

City of Ryde Development Control Plan 2014

Part: 7.2 Waste Minimisation and Management

Translation

ENGLISH

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ARABIC

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ARMENIAN

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CHINESE

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FARSI

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ITALIAN

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KOREAN

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Amend. No.	Date approved	Effective date	Subject of amendment

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1.0 INTRODUCTION

1.1 Site Waste Minimisation and Management

Waste and resource consumption is a major environmental issue and a priority for all levels of government within Australia. This is particularly the case as landfill sites become scarce and the environmental and economic costs of waste generation and disposal rise.

Sustainable resource management and waste minimisation has emerged as a priority action area and a key in the quest for Ecologically Sustainable Development (ESD). Critical actions in this regard include the following:

- avoiding unnecessary resource consumption
- recovering resources for reuse
- recovering resources for recycling or reprocessing
- disposing of residual waste.

The building and construction industry in particular is a major contributor to waste, much of which is still deposited to landfill. The implementation of effective waste minimisation strategies has the potential to significantly reduce these volumes.

Effective waste planning and management can also benefit the builder/developer. Some of the benefits of good waste planning and management include:

- reduced costs
- improved workplace safety
- enhanced public image
- compliance with legislation such as the Protection of the Environment Operation Act 1997 that requires waste to only be transported to a place that can lawfully accept it.

1.2 Development covered by this Part

This Part applies to all development that generates waste including:

- Demolition, earthworks and engineering works;
- Construction of buildings and structures (including alterations and additions);
- Use of premises and change in use in all residential development types, commercial, industrial and mixed developments.

1.3 Purpose

This Part aims to facilitate sustainable resource management and waste minimisation within the City of Ryde Local Government Area in a manner consistent with the principles of Ecologically Sustainable Development (ESD). In this regard, this Part encourages an increase in avoidance, reuse and recycling of waste and a consequential reduction in the demand for waste disposal from construction, demolition and ongoing development activities.

The criteria for the location and design of waste minimisation and management facilities within residential, commercial, retail, mixed and industrial developments are outlined in this Part. Best practice approaches to waste minimisation and management during building demolition and construction phases are also included in this Part.

This Part provides advice to intending applicants on:

- Matters to be considered when assessing the waste implications of development applications made under the *Environmental Planning and Assessment Act*;
- How to reduce and handle waste during the demolition and construction phase;
- How to provide for ongoing waste minimisation and management for particular types of development, including how to design and site waste storage areas and facilities.

1.4 Objectives of this Part

Objectives

The objectives of this part in pursuit of sustainable waste management are:

Waste minimisation:

1. To minimise resource requirements and construction waste through reuse and recycling and the efficient selection and use of resources.
2. To minimise demolition waste by promoting adaptability in building design and focussing upon end of life deconstruction.
3. To encourage building designs, construction and demolition techniques which minimise waste generation.
4. To maximise reuse and recycling of household waste and industrial/commercial waste.
5. To assist in achieving Federal and State Government waste minimisation targets in accordance with regional waste plans.
6. To minimise the overall environmental impacts of waste and foster the principles of ecologically sustainable development (ESD).

Waste management:

1. To assist applicants in planning for sustainable waste management, through the preparation of a site waste minimisation and management plan.
2. To assist applicants to develop systems for waste management that ensure waste is transported and disposed of in a lawful manner.
3. To require source separation, design and location standards which complement waste collection and management services offered by the relevant service providers.
4. To provide guidance in regards to space, storage, amenity and management of waste management facilities.
5. To ensure waste management systems are easy to use and access.
6. To minimise risks associated with waste management at all stages of development.

1.5 Relationship of this Part to other Plans

This Part has been prepared to meet the objectives of legislation including:

- *Environmental Planning and Assessment Act 1979*
- Waste Avoidance and Resource Recovery Act 2001
- Protection of the Environment Operations Act 1997

This Part is to be read in conjunction with *City of Ryde Local Environmental Plan 2014*, and City of Ryde Development Control Plan 2014, and any other relevant Council Policy. If there is an inconsistency between the requirements of this part and other parts of the City of Ryde DCP, Codes or Policies, this Part shall prevail.

Note: Where the proposed development involves the need to place a waste storage container (e.g. a skip) in a public place then a separate application needs to be made under Section 68 of the Local Government Act 1993. (Refer also Part 8.1 Construction Activities.)

1.6 Interpretation

In this Part, terms have the same meaning as in the *Environmental Planning and Assessment Act 1979* (as amended) and the Ryde LEP 2014.

A number of other terms related to waste minimisation and management techniques and storage facilities are used in this Part. The definitions for these terms are included in Part 10 Dictionary.

1.7 Application Requirements

All applications for development to which this Part applies must be accompanied by a Site Waste Minimisation and Management Plan (SWMMP).

Demonstration of compliance with the controls in this Part is required in the SWMMP, and the plans submitted with the development application. Application forms and information packages are available on Council's website at: www.ryde.nsw.gov.au and from Council's Customer Service Centre.

Further information to assist in the preparation of SWMMPs can be obtained via the NSW Office of Environment and Heritage (OEH), formerly known as The Department of Environment, Climate Change and Water, at www.environment.nsw.gov.au.

2.0 DEVELOPMENT CONTROLS

2.1 Introduction

This section contains matters for consideration in planning for waste minimisation and management with respect to all developments. Also provided are specific controls for demolition and construction activity and for the establishment and ongoing use of a range of development types such as residential, mixed use, commercial, retail and industrial types.

2.2 Aims and Objectives for All Developments

Objectives

1. To ensure new developments and changes to existing developments are designed to maximise resource recovery (through waste avoidance, source separation and recycling).
2. To encourage source separation of waste, reuse, and recycling by ensuring appropriate storage and collection facilities for waste, and quality design of waste facilities.
3. To encourage techniques in demolition and construction which minimise waste generation, and which maximise the reuse and recycling of materials.
4. To ensure appropriate, well-designed waste storage and collection facilities are provided and are accessible to occupants and service providers.
5. To ensure that wastes are handled and stored appropriately in order to minimise risk to health and safety associated with handling and disposal of waste and recycled material, and ensure optimum hygiene.
6. To minimise adverse environmental and amenity impacts associated with waste management (including odour from waste and noise from collection activity).
7. To discourage illegal dumping by providing on-site storage for waste awaiting collection by removal services.
8. To ensure waste and recycling storage areas and handling systems for residential properties are designed to meet minimum requirements for Council's domestic waste collection services.

2.3 All developments

The following controls apply to all developments.

Controls

General

- a. Developments must provide space on-site for the sorting and storage of waste in containers suitable for collection.
- b. The size of storage areas and number of storage containers required must be sufficient to handle and store the waste likely to be generated and stored on the premises between collections. The space is to be calculated using information in **Schedule 1 Indicative Bins Sizes, Schedule 2 Standard Waste and Recycling Bins for Residential Developments** and **Schedule 3 Commercial Waste/ Recycling Generation Rates** attached to this Part. The type and requirements of storage spaces may differ depending on development or land use type (refer Sections 2.4, 2.5, 2.6, 2.7, 2.8 and 2.9 in this Part.)

- c. Additional space must be provided for the storage of bulky wastes where appropriate.
- d. Allowance must be made for the storage of green waste where relevant.
- e. All waste containers must be stored within the boundaries of the site unless otherwise approved by Council under Section 68 of the *Local Government Act 1993*.
- f. All applications for development, including demolition, construction and the ongoing use of a site/premises, must be accompanied by:
 - i. a Site Waste Minimisation and Management Plan (SWMMP);
 - ii. location and design details of waste storage facilities on the site.

Relevant details of waste storage, waste facility design and access thereto proposed as part of the development must be clearly illustrated on the plans of the proposed development accompanying the development application. Details of waste storage rooms/areas should include floor plan, elevations and cross section drawings of the room, and details on materials and finishes. Drawings are to be submitted to scale clearly indicating the location of and provision for the storage and collection of waste and recyclables during:

- demolition
 - construction
 - ongoing operation.
- g. In all development, waste and recycling storage areas and facilities should be provided and be located in positions that:
 - i. provide easy, direct and convenient access for the users of the facility;
 - ii. permit easy transfer of bins to the collection point if relocation of bins is required;
 - iii. permit easy, direct and convenient access for collection service providers;
 - iv. do not intrude on car parking, landscaping, access and turning areas required for the type and scale of development;
 - v. do not reduce amenity (minimises the potential for noise, odour and other amenity and environmental impacts on residents and other occupants);
 - vi. maximize protection of trees and significant vegetation.
 - h. In cases where the waste storage areas and facilities are likely to be visible from the street, the design and location of waste storage areas/facilities should be such that they compliment the design of both the development and the surrounding streetscape. Design elements such as fencing, landscaping and roof treatments may be used.
 - i. No incineration devices are permitted.
 - j. A collection point for waste collection is to be identified on the plans submitted with the development application. The collection point must be conveniently located for users and services purposes and sited so that waste collection vehicles do not impede the access to the site or car parking facilities when servicing the bins so that waste can be safely and easily collected.
 - k. The path for wheeling bins between the waste and recycling storage room/area and the vehicle collection point must be free of steps and kerbs and, in the case of residential development, of a gradient of less than 14:1, and for all other development types, of a grade to the satisfaction of Council. The waste storage area must be as close as practicable to the collection point.
 - l. Access driveways and service areas for waste collection vehicles must be designed in accordance with Australian Standard AS 2890.2-2002 *Parking Facilities – Part 2: Off-street commercial vehicle facilities*.
 - m. All waste facilities must comply with the *Building Code of Australia* (BCA) and all relevant Australian Standards (AS).

- n. Heritage conservation considerations may alter requirements of this Part in the refurbishment of existing buildings. Designs should be discussed with Council's Heritage Advisor.
- o. Any equipment, such as volume reducing equipment, will be required to be installed in accordance with the manufacturer's instructions.
- p. Where commercial food preparation is carried out on the premises, the waste storage area is to be designed with a cover to exclude rainwater and a floor to be graded and drained to the sewerage system. The area is to be readily accessible for servicing and suitably screened from public view.

2.4 Demolition and Construction

Demolition and Earthworks

The demolition stage provides great scope for waste minimisation. Proponents are actively encouraged to consider possible adaptive reuse opportunities of existing buildings/structures, reuse of materials or parts thereof, and the destination of any excavated material.

Adaptive reuse opportunities should be achieved through planned work staging, use of the process of deconstruction where materials are carefully dismantled, sorted and stored separately on-site to allow for re-use of solid waste either on-site or off-site.

Construction

The objective of waste management at the construction stage is to minimize waste through utilising techniques such as the purchasing policy (ordering correct quantities of materials), use of prefabricated components, re-use of materials, use of recycled materials, co-ordination and sequencing of various trades and minimisation of excavation works.

A 'Rule of Thumb' for renovations and home building is that construction waste constitutes:

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

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

Where source separation is utilized, materials are to be kept uncontaminated to guarantee the highest possible re-use value.

Controls

In addition to the controls applying to all development (section 2.3) the following apply:

- a. Demolition activity must comply with relevant Australian Standards and WorkCover requirements.
- b. Demolition is to be carried out using the process of deconstruction where materials are carefully dismantled and sorted. A Demolition Work Plan is required to be submitted.
- c. A dedicated area is to be allocated on-site for the stockpile of materials for reuse, recycling or disposal and for site waste bins (for surplus and unwanted materials). The siting is to take into account environmental factors including slope, drainage, location of watercourses proximity to native vegetation and amenity impacts (including impacts of emissions from the waste, noise from collection activity) on occupants of neighbouring properties.

- d. Construction materials are to be stored away from the waste materials stored on-site for collection to enable easy access for waste collectors.

Note: The State Government's waste requirements requires on site retention of demolition and construction waste dockets to confirm which facility received the material for recycling or disposal. Inspections of these dockets may be required by authorised persons.

Note: The handling and disposal of materials containing asbestos is an issue in the City of Ryde and Council actively encourages the proper handling and disposal in accordance with relevant requirements including Australian Standards for removal of asbestos, WorkCover NSW and NSW Office of Environment and Heritage.

2.5 Residential Developments comprising 1 or 2 Dwellings

This section applies to low-rise residential developments of 1 or 2 dwellings only, including single dwellings, dual occupancy development, secondary dwellings, semi-detached dwellings. This section may also be applied to boarding houses (Class 1(b)).

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

Composting areas are encouraged to be considered in the design of these types of residential developments.

Controls

In addition to the controls applying to all development (section 2.3) the following apply:

- a. Space must be provided inside each dwelling for receptacles to store garbage and recycling material. The area is to have the capacity to store two day's worth of materials.
- b. Space must be provided outside the dwelling/s to store the minimum number of Council's garbage, recycling and green waste bins required to meet Council's standard collection services applicable to the development. The space provided should be screened from the street with easy access for the householder to wheel the bins to the kerbside for servicing. Indicative dimensions of bins and numbers of bins are provided in Schedule 1 Indicative Bin Sizes and Dimensions and Schedule 2 Standard Waste and Recycling Bins for Residential Developments attached to this Part.

2.6 Multi Dwelling Housing developments (3 or more dwellings) and Residential Flat Buildings (up to 3 storeys)

This section applies to low rise and low-medium scale residential developments including:

- Multi Dwelling Housing development (3 or more dwellings) including villas and townhouses;
- Residential Flat Buildings up to 3 storeys in height (no lift access)

This section may also be applied to residential components of mixed developments including hotels, motels, serviced units, boarding houses (Class 1(b)), and backpacker accommodation.

The types of developments covered in this section may provide for individual or communal bin storage depending on considerations relating to the development site and its context. Factors determining this choice are contained in the controls.

Multiple households within the property increase challenges with regard to waste volumes, ease of access and operation of waste sorting and removal systems. Resources such as the Better Practice Guide for Waste Management in Multi-Unit Dwellings should be used to inform design of these multi-unit dwellings.

Composting areas are encouraged to be considered in the design of these types of residential developments.

Controls

In addition to the controls applying to all development (section 2.3) the following apply:

All developments

- a. Space must be provided inside each dwelling for receptacles to store garbage and recycling material. The area is to have the capacity to store two day's worth of materials.

Individual Bin Storage – smaller scale developments

- b. Multi-unit housing developments (including villas and townhouses, etc) with up to 6 dwellings, may provide individual bin storage provided that:
 - i. space is provided in each courtyard area for storing Council's garbage, recycling and green waste bins (refer **Schedule 1 Indicative Bin Sizes and Dimensions** and **Schedule 2 Standard Waste and Recycling Bins for Residential Developments** for space requirements);
 - ii. paved access is provided to the courtyard area from outside the building to enable the householder to wheel the bins to the kerbside for servicing;
 - iii. the maximum carting grade does not exceed 14:1 (i.e. not too steep for individuals to cart the bins to the street frontage);
 - iv. the maximum carting distance does not exceed 75 metres, or 50 metres for developments designed for aged or disabled people (i.e. not too far for individuals to move bins to the street frontage); and
 - v. the total number of bins awaiting collection will fit comfortably on the street frontage without encroaching adjoining street frontages, or detrimentally affecting residential amenity or road safety.

Communal Bin Storage – larger scale developments

- c. Multi Dwelling Housing developments that do not meet the requirements for individual bin storage, and Residential Flat Developments of up to 3 storeys, must have communal bin storage areas designed and constructed in accordance with **Schedule 4: S4.1. Residential Bin Storage Areas**.
- d. Communal bin storage areas are to be located so as they can be screened from the street and in a position which is convenient for users and waste collection staff.

Note: On difficult or steep sites or sites with particular natural features (such as watercourses) or with two street frontages it may be appropriate to have a number of waste storage and recycling areas to minimise distances, prevent site pollution and facilitate collection.

- e. To facilitate servicing by waste collection staff, communal bin storage areas must not be more than 15 metres from the street kerb.

Note: Council does not provide a drive-in on-site collection service, however Council provides a runner service to take bins from bin storage areas to the kerbside for collection by the collection vehicle where the bin storage area is no more than 15 metres from the kerbside.

- f. For developments where bulk bins are provided for waste (i.e. 660/1100 litre skip bins) the bulk bins should be contained within waste and recycling storage rooms designed and constructed in accordance with the requirements of **Schedule 4** (refer **S4.2 Waste and Recycling Storage Rooms**).
- g. For developments comprising 30 or more dwellings, a separate room or undercover caged area of a minimum 5 square metres, with instructive signage must be provided for the storage of bulky discarded items such as furniture and white goods, awaiting Council pickup, to prevent illegal dumping in the public domain. Bulky items storage areas should be located adjacent to waste storage areas.
- h. Where collection vehicles are required to drive into a property to collect waste and recycling, adequate access must be provided for the users, waste collection staff and collection vehicles, and:
 - i. the site must be designed to allow collection vehicles to enter and exit the property in a forward direction with minimal need for reversing and to be operated with adequate clearances; and
 - ii. the access and manoeuvring space are to be suitable for the collection vehicle in terms of pavement strength, spatial design, access width and clearances. *Appendix C Collection Vehicles* and *Appendix D Vehicle access/Turning Circles* under the *Better Practice Guide for Waste Management in Multi-Unit Dwellings*, DECC 2008 are to be used as a guide.

2.7 Residential Flat Buildings of 4 storeys or more

This section applies to residential flat buildings. These developments have differing requirements to residential developments covered in the previous section in particular as the developments usually have a greater number of dwellings and are four or more storeys in height providing lift service. Elements of this development type are also relevant to the residential component of hotels and serviced apartments.

This section may also be applied to residential components of mixed development including hotels, motels, serviced units, boarding houses (Class 3), and backpacker accommodation.

The design of the waste storage and handling facilities affects the ease with which they are used and the amenity of the development and the adjoining premises. Considerations in high-rise development include the opportunity to transfer waste from each and every dwelling on each and every floor.

Controls

In addition to the controls applying to all development (section 2.3) the following apply:

- a. Space must be provided inside each dwelling for a receptacle to store garbage and recycling material – the area is to have the capacity to store two day's worth of garbage and recyclables.
- b. A waste and recycling storage room (or rooms) must be provided for the storage of garbage, recyclable and green wastes, with a capacity to easily store the number of bins required to meet Council's standard collection services applicable to the development. The space is to be calculated using the **Schedule 1 Indicative Bins Sizes** and **Schedule 2 Standard Waste and Recycling Bins for Residential Developments** attached to this Part.
- c. All waste and recycling storage rooms must be designed and constructed in accordance with **Schedule 4: S4.2 Waste and Recycling Storage Rooms**.

- d. Consideration must be given to the convenient transportation of waste and recycling from the various floors to the central waste and recycling storage room/area. Such transportation system may include a passenger or goods lifts, or a garbage chute system.
- e. Where garbage chutes are proposed, service rooms/compartments for accessing the garbage chutes must be provided on each residential floor. All garbage chutes and service rooms/compartments must be designed and constructed in accordance with **Schedule 4: S4.3 Garbage Chutes** and **S4.4. Service Rooms (or Compartments)**.
- f. For developments comprising 30 or more dwellings, a separate room or undercover caged area of a minimum 5 square metres, with instructive signage must be provided for the storage of bulky discarded items such as furniture and white goods, awaiting Council pickup, to prevent illegal dumping in the public domain. Bulky items storage areas should be located adjacent to waste storage areas.
- g. Waste storage areas are to be designed to accommodate waste receptacles which can be managed by all types of domestic waste collection vehicles.
- h. Adequate access must be provided for the users, waste collection staff and collection vehicles. Where collection vehicles are required to drive into a property to collect waste and recycling:
 - i. the site must be designed to allow collection vehicles to enter and exit the property in a forward direction with minimal need for reversing and to be operated with adequate clearances; and
 - ii. The driveway and basement manoeuvring space are to be suitable for the collection vehicle in terms of pavement strength, spatial design, access width and clearances. *Appendix C Collection Vehicles* and *Appendix D Vehicle access/Turning Circles* under the *Better Practice Guide for Waste Management in Multi-Unit Dwellings*, DECC 2008 are to be used as a guide.

2.8 Commercial and Retail

Commercial developments include offices, shops, health care buildings, schools, child care centres, assembly buildings, entertainment and sporting venues.

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

This section applies to:

- Hotels, motels, schools, child care centres, large boarding houses, class 3 buildings.
- Office premises, retail premises, shops, food and drink premises, class 5 & 6 buildings.
- Health care (e.g. public and private hospitals, nursing homes, class 9(a) buildings).
- Assembly buildings, theatres, cinemas, class 9(b) buildings.
- Entertainment and sporting facilities/events.

The garbage and recycling systems installed in commercial developments will vary according the types and quantities of waste and recyclables generated. **Schedule 1 Commercial Waste/Recycling Generation Rates** provides some indicative commercial waste generation rates.

Controls

In addition to the controls applying to all development (section 2.3) the following apply:

- a. All commercial premises must have a dedicated waste and recycling storage room or area, which has adequate storage space to meet the needs of the land use activity. Indicative waste generation rates for various commercial developments are listed in **Schedule 3 Commercial Waste/Recycling Generation Rates** attached to this Part.

Note: Depending upon the size and type of the development, it may be necessary to include a separate waste/recycling storage room/area for each tenancy.

- b. All waste and recycling storage rooms and areas must be designed and constructed in accordance with the requirements of **Schedule 4** (refer **S4.2 Waste and Recycling Storage Rooms** and **S4.5. External Waste and Recycling Storage Areas**).
- c. The waste and recycling storage room or area must provide separate containers for the separation of recyclable materials from general waste. Standard and consistent signage on how to use the waste management facilities should be clearly displayed.
- d. Space must be provided in each occupancy for the temporary storage of garbage and recyclables generated in that area.
- e. Hazardous and special waste is to be stored in accordance with relevant occupational, health and safety and environmental protection legislation.
- f. In multi storey developments, consideration must be given to the convenient transportation of waste and recycling from the various floors to the central storage area. Such transportation system may include a passenger or goods lifts, or a garbage chute system.
- g. Separate space must be allocated for the storage of liquid wastes and oils etc. The liquid waste storage areas must be undercover and bunded to prevent the escape of spills or leaks.
- h. Space must be provided for the installation of grease traps or other wastewater pre-treatment equipment required by Sydney Water Corporation. Grease traps must be installed outside the building or in a dedicated grease trap room. Grease traps must not be accessed through food handling and storage areas.
- i. In premises where more than 50 litres of seafood, poultry or meat waste per day is generated, the waste must be stored in a refrigerated waste room until collected or have that waste collected daily.
- j. Space is to be provided for compactors and for any other equipment necessary to manage the waste and recycling likely to be generated on the premises. Sufficient space is also required for storage of the waste (such as cardboard boxes) prior to processing.
- k. Sufficient space in the development must be allocated to store bulky items such as used pallets and crates to prevent illegal dumping in the public domain.
- l. Adequate access must be provided for the users, waste collection staff and collection vehicles. Where collection vehicles are required to drive into a property to collect waste and recycling:
 - i. The site must be designed to allow collection vehicles to enter and exit the property in a forward direction with minimal need for reversing and to be operated with adequate clearances; and
 - ii. The driveway and any basement space needed are to be suitable for collection vehicles in terms of pavement strength, spatial design, access width, and height clearances. **Appendix C Collection Vehicles** and **Appendix D Vehicle access/Turning Circles under the Better Practice Guide for Waste Management in Multi-Unit Dwellings**, DECC 2008 are to be used as a guide.

2.9 Mixed Use Developments

Where two or more (e.g. residential and commercial) land uses occur within the one building or in the same development, waste management will necessitate variable demands are balanced, including that potential impacts of commercial operations on residential amenity are considered. These controls may apply to mixed use comprising:

- Office premises, retail premises, shops, food and drink premises, class 5 & 6 buildings
- Hotels, motels, schools, child care centres, large boarding houses, class 3 buildings.

Mixed use can vary in size from small shop top housing developments (two storey) to multi-storey complexes containing a mix of commercial, retail and residential developments. Better practice waste management in mixed use developments requires the complete separation of the residential from the commercial and retail waste storage areas and handling facilities.

Controls

In addition to the controls applying to all development (Section 2.3) the following apply:

- a. Waste and recycling storage, handling and collection system/s for the residential area/s of the building or development are to be provided separate from the waste and recycling storage, handling and collection systems for the commercial area/s
- b. The residential and commercial/retail waste management systems are to be designed so that they can efficiently operate without conflict between these systems within the proposed development and with the surrounding land uses.
- c. The residential and commercial/retail waste management systems must be in locations which are easily accessible to their respective users and waste collection staff.
- d. The residential and commercial/retail waste management systems, including access thereto, are to be designed to comply with the relevant requirements for those developments under this Part.
- e. Measures must be taken to ensure that noise from the operation of the commercial waste storage and handling system does not impact on residents. In this regard it should be noted that commercial activities most commonly require the daily collection of waste, which can contribute to noise impacts. Consideration must be given to appropriate siting of the waste commercial compaction equipment and waste collection area/a, and appropriate measures to mitigate potential daily noise impacts.
- f. Commercial tenants in a mixed development must be actively discouraged from using the residential waste facilities (e.g. via signage and through the use of separate keys and locking systems).
- g. Details about the separate storage areas, handling areas and collection points for the commercial and residential waste streams must be clearly identified in the site waste minimization and management plan, and in the plans submitted with the development application.

2.10 Industrial

Industrial developments typically produce a diverse range of waste products. Some of these waste products may be hazardous and require compliance with established laws and protocols that are additional to this Part. Other waste products are similar in nature to commercial and domestic waste streams. Mixing waste products limits potential reuse and recycling opportunities and may distribute toxic material through a larger volume of wastes.

Waste and recycling storage areas may be internal (rooms) or external (areas).

Controls

In addition to the controls applying to all development (Section 2.3) the following apply:

- a. All industrial developments must include a designated general waste and recycling storage area (either an external area, or an internal room or a combination of both) which has adequate storage space to meet the needs of the activity in terms of expected nature of the waste (type of waste stream) and expected volumes.
- b. Waste and recycling storage rooms and areas are to be capable of providing space sufficient for the opportunity for waste to be separated into at least 4 streams: paper/cardboard, recyclables, general waste, industrial process type waste.
- c. Hazardous and special waste is to be stored in accordance with relevant occupational, health and safety and environmental protection legislation.
- d. In premises where more than 50 litres of seafood, poultry or meat waste per day is generated, the waste must be stored in a refrigerated waste room until collected or have that waste collected daily.
- e. Waste and recycling storage rooms are to be designed and constructed in accordance with **Schedule 4: S4.2 Waste and Recycling Storage Rooms**.
- f. External waste and recycling storage areas must be designed and constructed in accordance with **Schedule 4: S4.5. External Waste and Recycling Storage Areas**.
- g. For multi-use industrial premises and industrial unit complexes, a waste storage and recycling area is to be provided per unit or in a communal space, which is designed to allow a range of uses. Space must be also provided in each occupancy for the temporary storage of wastes and recyclables generated in that area.
- h. Space is to be provided for compactors and for any other equipment necessary to manage the waste and recycling likely to be generated on the premises. Sufficient space is also required for storage of the waste (such as cardboard boxes) prior to processing.
- i. Space must be provided for the installation of grease traps or other wastewater pre-treatment equipment if required by Sydney Water Corporation. Grease traps must be installed outside the building or in a dedicated grease trap room. Grease traps must not be accessed through food handling and storage areas.
- j. Sufficient space in the development must be allocated to store bulky items such as used pallets and crates to prevent illegal dumping in the public domain.
- k. Separate space must be allocated for the storage of liquid wastes and oils etc. The liquid waste storage areas must be undercover and bunded to prevent the escape of spills or leaks.
- l. Where possible, access must be provided for waste collection vehicles to stand on the premises when collecting wastes, and leave the site in a forward direction.
- m. On industrial properties in close proximity to residential development, care must be taken in design and siting of the waste and recycling storage rooms/areas to ensure that amenity (such as odour from storage, noise impacts from collection activities) are kept to a minimum.
- n. Adequate access must be provided for the users, waste collection staff and collection vehicles. Where collection vehicles are required to drive into a property to collect waste and recycling
 - i. The site must be designed to allow collection vehicles to enter and exit the property in a forward direction with minimal need for reversing and to be operated with adequate clearances; and
 - ii. The driveway and any basement space needed are to be suitable for collection vehicles in terms of pavement strength, spatial design, access width and height clearances. Appendix C Collection Vehicles and Appendix D Vehicle access/Turning Circles under the Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECC 2008 are to be used as a guide.

SCHEDULES

Schedule 1 INDICATIVE BIN SIZES AND DIMENSIONS

BIN TYPE	HEIGHT	DEPTH	WIDTH
80 Litre Bin	870mm	530mm	450mm
120 Litre Bin	940mm	560mm	485mm
140 Litre Bin	930mm	615mm	535mm
240 Litre Bin	1080mm	735mm	580mm
660 Litre Bin	1180mm	770mm	1360mm
1100 Litre Bin	1460mm	1230mm	1370mm
3000 Litre Bin	1450mm	1842mm	1995mm

Figure S.01 Indicative Dimensions for bins used in the City of Ryde

Note: These dimensions are only a guide. Dimensions can vary according to manufacturer, i.e. if bins have flat or dome lids and are used with different lifting devices.

Schedule 2 STANDARD WASTE AND RECYCLING BINS FOR RESIDENTIAL DEVELOPMENTS

This schedule identifies Council's standard bin requirements for a range of residential developments. It may be used in conjunction with Schedule 1 for the calculation of areas required for on-site storage.

DEVELOPMENT TYPE	CITY OF RYDE STANDARD WASTE AND RECYCLING BINS
<u>Single dwellings, dual-occupancies, secondary dwellings</u> (Low rise low scale residential of 1-2 dwellings only)	1 x 140 litre bin for garbage. 1 x 240 litre bin for recyclables. 1 x 240 litre bin for green waste.
<u>Multi-dwelling housing</u> (Small scale villa/townhouse developments) with individual bin storage	1 x 140 litre bin for garbage. 1 x 240 litre bin for recyclables. 1 x 240 litre bin for green waste.
Multi-dwelling housing and Residential Flat Buildings up to 3 storeys (low rise residential) with communal bin storage facilities	1 x 240 litre bin for garbage per two units (dwellings). 1 x 240 litre bin for recyclables per two units (dwellings). 1 x 240 litre bin for green waste (or as required). However, for large developments Council may provide bulk bins (i.e. 660/1100 litre skip bins) for garbage, based on the volumes per unit identified above.
<u>Residential flat buildings</u> of 4 or more storeys (high-rise residential)	Depending on proposed service frequency: 1 x 660 litre skip bin for garbage per 15 units OR 1 x 1100 litre skip bin for garbage per 25 units OR 1 x 240 litre bin for garbage per two units 1 x 240 litre bin for recyclables per two units 1 x 240 litre bin for green waste (or as required)

Schedule 3 COMMERCIAL WASTE / RECYCLING GENERATION RATES

This schedule contains information on commercial waste generation rates for various land use activity types, and indicative bin sizes and dimensions. The generation rates are to be used in association with indicative bin sizes (refer Schedule 2) for calculating the number of bins required and size of storage areas. Contact should also be made with Council’s Waste Services Manager regarding waste service options to assist in this calculation.

PREMISES TYPE	WASTE GENERATION	RECYCLABLE MATERIAL GENERATION
Backpackers’ Hostel	35L/occupant space/week	30L/occupant space/week
Boarding House, Guest House	40L/occupant space/week	35L/occupant space/week
Food premises: Butcher Delicatessen Fish Shop Greengrocer Restaurant, Café Supermarket Takeaway food shop	80L/100m ² floor area/day 80L/100m ² floor area/day 80L/100m ² floor area/day 240L/100m ² floor area/day 10L/1.5m ² floor area/day 240L/100m ² floor area/day 80L/100m ² floor area/day	Variable Variable Variable 120L/100m ² floor area/day 2L/1.5m ² floor area/day 240L/100m ² floor area/day Variable
Hairdresser Beauty Salon	60L/100m ² floor area/week	Variable
Hotel Licensed Club Motel	5L/bed space/day 50L/100m ² bar area/day 10L/1.5m ² dining area/day	1L/bed space/day 50L/100m ² bar area/day 50L/100m ² dining area/day
Offices	10L/100m ² floor area/day	10L/100m ² floor area/day
Shop less than 100m² floor area Shop greater than 100m² floor area	50L/100m ² floor area/day 50L/100m ² floor area/day	25L/100m ² floor area/day 50L/100m ² floor area/day
Showroom	40L/100m ² floor area/day	10L/100m ² floor area/day
Residential Developments where bin areas are shared	120L/unit/week	60L/unit/week

Figure S.02 Indicative Waste/Recycling Commercial generation rates for various land use activities

Note: Generation rates may change from time to time, contact should be made with Council current provisions and standard waste and recycling services to assist with calculation of areas required for waste storage in these types of developments.

Schedule 4 DESIGN REQUIREMENTS

This schedule contains design requirements referred to in the controls in this Part for:

- Residential Bin Storage Areas for communal bin storage in residential developments (S4.1);
- Waste and Recycling Storage Rooms suitable for use in residential, commercial/retail and industrial applications (S4.2);
- Garbage chutes for use in high rise residential buildings (S4.3);
- Service compartments/rooms for use in association with garbage chutes (S4.4), and
- External waste and recycling storage areas (S4.5) suitable for use in commercial/retail, and industrial applications in general, and including where garbage and/or putrescible waste is to be stored.

S4.1. Residential Bin Storage Areas

Residential bin storage areas (communal bin storage) must be designed and constructed in accordance with the following requirements:

- The bin storage area must be of adequate dimensions to comfortably accommodate the required number of bins.
- A space at least 700mm wide x 750mm deep must be provided for each bin.
- The layout of the bin storage area must allow easy unobstructed access to all bins (stacked bin arrangements are not acceptable) and allow the bins to be easily removed for servicing purposes.
- To permit easy access for servicing all passageways must be at least 1 metre wide.
- The floor of the bin storage area must be constructed of concrete.
- The walls of the bin storage area must be constructed of brickwork at least 1100mm high and be designed to screen the bins from the street.
- The entry to the bin storage area must not include any gates.
- Landscaping must be provided to minimise the impact of the bin storage area on the streetscape.

S4.2. Waste and Recycling Storage Rooms

Waste and recycling storage rooms must be designed and constructed in accordance with the following requirements:

- The waste and recycling storage room must be of adequate dimensions to comfortably accommodate the required number of waste and recycling bins.
- The layout of the waste and recycling storage room must allow easy unobstructed access to all bins (stacked bin arrangements are not acceptable) and allow the bins to be easily removed for servicing purposes.
- Where building occupants are required to take their waste to the waste and recycling storage room, the garbage bins should be located closest to the access door to minimise the risk of the recycling bins being contaminated.

Note: The Better Practice Guide for Waste Management in Multi-Unit Dwellings, DECC 2008 provides information on suitable bin layouts for communal storage areas in larger developments.

- The floor of the waste and recycling storage room must be constructed of concrete finished to a smooth even surface and coved at the intersections with the walls.
- Where garbage or putrescible waste is to be stored, the floor must be graded to a floor waste connected to the sewerage system. The floor waste must be fitted with an in-floor dry basket arrestor approved by Sydney Water Corporation.

- Where garbage or putrescible waste is to be stored, a tap with a hose connection must be provided in or adjacent to the waste and recycling storage area to facilitate cleaning.
- The walls of the waste and recycling storage room must be constructed of brickwork, concrete block work or similar solid material with the internal wall surfaces cement rendered to a smooth even surface.
- The ceiling of the waste and recycling storage room must be constructed of a rigid smooth faced non-absorbent material. The ceiling must be of a minimum height that enables access for cleaning and enables the lids of bins to be fully opened.
- The internal walls and ceiling of the waste and recycling storage room must be painted with a light coloured washable paint.
- The waste and recycling storage room must be provided with a close fitting self-closing door that is openable from inside the room without the use of a key.
- The doors of the waste and recycling storage room must be finished with a smooth faced impervious material that is capable of being easily cleaned.
- The waste and recycling storage room must be provided with permanent natural ventilation direct to the outside air or a system of mechanical exhaust ventilation.
- The waste and recycling storage room must be provided with artificial lighting controllable by switches outside and inside the room. Sensor lights may be used in this regard.
- Clear signage must be displayed in the waste and recycling storage room describing how to use the waste facilities correctly.

S4.3. Garbage Chutes

Garbage chutes are only suitable to transfer garbage, and not suitable to transfer recyclables for a range of safety reasons, including potential fire hazard. Garbage chutes must be designed and constructed in accordance with the following requirements:

- The chute must be cylindrical in shape with a diameter of at least 500mm;
- The chute must be constructed of non-corrosive metal or other suitable smooth impervious material;
- The chute must be vertical with no bends, off-sets or restrictions and all internal joints and seams finished to a smooth even surface to allow the free flow of garbage through the chute;
- Chutes should not open onto any habitable or public space. The service openings for depositing garbage into the chute must be located in a dedicated **service room/compartments** (refer guidelines below);
- The service openings must be fitted with a charging device between one (1) metre and one and a half (1.5) metres above floor level and have a cross-sectional area not more than half that of the garbage chute;
- The charging devices must be self-closing and designed to permit free flow of garbage into the chute;
- The chute branches from the charging devices must not exceed one (1) metre in length and must be angled to allow the free flow of garbage into the chute;
- The chute must terminate in the waste and recycling storage room and discharge the garbage directly into a waste container or garbage compactor in such a way that no spillage occurs;
- A suitable cut-off device must be provided at or near the base of the chute to effectively close off the chute while the waste containers are being serviced or the compaction equipment is being maintained;
- The chute, charging devices and service openings must be capable of being easily cleaned;
- The chute must be ventilated so that air does not flow from the chute through any service opening and the flow of air through the chute does not impede the downward movement of garbage; and

- The vent at the top of the chute must extend above the roof level and be fitted a weather-proof cowl and wire mesh screen to prevent the entry of rainwater and birds.

Note: As a guide, one garbage chute is generally suitable for servicing a minimum of 20 dwellings, and a maximum of around 28-30 dwellings.

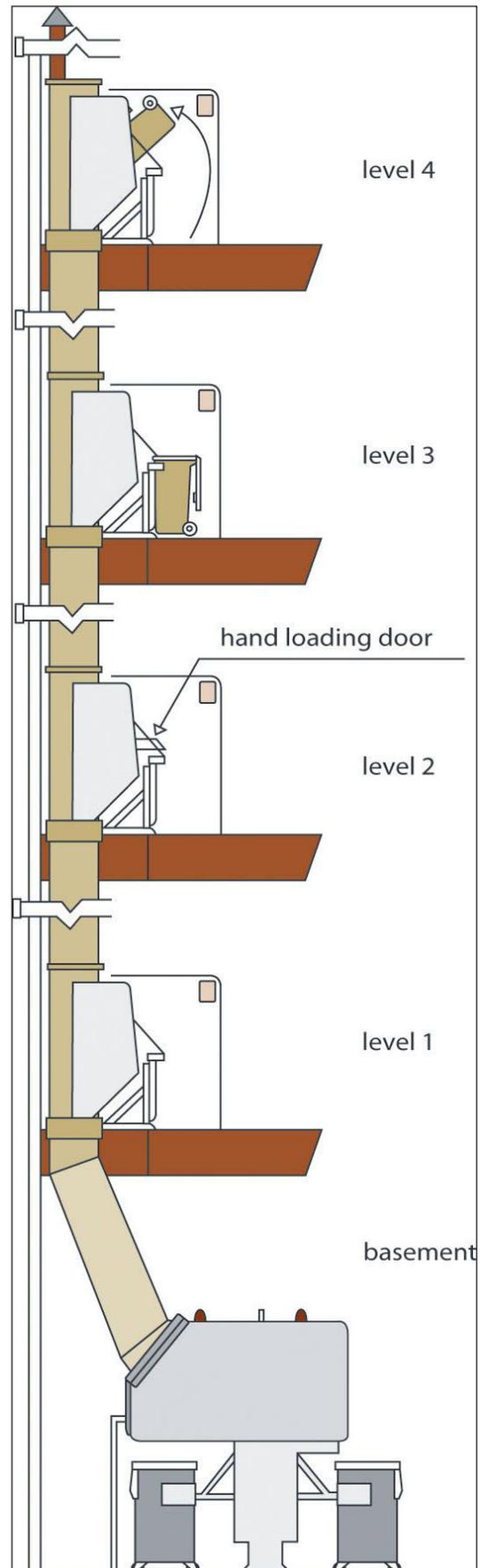


Figure S.01
Example of a garbage chute system

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

S4.4. Service Rooms (or Compartments)

Service rooms or compartments are located on each floor of a building to allow access to the garbage chute. Service rooms/compartments must be designed and constructed in accordance with the following requirements:

- Each service room/compartment must be located for convenient access by users and must be well ventilated and well lit.
- Each service room/compartment must include space for bins or crates for the reception of recyclable materials.
- The floors, walls and ceilings of the service rooms/compartments must be finished with smooth impervious materials that are capable of being easily cleaned.
- The service rooms/compartments must contain clear signage that describes the types of wastes that can be deposited into the garbage chute and the types of wastes which should be deposited into the recycling bins or crates.

S4.5. External Waste and Recycling Storage Areas

All **external waste and recycling storage areas** in commercial and industrial developments must be designed and constructed in accordance with the following requirements:

- The waste and recycling storage area must be of adequate dimensions to store all garbage and recyclable wastes generated on the premises between collections and allow easy access for users and servicing purposes.
- The waste and recycling storage area must be roofed to prevent the entry of rainwater. The ceiling must be of a minimum height to enable access for cleaning and the lids of bins to be fully opened.
- The floor of the waste and recycling storage area must be constructed of concrete finished to a smooth even surface.
- All uncontaminated stormwater from the roof and uncovered paved areas of the site must be directed away from the waste and recycling storage area and be drained to Council's stormwater drainage system.
- Where garbage or putrescible waste is to be stored, the floor must be graded to a floor waste connected to the sewerage system. The floor waste must be fitted with an in-floor dry basket arrestor approved by Sydney Water Corporation.
- Where garbage or putrescible waste is to be stored, a tap with a hose connection must be provided in or adjacent to the waste and recycling storage area to facilitate cleaning.
- The waste and recycling storage area must be adequately screened from the street to prevent the creation of unsightly conditions.

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City of Ryde
Civic Centre
1 Devlin Street
Ryde NSW 2112

www.ryde.nsw.gov.au