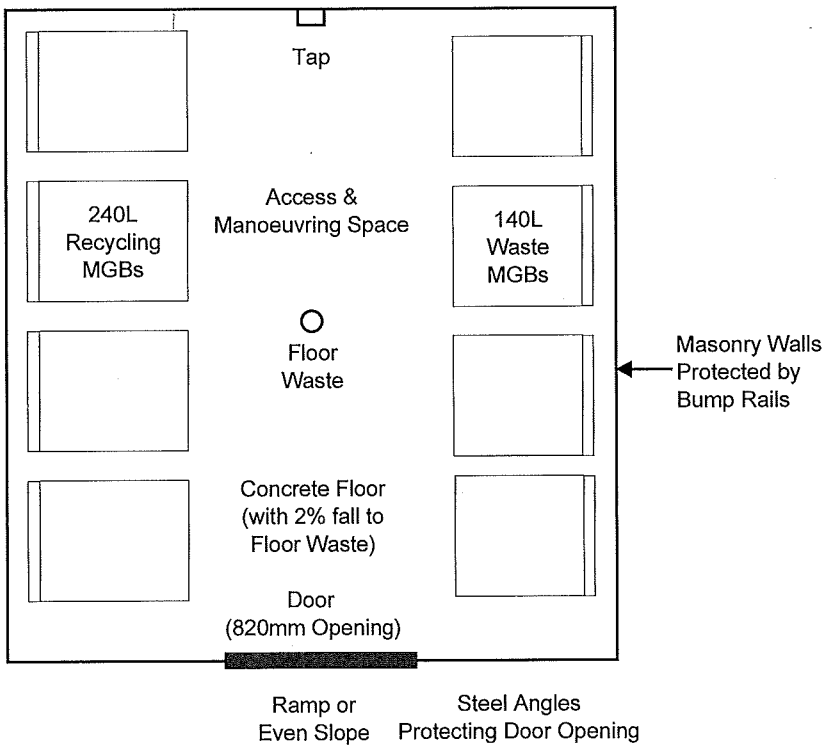
- Waste and recycling storage facilities must be integrated into the design of the overall development, designed and located to reduce adverse impacts upon the inhabitants of any dwellings in the development and neighbouring properties, whether residential, commercial, public or industrial.
- Impacts which must be considered and minimised in relation to public include:
  - Proximity;
  - Visibility;
  - Noise; and
  - Odours.

Space Requirements and Access:

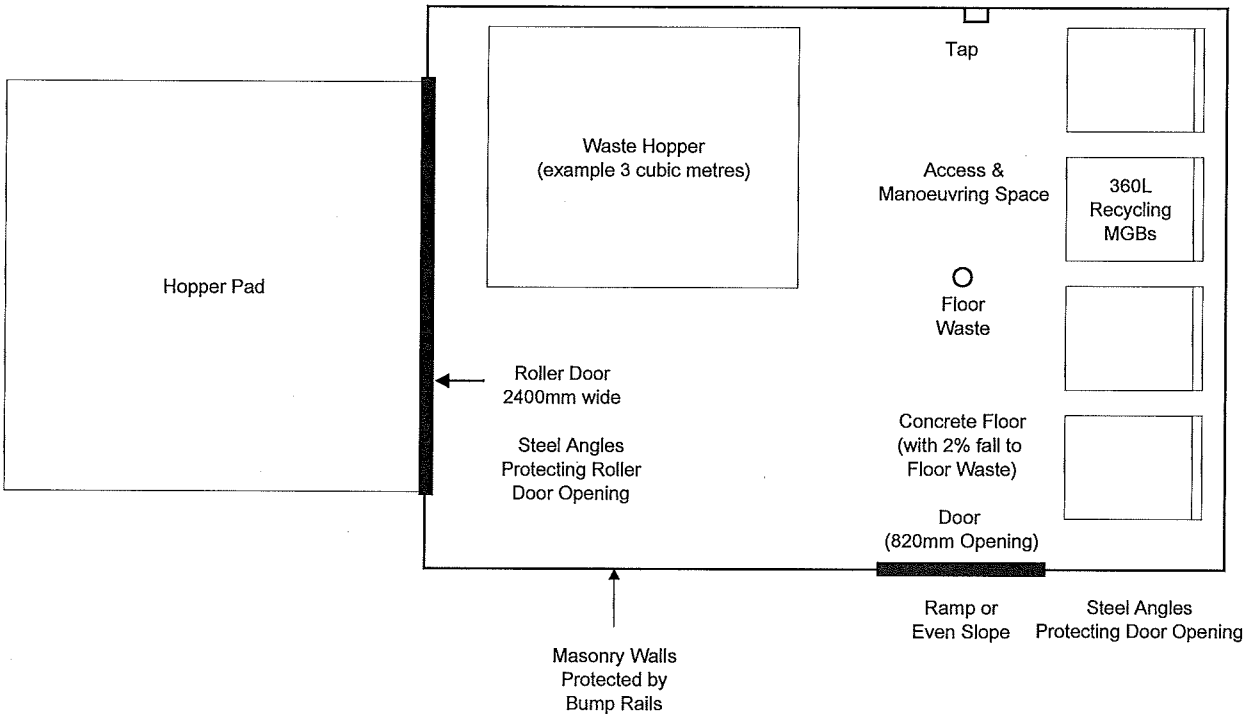
- Storage facilities must be designed to accommodate all the waste and recycling generated from the development; all Bins (MGBs and Hoppers); and any associated equipment. The design calculations must be based on the requirements of this **Appendix** and **Appendices 3** and **4**. Where resident access is not required to the waste enclosure, hoppers are to be arranged and stored for convenient collection by the waste collection contractors.
- If garbage chutes and/or compactors are included in developments then the storage facility must be sized to accommodate the chute arrangements with reference to **Appendix 8**.
- For commercial, public and industrial developments the waste and recycling storage facilities must be capable of accommodating separate general waste Bins and recycling Bins. The volume of these Bins must contain the quantity of waste and recycling generated (at the rate described in **Appendix 4**) between collections. Waste and recycling storage facilities must be conveniently located within developments.
- Mixed use developments must incorporate **physically separated** waste and recycling storage rooms/areas for the residential and non-residential components between collections.

- Access to Storage Facilities for incoming wastes and recycling:
  - In general, enclosures must be designed to permit easy access for users of the Bins provided.
  - In the case of mixed-use developments, arrangements must be made to prevent non-residential building users from accessing the residential waste and recycling storage facilities.
- Access to Storage Facilities for removal of wastes and recycling:
  - Where it is proposed that the waste/recyclable hoppers are loaded directly from the enclosure without manual handling, the enclosure and doorways must be designed to ensure adequate visibility for front end loading vehicles, assuming an eye height of 2.45m for the driver of the collection vehicle to the ground.
  - If a roof is provided, the roof design must ensure a minimum clear height of 2.4m to the underside of the open doorway.
  - The Bins must be easy to access and manoeuvre in and out of the enclosure.
- The size of the hopper pad must be a minimum of 2.4 metres by 2.4 metres and maximum of 3% gradient.

Indicative Layout of Waste & Recycling Storage Facility with MGBs Only



Indicative Layout of Waste & Recycling Storage Room with MGBs & Hoppers



Note: The indicative layouts above are not to scale and do not include space requirements for garbage chutes and/or compactors

Construction:

- Generally the waste and recycling storage facility must be constructed in accordance with the requirements of the Building Code of Australia (BCA). The enclosures must be constructed to prevent the entry of vermin.

  - **Materials:** The floor, walls and ceilings must be constructed of solid material i.e., not rendered or plaster. A bump rail constructed of galvanised steel or other durable impervious material is to be installed around the walls at a height between 900 and 1300mm. The bump rail must be a minimum of 50mm clear of walls, or if using flat steel sheet, must be installed flush with walls. Galvanised steel angles must be installed around door openings.

  - **Finishes:** Finishes must be smooth and impervious.

  - **Ventilation:** Rooms may be naturally ventilated. Internally located rooms must be mechanically ventilated in accordance with the BCA requirements.

  - **Doors:** Doorways on enclosures housing hoppers must be sufficiently wide to allow for easy access of hoppers and must be fitted with galvanised steel angles to protect them against damage caused from hoppers striking the doors during manoeuvring. Doors must be durable and self closing. Where a roller shutter is used signage must be provided stating that the roller door is to be kept shut when not in use.

  - **Lighting:** An internal switch must be located adjacent to the entry door and must be designed in accordance with the relevant Australian Standards and the BCA.

    Water Supply and Sewerage: For multi-unit residential developments where the waste and recycling storage facilities are not within the Basement of the building and are separated from the building fabric (such as town house developments), water

supply and sewer connection is not required. If storage facilities are aesthetically integrated into the development the requirement for roofing may be waived.

For multi-unit residential developments where the storage is within the Basement of the building or incorporated into the fabric of the building water supply and floor waste with sewer connection is required for waste and recycling storage facilities.

Commercial, public, industrial and mixed-use developments must have a water supply and floor waste with sewer connection for waste and recycling storage facilities. Floor gradients must not exceed 2%.

Where wet wastes (including wastes from food preparation) are generated, the waste and recycling storage facilities must have a floor grade to a floor waste with the trap connected to sewer. The design must be in accordance with the Canberra Water Supply and Sewerage Regulations.

Where a water supply is required a cold water tap must be provided either in or adjacent to the enclosure so that the waste container can be cleaned. A protective steel rail around the tap must be provided to prevent damage from Bin movements.

Rainwater must be prevented from entering the sewerage system by providing roofing and protection against windblown rain and by diverting runoff.

If the waste is exclusively dry, the requirement for wash down provision and roof may be waived by Development Review and Coordination.

- Signage must be provided within the enclosure which clearly describes the types of materials which can be deposited into the Bins present. If floor waste or sewer connections are not provided, a sign must be provided within the enclosure stating that no water from washing or waste and recycling containers may be discharged into the stormwater system. Contravention of this requirement is subject to an on the spot fine under the *Environment Protection Act 1997* (ACT).

  For standard signs for waste and recycling refer to **Appendix 9**.

Appendix 8 Waste Service Compartments, Garbage Chutes, Service Lifts and Compactors

Overview

Waste Service Compartments, Garbage Chutes, Service Lifts and/or Compactors are typically used in larger high rise multi-unit residential developments (above 6 or 7 storeys), larger commercial and public developments and larger mixed-used developments. Waste and recycling services are required to be equally accessible. Some information provided in this Appendix is a guide only and it is recommended that users consult with the manufacturers of any equipment likely to be installed to determine the specific requirements for that equipment.

Chutes and/or service lifts are used to transfer waste from building floors to the waste and recycling room or the pickup point. The design and installation of this equipment is the responsibility of the designer/developer. The operation and maintenance of this equipment is the responsibility of the building owner and their agents.

Waste Service Compartments

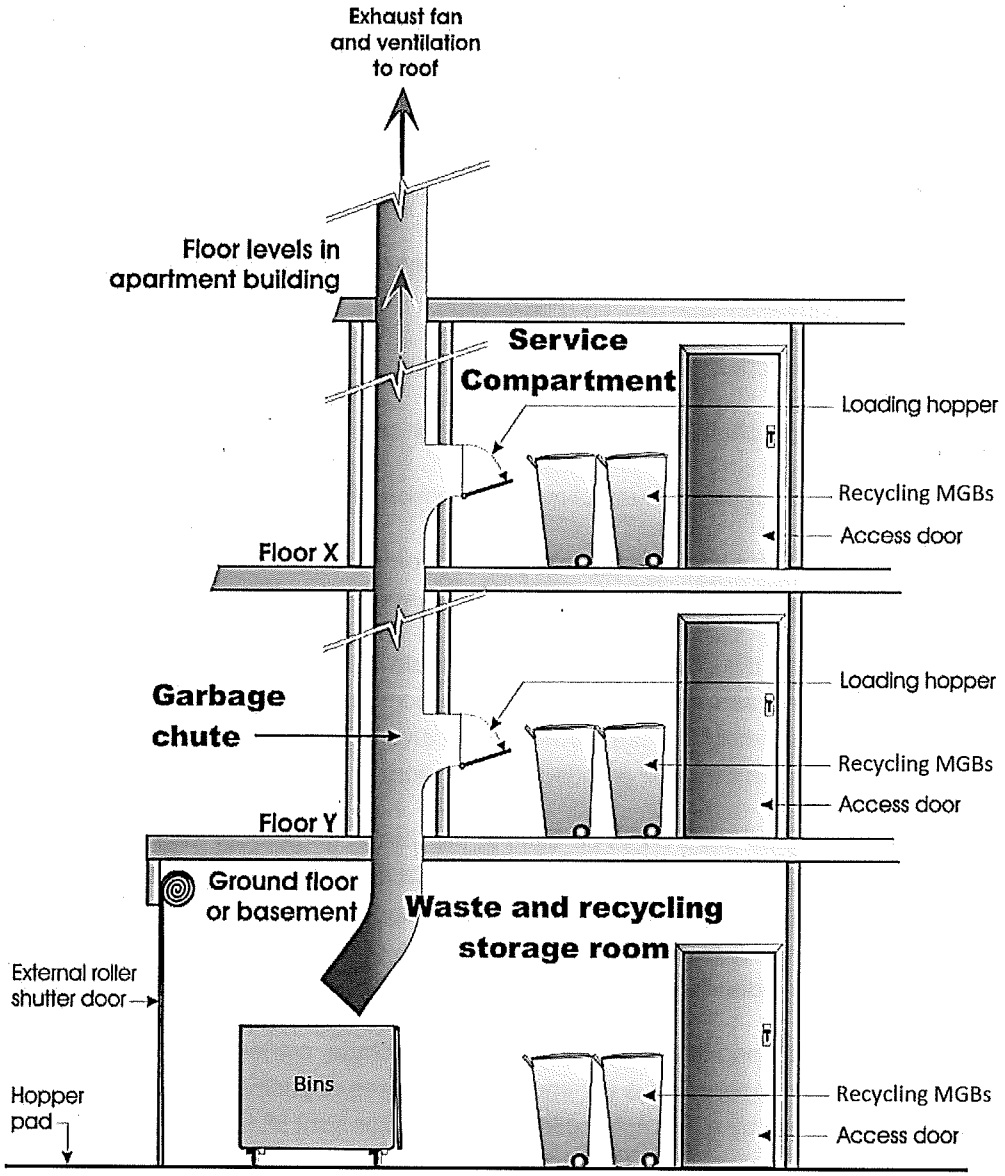
- A waste service compartment must be provided on each floor of the development if the development will be serviced by a garbage chute and/or service lift.
- In the case of a garbage chute the waste service compartment provides an airlock to the garbage chute loading hopper and storage space for recycling MGBs.
- In the case of a service lift the waste service compartment provides an airlock to the service lift and storage space for waste and recycling MGBs.
- Each waste service compartment must be designed with sufficient space to allow access to a garbage chute loading hopper (if provided), and the storage of one day's recycling for all residents on that building floor.
- Suitably sized recycling MGBs with yellow lids should be purchased by the owner's corporation to be located in each floor's waste service compartment to ensure continuity of service. When full, MGBs are to be transported by the caretaker/building manager from the waste service compartment to the central waste and recycling storage facility and emptied into the Territory provided 1100 litre recycling hoppers. Consideration should be given to purchasing and using bin lifters to do this safely, and for sufficient headroom to be provided for their full operation. ACT NOWaste will provide signage for each waste service compartment.
- For standard signs for waste and recycling refer to **Appendix 9**.

Garbage Chutes

- It is recommended that Development Review and Coordination be contacted for advice regarding any proposed garbage chutes. Development Review and Coordination may liaise with ACT NOWaste and the waste contractor.
- A garbage chute may be provided in high rise multi-unit residential developments (above 6 or 7 storeys).
- Chutes are only suitable for the transfer of waste. They **must not** be used to transfer recycling due to breakage of glass. Recycling Bins must be located on each floor for residents to use.

- Waste chutes and their enclosures must be constructed in accordance with the requirements of the BCA and set out in accordance with the manufacturer's requirements.
- Garbage chutes must be located and insulated in a manner which reduces noise impact on dwellings.
- Chutes and all ancillary devices must be constructed of smooth, durable, impervious, non-corrosive and fire resistant material.
- Chutes and all ancillary devices must be easy to clean and must have an appropriate cleaning system installed.
- Chutes must be cylindrical and must have a minimum diameter of 500mm.
- The main shaft of the chute must not have bends or sections of reduced diameter.
- Internal overlaps in the chute must follow the direction of waste flow.
- Chutes must deposit rubbish directly into a bin or compactor located within a waste and recycling storage room and prevent waste spillage and overflow.
- The arrangements at the discharge point of the chute can be designed to optimise the operation within the waste and recycling storage room. Non-standard bins can be used provided that in residential developments that receive a Territory provided waste and recycling service these Bins are emptied into Territory provided hoppers for collection.
- Territory provided Bins are **NOT** to be used at the discharge point of the chute. Owner's corporations are to purchase suitable Bins for use at the discharge point of the chute and for these Bins to be emptied into the Territory provided waste hoppers. Consideration should be given to purchasing and using bin lifters to do this safely and for sufficient headroom to be provided for their full operation.
- If hoppers are to be used at the base of the garbage chute, owner's corporations are to purchase suitable hoppers with a minimum of 1500 litres capacity. Hoppers must be suitable for collection by a Territory collection contractor front lift truck (refer to **Appendix 3** for sizes).
- Sufficient clearance must be provided for Bins to be manoeuvred and accommodated under the discharge point of the chute.
- A cut-off device must be located at or near the base of the chute so that the bottom of the chute can be closed when the Bins or compacting device at the bottom of the chute is withdrawn or being replaced.
- The ventilation at the top of the chute must extend above the building roof line and be weather protected.
- A waste service compartment must be provided on each floor of the development to allow access to the garbage chute and for storage of recycling Bins.
- Chutes must not open onto any habitable or public areas. Bin chute doors must be fitted with door closers and have an effective self-sealing system.

Typical Chute Layout



Service lifts

- A service lift may be appropriate in place of a waste chute in developments where a caretaker or building manager will be employed by the owners' corporation.
- A service lift is a dedicated system for the transport of waste and recycling containers and other equipment required for the operation of the development.

Compactors

- It is recommended that Development Review and Coordination be contacted for advice regarding any proposed use of compactors. Development Review and Coordination may liaise with ACT NOWaste and the waste contractor.
- Use of compactors for Residential developments is not favoured, except below garbage chutes. If included in Residential developments, compaction equipment may be used for **waste only** in order to facilitate more efficient Waste and Recycling Room layouts. Compaction equipment must **not** be used for recycling.

- Territory provided hoppers are **NOT** to be used with compaction equipment. Bodies corporate are to provide suitable hoppers with a minimum of 1500 litres capacity for use at the discharge point of the compaction equipment. Hoppers must be suitable for collection by the Territory's collection contractor's front lift vehicle (refer to **Appendix 3** for sizes). These hoppers are to be manoeuvred to the designated collection point prior to the designated collection day by appropriately trained caretaker/building management personnel.

- Compaction equipment may be suitable for some types of waste and recycling in commercial and industrial developments.

- Compactors are used to compress the waste into smaller collection containers.

- The compaction ratio to be used must not exceed 2:1. Higher ratios must not be used as they may result in heavier bins, causing WH&S problems and mechanical damage.

- Compactors may be used for mixed waste in all developments.

- Compactors may be used for cardboard/paper and plastic/aluminium containers in non-residential developments.

- Compactors may be used, but are less useful for steel containers in non-residential developments.

- Compactors **must not** be used for glass in any development.

- Compaction equipment is to operate automatically.

- Compactors require regular maintenance. In particular, systems fed from a chute can be prone to blockages or failure of the "electronic eye", which can result in waste overflowing or backing up the chute. As a result of the 2:1 compaction ratio, the requirement for waste storage bins is halved.

- Where compaction equipment is installed, access must be restricted to building users. Access for maintenance and management of the compaction equipment should be provided to an appointed caretaker/building manager.

- Compactors must be located within the waste and recycling room and must be provided with sufficient space as set out in the compactor manufacturers' requirements.

Appendix 9 Standard Signs for Waste and Recycling

Applicability

This Section applies to the following:

- Multi-unit residential developments;
- Commercial, public and industrial developments; and
- Mixed use developments.

Multi-Unit Residential Developments

ACT NOWaste provides one copy of the following sign free of charge for each waste and recycling enclosure in new multi-unit residential developments:

The sign is to be placed in an obvious location in the enclosure. Additional signs can be purchased by property owners on a cost recovery basis. Additional signs can be arranged by calling 13 22 81.

Commercial, Public and Industrial Developments

The ACT Government's ACTSmart Office and Business Programs assist organisations to put more efficient recycling and waste management into action. The program provides a step-by-step best practice guide to waste management, advice and assistance to establish waste management systems, recommended signage, waste audits and staff education. Annual accreditation provides public recognition of an organisation's waste management achievements. The program is available for businesses and offices, including multi-tenanted buildings, in the ACT. The program is free to participate in and includes all signage relevant to your waste and recycling. For more information please refer to the websites

Recycling for business: http://www.actsmart.act.gov.au/yourbusiness/ACTSmart_business
Specifically for offices: http://www.actsmart.act.gov.au/yourbusiness/ACTSmart_office .

Appendix 10 Waste and Recycling Operational Management and Maintenance Issues

Applicability

This Section applies to the following:

- Multi-unit residential developments,
- Commercial, public and industrial developments; and
- Mixed-use developments.

The ongoing operational management and maintenance with regards to waste and recycling practices and facilities must be carefully considered in all developments.

Listed below are key operational management and maintenance issues that must be met and/or integrated into multi-unit residential developments, commercial, public and industrial developments, and mixed use developments.

Multi-Unit Residential Developments

- Between collections all waste and recycling must be kept in enclosed bins with securely fitting lids to prevent any overflowing and/or leakage of wastes and recycling.
- Facilities must be designed so that Bins (MGBs and/or hoppers) must remain in the storage areas between collections.
- If MGBs require moving from their storage areas to a designated collection point, residents or owner's corporations are responsible for:
  - moving the MGBs before 7am on the collection day or the evening prior to collection day; and
  - returning the MGBs to their storage areas no later than the evening of collection day.
- Territory provided waste and recycling hoppers must remain in enclosures in the periods between collections and must only be moved by Territory contractors.
- In some circumstances the Owners Corporation are required to provide waste and/or recycling hoppers, should their waste management system in a development require waste and/or recycling to be transported within the site. A list of approved sized hoppers is available from TCCS. Prior to purchasing hoppers, Owners Corporation is advised to note the requirements for privately purchased hoppers can be found at http://www.tccs.act.gov.au and confirm requirements with the Domestic Contracts Inspector at ACT NOWaste on.
- For communal waste and recycling storage facilities, it is important to establish and delegate responsibility for the key tasks involved in the ongoing management of the enclosure, including:
  - Moving Bins to and from kerbside on collection day, where the collection vehicle cannot directly access the enclosure.
  - Cleaning MGBs and hoppers and the bin bay. (Note: Cleaning of Territory provided hoppers are the responsibility of the current Territory collection contractor for domestic waste and recycling services only. Cleaning of MGBs and the bin bay is the responsibility of the resident or owner's corporation).
  - Arranging for the removal of rubbish dumped outside the enclosure or Bins.
  - Arranging for the regular sanitation of the garbage chute.

- Roles and responsibilities of Owners Corporation in regard to waste/recycling management should be clearly defined preferably in strata body documentation and should include how caretaker/building managers are to assist residents to correctly dispose of their waste and recycling.
- Where it is proposed that privately owned hoppers be moved around a site, the Owners Corporation will be responsible for ensuring that any safety measures required by law relating to this activity, including the development of appropriate documentation, are addressed.

Commercial, Public and Industrial Developments

- All tenants/businesses must have in place a means of disposing of waste and recycling. This may be a valid contract with a private waste/recycling contractor for the regular collection and disposal of waste and recycling generated by their activities.
- For tenants/businesses that self haul waste and recycling to a licensed facility it is recommended that written evidence in the form of disposal receipts issued at the licensed facility be kept by the tenant on a one (1) year rolling basis.
- Between collections, all waste and recycling must be kept wholly within lease boundaries, in enclosed Bins with securely fitting lids to prevent any overflowing and/or leakage of wastes and recycling.
- Bins should remain in the waste and recycling storage facility between collections.
- Arrangements must be in place to manage, maintain and clean all waste and recycling management facilities. Tenants and cleaners must be made aware of these obligations.
- Roles and responsibilities of tenants/businesses regarding waste/recycling management issues should be clearly defined preferably in lease documents.
- Waste and recycling must be transferred by tenants or cleaners to a central storage facility on a daily basis.
- Where it is proposed that privately owned hoppers be moved around a site, building owners/ managers will be responsible for ensuring that any safety measures required by law relating to the movement of hoppers and emptying of Bins into hoppers, including the development of appropriate documentation, are addressed.

Mixed Use Developments

- The waste and recycling management system must be designed to prevent commercial tenants from using the residential waste and recycling Bins.
- For mixed-use developments the requirements listed in this Appendix for:
    - "Multi-Unit Residential Developments" apply to residential components of mixed use developments; and
    - "Commercial, Public and Industrial Developments" apply to commercial, public and industrial components of mixed use developments.

Appendix 11 Demolition, Excavation and Construction Information

Overview of Demolition, Excavation and Construction Waste

The majority of demolition, excavation and construction waste is recyclable if properly separated at source with contamination minimised. This is particularly the case if excavated soils are managed separately. Separated materials are often cheaper to recycle. Separation, reuse and recycling should be maximised in order to achieve best-practice environmental goals and to minimise disposal costs.

- During demolition activities maximise the sorting of like materials for further on-site use or remove for off-site processing and recycling.
- During excavation activities maximise on-site reuse and separation and off-site reuse of excavated soils if permitted by the ACT Environmental Protection Authority.
- During construction activities minimise the generation of surplus materials and waste. Where adequate space is available, surplus material should be separated and stored on-site prior to removal for recycling wherever possible. For sites where space is a constraint or smaller developments, surplus materials should be stored and separated off-site for recycling and resource recovery.

The waste hierarchy provides a guide for minimising waste to landfill and should be adopted in regard to demolition, excavation and construction activities:

1.	Avoid waste generation	Avoid purchasing excessive quantities of building materials to reduce excess unused material. Avoid excessive packaging. Design to minimise waste with pre-cut and modular components.
2.	Reduce waste generation at source	Reduce waste generation by using materials that can be delivered in returnable packaging. This includes timber pallets, containers and packaging systems that are stackable, returnable and reusable.
3.	Reuse materials	Reuse building materials that are fit for purpose and comply with the development consent and the BCA. Specify materials with recycled content.
4.	Recycle materials	Separate demolition and construction materials on-site for recycling or reuse or remove from site and separate off-site.

Demolition Generation Rates

Demolition generation rates provided are indicative rates and are provided as a guide only. Each applicant must assess their own individual operations in regards to generation rates.

On average, 0.66m^3 of demolition waste is produced for each 1m^2 of floor area.

For larger projects, the services of a quantity surveyor may be useful in estimating the total quantity of materials involved.

Converting volume (m^3) into weight (tonnes)

To estimate the amount of material likely to be generated during demolition, construction and excavation activities, it may be more appropriate to measure in volume (m^3) or weight (tonnes).

The following table provides indicative volume to weight conversions and are provided as a guide only. Each applicant must assess their own development as conversion rates are specific to particular materials.

Conversion Rates of Excavation, Demolition and Construction Materials (tonnes to m^3)

Material	Conversion Ratio (tonnes/m^3)	Examples
Soil (the conversion ratio is an average figure only and soil type must be considered)	1.8	• 100m^2 of soil 100mm thick weighs approx 18 tonnes
Timber (the conversion ratio is an average figure only and timber type must be considered)	0.7	• 100m of nominal 100 x 50 (pine) typically weighs 225 kg • 100 m length of nominal100 x 50 (hardwood) typically weighs 400kg
Concrete	2.4	• 10 m^2 of 75mm thick paving weighs approx 1.8t
Bricks	1.8	• 1000 (2 pallets) extruded clay bricks weigh 3.6 tonnes. 100 m^2 of wall uses 500 bricks. 100 m^2 of paving uses 400 bricks.
Roof Tiles	0.75	• 100m^2 (laid) of roofing tiles weighs approx 4.5 tonnes
Steel	7.8	• 100m^2 (laid) of steel roof sheeting weighs approx 500kg • 10m of 75 x 100 x 10 arch bar weighs 124kg
Plasterboard	0.65	• 10m^2 of 10mm thick plasterboard weighs approx 65kg. The same area of 13mm thick weighs approx 85kg
Particleboard flooring	0.69	• 10m^2 of 19mm thick (for 450 joist spacing) weighs approx 131kg. The same area of 22mm thick (for 600 joist spacing) weighs approx 152kg
Pallets (timber)	0.14 (1200 x 1000) 0.18 (800 x 1200)	• A 1200 x 1000 pallet weighs 28kg • A 800 x 1200 pallet weighs 25 kg
Copper tube (water pipe)	8.94	• 10m of 20mm domestic application tube weighs 7kg • 10m of 15mm domestic application tube weighs 3.4kg

Reuse and Recycling Potential of Materials

In the **Demolition Phase** between 90% to 95% of demolition material may be reusable or recyclable. Demolishers commonly strip out, salvage and stockpile materials for transfer and recycling off-site.

The **Excavation Phase** generates large quantities of material that can end up being disposed of to landfill. As such, excavation material is the largest contributor of waste by volume from construction activities. Some clean excavated fill materials may be used for engineering purposes, reused on site for back filling or stockpiled to use as top soil on site for landscaping. Classification of excavated material and management of contaminated excavated material must be in accordance with the requirements of the ACT Environmental Protection Authority.

In the **Construction Phase** between 80 to 85% of waste may be recyclable. Recycling this waste depends upon available space, markets/uses for separated materials, training and capability of the site management and ACT requirements as stipulated in this Code.

If waste is removed off-site during the Construction Phase in mixed waste skips, it is not uncommon for only 30% to 50% of the skip capacity to be utilised. Separating the waste stream in the Construction Phase and filling bins effectively will increase the density of materials in waste skips, reduce void space and therefore reduce costs. The process requires separation of wastes at the workface. If on-site space does not allow for the separation of waste materials, a mixed waste skip/bins may be used and taken off-site to C&D recycling facilities capable of separating C&D waste to maximise recycling and/or reuse potential. Building contractors may wish to select a waste collection contractor who will transport waste to C&D recycling facilities. Excavated soil should **not** be comingled with mixed C&D waste.

Bin requirements will vary depending on the construction methodology. Common requirements are:

During the Construction Phase of the Building Structure:

- Metal bins* * *metal and masonry can be mixed if separate bins are not used*
- Timber bins
- Masonry bins *

During the Fit out Construction Phase:

- Cardboard bins
- Plasterboard bins
- Mixed waste bins

Below are listed some potential reuse opportunities for demolition, excavation and construction. Refer also to "A-Z Waste and Recycling Guide" http://www.act.gov.au/recycling/what-goes-in-the-yellow-bin

Potential Reuse and Recycling Opportunities for Demolition, Excavation and Construction Wastes

Materials On-site	Reuse & Recycling (On and/or Off-site)
Concrete	On-site use as: crushed fill, levelling materials; drainage layers
Bricks	Cleaned and/or render over for reuse; crushed fill, levelling materials; drainage layers
Roof tiles	Reuse off-site; crushed for landscape or drainage use
Plasterboard	Crush and use in compost or soil conditioner
Hardwood	Reuse as floors, roof framing, fencing or furniture
Other timber (not CCA treated pine)	Reuse as formwork, bridging, propping, blocking. Chip for use in landscaping
Doors, windows and fittings	Reuse as second hand building materials
Ferrous and non-ferrous metals (including structural steel, steel and aluminium sheeting, electrical cables, other non-ferrous metals and metal plumbing fittings [not plastic])	Metals recyclers
Cardboard	Cardboard recycling
Synthetic and recycled rubber (such as carpet underlay)	Used in the manufacture of safety barriers, speed humps
Carpet	Commercial recycling services are available in the ACT. Carpets and underlays with natural fibres can be used as landscape mulch or composting
Green waste	Mulch or compost for reuse as landscaping material
Overburden	Screen for topsoil or landscaping material
Polystyrene	Commercial recycling services available
Film Plastic	Commercial recycling services available

Appendix 12 Waste and Recycling Management Plan, Pro Forma

The WRMP is divided into three sections:

- **Section 1 – Project and Applicant Details.** This section is where applicants provide details of their Development Application and an overview of their proposed development.
- **Section 2 – Design and Operation of Waste and Recycling.** This section is where applicants describe the waste management practices associated with the ongoing use of their developments for the following development types:
    - Section 2.1(a) – Multi Unit Residential Development (Serviced by Individual MGBs Collected at Kerbside)
    - Section 2.1(b) – Multi-Unit Residential Development (Serviced by Waste Hoppers & Shared Recycling MGBs or Waste and Recycling Hoppers Collected within the Property Boundary)
    - Section 2.2 – Commercial, Public and Industrial Developments
- **Section 3 – Demolition, Excavation and Construction Waste and Recycling.** This section is where applicants describe the type, volume and disposal methods for materials that will be generated during demolition, excavation and construction activities associated with their development.

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Project Application Details

This section of the Waste and Recycling Management Plan must be completed by all applicants. Please provide an overview of the project and applicant details.

SITE DETAILS	
Unit No.: (if applicable)	**Block:**
Section:	**Suburb:**
District:	**Post Code:**
Street No. & Name:	

APPLICANT DETAILS
Applicant/Agent:
Telephone (Business Hours):
Mobile:
Facsimile:
Email:

PROJECT DETAILS

Project Type:

- ☐ Single dwelling & dual occupancy dwellings
- ☐ Multi-unit residential development (complete Section 2.1)
- ☐ Commercial, public & industrial development (complete Section 2.2)
- ☐ Mixed use development (complete Sections 2.1 and 2,2)

Brief Project Description:

Building and other structures currently on site:

SIGNATURE	
Signature of Applicant:	**Date:**

THIS SECTION APPLIES TO THE FOLLOWING

- Development Applications for new multi-unit residential developments;
- Development Applications for alterations/additions to existing multi-unit residential developments if there is an effect on the provision of waste and recycling services; and
- Development Applications for new mixed use developments that include multi-unit residential developments.

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(a) – Multi Unit Residential Development
(Serviced by Individual MGBs Collected at Kerbside)

Controls for these developments are included in Section 2.3 of The Code. Submission requirements are stated in Section 2.4. Where appropriate, please provide plans showing details to support the application.

STORAGE FACILITIES	
Control C1 – Internal Waste and Recycling Space	
i) Location and dimensions of internal waste and recycling storage space for each dwelling type *(Please provide calculations to demonstrate adequacy of space)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C1 (Section 2.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Control C2 – External Waste and Recycling Storage Area	
i) Location and dimensions of external individual or communal waste and recycling storage area *(Please provide calculations to demonstrate adequacy of space)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C3 (Section 2.3) of The Code	☐ Yes ☐ No
Satisfies Appendix 3 of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

PATH OF TRAVEL
Control C3 – Clear Path of Travel
i) Path of travel for moving Bins from storage area to collection point *(Please provide details of travelling distance and clearance)*

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Section 2 – Design and Operation of Waste and Recycling
Section 2.1(a) – Multi Unit Residential Development
(Serviced by Individual MGBs Collected at Kerbside)

Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C3 (Section 2.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

COLLECTION POINT	
Control C4 – C5 Kerbside Collection Point	
i) Location of designated kerbside collection point, including dimensions of available kerb frontage and indicative presentation layout of MGBs on kerbside	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C4 and C5 (Section 2.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

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WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(a) – Multi Unit Residential Development
(Serviced by Individual MGBs Collected at Kerbside)

COMPLETE IF DEVELOPMENT IS PART OF A MIXED USE DEVELOPMENT ONLY	
Control C3 (Section 4.3) – Separation of residential and non residential waste	
i) **Identify how residential and non residential waste and recycling will be kept separate and methods that minimise the potential for commercial tenants to use residential waste and recycling Bins**	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C3 (Section 4.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(b) – Multi-Unit Residential Development
(Serviced by Waste Hoppers & Shared Recycling MGBs or Waste and Recycling Hoppers Collected within the Property Boundary)

THIS SECTION APPLIES TO THE FOLLOWING
• Development Applications for new multi-unit residential developments; • Development Applications for alterations/additions to existing multi-unit residential developments if there is an effect on the provision of waste and recycling management; and • Development Applications for new mixed use developments involving multi-unit residential developments.

Controls for these developments are included in Section 2.5 of The Code. Submission requirements are stated in Section 2.6. Where appropriate, please provide details on plans to support your application.

STORAGE FACILITIES	
Control C6 – Internal Waste and Recycling Storage	
i) Location and dimensions of internal waste and recycling storage space for each dwelling type *(Please provide calculations to demonstrate adequacy of space)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C6 (Section 2.5) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Control C7 – External Waste and Recycling Storage Facility	
i) Location and dimensions of external waste and recycling storage area for each dwelling or a communal waste and recycling facility *(Please provide calculations to demonstrate adequacy of space)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C7 (Section 2.5) of The Code	☐ Yes ☐ No

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WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(b) – Multi-Unit Residential Development
(Serviced by Waste Hoppers & Shared Recycling MGBs or Waste and Recycling Hoppers Collected within the Property Boundary)

Development Satisfies Appendix 7 of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied	
ii) How will waste and recycling be transferred from each dwelling to external storage area?	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____

PATH OF TRAVEL	
Control C8 – Path of Travel	
i) Path of travel for moving Bins from dwelling to storage area and to collection point *(Please provide plan of travelling distance, clearance and gradients.)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C8 (Section 2.5) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(b) – Multi-Unit Residential Development
(Serviced by Waste Hoppers & Shared Recycling MGBs or Waste and Recycling Hoppers Collected within the Property Boundary)

MULTI-UNIT RESIDENTIAL DEVELOPMENTS– GARBAGE CHUTES, SERVICE LIFTS, COMPACTION EQUIPMENT ETC	
This section applies to residential apartment buildings above three (3) storeys	
Control C9 – Convenient access to waste and recycling services for all residents	
i) Location and details of any waste and recycling service lifts and associated waste service compartments *(Please provide calculations to demonstrate adequacy of equipment)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
ii) Location and details of any garbage chutes *(Please provide calculations to demonstrate adequacy of equipment)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Appendix 8 of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

COLLECTION POINT	
Control C10 – Collection Point	
i) Location of designated collection point and/or hopper pad/s	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C10 (Section 2.5) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.1(b) – Multi-Unit Residential Development
(Serviced by Waste Hoppers & Shared Recycling MGBs or Waste and Recycling Hoppers Collected within the Property Boundary)

VEHICULAR ACCESS	
Control C11 – Collection Point	
i) **Path of travel for collection vehicles (if collection occurs on-site)** *(Please provide details of travelling distance, clearance in all directions, loading heights and widths, turning and manoeuvring paths, ramp access, clearances and gradients and pavement details including certification of compliance with AS 2890.1–2004)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Appendix 6 of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

COMPLETE IF DEVELOPMENT IS PART OF A MIXED USE DEVELOPMENTS ONLY	
Control C1 (Section 4.3) – Separation of residential and non residential waste	
i) **Identify how residential and non residential waste and recycling will be kept separate and methods that minimise the potential for commercial tenants to use residential waste and recycling Bins**	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C1 (Section 4.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Waste and Recycle Management Code for the ACT

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.2 – Commercial, Public and Industrial Developments

THIS SECTION APPLIES TO THE FOLLOWING
• Development Applications for new commercial, public or industrial development; • Development Applications for alterations/additions to existing commercial, public or industrial development if there is an effect on the provision of waste and recycling management; and • Development Applications for new mixed use developments involving commercial, public or industrial development.

Controls for these developments are included in Section 3.3 of The Code. Submission requirements are stated in Section 3.4. Where appropriate, please provide details on plans to support your application.

WASTE AND RECYCLING GENERATION

Control C1 – Waste and Recycling Generation

i) Waste and recycling generated by each proposed activity within the development, including quantities, bin types and storage requirements

Description:

Premises Type	Floor Area (m^2)	Generation Rate		Waste (L/week)	Recycling (L/week)	Bin Size (L or m^3)	Number of Bins
		Waste	Recycling				

In completing this table reference is made to Appendix 4– Waste and Recycling Generation Rates for Commercial, Public and Industrial Developments

Development Satisfies Appendix 3 if includes Residential component	☐ Yes ☐ No

Please provide details if Code requirements are not satisfied and proposed alternatives

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.2 – Commercial, Public and Industrial Developments

STORAGE FACILITIES	
Control C1-C2 – Waste and Recycling Storage Facilities	
i) Location of individual waste and recycling storage facilities including any communal storage facilities and refrigerated waste storage) for the entire development *(Please provide calculations to demonstrate adequacy of space)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Appendix 4 of The Code	☐ Yes ☐ No
Development Satisfies Appendix 7 of The Code	☐ Yes ☐ No
Development Satisfies Controls C1 and C2 (Section 3.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

PATH OF TRAVEL	
Control C3 – Path of Travel	
i) Path of travel of waste and recycling to be transferred from point of origin to waste and recycling storage facilities *(Please provide details of clearances, gradients and any mitigation of odour and noise impacts)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C3 (Section 3.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 2 – Design and Operation of Waste and Recycling
Section 2.2 – Commercial, Public and Industrial Developments

COLLECTION POINT	
Control C4 – Collection Point	
i) Location of designated collection point and/or hopper pad/s	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Please provide details if Code requirements are not satisfied and proposed alternatives	
ii) Path of travel for moving Bins from storage facility to designated collection point *(Please provide plan of travelling distance, clearance and gradients.)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
iii) Path of travel for collection vehicles (if collection occurs on-site) *(Please provide details of travelling distance, clearance, turning and manoeuvring paths, ramp access and pavement details to demonstrate compliance with AS 2890.2–2002.)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Appendix 6 of The Code	☐ Yes ☐ No
Development Satisfies Control C4 (Section 3.3) of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

Section 2 – Design and Operation of Waste and Recycling
Section 2.2 – Commercial, Public and Industrial Developments

GARBAGE CHUTES, SERVICE LIFTS, COMPACTION EQUIPMENT ETC	
Control C3 – Garbage chutes, service lifts, compaction equipment etc	
i) Location an details of any garbage chutes *(Please provide calculations to demonstrate adequacy of equipment)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
ii) Location an details of any waste and recycling service lifts *(Please provide calculations to demonstrate adequacy of equipment)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
iii) Location an details of any waste compaction equipment *(Please provide calculations to demonstrate adequacy of equipment)*	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Appendix 8 of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

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WASTE & RECYCLING MANAGEMENT PLAN FORM

Section 3 – Demolition, Excavation and Construction

THIS SECTION APPLIES TO THE FOLLOWING
• Demolition – All Development Applications involving demolition where the quantity of demolition material will be greater than 20m^3 for the whole development • Excavation – All Development Applications involving excavation where the quantity of excavated material will be greater than 20m^3 for the whole development; and • Construction – Development Applications multi-unit residential developments with 11 dwellings or more and any commercial, public and industrial developments and mixed use developments.

Controls for these developments are included in Section 1.2 of Part C of The Code. Submission requirements are stated in Section 1.3 of Part C of The Code. Where appropriate, please provide details on plans to support your application.

NOTE: No WRMP is required unless any proposed demolition or excavation activities generate more than 20m^3 of waste for the whole development.

WASTE TYPES AND QUANTITIES
Control C1 – Demolition, Excavation and Construction Waste Types and Quantities
i) Specify demolition, excavation and construction waste materials by type and volume and/or tonnage
Description: **Note this information can be shown on Table 3.1 (Demolition Waste) and/or Table 3.2 (Construction Waste)**

ON-SITE MANAGEMENT OF DEMOLITION, EXCAVATION AND CONSTRUCTION WASTE	
Control C2 – On-site Management of Waste	
i) Nominate on-site sorting and storage areas for demolition, excavation and construction waste materials. This is to be shown on a draft site plan	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
ii) Describe the work method practices and specific procedures to be adopted to maximise the reuse and recycling of waste materials	
Description:	
iii) Identify access for demolition and construction waste collection vehicles	
Description:	
Details Shown on Drawing	

Section 3 – Demolition, Excavation and Construction

	☐ Drawing Reference: _____
iv) Details of waste/recycling storage containers/skips to be stored outside leased boundaries (Separate approval is required from Ranger Services)	
Description:	
Details Shown on Drawing	☐ Drawing Reference: _____
Development Satisfies Control C2 of Part C of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

RESUSE AND RECYCLING OF DEMOLITION, EXCAVATION AND CONSTRUCTION WASTE	
Control C2 – Demolition, Excavation and Construction Waste Reuse and Recycling Potential	
i) Details of reuse and recycling potential (either on-site and/or off-site) for demolition, excavation and construction waste	
Description: Note this information can be shown on Table 3.1 (Demolition Waste) and/or Table 3.2 (Construction Waste)	
Details Shown on Drawing	☐ Drawing Reference: _____
ii) Name and location of approved licensed sites for recycling/reprocessing and/or landfill disposal of demolition, excavation and construction waste materials	
Description: Note this information can be shown on Table 3.1 (Demolition Waste) and/or Table 3.2 (Construction Waste)	
Development Satisfies Control C2 of Part C of The Code	☐ Yes ☐ No
Please provide details if Code requirements are not satisfied and proposed alternatives	

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Section 3 – Demolition, Excavation and Construction

TABLE 3.1 DEMOLITION WASTE

MATERIALS					REUSE/RECYCLING OF DEMOLITION WASTE										DISPOSAL AT LANDFILL				
					ON-SITE					OFF-SITE									
Type of Material Generated	Estimated		Actual (to be provided at WAE)		Proposed Reuse and Recycling On-site	Estimated		Actual (to be provided at WAE)		Name of Receiving Recycling Outlet(s) and/or Reuse Sites	Estimated		Actual (to be provided at WAE)		Name of Landfill Site	Estimated		Actual (to be provided at WAE)	
	Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)
Excavation Material																			
Bricks																			
Concrete																			
Timber (please specify)																			
Plasterboard/Gyprock																			
Metals (please specify)																			
Cardboard																			
Plastics																			
Mixed Waste																			
Other (please specify)																			
TOTAL																			
PERCENTAGE OF TOTAL																			

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Section 3 – Demolition, Excavation and Construction

TABLE 3.2 CONSTRUCTION WASTE

MATERIALS					REUSE/RECYCLING OF CONSTRUCTION WASTE										DISPOSAL AT LANDFILL				
					ON-SITE					OFF-SITE									
Type of Material Generated	Estimated		Actual (to be provided at WAE)		**Proposed Reuse and Recycling On-site**	Estimated		Actual (to be provided at WAE)		**Name of Receiving Recycling Outlet(s) and/or Reuse Sites**	Estimated		Actual (to be provided at WAE)		**Name of Landfill Site**	Estimated		Actual (to be provided at WAE)	
	Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)		Vol (m^3)	Wt (T)	Vol (m^3)	Wt (T)
Excavation Material																			
Green Waste																			
Bricks																			
Concrete																			
Timber (please specify)																			
Plasterboard/Gyprock																			
Metals (please specify)																			
Asbestos/Hazardous																			
Other (please specify)																			
TOTAL																			
PERCENTAGE OF TOTAL																			