Cambridgeshire County Council

PETERBOROUGH CITY COUNCIL

Cambridgeshire and Peterborough Waste Partnership (RECAP): Waste Management Design Guide Draft Supplementary Planning Document




September 2011

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Executive Summary

This Guide has been prepared by the Cambridgeshire and Peterborough (RECAP) Partnership (comprising Cambridgeshire County Council, Peterborough City Council and the City/District Councils in Cambridgeshire) and is consistent with the drive towards sustainable waste management. The intention is that following public consultation this Waste Management Design Guide will be adopted by Cambridgeshire County Council and Peterborough City Council as a Supplementary Planning Document (SPD) and as such will form part of the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF).

This Guide puts significant emphasis on timely consultation with the relevant Waste Collection and Disposal Authorities. This forms the backbone of ensuring effective design for waste management. In most cases this should form part of the collaborative process outlined in the Cambridgeshire Design Guide for Streets and Public Realm.

A number of key points can be drawn from this document and should be regarded as essential considerations when designing for effective waste management:

1. Within residential developments, developers are required to provide adequate space for internal and external storage of waste based on figures outlined in this document and fund such provision. In both cases, developers will also have to fund and provide appropriate containers for residential developments where additional costs will be incurred by the Waste Collection Authority. For commercial developments as defined in part 4 of the Guide adequate external space will have to be provided based on consultation with the relevant Waste Collection Authority. In Peterborough, contributions to related off-site provision for development will be consistent with the Planning Obligations Implementation Scheme.

2. Waste storage areas should be accessible to all users and should not present an unnecessary health and safety risk. The method of transit of waste to a storage point will depend upon the type of development. For single houses it will typically be residents transferring their waste to containers located within the boundaries of their property. In developments of flats and apartments typical options will be residents transferring their waste to communal bins, waste chutes or a Facilities Management service. The developer should make adequate arrangements for the management and maintenance of all communal waste transit and storage infrastructure in all developments of flats and apartments.

3. Waste management development of flats and apartments is challenging and various options are open to a developer beyond the provision of hard infrastructure and typical methods of treatment. Waste management in such developments requires an integrated approach and innovation is welcomed. Further guidance is provided in the section entitled “Waste Management Provision for Flats and Apartments” and the Case Studies also presented in this document.

4. Waste storage systems should be provided within developments of flats and apartments and at commercial developments in accordance with the requirements of this Guide. Initial design of such systems should provide assessment of (amongst others): on-site treatment options; access; health and safety; security; and protection of the environment. Developers are encouraged to consider the potential for underground waste storage in their developments – serving flats and apartments or as Bring Sites (as defined in Part 9 of the Design Guide) for wider public use. An underground waste storage Case Study is presented in this document.

5. Although contemporary urban design is shifting away from the dominance of places by roads, access for Local Authority waste collection vehicles must be considered in relation to the design of new highways. The local authorities in Cambridgeshire and Peterborough provide a waste collection and disposal service for their residents, for which infrastructure is required. Wherever possible, access should avoid the need for vehicles to undertake unnecessary or difficult manoeuvres. However, it is recognised that the passage of a large waste collection vehicle may not offer the best solution for a particular development. In such cases, opportunities for innovation

exist and alternative waste collection ideas are welcomed (although it must be noted that any additional capital and revenue costs of any such alternatives will be required to be funded by the developer).

6. Local Authority waste collection will not commence until road surfaces are complete to base layer and access is not unreasonable (refer to Environmental Protection Act S.45) and not hindered by ongoing construction work. Until these criteria are met, and where a development requires a waste collection service, provision will have to be made by the developer at their cost.

7. A network of Household Recycling Centres is operational across the Cambridgeshire and Peterborough area. Continued development will put pressure on the existing facilities and require expansion of the network. Financial contributions, will be required in accordance with Planning Obligations Circular 05/05 or as required as part of the Community Infrastructure Levy and will be secured from developers using Section 106 agreements or other legal agreements as appropriate. Developers will be required to make land available at strategic locations. In Peterborough, contributions to related off-site provision will be consistent with the Planning Obligations Implementation Scheme.

8. Developers will be required to provide additional Bring Sites, upgrade existing facilities in the locality in accordance with Planning Obligations Circular 05/05 or as required as part of the Community Infrastructure Levy, pay financial contributions to the relevant Local Authority for provision or upgrade. The choice will be dependent on an assessment by the developer of the need for such facilities and the impact of the development on existing infrastructure (including the preparation of a waste audit as required by Policy CS28 of the Minerals and Waste Core Strategy).

9. RECAP is actively seeking to engage developers in schemes of education to promote the aims of effective waste reduction and recycling. It should be recognised that a developer's marketing strategy can be enhanced by developing education schemes to encourage further recycling and composting in partnership with RECAP.

Part 1 Introduction

Introduction

1.1 This Waste Management Design Guide (the Design Guide) addresses the issue of waste management in new developments and redevelopments of a residential, commercial or mixed (residential and commercial) nature. It is to be used by:

- Developers and designers to ensure effective segregation, storage and collection of waste materials following development; and
- Planning Authorities in assessing planning applications to ensure that waste management needs are adequately addressed.

1.2 The Minerals and Waste Core Strategy was adopted on the 19th July 2011 and following further public consultation this Waste Management Design Guide will be adopted by Cambridgeshire County Council and Peterborough City Council as a Supplementary Planning Document (SPD). It is anticipated that this document will be adopted in late 2011/early 2012.

1.3 The Design Guide was originally produced by the Cambridgeshire and Peterborough Waste Partnership (RECAP) and WISER Environment Ltd and has subsequently been reviewed for consistency with the Cambridgeshire and Peterborough Minerals and Waste Development Plan.

Purpose of the Guide

1.4 This Guide has been created to:

1. Detail the waste segregation, storage and collection requirements that designers and developers need to satisfy.
2. Provide guidance for use by Local Planning Authorities when assessing relevant planning applications.
3. Address the unique waste management problems presented by high density developments.
4. Expand upon the requirements set out in the policies CS16 and CS28 of the Minerals and Waste Core Strategy for developer contributions relating to the funding and provision of waste management infrastructure.
5. Highlight to developers that there will be financial implications relating to the provision of waste management infrastructure. This will vary according to the nature and scale of the proposed development and will be based on any additional costs for the relevant local authority arising out of the need for additional or improved infrastructure which is related to the proposed development.
6. Highlight examples of good practice demonstrating what can be achieved.
7. Contribute to sustainability and reduced environmental impact.

1.5 Requirements for residential and commercial developments (including the redevelopment of existing sites) relating to waste minimisation, waste recovery, recycling and associated infrastructure are set out in the following policies in the adopted Cambridgeshire and Peterborough Minerals and Waste Core Strategy.

1.6 The Design Guide Supplementary Planning Document (SPD) forms part of the Cambridgeshire and Peterborough Minerals and Waste Local Development Framework (LDF).

1.7 The SPD provides additional guidance on the design of waste management infrastructure to be provided for residential and commercial development. As outlined in policies CS16 and CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy.

CS16 – Household Recycling Centres

A network of household recycling facilities easily accessible to local communities will be developed through the Site Specific Proposals Plan. New household recycling centres will be in the following broad locations as shown on the Waste Management Key Diagram:

- **Cambridge East**
- **Cambridge North**
- **Cambridge South**
- **March**
- **Northstowe**
- **Peterborough**

New development will contribute to the provision of household recycling centres. Contributions will be consistent with the RECAP Waste Management Design Guide and additionally the Planning Obligations Implementation Scheme or through the Community Infrastructure Levy in the event that this mechanism supersedes this provision.

CS28 - Waste Minimisation, Re-use, and Resource Recovery

The Waste Planning Authorities will encourage waste minimisation, re-use and resource recovery by requiring:

- **a waste management audit and strategy to put in place practicable measures to maximise waste minimisation, sorting, re-use, recovery and recycling of waste on all developments over the value of £300,000**
- **submission of a completed RECAP Waste Management Design Guide Toolkit Assessment**
- **new development to contribute to the provision of Bring Sites. Contributions will be consistent with the RECAP Waste Management Design Guide and additionally in Peterborough the Planning Obligations Implementation Scheme or through Community Infrastructure Levy in the event that this mechanism supersedes this provision.**
- **temporary waste recycling facilities in strategic development areas including the Cambridge and Peterborough development areas, Northstowe, and St Neots. These should maximise the reuse, recycling and recovery of inert waste streams from construction and demolition operations, and be in place throughout the construction phases of these major development areas.**

1.8 There are two design-related SPDs linked to the Cambridgeshire and Peterborough Minerals and Waste Plan, both of which are relevant to waste management facilities. The focus of the RECAP Design Guide is the waste management facilities which are to be provided as part of residential and commercial developments allowing for the segregation of waste for recycling and composting. This includes establishing the need for and the design of expanded and/or additional expanded Bring Sites (e.g. for bottles, paper and can recycling etc.) and also identifying whether there could be a need for an expanded or new Household Recycling Centre to serve the development where appropriate.

1.9 However, it is important to note that there is an additional Supplementary Planning Document entitled the Location and Design of Waste Management Facilities which was adopted in July 2011. This document sets out the principles relating to the design of waste management facilities in both urban, rural and urban fringe areas including Household Recycling Centres to ensure that future waste management development is of the highest standard in relation to layout, access, appearance and environment and the use of materials.

1.10 Throughout this Guide, where reference is made to residents and users of a service, this includes users/residents with disabilities and therefore their regard should be had to the provisions of the Disability Discrimination Act 1995.

1.11 This Guide contains the RECAP Waste Management Design Guide Toolkit that will allow a developer, in consultation with the Local Planning Authority, to make an effective evaluation of the waste management requirements placed upon them and demonstrate compliance as necessary. In accordance with the adopted Cambridgeshire and Peterborough Minerals and Waste Core Strategy all residential and commercial proposals must demonstrate use of the Toolkit and submit it, as complete, with their plans.

1.12 This requirement is distinct from the requirement to prepare a waste audit and strategy which applies to all developments over the value of £300,000. These documents will be used to inform the waste management requirements for residential and commercial developments.

1.13 The Toolkit is presented from p.43 and is made up of 3 tools which are described in Table 1.1 below. The tools are interlinked and refer to each other as appropriate.

Design Standards Checklist	Assessment Criteria	Basis for Conditions and Agreements
Developers will be expected to demonstrate that their proposals satisfy the requirements of this Guide by assessing their proposals against the expected standards which are brought together under the Design Standards Checklist.	Depending upon development proposals, it may be that a developer is required to conduct a wider assessment of the impact of their scheme (or aspects thereof). Criteria for such an assessment are presented under the Assessment Criteria.	Dependant upon the nature of the development it will be appropriate to apply planning conditions or negotiate S106 agreements/CIL for the provision of waste collection, waste storage containers, Bring sites, alternative methods of waste collection and Household Recycling Centres.

Table 1.1 Toolkit Components

1.14 The TOOLKIT should be used as follows:

Design Standards Checklist	Applies to all residential and commercial developments. To be used and completed by the developer and supported by plans and/or documents as appropriate.
Assessment Criteria	To be completed by the developer where proposals involve the construction of waste storage compound(s) and/or installation of Bring Site infrastructure and/or alternative schemes.
Basis for Conditions and Agreements	To be used by the Local Planning Authority in relation to the provision of waste storage containers, the Recycling Centre network and the Bring Site network, as appropriate.

Table 1.2

Consultation

1.15 This Guide puts significant emphasis on timely consultation with the relevant Waste Collection and Disposal Authority including pre-application discussions. This forms the backbone of ensuring effective design for waste management. In most cases, consultation should form part of the collaborative process outlined in the Cambridgeshire Design Guide for Streets and Public Realm.

Alternative Schemes

1.16 This Guide offers a significant opportunity for innovation in waste management design and actively welcomes proposals from developers for alternative waste management solutions. For example, underground storage of waste or alternative methods of waste collection may be more appropriate for a particular development than conventional/traditional methods of storage and collection. Whatever the situation, alternative proposals must be discussed with the Local Authority and be well researched, demonstrate realistic and workable solutions and be clearly presented. Accurate costings will also be required and developers must note that they will be required to fund any such schemes where costs exceed the amount the Local Authority would otherwise pay for a standard service and provide any non-standard infrastructure for the scheme.

1.17 Any such schemes must, at the very minimum, be assessed against the criteria detailed under Assessment Criteria outlined on page 49 of this Guide (RECAP Waste Management Design Toolkit).

Part 2 Policy and Planning Context

2.1 A number of documents are highlighted below because of either their national/regional importance or because of the future importance they will have. They demonstrate the increasing importance of waste management and the continuing shift both within the region and nationally towards sustainable waste management practice – something that this Guide can make a positive contribution towards.

Waste Strategy for England 2007

2.2 The Waste Strategy published by Government in 2007 broadly seeks to ensure that England will meet and exceed Landfill Directive Diversion Targets for biodegradeable municipal waste in 2010, 2013 and 2020. A key proposal for the new strategy is to provide incentives to reduce, reuse and recycle waste and to improve local governance to deliver better co-ordinated action on the ground. It supersedes the existing Waste Strategy published in 2000.

2.3 The fundamental principle behind the strategy is the waste hierarchy which seeks to encourage wherever possible waste prevention (ultimate aim) followed by re-use, recycling/composting and energy recovery. Disposal features in the waste hierarchy as the least favoured option.

2.4 The 2007 strategy sets a number of national targets for waste management (which are outlined in Part 3 of the Guide (page 15) and seeks to achieve several Government key objectives:

- decouple waste growth (in all sectors) from economic growth and put more emphasis on waste prevention and re-use;
- meet and exceed the Landfill Directive Diversion Targets for biodegradable municipal waste in 2010, 2013 and 2020;
- increase diversion from landfill of non-municipal waste and secure better integration of treatment for municipal and non-municipal waste;
- secure the investment in infrastructure needed to divert waste from landfill and for the management of hazardous waste; and
- get the most environmental benefit from that investment, through increased recycling of resources and recovery of energy from residual waste using a mix of technologies.

2.5 The main elements of the 2007 strategy, in order to achieve the key objectives can be summarised as:

- incentivise efforts to reduce, re-use, recycle waste and recover energy from waste;
- reform regulation to drive the reduction of waste and diversion from landfill while reducing costs to compliant businesses and the regulator;
- target action on materials, products and sectors with the greatest scope for improving environmental and economic outcomes;
- stimulate investment in collection, recycling and recovery infrastructure, and markets for recovered materials that will maximise the value of materials and energy recovered; and
- improve national, regional and local governance, with a clearer performance and institutional framework to deliver better co-ordinated action and services on the ground.

Planning Policy Statement 10: Sustainable Waste Management

2.6 Planning Policy Statement 10 (PPS10) sets out the Government's national policy on waste management land-use planning in England. It forms part of the national waste management plan for the UK and makes specific reference to the importance of good design in waste management:

35. Good design and layout in new development can help to secure opportunities for sustainable waste management, including for kerbside collection and community recycling as well as for larger waste facilities. Planning authorities should ensure that new development makes sufficient provision for waste management and promote designs and layouts that secure the integration of waste management facilities without adverse impact on the street scene or, in less developed areas, the local landscape.

36. Waste management facilities in themselves should be well-designed, so that they contribute positively to the character and quality of the area in which they are located. Poor design is in itself undesirable, undermines community acceptance of waste facilities and should be rejected.

Planning Policy Statement 1: Planning for Sustainable Development

2.7 Planning Policy Statement 1 (PPS1) which sets out the Government's objectives for the planning system refers to the need for development plans to address the issue of waste management and include provision for additional infrastructure. This SPD is intended to supplement the relevant policies in the Minerals and Waste Core Strategy to ensure that waste management infrastructure and related issues are addressed as part of planning applications.

Planning Policy Statement 1: Planning and Climate Change - Supplement to Planning Policy Statement 1

2.8 This document supplements PPS1 and set outs how planning, in providing for the new homes, jobs and infrastructure needed by communities, should help shape places with lower carbon emissions and resilience to the climate change now accepted as inevitable.

2.9 The relevant principles relating to waste management facilities are as follows:

- The proposed provision for new development, its spatial distribution, location and design should be planned to limit carbon dioxide emissions;
- New development should be planned to make good use of opportunities for decentralised and renewable or low carbon energy;
- New development should be planned to minimise future vulnerability in a changing climate;

2.10 Mitigation and adaptation should not be considered independently of each other, and new development should be planned with both in mind.

Designing Waste Facilities: a guide to modern design of waste

2.11 Designing Waste Facilities: a guide to modern design of waste which was published by Defra in 2008 sets out key design principles for waste facilities. Those design principles which are relevant in the context of this Design Guide are as follows:

- **accommodating size and scale** - including the design of Bring sites.
- **landscape and biodiversity** – including how Bring sites can be successfully incorporated within developments.
- **access and infrastructure** – signage, fencing and lighting.
- **materials** – selection of appropriate materials.
- **climate change** – minimising the contribution to climate change, carbon footprint and ensure long term resilience to future changes in the climate.
- **energy and water resources** – including energy and water efficiency.

Cambridgeshire and Peterborough Minerals and Waste Local Development Framework

2.12 Matters relating to minerals and waste for the area are the responsibility of Cambridgeshire County Council and Peterborough City Council.

2.13 The Cambridgeshire and Peterborough Minerals and Waste Development Plan which forms part of the Framework consists of two parts as follows:

- **Core Strategy**: which sets out the vision for mineral and waste management development, the broad locations where it will take place, the amount that will be provided, and policies which will be used to determine planning applications. It also makes key allocations at Block Fen/Langwood Fen, Mepal and at Addenbrooke's Hospital, Cambridge.

- **Site Specific Proposals Plan**: which makes all the other site specific allocations for mineral extraction and waste management development.

2.14 It will be a comprehensive Minerals and Waste Plan, which when the Site Specific Proposals Plan is adopted in late 2011/early 2012, will supersede the Cambridgeshire (Aggregates) Minerals Local Plan and the Cambridgeshire and Peterborough Waste Local Plan. The Cambridgeshire and Peterborough Minerals and Waste Development Plan is the "parent" document to which the Design Guide is linked (please see part 1 of the Guide for further details).

Supplementary Planning Document - The Location and Design of Waste Management Facilities

2.15 Cambridgeshire County Council and Peterborough City Council adopted this Supplementary Planning Document (SPD) on the 19th July 2011. The SPD has been prepared to assist the delivery of high quality sustainable waste management facilities for example inert waste processing facilities, where these are not covered in this Guide. The document sets out a series of key development principles based on recognised good planning and design practice. More recently the content of this SPD has been reviewed and its scope widened beyond major facilities to ensure that it is consistent with the policies of the Cambridgeshire and Peterborough Mineral and Waste Core Strategy.

Cambridgeshire and Peterborough Joint Municipal Waste Management Strategy

2.16 The Cambridgeshire and Peterborough Waste Partnership (RECAP) was formed in 1999 and the first Strategy written in 2002 outlining current and planned arrangements for waste collection, recycling, composting and other waste treatments for 2002 through to 2022. The Strategy was refreshed in 2007/08.

Cambridgeshire County Council Household Recycling Centre Strategy

2.17 This document was adopted by the County Council in December 2006, which sets out Cambridgeshire's strategy for delivering Household Recycling Centres as a resource to the public and as an aid to meeting statutory waste to landfill diversion targets.

Cambridgeshire Design Guide for Streets and Public Realm

2.18 The design guide was adopted as County Council policy in October 2007 which sets out the key principles and aspirations that should underpin the detailed discussions about the design of streets and public spaces that will be taking place on a site-by-site basis between the County Council (as Highway Authority) and developers. Reference should be made to this Guide in the context of planning applications covered by this Supplementary Planning Document.

Peterborough Residential Design Guide

2.19 This document which is Peterborough City Council approved Guidance sets out guidelines for all those involved in housing development in the Peterborough area, including landowners, housing associations. It includes a series of development principles based on recognised good planning practice and design standards appropriate to the Peterborough City area. Reference should be made to this Guide in the context of planning applications covered by this Supplementary Planning Document.

Cambridgeshire Design Guides

2.20 Reference should also be made to the content of the Design Guides which have been adopted by Cambridgeshire District and City Councils. For further information relating to these Supplementary Planning Documents please refer to the websites of the relevant authority.

Part 3 Waste Management in Context

Introduction

3.1 The designation of the Cambridgeshire and Peterborough area as a Growth Area has led to a significant increase in population in recent years. This means changes are needed in the way waste is managed and a renewed effort to further the significant strides that have already been made towards the reduction, reuse and recycling of waste in the area.

3.2 As costs of waste management rise, the increasing number of businesses and commercial developers attracted to the area need to seriously consider increased segregation of wastes and the recovery of value that this can bring.

3.3 The following section outlines the likely influences on waste generation and the predicted quantities that we will have to manage.

Generation of Municipal Waste

At a Local Level

3.4 The total amount of municipal waste expected to be generated between 2006 and 2026 within Cambridgeshire and Peterborough is approximately 11,233,000 million tonnes. (Source: Cambridgeshire and Peterborough Minerals and Waste Plan Core Strategy, July 2011)

3.5 In the 12 month period 2010 – 2011 the following quantities of household waste were collected:

- Cambridgeshire County Council ~ 288,249 tonnes.
- Peterborough City Council ~ 79,345 tonnes.

(Source: RECAP)

3.6 The following table shows how this waste was disposed of during the 2010/11 period.

	Cambridgeshire County Council	Peterborough City Council
Waste Destination	% of Total Household Waste	% of Total Household Waste
Landfill	46.3	51
Recycle/compost	53.7	45.4

Table 3.1 Waste Destinations in Cambridgeshire and Peterborough 2010-2011

(Source: RECAP)

3.7 Please note that the figures given above do not add up to 100% as 3.6% is due to disposed of by Energy from Waste.

3.8 It is clear that excellent progress has been made in diverting waste materials from landfill, with recycling a well established practice within the area. This Guide seeks to reinforce and further this good practice by enabling increased waste segregation, providing appropriate storage for materials and allowing efficient collection.

National Targets

3.9 The Government sets a number of national targets for the management of wastes. The targets can be summarised as follows:

3.10 Landfill Directive Targets:

- 2010 – to reduce the amount of waste going to landfill to 75% of 1995 levels
- 2013 – 50% of 1995 levels
- 2020 – 35% of 1995 levels

(Source: DEFRA)

3.11 The Waste Strategy for England 2007 sets National Targets for recycling and composting:

- at least 40% by 2010
- at least 45% by 2015
- at least 50% by 2020
- 53% by 2010
- 67% by 2015
- 75% by 2020

(Source: DEFRA)

3.12 This Guide will contribute to ensuring that the area meets and exceeds these targets wherever possible.

Landfill Allowance Trading Scheme Targets

3.13 The Waste and Emissions Trading Act (2003) places a duty on Waste Disposal Authorities to reduce the amount of biodegradable municipal waste (from households) going to landfill.

3.14 Landfill allowances have been allocated to each authority at levels appropriate to allow England to meet its contribution to the UK Landfill Directive targets (as illustrated above) through the Landfill Allowance Trading Scheme (LATS). The table below illustrates LATS targets for Cambridgeshire and Peterborough:

Authority	2009 Target (tonnes of biodegradable municipal waste)	2010 Target (tonnes of biodegradable muncipal waste)	2020 Target (tonnes of biodegradable muncipal waste)
Cambridgeshire County Council	109,638	73,026	51,099
Peterborough City Council	34,135	22,736	15,909

Table 3.2 LATS Targets for Reductions in Biodegradable Municpal Waste to Landfill

(Source: RECAP)

3.15 Although landfill allowances can be traded, saved or borrowed, they are not infinite in supply and where an authority fails to meet its targets they will be liable to a financial penalty of £150 (as currently set) for each tonne of waste over its allowance.

Recycling Targets in Cambridgeshire and Peterborough

3.16 RECAP has established long term voluntary targets for recycling across Cambridgeshire and Peterborough. These are illustrated in Table 3.3 below.

Year	Destination	% of Total Household Waste
2010	Recycle and/or Compost	45 – 50
2015	Recycle and/or Compost	50 – 55

Year	Destination	% of Total Household Waste
2020	Recycle and/or Compost	55 - 65

Table 3.3 Recycling Targets for Cambridgeshire and Peterborough (Voluntary)

(Source: RECAP)

3.17 Please note that the figures given above are correct at the time of publication.

3.18 The Local Authorities in the area demonstrate high performance in recycling and the diversion of waste from landfill and although future waste management requirements present a challenge, every confidence exists that the targets can be achieved.

3.19 The guidance provided in the RECAP Waste Management Design Guide is one of a range of measures which will be used to reduce the amount of waste going to the landfill within Cambridgeshire and Peterborough to meet the requirements set out in Tables 3.2 and 3.3. As part of this process waste management infrastructure will be used to increase the level of recycling and composting being achieved.

Part 4 Waste Storage Capacity

Introduction

4.1 The amount of waste storage required for any given development type is determined by a number of factors including:

- Volume and composition of waste;
- Segregation;
- On-site treatment; and
- Collection frequency.

4.2 It is essential that adequate provision is made for waste segregation, storage and collection to encourage participation in effective waste management and to act as a frontline tool in waste education. However, this approach must be pragmatic and address actual needs of a particular development without sacrificing valuable space unnecessarily.

Residential Developments

4.3 The storage capacities illustrated here are applicable to single houses and flats and apartments.

Internal Storage Capacity

4.4 Internal storage capacity is fundamental in ensuring that residents have sufficient space to undertake segregation at the point of waste production and it is expected that developers will provide containers for use inside dwellings.

4.5 An internal capacity of 35 to 40 litres should be provided within the kitchen of a dwelling. Typically, this capacity should be divided to allow segregation of residual waste, mixed dry recyclables and, where appropriate, organics for composting. This means that developers should provide internal waste storage containers that are easily replaceable.

4.6 As an aid to the design process and to enable a sensible choice of kitchen furniture, Appendix A contains details and specifications of a selection of internal waste storage containers.

External Storage Capacity

4.7 As a minimum, developers will be required to provide the appropriate amount of space into which the required external storage containers will fit. As a guide to external container size, specifications are set out at Appendix A. This requirement should be reflected in the design of developments and will be secured by Local Planning Authorities through the application of appropriate planning conditions.

4.8 Developers will be required to provide the external containers or pay financial contributions to the relevant Local Authority for their provision, through for example appropriate Section 106 agreements in accordance with Planning Obligations Circular 05/05 or as required as part of the Community Infrastructure Levy (where waste management infrastructure is included). In Peterborough, contributions to related off-site provision for development will be consistent with the Planning Obligations Implementation Scheme. Developers should discuss these issues with the Local Planning Authority and Waste Collection Authority as part of pre-application discussions, prior to submitting their planning application. Reference should be made to the Basis for Conditions and Agreements which details potential conditions or agreements that a developer may be legally obligated to satisfy.

4.9 Developers must ensure that external containers are in each property prior to occupation of a property and prior to the commencement of any Local Authority waste collection service.

4.10 The following table illustrates recommended external storage capacities for various types of residential development based on alternate weekly collections. Where reference is made to a ‘1 room unit’, ‘2 room unit’, etc all ‘living’ rooms (i.e. lounge, dining room, bedrooms) are counted. The kitchen and bathroom are excluded.

Residential Development Type	Aggregated Capacity Provision		Guidance Notes
Single House	775 litres		Capacities detailed are maximum capacity 'footprints'. Developers should ensure that sufficient space is provided for the appropriate external storage containers. The relevant Waste Collection Authority must be consulted on capacity split (e.g between recycling, residual and compostable waste) and the types of external storage containers that the developer will be required to provide. Developers are advised to agree the amount of space required and the type of containers prior to the submission of the planning application. It should be noted that capacity 'footprints' and splits will change over time as each Local Authority works towards national targets.
Low-rise (to 4 floors) with communal gardens	For each 1 room unit	320 litres	
	For each 2 room unit	420 litres	
	For each 3 room unit	520 litres	
	For each 4 room unit	620 litres	
	For each 5 room unit	720 litres	
Low-rise (to 4 floors) without communal gardens	For each 1 room unit	240 litres	
	For each 2 room unit	340 litres	
	For each 3 room unit	440 litres	
	For each 4 room unit	540 litres	
	For each 5 room unit	640 litres	
High-rise (above 4 floors)	For each 1 room unit	240 litres	
	For each 2 room unit	340 litres	
	For each 3 room unit	440 litres	
	For each 4 room unit	540 litres	
	For each 5 room unit	640 litres	

Table 4.1 Recommended External Storage Capacities (Residential)

4.11 For flats/apartments, capacity is unlikely to be provided on an individual residence basis. Capacity calculated for each unit should be combined giving a total. This should then be converted to the required number of communal bins (where calculations result in a fraction, figures should be rounded up or down as appropriate).

4.12 For example: A developer has constructed a low-rise (4 floor) development without communal gardens of 16 flats – 8 are 2 room units and 8 are 3 room units. The developer has also sought guidance from the relevant local authority with regards to the split into recycling, composting and residual waste. Based on consultation with the local authority the waste capacity was determined as:

(8 x 340 litres) + (8 x 440 litres) = 6240 litres total capacity

In terms of external storage containers this may equate to:

1 x 1100 litre bins for residual waste; 4 x 660 litre bins for dry recyclables; 1 x 360 litre bin for compostables.

4.13 Flats/apartments particularly those of a high-rise nature represent a challenging issue for waste management and these are addressed further under Waste Management Provision for Flats and Apartments. For more information relating to the types of containers available and required please contact the relevant Waste Collection Authority.

Commencement of Collection Service

4.14 Arrangements must be made with the Waste Collection Authority to ensure waste containers are in place before occupation of any properties (allowing sufficient time for these to be delivered) to enable a collection service to commence. Further considerations for the commencement of a collection service are outlined under Part 4.17.

Commercial Developments

Typical Capacities

4.15 Recommended total waste storage capacities for a number of commercial development types are summarised in the table below. These volumes are indicative only due to the variations in activity and output that can occur across and within these development types. Developers are advised to consult the Waste Collection Authority in relation to the amount of space required for commercial waste storage before the submission of a planning application.

Commercial Development Type	Waste Storage Capacity	Fraction of Capacity for Storage of Recyclables
Offices	2600 litres per 1000m gross floor space	Minimum of one third
Retail	5000 litres per 1000m gross floor space	Minimum of one third
Restaurants/ Fast food Outlets	1500 litres per 20 dining spaces	Variable
Hotels	1500 litres per 20 dining spaces	Variable

Table 4.2 Recommended Storage Capacity (Commercial)

(Source: City of Westminster Council)

4.16 Typically, commercial developments are provided with large 4-wheel bins, but provision will be dependent upon anticipated waste generation. Specifications of typical waste storage containers are detailed at Appendix A.

Further considerations - commercial

4.17 Three pieces of key legislation further affect commercial enterprises:

- The Hazardous Waste Regulations 2005 make it a legal requirement to separate all hazardous wastes before collection for disposal. This includes fluorescent tubes, computer monitors and batteries.
- The Waste Electrical and Electronic Equipment (WEEE) Regulations 2006 make the recycling and recovery of such waste types compulsory.
- The Landfill Directive makes the initial separation of waste types essential prior to any landfilling.

Skip Containers and Waste Compaction Systems

4.18 It may be appropriate to make use of skip containers and waste compaction systems at high-rise multi-occupancy developments and in commercial developments. Details on skip containers/compaction systems are presented at Appendix B.

4.19 It must also be noted that where the use of a compactor is being considered, evaluation must be given to servicing and wider infrastructure requirements. Adequate access for suitable collection vehicles must be provided along with adequate working areas and the wider road network must be capable of accommodating the required service vehicles. The relevant Local Authority should always be consulted where the use of skip containers and waste compaction systems are being considered.

Question 1

Do you consider the recommended standards for waste storage capacity for both residential and commercial developments in Part 4 of the Guide and Appendices A and B to be appropriate, clearly set out and explicit? If not what further guidance should be provided as part of the Design Guide.

Part 5 Waste Storage Points

Introduction

5.1 Waste is typically taken from its point of generation to a storage point outside the building. From here it is moved to a point of collection. In developments of flats and apartments waste is typically taken from the point of generation straight to the point of collection.

5.2 In all cases, collection points should be convenient for the user to access and for service crews to access without presenting a risk to health and safety. For developments of flats and apartments the developer should make adequate arrangements for the management and maintenance of all communal waste transit and storage infrastructure. The developer should demonstrate these arrangements to the satisfaction of the Local Planning Authority.

Underground Storage of waste

5.3 As an alternative, developers are encouraged to consider underground storage of waste. Such systems may be particularly suitable for use within multi-occupancy residential developments.

5.4 The use of underground storage systems for Bring Sites may also be suitable (discussed under Part 9) and indeed, it may be possible to combine systems to provide specific development needs and serve the wider community as a bring site. Such proposals will require careful evaluation in conjunction with the relevant local authority.

Residential Storage Points

Single Houses

5.5 For single houses waste containers should:

- Be housed within a designated area or structure as appropriate;
- Be easily accessible to the occupier;
- Not have to be moved through a building to the collection point;
- Be located in a shaded position and away from windows; and
- Be located in a well ventilated area.

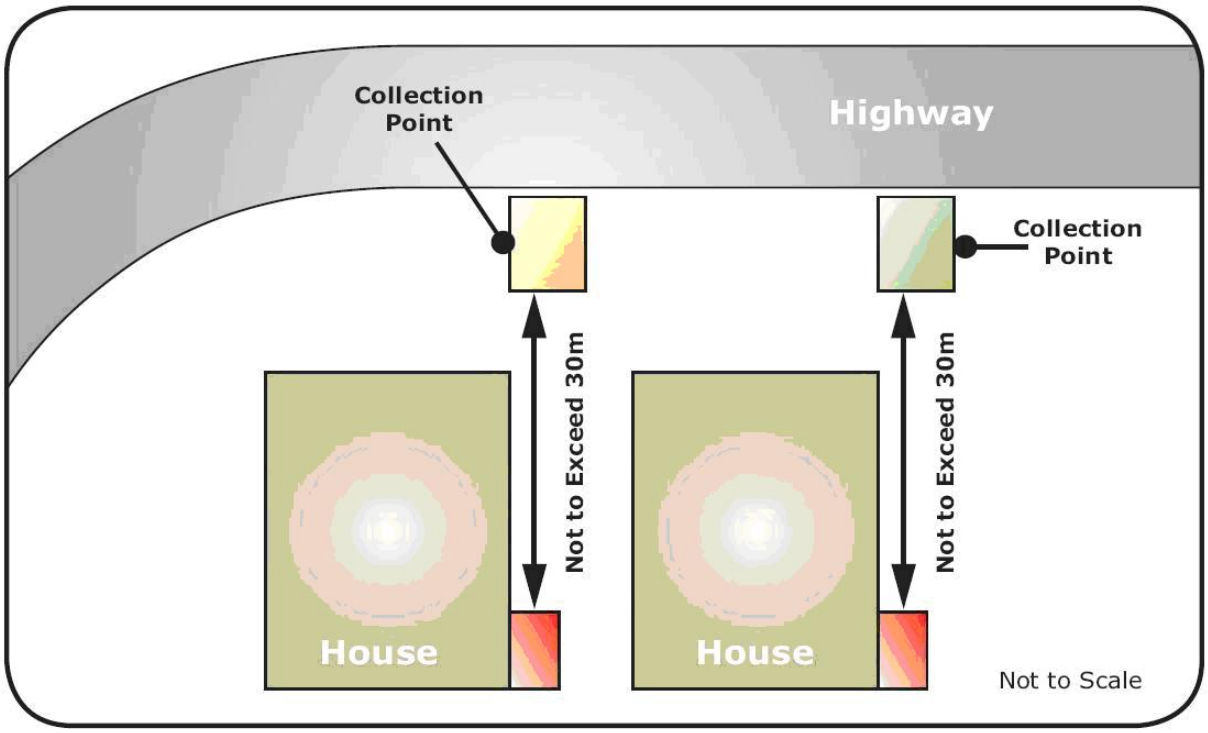


Figure 5.1 Movement Distances for Waste Containers - Single Houses

5.6 In terms of distances and gradients, the following should be observed:

- Resident should not have to move waste more than 30m to any designated storage area within the boundaries of the property as illustrated in Figure 5.1;
- Any designated storage area within the boundaries of the property should not be more than 30m distance from the collection point;
- Collection crews should not have to carry individual waste containers or move wheeled containers more than 25m (see top illustration within Figure 5.2);
- Passage of a wheeled container should avoid steps, but where it is not possible should avoid transfer over more than 3 steps; and
- In all cases surfaces should be smooth and solid and gradients should not exceed 1:12.

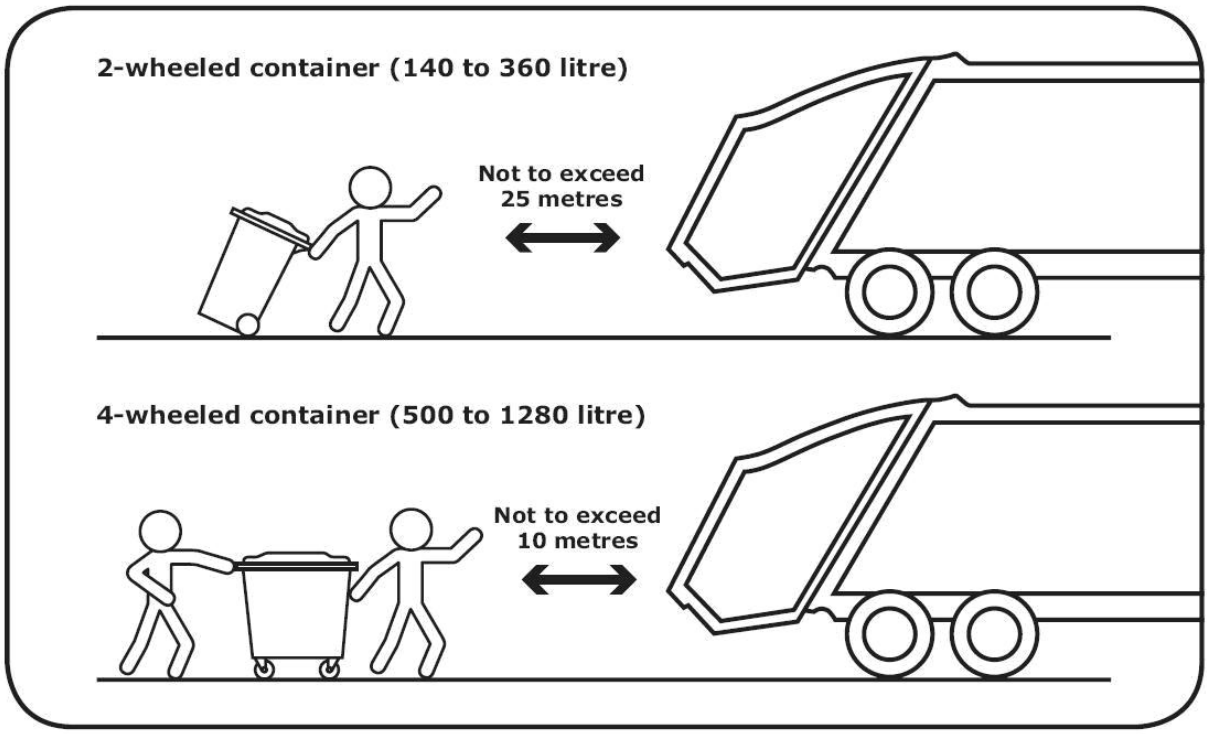


Figure 5.2 Container Movement Distances for Collection Crews

Flats/Apartments - Options

5.7 For flats/apartments, temporary storage of waste is unlikely to occur immediately outside each flat/apartment. Waste is normally transferred straight to the collection point of collection which comprises a communal storage facility.

5.8 A number of transit options are typically available and are illustrated in the table below:

Option	Description
Resident Transit	In low-rise blocks (up to 4 floors) it is typical for residents to transfer their waste to communal compounds, within which are located a number of bins to receive their waste. Residents should not have to transfer waste more than 30m (excluding vertical distance). Best practice is to install bins allowing the segregation of material types from residual waste. Waste compounds should form a designated structure and their design is covered in part 6.
Chutes	In high-rise blocks (above 4 floors) waste chutes are a potential option for installation for the deposit of waste and to enable recycling. The chute system that conveys the waste (by gravity) to a point of storage. This may be a compactor, a skip or large bin. Specifications for refuse chutes are detailed at BS1703.
Facilities Management Complete Collection Service	Residents deposit their waste, in bags, outside their door from where it is collected by a waste collection team. Service lifts should be installed.

Table 5.1 Potential Options for the Transit of Waste to Communal Storage Facility

5.9 Where it is necessary for collection crews to move bins from the communal storage facility to tip into the collection vehicle, they should not have to move large containers (4 wheels) more than 10m (see bottom illustration in Figure 5.2). Option choice, and therefore the waste transit method open to residents should be addressed against:

1. User convenience and efficiency;
2. Health, safety and security; and
3. Risk of environmental harm.

5.10 The challenge posed by flats and apartments particularly those of a high-rise nature are further addressed under Waste Management Provision for flats and apartments.

5.11 Waste storage requirements to commercial premises need to reflect these stringent demands and should allow additional space and infrastructure for the separate storage of these waste types.

Commercial Storage Points

5.12 The Landfill Directive from October 2007 require commercial waste to be pre-treated prior to disposal e.g. recycled rather than disposed of at landfill sites. For commercial developments the same criteria as outlined above for flats and apartments should be used when assessing waste storage location options. In addition evaluation against the anticipated nature of the activities (waste volume, waste types, storage, methods and capacity, size and type of waste container, segregation requirement and collection frequency) should also be made. Collection crews should not have to move large containers (4 wheels) a distance greater than 10m.

Collection Frequency

5.13 As collection frequencies are subject to change it is therefore recommended that applicants contact the relevant Waste Collection Authority for the most up to date information.

Question 2

Is the locational criteria relating to waste storage for single houses, flats/apartments and commercial developments appropriate and clearly set out in Part 5 of the Guide? If not what further guidance and/or examples should be provided as part of the Design Guide.

Part 6 Waste Storage Infrastructure

Introduction

6.1 Where waste is collected on a communal or commercial basis it is good practice to construct a storage compound to house the waste containers. Any such compounds must be functional allowing ease of use by those resident/working at the property and those servicing it.

6.2 Where waste storage compounds are to be utilised the developer should make adequate arrangements for their management and maintenance to the satisfaction of the Local Planning Authority.

6.3 Although the information contained in this part is particularly applicable to the creation of communal waste storage compounds at residential developments of flats and apartments and commercial developments, the general principles can be applied to the creation of areas for accommodating waste receptacles at single houses. The general principles being:

1. Adequate space for function;
2. Use of suitable building materials i.e. impervious;
3. Health and Safety;
4. Security;
5. Environmental protection; and
6. Urban design principles, including the local character, place making and local distinctiveness of an area.

Minimum Specifications for Waste Storage Systems

Above-ground Storage Compounds

6.4 The size of any given enclosure will be dependent on waste generation, container size to be used and collection service provided. However, the following minimum specifications should be adhered to when designing waste storage compounds:

- Sufficient clearance provided to allow full opening of the container lid;
- 150mm clear space between and around containers;
- Minimum working headroom of at least 2m (where compound is covered); and
- Layout such that any one receptacle can be serviced without having to move any other receptacle.

6.5 At its most basic, a waste storage compound may comprise a slatted fence surround with gate over an impervious floor with suitable drainage (open-air compound). At the opposite end of the scale, a storage compound may comprise an enclosed structure (enclosed compound) with drainage water wash down and ventilation.

6.6 Specific construction requirements are addressed in Appendix D but, in general, it must be clearly demonstrated that:

- Permanent ventilation has been provided at the top and bottom;
- An impervious floor has been provided;
- Walls are constructed of/lined with, a hard impervious material suitable for washing down; and
- Adequate drainage has been provided.

6.7 In addition, it is preferable that storage areas are covered.

Underground Storage Systems

6.8 The size of underground storage systems will be determined by likely waste generation and the availability of useable space – i.e. free from services below ground and clear space above to allow emptying of containers. The latter point is of particular importance as underground storage systems will typically be serviced by special vehicles fitted with crane arms to lift the underground units out of the ground and above the vehicle for emptying.

6.9 Given the above, the evaluation and development of underground systems must take place in consultation with the relevant Local Authority.

Assessment of Storage System Type and Location

6.10 For flats and apartments and commercial developments, the method of waste storage and its location must be assessed against the criteria as detailed under Assessment Criteria. This is a fundamental requirement and evidence of such an assessment must be submitted with planning applications.

Underground Storage Areas

6.11 Typically such units consist of a pre-fabricated concrete casing into which fits a large steel container. This is all concealed beneath a flat-walk platform onto which a 'street furniture' reciever unit is mounted. Construction and installation specifications are detailed in Appendix G but exact requirements must be discussed with the relevant Local Authority.

Additional Storage Areas

6.12 For managed high density multi-occupancy residential developments it is recommended that additional storage space be provided for bulky household items.

Question 3

Is the minimum specification for above ground waste infrastructure appropriate and clearly expressed in Part 6 and appendices D and E of the Guide? If not what further guidance and/or examples should be provided as part of the Design Guide.

Question 4

Is the guidance relating to underground waste storage infrastructure appropriate and clearly expressed in Part 6 and appendix G of the Guide? If not what further guidance and/or examples should be provided as part of the Design Guide.

Part 7 Waste Collection

Introduction

7.1 Waste collection is a statutory service – without this provision, public health issues arise. Developers and designers must remember this and make appropriate provision.

7.2 An essential tool for designers and developers when addressing the wider issue of highways development is the Cambridgeshire Design Guide for Streets and Public Realm and the Peterborough Residential Design Guide respectively.

Key Aspects of Highway Design

7.3 Contemporary urban design is shifting away from the dominance of places by roads. However, the basic principles running through the changing approach to highways clearly value the importance of vehicle access. Routes should:

- Interlink with each other;
- Make direct connections between developed facilities;
- Connect to existing routes and facilities;
- Facilitate traffic management;
- Offer convenience to users; and
- Take account of local character and distinctiveness of an area.

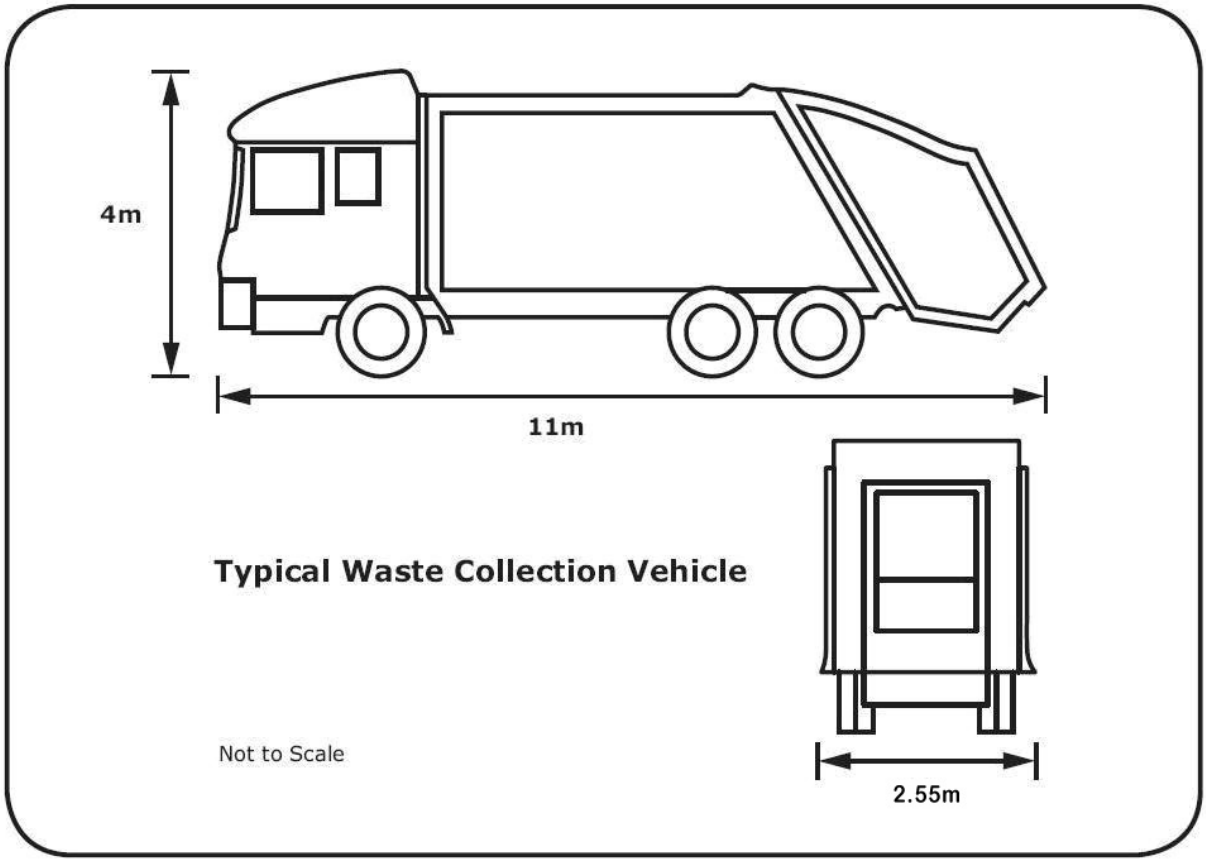
7.4 Typical specifications for a waste collection vehicle are detailed in Part 7.5 below and are intended as a guide only. With change in mind, the passage of a large waste collection vehicle may not offer the best solution for a particular development. In such cases, opportunities for innovation exist and the Local Authorities of the RECAP Partnership welcome alternative waste collection ideas.

Waste Collection Vehicle Specifications

7.5 A typical waste collection vehicle has the following specifications:

- 26 tonnes gross vehicle weight (GVW);
- Length of 11m;
- Width of 2.55m (2.9m including wing mirrors); and
- Operating height of 4m;

7.6 There needs to be enough clear space around the vehicle to allow efficient operation. For example, a minimum working area of 3.5m width and 4m in length should be sufficient where the emptying of containers takes place.



Picture 7.1 Typical Waste Collection Vehicle Dimensions

Highway Design

Construction

7.7 When constructing highways, reference should be made to:

- Manual for Streets (Department of Transport); and
- Design Manual for Roads and Bridges (Highways Agency).

7.8 In general terms the foundations and surfaces of any highway should be hardwearing and capable of withstanding the maximum anticipated fully loaded gross vehicle weight. Any covers over manholes, gully gratings and other such infrastructure should also be formed from materials capable of withstanding such weight.

Tracking

7.9 While BS5906: 2005 requires a minimum of 5 metres street width for waste vehicles, there may be instances where a lesser width may be appropriate providing vehicle tracking is undertaken and it can be demonstrated to the satisfaction of the Local Planning Authority that the waste collection vehicle to be employed can pass through narrower street widths and taking into account any on-street parking. Where a development is to be served by a Local Authority waste collection this means being capable of accommodating a vehicle with the typical dimensions described at 7.6 above.

7.10 Tracking:

- Has the arrangement of buildings as its starting point;
- Uses footway layouts to reinforce the arrangement of buildings; and
- Allows a road to flow through a development without becoming the dominant feature.

7.11 The appropriateness for function of carriageway width is checked by plotting vehicle tracking paths. An illustration of design by tracking is presented at Appendix F.

Routing

7.12 BS5906: 2005 states that routes should permit collection vehicles to continue mainly in a forward direction and should not require vehicles to reverse more than 12m. Where this distance is exceeded turning heads must be provided in accordance with the principles of tracking as considered above.

7.13 The basic principles of highway design outlined above (those of interlinking and direct connections) are capable of satisfying these requirements. The key is to design building locations with servicing in mind, the ultimate aim being to allow a smooth service passage without excessive reversing and the need to double-back and turn full circle.

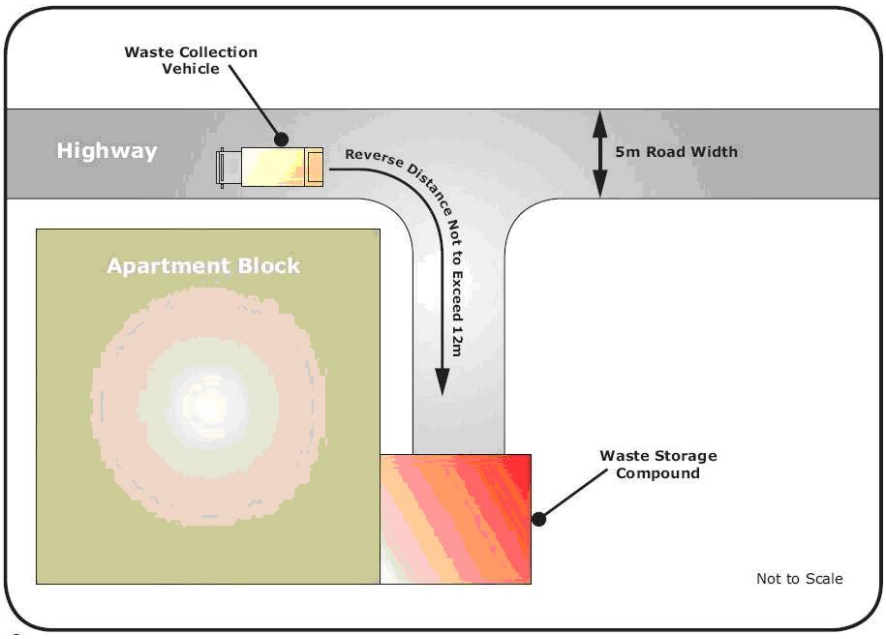


Figure 7.1 Reversing Distance for Waste Collection Vehicles

Commencement of Collection Service

7.14 Local Authority waste collection will not commence until road surfaces are complete to base layer and access is unhindered by ongoing construction work and materials delivery. Where this is not the case and a development requires a waste collection service, provision may have to be made by the developers at their cost.

Alternative Methods of Collection

7.15 Where passage through a completed development is inconsistent with the existing Local Authority waste collection arrangement, a developer must ensure adequate waste collection provision is made. It is recognised that, by design, this may be the case and that given the character of some streets it would be impractical to utilise existing Local Authority waste collection methods. Where alternative methods of collection are proposed by developers it is essential that this is discussed with the relevant Waste Collection Authority at an early stage prior to submission of the planning application to determine any additional costs that may require developer funding.

7.16 It should be noted that Waste Collection Authorities will provide funding for a waste collection service which does not exceed the maximum possible cost for the development concerned based upon the number of households. Beyond this amount, a developer will have to provide the rest of the funding required.

Question 5

Is the guidance relating to highway design and the need for effective waste collection appropriate and clearly expressed in Part 7 and Appendix F of the Guide? If not what further guidance should be provided as part of the Design Guide.

Part 8 Household Recycling Centres

Introduction

8.1 A network of Household Recycling Centres are provided by Cambridgeshire County Council and Peterborough City Council (responsible as Waste Disposal Authorities). The sites are positioned in strategic locations and enable the public to bring and deposit bulky household wastes and other waste types of household waste that are not normally taken as part of the normal collection round. Sites encourage the segregation of waste for recycling and reuse.

8.2 In Cambridgeshire and Peterborough facilities are available for bulky household wastes such as: timber, garden wastes, waste electrical and electronic equipment (such as televisions, computers and batteries), car batteries, engine oil, vegetable oil, paint, fluorescent tubes, hardcore and soil, scrap metal, textiles, glass, cans, plastics, paper and card.

Current Infrastructure

8.3 As required by the Refuse Disposal (Amenity) Act 1978, each Local Authority must provide sites for the reception of excess household and garden waste free of charge. It follows that provision should be sufficient for the needs of the locality. Cambridgeshire County Council currently operate 9 Household Recycling Centres and Peterborough City Council operate 1.

8.4 Continued development in the area will require expansion of the network through the provision of further or expanded infrastructure as set out below.

Contribution to Waste Management

8.5 Of the waste received at the Household Recycling Centres during 2010 – 2011, 62.7% (Cambridgeshire County Council) and 68.3% (Peterborough City Council) was recycled.

8.6 The development of Household Recycling Centres across Cambridgeshire and Peterborough has contributed to the Authorities being ranked the highest in the UK for recycling in recent years.

Future Provision of Household Recycling Centres

Cambridgeshire

8.7 To adequately serve the growing population of the area, the current network of centres is to be upgraded by improving sites, relocating sites and constructing additional sites between now and 2026.

CS16 - Household Recycling Centres

A network of household recycling facilities easily accessible to local communities will be developed through the Site Specific Proposals Plan. New household recycling centres will be in the following broad locations as shown on the Waste Management Key Diagram:

- **Cambridge East**
- **Cambridge North**
- **Cambridge South**
- **March**
- **Northstowe**
- **Peterborough**

New development will contribute to the provision of household recycling centres. Contributions will be consistent with the RECAP Waste Management Design Guide and additionally the Planning Obligations Implementation Scheme or through the Community Infrastructure Levy in the event that this mechanism supersedes this provision.

8.8 New sites in Cambridgeshire will typically be on 1.2 hectares of land, allowing enough flexibility to manage traffic flows of the site, by accommodating split-level easy access for unimpeded traffic movement through the site. This site size will also allow for effective landscaping, as well as the ability, where appropriate, to provide further environmental mitigation in more populated areas by putting the operations under a roofed area, or in a building. Upgrades to existing sites on the other hand increase the site capacity by:

- Extending the site size to improve both skip capacity and traffic circulation;
- Where possible making the split level; and
- Improving the existing provision and contract management arrangements.

8.9 In Cambridgeshire a county wide network of Household Recycling Centres (HRC) is being developed to meet the pressures of growth and stringent targets for diversion of waste from landfill. There is a need for:

- New HRCs to replace those which have temporary planning permissions; and
- Upgrades giving increased capacity at existing HRCs.

8.10 The network of HRCs to serve Cambridgeshire will comprise:

- Witchford - a permanent replacement for existing temporary site at Grunty Fen;
- March - a permanent replacement for an existing temporary site;
- Thriplow - upgrade of existing site giving increased capacity;
- Whittlesey - upgrade of existing site giving increased capacity;
- Wisbech - upgrade of existing site giving increased capacity;
- St Neots - a permanent replacement for original temporary site;
- Cambridge – four new sites giving increased capacity as permanent replacements for existing temporary site at Milton;
- Alconbury – minor changes in capacity required at this site; and
- Bluntisham – no change in capacity required at this site.

8.11 Table 8.1 and Map 1 show the Recycling Centre catchments which indicate both the locations of sites and the catchments covered. The catchments are grouped by political ward, and allocate the existing and projected population to each site.

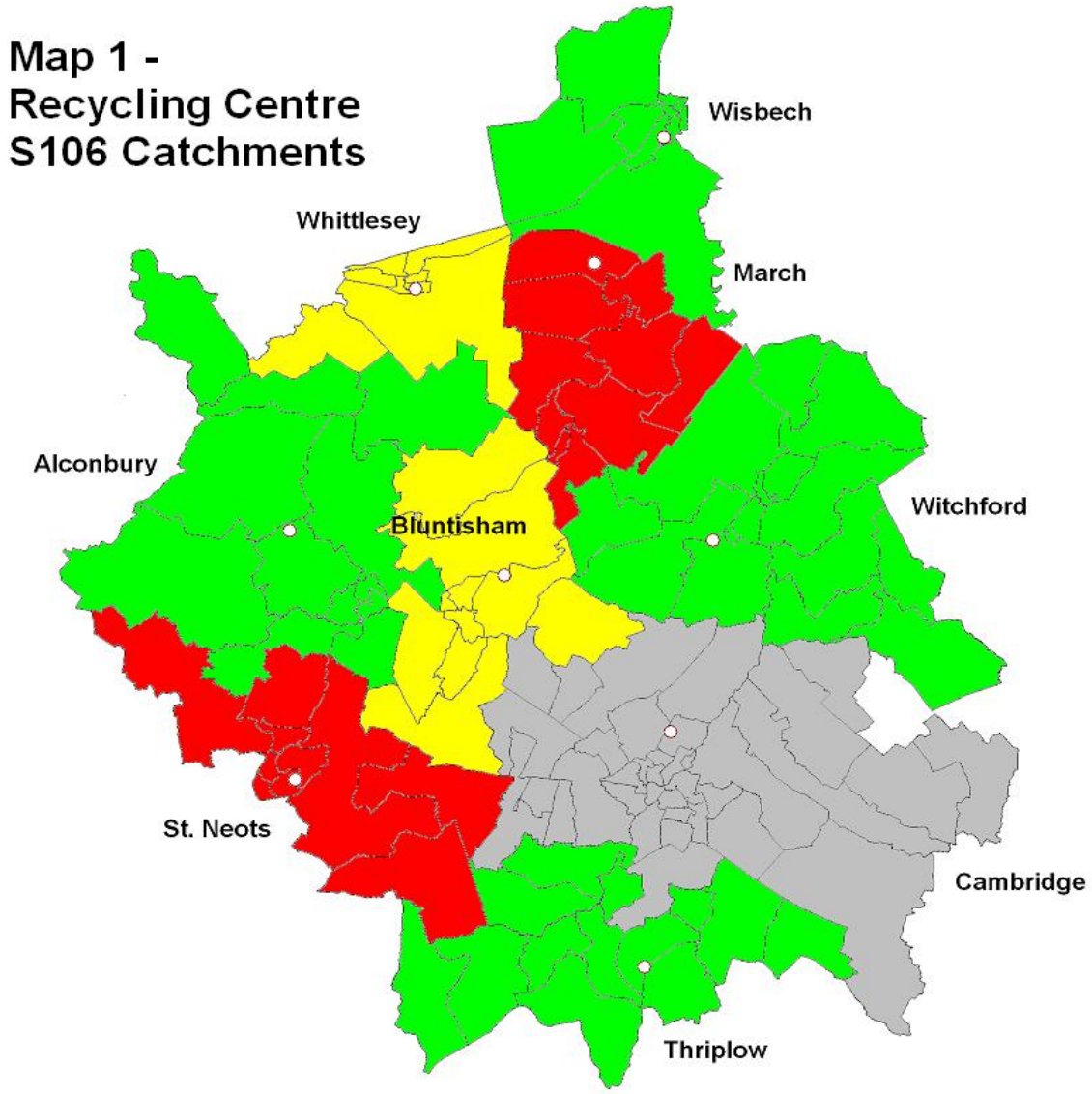
8.12 Although developers will not be expected to construct Household Recycling Centres, they will be expected to contribute finances in accordance with Planning Obligations Circular 05/05 or through the Community Infrastructure Levy (CIL) in the event that this mechanism supersedes this provision proportionate to their development.

8.13 New sites will be constructed and other improvements made to existing sites in a timely manner, to enable both the existing and new populations to benefit from the service. The timetable for new waste infrastructure development is linked to both planned growth and funding.

8.14 Within Cambridgeshire the type of contribution which will be sought within a particular locality will relate to the need for new or improved Household Recycling Centres within the service areas identified below. Financial contributions will be calculated on a per dwelling basis.

8.15 Outline costs for a covered facility in Cambridgeshire on 1.2 hectares are based on an independent assessment of site costs. As at 2010, a new site will cost £5.5 million taking into account location and layout. Outline costs for upgraded facilities will be based on an independent assessment of site costs, and on real costs incurred. Outline costs include all reasonable activities associated with the development of a site including site investigations, indicative land costs, legal fees, landscaping, environmental

mitigation, design, construction and planning costs. The requirement for developer contributions within these service areas is set out in Table 8.1. The delivery of new dwellings in the County will increase the demand for recycling facilities. Therefore developers will be required to contribute towards the delivery of the new network of recycling facilities by providing a financial contribution on a per dwelling basis in relation to the HRC network. Developer contributions established in principle in this document will be subject to suitable indexation and inflation applied as appropriate. The methodology used for determining the financial contributions can be seen in Table 8.2. However, it should be noted that if when CIL is adopted by the District Councils it includes the County's Waste requirements this table will be superseded.



Service area	HRC Catchment area (District electoral wards)
Alconbury HRC	**Within Huntingdonshire District:** Alconbury and the Stukeleys, Brampton, Ellington, Elton & Folksworth, Godmanchester, Huntingdon East, Huntingdon West, Ramsey, Sawtry, Stilton, Upwood and the Raveleys

Service area	HRC Catchment area (District electoral wards)
Blutinsham HRC	**Within Huntingdonshire District:** Earith, Fenstanton, Somersham, St Ives (East, South and West), The Hemingfords, Warboys and Bury **Within South Cambridgeshire District:** Papworth and Elsworth
Cambridge and Northstowe HRCs	**Cambridge City administrative area** **Within East Cambridgeshire District:** Bottisham, Burwell, Cheveley, Dullingham villages, The Swaffhams **Within South Cambridgeshire District:** Balsham, Bar Hill, Barton, Caldecote, Comberton, Cottenham, Fulbourn, Girton, Hardwick, Harston and Hauxton, Histon and Impington, Longstanton, Milton, Northstowe, Swavesey, Teversham, The Shelfords and Stapleford, The Wilbrahams, Waterbeach, Willingham and Over
March HRC	**Within Fenland District:** Chatteris (Birch, Slade Lode, The Mills, The Wenneye), March (East, North, West), Doddington, Manea and Wimblington
St Neots HRC	**Within Huntingdonshire District:** Buckden, Gransden and the Offords, Kimbolton and Staughford, Little Paxford, St Neots (Eaton Ford, Eaton Socon, Eynesbury, Priory Park) **Within South Cambridgeshire District:** Bourn and Gamlingay
Thriplow HRC	**Within South Cambridgeshire District:** Bassingbourn, Duxford, Fowlmere and Foxton, Haslingfield and the Eversdens, Linton, Melbourn, Meldreth, Orwell and the Bartons, Sawston, The Abingtons, The Mordens, Whittlesford
Wisbech HRC	**Within Fenland District:**

Service area	HRC Catchment area (District electoral wards)
	Wisbech (Clarkson, Hill, Kirkgate, Medworth, Peckover, Staithe, Waterlees), Elm, Parson Drove, Roman Bank
Witchford HRC	**Within East Cambridgeshire District:** Downham, Ely (North, South West and East), Fordham, Haddenham, Isleham, Littleport (East, West), Soham (North, South), Stretham, Sutton.
Whittlesey HRC	**Within Fenland District:** Benwick, Coates and Eastrea, Whittlesey (Bassenhally, Delph, Kingsmoor, Lattersley, St Andrews, St Marys) **Within Huntingdonshire District:** Yaxley and Farcet

Table 8.1 Developer contributions for the provision of Cambridgeshire Household Recycling Centres by Service area

Any site		Source
1 site or sites improvement x £x million	= £x million infrastructure costs	Cost per site sourced from independent assessment of site costs.
Total catchment households	= y households (all households in catchment e.g. existing and new)	WMT Recycling Centre Catchment Tables Latest CCC Dwelling figures
New households	= z new households within catchment	Latest Cambridgeshire Housing Trajectory figures
Total developer contribution towards Recycling Centre Infrastructure = Infrastructure costs X New households in catchment Total No. Households In catchment (e.g. existing and new) £x / y X z = £a **Total developer contribution per household =** £a / Z		

Table 8.2 Methodology for determining financial contribution

Peterborough

8.16 In Peterborough financial contributions will be consistent with the requirements of the adopted Planning Obligations Implementation Scheme or through CIL in the event that this mechanism supersedes this provision.

Planning Conditions and Legal Agreements

8.17 Section 106 agreements or other suitable legal agreements such as CIL, will be used to secure contributions and ensure that adequate infrastructure exists. Reference should be made to Basis for Conditions and Agreements (which forms part of the RECAP Waste Management Toolkit) which detail potential conditions and agreements that a developer may, in discussion with the Local Planning Authority, be legally obligated to satisfy.

8.18 Prior to the submission of residential planning applications developers are advised to agree these requirements with the County Council as Waste Disposal Authority.

8.19 The design of additional or expanded Household Recycling Centres should be considered against the criteria set out in the Location and Design of Waste Management Facilities SPD.

Question 6

Is the guidance relating to developer contributions for Household Recycling Centres appropriate and clearly expressed in Part 8 of the Design Guide? If not what further guidance should be provided as part of the Design Guide.

Part 9 Bring Sites

Introduction

9.1 Bring Sites which are provided by the Waste Collection Authorities are an essential element of the RECAP waste strategy. They extend residents choice by providing additional recycling opportunities for a range of materials, not all of which are collected by existing kerbside recycling services provided by individual waste collection authorities.

9.2 Bring sites are places where members of the public can bring their waste and separate it into large containers (e.g. bottle and paper banks at local supermarkets). They are generally located within publicly accessible areas such as a supermarket or public car parks and typically comprise a number of containers allowing separate collection of materials for recycling. They are serviced by or on behalf of individual Waste Collection Authorities.

Current Infrastructure

9.3 There are currently around 300 Bring Sites operating within the RECAP area collecting a range of materials for recycling. Site densities typically vary between 1 per 500 households and 1 per 2000 households. (Source: Aylesford Newsprint, 2004)

9.4 In 2010/11 Bring Sites contributed approximately 2% to the overall RECAP recycling rate of 51.6% and have contributed to the RECAP area being one of the highest recycling areas in the country.

Provision of Bring Sites in Future Developments

9.5 This Guide seeks to ensure that adequate temporary and permanent bring site facilities are provided to serve new developments.

9.6 Developers should assess the impact of their proposals on existing bring site facilities and in particular whether the development creates or increases the need for such facilities in the local area. This should be done through the preparation of a waste audit and strategy having sought the advice of the relevant Waste Collection Authority relating to the current capacity of existing Bring Sites. In Cambridgeshire financial contributions will be calculated on a per dwelling basis. In Peterborough, financial contributions will be consistent with the Planning Obligations Implementation Scheme.

9.7 Developers will be required to provide additional bring site facilities, upgrade existing facilities in the locality, in accordance with Planning Obligations Circular 05/05 or as required as part of the Community Infrastructure Levy (where waste management infrastructure is included), pay a financial contribution to the relevant local authority for provision or upgrade. The nature and scale of the contributions which will be sought will be based on the additional costs arising from the proposed development. Developers should discuss these issues with the Local Planning Authority and Waste Collection Authority as part of pre-application discussions prior to submitting their planning application and reference should be made to Basis for Conditions and Agreements which details potential conditions and agreements that may be applied by a Local Planning Authority through, for example, Section 106 agreements. The process for contributing to the provision of new or upgraded bring sites may be subject to change prior to adoption of the Guide as a result of the introduction of the Community Infrastructure Levy within Cambridgeshire and Peterborough.

Standards for the provision of Bring Sites for residential developments

- **A maximum density of one Bring site facility per 800 households will be sought.**
- **Where on site provision is required, the first facility being operational on occupation of the 800th property to be served by the facility (The identification of 800 properties to be served will be by agreement).**
- **Temporary facilities should also be provided during the construction phase on occupation of the 50th property until each permanent facility is operational.**

9.8 However, in both cases, variation from the maximum recommended densities may be considered where a developer can demonstrate to the satisfaction of the Local Planning Authority (such as through a waste audit) that the needs of the occupiers of the development are adequately met.

Location of Bring Sites

9.9 Temporary and permanent bring site facilities should be located so as to be easily and conveniently accessible to the residents within the communities that they serve, but should be at least 20m from the nearest dwelling to reduce disturbance to residents. Bring Sites must be accessible to service vehicles using adoptable highways, and situated so as to avoid damage to overhead services during collection. Location of facilities must be identified to the Local Planning Authority.

Management and Maintenance

9.10 The developer should make adequate arrangements for the management and maintenance of all temporary facilities. The developer should demonstrate to the satisfaction of the Local Planning Authority that adequate arrangements are in place for the future management and maintenance of all permanent facilities (see Basis for Conditions and Agreements which forms part of the RECAP Waste Management Design Toolkit).

Underground Bring Sites

9.11 When considering the provision of permanent Bring Sites, consideration should be given to the provision of underground recycling bank facilities. These have small posting units above ground and compared to traditional banks are less visually intrusive and more easily accessible to those with restricted mobility.

9.12 A seven-container underground recycling bank facility will typically occupy a site area of between 40 – 50 square metres, excluding roadways. The precise number, capacity and nature of the containers required should be identified by the developer as part of the assessment of the waste impact of their development and through discussions with the Local Planning Authority and Waste Collection Authority.

9.13 An indicative generic specification of an underground Bring Site facility is attached as Appendix G.

Question 7

Is the guidance relating to developer contributions for Bring Sites appropriate and clearly expressed in Part 9 of the Design Guide? If not what further guidance should be provided as part of the Design Guide.

Question 8

Do you consider the requirements relating to the number of Bring Sites which are required to serve future housing as set out in Part 9 of the Design Guide to be appropriate and clearly set out? If not what further guidance should be provided as part of the Design Guide.

Question 9

Is the locational criteria relating to Bring Sites appropriate and clearly expressed as set out in Part 9 of the Guide? If not what further guidance should be provided as part of the Design Guide.

10 RECAP Waste Management Design Guide Toolkit

How to use the Toolkit

10.1 The purpose of the RECAP Waste Management Design Toolkit (referred to as the Toolkit) is to allow effective evaluation of the waste management requirements for residential and commercial developments.

10.2 For all such developments a completed version of the RECAP Waste Management Design Guide Toolkit should be submitted with the planning application as set out in policy CS28 of the Cambridgeshire and Peterborough Minerals and Waste Core Strategy.

Components

10.3 The Toolkit is made up of 3 tools as described below. The tools are interlinked and refer to each other as appropriate.

Design Standards Checklist	Assessment Criteria	Basis for Conditions and Agreements
Developers will be expected to demonstrate that their proposals satisfy the requirements of this Guide by assessing their proposals against the expected standards which are brought together under the Design Standards Checklist.	Depending upon development proposals, it may be that a developer is required to conduct a wider assessment of the impact of their scheme (or aspects thereof). Criteria for such an assessment are presented under the Assessment Criteria.	Dependant upon the nature of the development it will be appropriate to apply planning conditions or negotiate S106 agreements/CIL for the provision of waste collection, waste storage containers, Bring sites, alternative methods of collection and Household Recycling Centres.

Table 10.1 Toolkit Components

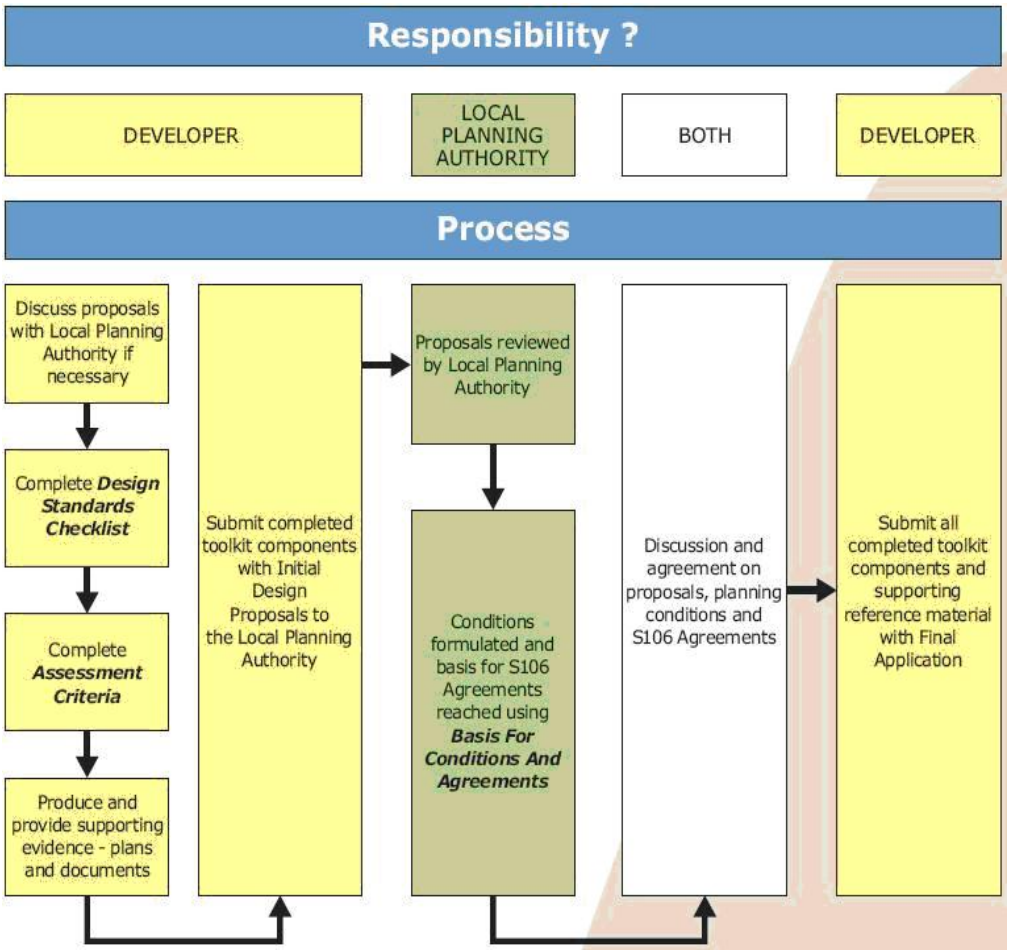
Design Standards Checklist	Applies to all residential and commercial developments. To be used and completed by the developer and supported by plans and/or documents as appropriate.
Assessment Criteria	To be completed by the developer where proposals involve the construction of waste storage compound(s) and/or installation of Bring Site infrastructure and/or alternative schemes.
Basis For Conditions And Agreements	To be used by the Local Planning Authority in relation to the provision of waste storage containers, the Recycling Centre network, and the Bring Site network, as appropriate.

Table 10.2 Applicability and Use

10.4 Where appropriate, the Toolkit will supplement a waste audit.

Process

10.5 The diagram on the following page illustrates the process for completing the Toolkit and shows responsibilities.



Design Standards Checklist

Instructions

Usage

10.6 To be completed by the developer and submitted to the Local Planning Authority with all supporting plans and/or documents.

10.7 The DESIGN STANDARDS CHECKLIST applies to all developments of a residential, commercial or mixed residential/commercial nature regardless of scale.

Completion

10.8 Completion involves 2 distinct steps:

Step 1	This is the standard required. Developers should ensure that they are aware of the minimum requirements the Design Guide places upon them. A tick should be placed in the adjacent box to signify that an issue has been considered at the stage of initial design proposals. Where a standard is not met, the developer must state why.
Step 2	Evidence of design specifications/details should be provided to the Local Authority with reference to the necessary relevant plans and/or documents made in the final box.

Table 10.3

Note: Consultation with the Local Authority is encouraged, particularly where proposals relate to large scale development.

	STEP 1		STEP 2
Key consideration	**Aware of Standard Minimum Expectations?**	**Does this apply to you?**	**Submit proposals to planning authority (Provide Plan/document reference)**
Residential - Internal Storage requirement Refer to Part 4.4 of the Design Guide.	35-40 litres of single dwellings and multi-occupancy developments (low-rise and high rise) permitting segregation of waste as appropriate. Typical container specifications are detailed at Appendix A.		
	Single dwelling - Space for containers allowing 775 litres of capacity must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions towards may also be required.		
Residential - External storage requirement Refer to part 4.7 of the Design Guide.	Low-rise with communal gardens - Space for containers allowing 320 to 720 litres of capacity per unit (depending upon the room number) must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions may also be required.		
	Low-rise without communal gardens - Space for containers allowing 240 to 640 litres of capacity per unit (depending upon the room number) must be provided. Typical container specifications are detailed at Appendix A. Provision of containers and/or financial contributions may also be required.		
Commercial - storage requirements Refer to part 4.18 of the Design Guide.	Offices - 2600 litres per 1000m gross floor area. Typical container specifications detailed at Appendix A.		
	Retail - 5000 litres per 1000m gross floor area. Typical container specifications detailed at Appendix A.		
	Restaurants/Fast food outlets - 1500 litres per 20 dinning spaces. Typical container specifications detailed at Appendix A.		
	Hotels - 5000 litres per 20 dinning spaces. Typical container specifications detailed at Appendix A.		
Waste storage Point - Single Houses	• Waste should not have to be moved more than 30m to storage area		

	STEP 1		STEP 2
Key consideration	**Aware of Standard Minimum Expectations?**	**Does this apply to you?**	**Submit proposals to planning authority (Provide Plan/document reference)**
Refer to Part 5.5 of the Design Guide.	• Storage location should not be more than 30m distance from the collection point; • Collection crews should not have to carry individual waste containers or move 2-wheeled containers more than 25m. • Passage of a 240l wheelie-bin store to collection point should avoid steps, but where not possible should avoid transfer over more than 3 steps. • Gradients over which containers must traverse must not exceed 1:12. • Not have to be moved through a building to the collection point.		
Waste storage Point - Flats and Apartments Refer to Part 5.7 of the Design Guide.	• Waste should not have to be moved more than 30m (excluding vertical distance) to storage area; • Storage location should not be more than 10m distance from the collection point; • Passage of waste containers from store to collection point should avoid steps, but where not possible should avoid transfer over more than 3 steps. • Gradients over which containers must traverse should not exceed 1:12.		
Waste Storage Infrastructure Refer to Part 6 of the Design Guide	Where infrastructure is installed for the communal storage of waste a SIMPLE assessment of the location and the proposed infrastructure must be made against the key factors specified in the accompanying Assessment Criteria. The size of any storage area should be capable of accommodating the required number of waste receptacles (and their associated dimensions) or provide adequate capacity. General design features for above-ground storage compounds: • Sufficient clearance provided to allow full opening of container lid; • 150mm clear space between and around containers;		

	STEP 1		STEP 2
Key consideration	**Aware of Standard Minimum Expectations?**	**Does this apply to you?**	**Submit proposals to planning authority (Provide Plan/document reference)**
	• Minimum working headroom of at least 2m (where compound is covered); and • Layout such that any one receptacle can be serviced without having to move any other receptacle. Specific design requirements are detailed at Appendix A. Specific design requirements are detailed at Appendix D and should be referred to. Underground storage systems require: • Area(s) of ground free from services; and • Sufficient clear space above and around to allow emptying of containers. An indicative generic specification of an underground Bring Site facility is attached at Appendix G.		
Highways Refer to Part 7.3 of the Design Guide.	Where development proposals will seek to utilise a standard service as provided by the Waste Collection Authority, highways should: • Have a minimum width of 5m; • Permit collection vehicles to continue mainly in a forward direction; • Not require vehicles to reverse more than 12m; • Be constructed in accordance with relevant guidance; and • Allow at least 4m vertical clearance. In addition a minimum of 3.5m width and 4m in length should be allowed where the emptying of containers takes place. Sufficient overhead clearance should also be provided to allow for operation.		
Household Recycling Centre requirement Refer to Part 8.7 of the Design Guide	Where appropriate, developers will be expected to: Provide finance for upgrading existing Household Recycling Centres; or • Provide finance for new Household Recycling Centres; and/or provide land for strategically located Household Recycling Centres. Section 106 Agreements or other suitable legal agreements,		

	STEP 1		STEP 2
Key consideration	**Aware of Standard Minimum Expectations?**	**Does this apply to you?**	**Submit proposals to planning authority (Provide Plan/document reference)**
	will be used to secure contributions/land and ensure that adequate provision is made.		
Bring Site Requirement Refer to Part 9.5 of the Design Guide.	To ensure provision of 1 bring site per 800 households, developers will be required to: • Provide finance and/or provision of infrastructure for new sites; • Provide finance for upgrading existing facilities. Residential developers will be minimally required to provide temporary on-site facilities by occupation of the 50th property. Both temporary and permanent Bring Site facilities should be located at least 20m distance from the nearest property, accessible by service vehicles and located so as to avoid damage to overhead services during servicing. Section 106 Agreements or other suitable legal agreements, will be used to secure contributions and ensure that adequate provision is made. A SIMPLE assessment of the location and proposed infrastructure must be made against the key factors as specified in the accompanying Assessment Criteria. In Peterborough, contributions related to off-site provision for development will be consistent with the Planning Obligations Implementation Scheme.		
Alternative Waste Management Schemes Refer to Part 1.16 of the Design Guide	A DETAILED assessment of the scheme must be made against the key factors as specified in the accompanying Assessment Criteria. A developer will be required to fund such schemes beyond the amount the Local Authority would otherwise pay for standard service and pay for and provide non-standard infrastructure.		

Table 10.4

Submission

10.9 The completed DESIGN STANDARDS CHECKLIST must be submitted with all initial design proposals and will be reviewed by the Local Planning Authority.

10.10 The DESIGN STANDARDS CHECKLIST will then be submitted with all final development applications following any discussion with the Local Planning Authority and necessary amendments.

Assessment Criteria

Instructions

Usage

10.11 To be completed by the developer and submitted to the Local Planning Authority with all supporting plans and/or documents.

10.12 The assessment criteria tool only has to be used where development proposals involve:

- Construction of a waste storage compound; and/or
- Installation of Bring Site infrastructure; and/or
- An alternative scheme.

10.13 However, where the ASSESSMENT CRITERIA TOOL would otherwise not apply, a developer may still wish to voluntarily assess the waste management aspects of their development proposal against several or all of the key factors.

Completion

10.14 Completion of the ASSESSMENT CRITERIA TOOL should be as follows:

Waste Storage	**Complete Sheet A** Provide a SIMPLE Compound assessment
Installation of Bring Site Infrastructure	**Complete Sheet B.** Provide a SIMPLE assessment. Discussion with Local Planning Authority required for issues of accessibility and health and safety.
Alternative Scheme	**Complete Sheet C.** Provide a DETAILED assessment. Consultation with Local Planning Authority mandatory for all issues.

Table 10.5

10.15 SIMPLE Assessments – adequate amount of information to demonstrate suitability of proposals in relation to the provision of waste management facilities is required.

10.16 DETAILED Assessments – more detailed information must be provided to demonstrate the suitability of proposals for waste management facilities which differ from the standards set out in the RECAP Design Guide.

Assessment Criteria

Assessment Factor	Information Required – Simple Assessment	Submit Assessment to Planning Authority (Provide Document Reference)
Quality Place Making	Design should also be assessed for consistency with the wider development framework and the promotion of quality place making.	

Assessment Factor	Information Required – Simple Assessment	Submit Assessment to Planning Authority (Provide Document Reference)
Proposals for On-site Treatment	On-site treatment (e.g. bailing, compaction or other treatment that may be utilised in an alternative scheme) may be beneficial on larger sites. In such cases, a clear illustration must be provided of (where appropriate): • Sustainability of treatment methods; • Waste volume reduction; • Beneficial use of waste (recovery of value, energy, etc); • Implications for Waste Collection Authority and Waste Disposal Authority.	
Accessibility	Depending upon the waste infrastructure employed, it must be demonstrated that: • The location chosen offers convenience and efficiency for all users; • An assessment of potential user conflict has been made with appropriate solutions provided; and • Marking and signage is adequate for function.	
Health and Safety	All proposals must be accompanied by a health and safety risk assessment and account must be made of (where appropriate): • Lighting; • Steps and gradients; • Marking and signage; • User conflicts; • Risks from equipment/technology utilised; • Training requirements (operators);	
Security	It must be clearly demonstrated that proposals: • Will not jeopardise the security of the wider area; and • Infrastructure will, as appropriate, feature security measures that permit efficient user operation but are robust enough to deter vandalism, arson and other forms of misuse. Notes on waste compound security are presented at Appendix E.	
Protection of the Environment	Assessment must be made of the impact proposals may have in terms of: • Nuisance and amenity (including visual impact); and • Pollution threat to environmental media (i.e. air, land and water).	

Assessment Factor	Information Required – Simple Assessment	Submit Assessment to Planning Authority (Provide Document Reference)
	• Damage and disturbance to nationally and internationally protected sites and wider biodiversity. Damage and disturbance to nationally protected sites/features of historic and archaelogical interest. • Suitable mitigation measures must be outlined.	
Maintenance	Where maintenance responsibility lies with the developer they must: • Submit proposed maintenance schedules (routine and non-routine); • Submit proposals for maintaining records of works undertaken; and • Submit details of third party contractors to be employed.	

Sheet A: Waste Storage Compounds

For multiple storage points/methods, this table should be copied and completed as appropriate.

Assessment Factor	Information Required – Simple Assessment	Discussed With Local Authority? ✓ or X	Submit Assessment to Planning Authority (Provide Document Reference)
Quality Place Making	Design should also be assessed for consistency with the wider development framework and the promotion of quality place making.		
Proposals for On-site Treatment	On-site treatment (e.g. bailing, compaction or other treatment that may be utilised in an alternative scheme) may be beneficial on larger sites. In such cases, a clear permit efficient user operation but are robust enough to deter vandalism, arson and other forms of misuse. Notes on waste compound security are presented at Appendix E.		

Assessment Factor	Information Required – Simple Assessment	Discussed With Local Authority? ✓ or X	Submit Assessment to Planning Authority (Provide Document Reference)
Accessibility	Depending upon the waste infrastructure employed, it must be demonstrated that: • The location chosen offers convenience and efficiency for all users • An assessment of potential user conflict has been made with appropriate solutions provided; and • Marking and signage is adequate for function.	✓	
Health and Safety	All proposals must be accompanied by a health and safety risk assessment and account must be made of (where appropriate): • Lighting; • Steps and gradients; Marking and signage; • User conflicts; • Risks from equipment/technology utilised; Training requirements (operators);	✓	
Security	It must be clearly demonstrated that proposals: • Will not jeopardise the security of the wider area; and • Infrastructure will, as appropriate, feature security measures that permit efficient user operation but are robust enough to deter vandalism, arson and other forms of misuse.		

Assessment Factor	Information Required – Simple Assessment	Discussed With Local Authority? ✓ or X	Submit Assessment to Planning Authority (Provide Document Reference)
	Notes on waste compound security are presented at Appendix E.		
Protection of the Environment	Assessment must be made of the impact proposals may have in terms of: • Nuisance and amenity (including visual impact); and • Pollution threat to environmental media (i.e. air, land and water). Suitable mitigation measures must be outlined; • Damage and disturbance to nationally protected sites; • Damage and disturbance to nationally protected sites/features of historic or archaeological interest.		
Maintenance	Where maintenance responsibility lies with the developer they must: • Submit proposed maintenance schedules (routine and non-routine); • Submit proposals for maintaining records of works undertaken; and • Submit details of third party contractors to be employed.		

Sheet B: Provision of Bring Site Infrastructure

For provision of Bring Sites, this table should be copied and completed as appropriate.

Assessment Factor	Information Required – Detailed Assessment	Consult Local Authority?	Submit Assessment to Planning Authority (Provide Document Reference)
Development Density and Scale	A developer must demonstrate that their proposals: • Will adequately serve the population density of their development and, if applicable, the wider population; • Allocate sufficient land to allow their proposals to function efficiently; • Provide sufficient capacity to account for anticipated density changes in the short-term.	✓	
Infrastructure Design	It must be demonstrated that infrastructure employed: • Is adequate to execute function; • Is robust and durable; • Is compliant with all relevant standards; and • Avoids unnecessary complexity.	✓	
Quality Place Making	Design should also be assessed for consistency with the wider development framework and the promotion of quality place making.	✓	
Proposals for On-site Treatment	On-site treatment (e.g. bailing, compaction or other treatment that may be utilised in an alternative scheme) may be beneficial on larger sites. In such cases, a clear illustration must be provided of (where appropriate): • Sustainability of treatment methods; • Waste volume reduction;	✓	

Assessment Factor	Information Required – Detailed Assessment	Consult Local Authority?	Submit Assessment to Planning Authority (Provide Document Reference)
	• Beneficial use of waste (recovery of value, energy, etc); • Implications for Waste Collection Authority and Waste Disposal Authority.		
Accessibility	Depending upon the waste infrastructure employed, it must be demonstrated that: • The location chosen offers convenience and efficiency for all users; • An assessment of potential user conflict has been made with appropriate solutions provided; and • Marking and signage is adequate for function.	✓	
Health and Safety	All proposals must be accompanied by a health and safety risk assessment and account must be made of (where appropriate): • Lighting; Steps and gradients; • Marking and signage; User conflicts; • Risks from equipment/technology utilised; • Training requirements (operators);	✓	
Security	It must be clearly demonstrated that proposals: • Will not jeopardise the security of the wider area; and • Infrastructure will, as appropriate, feature security measures that permit efficient user	✓	

Assessment Factor	Information Required – Detailed Assessment	Consult Local Authority?	Submit Assessment to Planning Authority (Provide Document Reference)
	operation but are robust enough to deter vandalism, arson and other forms of misuse.		
Protection of the Environment	Assessment must be made of the impact proposals may have in terms of: • Nuisance and amenity (including visual impact); and • Pollution threat to environmental media (i.e. air, land and water). • Suitable mitigation measures must be outlined. • Damage and disturbance to nationally and internationally protected sites and wider biodiversity. • Damage and disturbance to nationally protected sites/features of historic or archaeological interest.	✓	
Maintenance	Where maintenance responsibility lies with the developer they must: • Submit proposed maintenance schedules (routine and non-routine); • Submit proposals for maintaining records of works undertaken; and • Submit details of third party contractors to be employed.	✓	

Sheet C: Alternative Schemes

Where alternative schemes are proposed, this table should be copied and completed as appropriate.

Basis for Conditions and/or Agreements

Instructions on Use

10.17 To be used by the Local Planning Authority when assessing initial design proposals as submitted by the developer.

10.18 It may be appropriate to apply conditions or reach agreement on several factors in relation to the development and this tool is a platform for negotiating suitable solutions to arrangements for:

- Financial Contributions;
- Infrastructure and Land Provision;
- Location Issues; and
- Infrastructure ownership and maintenance.

10.19 In Peterborough the basis for conditions and/or agreement should be applied in conjunction with the Peterborough Planning Obligations Scheme.

Informing Developer

10.20 Any conditions should be imposed or an agreement negotiated in accordance with standard planning procedures and mechanisms.

Factor	Basis For Condition or Agreement	Applicable to?
Waste Storage Containers (Paragraphs 4.3 - 4.13 of the Design Guide)		
Finance and/or storage	Sufficient space for waste containers as outlined in Part 4 of the RECAP Design Guide.	All new developments within Cambridgeshire and Peterborough with a residential element.
	Finance will be provided by the developer sufficient to allow for the provision of appropriate waste storage containers by the local authority.	
	Provision of appropriate waste storage containers shall be made by the developer sufficient to meet the needs of the development	
Household Recycling Centres (Paragraphs 8.7 - 8.19 of the Design Guide)		
Finance	Finance will be provided by the developer sufficient to allow the upgrade of existing facilities or the creation of new facilities.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of existing Household Recycling Centres.
Land	An area of land/areas of land the will be provided by the developer (at no cost to the Local Planning Authority or Waste Planning Authority) sufficient in size to allow the creation of new facilities at strategic locations.	
Bring sites (Paragraphs 9.5 - 9.8 of the Design Guide)		
Finance	Finance will be provided by the developer sufficient to allow the upgrade of existing facilities or the creation of new facilities.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.
Infrastructure	Infrastructure suitable for the creation of both temporary and permanent Bring Sites (as appropriate) will be provided by and installed by the developer. In the case of temporary facilities, the developer shall also be responsible for removal of infrastructure at the appropriate time and then developing the land in a manner that is either consistent with its wider development as agreed with the Local Planning Authority or in accordance with Local Planning Authority specifications.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.

Factor	Basis For Condition or Agreement	Applicable to?
Land	An area of land/areas of land the will be provided by the developer (at no cost to the Local Planning Authority or Waste Planning Authority) sufficient in size to allow the creation of new facilities.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.
Location*	Suitable locations shall be provided for the provision of both temporary and/or permanent Bring Sites so as to be easily and conveniently accessible to site users and service vehicles. Such locations shall be identified in consultation with the Local Planning Authority.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.
Ownership	Land and infrastructure ownership shall be retained by the developer until such time as the developer has demonstrated to the satisfaction of the Local Planning Authority that adequate arrangements governing future ownership are in place.	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.
Management & Maintenance	The developer should make adequate arrangements for the management and maintenance of all temporary facilities. The developer should demonstrate to the satisfaction of the Local Planning Authority that adequate arrangements are in place for the future management and maintenance of all permanent facilities	All new developments within Cambridgeshire with a residential element or consistent with the requirements of the Peterborough City Planning Obligations Implementation Scheme. Type of contribution to be based (in part) upon assessment of impact upon existing Bring Sites.

Table 10.6 Basis for Conditions and/or Agreements

*The location of a Recycling Centre must meet the needs of the Mineral and Waste Local Development Framework and Waste Disposal Authority.

Question 10

Do you consider the requirements for developers to complete the relevant parts of the RECAP Waste Management Design Toolkit are appropriate and clearly set out for different types of development? If not what further guidance should be provided as part of the Design Guide.

11 Waste management provision for flats and apartments

Introduction

11.1 Today, there is more high density development across the UK due to current national planning policy (PPS3) and constraints on available space. This presents a number of issues for effective waste management for developers, residents and service providers alike.

11.2 Three key aspects arise for:

- Residents – conveniently accessible facilities;
- Local Authorities – efficiency and cost effectiveness of service; and
- Developers – space.

11.3 These aspects should be viewed as opportunities for innovation and creativity and co-operation.

11.4 Waste management in high-density developments is a challenging issue and it is therefore of prime importance that users of this Guide are aware that the authorities in the RECAP Partnership welcome the proposal of creative and innovative schemes.

11.5 The example given below is intended to identify a range of waste management solutions which could be considered by developers for inclusion as part of a particular development. It is not intended to be prescriptive but emphasises the need to provide an integrated waste management solution.

Example Scenario

11.6 Of principal importance to the creation of a successful waste management scheme in a high density development allowing for effective segregation, storage and collection of waste is consultation with the Local Authority. Although encouraging innovation, the local authority will provide a steer towards a practicable and achievable solution.

The Development

11.7 The proposed development comprises a 10 storey apartment block (high-rise) of 40 apartments and a 4 storey apartment block (low-rise) of 16 apartments. A breakdown of apartments by size is illustrated in the table below.

High-rise Apartment Block	Low-rise Apartment Block
10 x 1 room units 10 x 2 room units 10 x 3 room units 10 x 4 room units	4 x 2 room units 8 x 3 room units 8 x 4 room units

Table 11.1 Apartment Sizes

11.8 The high-rise apartment block has a car park and landscaped areas. The low-rise apartment block has a car park and communal gardens. The development is accessible by 2 main routes within the area.

The Planning Process regarding Waste Management

11.9 The developer utilised the RECAP Waste Management Design Guide Toolkit which was completed, as appropriate, and submitted in its entirety with the planning application. Completion of the Toolkit was done in close consultation with the Local Planning Authority.

11.10 Contributions were secured by the Council for upgrading the network of Household Recycling Centres in the area and a Section 106 agreement was utilised to ensure the installation of a Bring site. It was agreed that the Bring site would be adopted by the Local Authority upon completion of the development.

Established Waste Services

11.11 After discussions with the Local Authority, the developers have established that the following services will be provided:

- Collection of mixed dry recyclables; and
- Collection of residual waste.

11.12 The Waste Collection Authority operates an alternate weekly collection for residual waste and mixed dry recyclables.

11.13 In addition, a Community Trust composting scheme is established in the area. They accept green garden waste and are willing to collect fruit and vegetable peelings from households for composting. The trust is supported by the Local Authority which use the compost for its public parks and gardens. The trust also offers a service for the collection of bulky household waste items.

Internal and External Waste Storage

11.14 Internal waste containers (i.e. waste receptacles in the kitchen) will be provided by the developer for the high-rise and low-rise blocks.

11.15 This will comprise:

- 1 x 20 litre kitchen caddy for residual waste in each kitchen
- 1 x 20 litre kitchen caddy for mixed dry recyclables in each kitchen
- 1 x 10 litre caddy with compostable liner for each kitchen provided by the Community Trust.

11.16 In the above example the developer has enaged and worked with the Community Trust to provide a total 50 litre capacity, therefore 10 litres more than the required capacity under 4.5.

11.17 External waste capacity will be as detailed in the table below. Finance towards the provision of waste containers has been secured through a Section 106 Agreement.

High-rise Apartment Block	Low-rise Apartment Block
Capacity	**Capacity**
Capacity equivalent to 14,600 litres See Table 4.1 (Part 4) for maximum external storage capacities. Following discussion with the Local Authority the capacity split will be 60% (8760 litres) for residual waste and 40% (5840 litres) mixed dry recyclables.	Capacity equivalent to 1560 litres See Table 4.1 (Part 4) for maximum external storage capacities. Following discussion with the Local Authority the capacity split will be 50% (780 litres) for residual waste, 40% (624 litres) for mixed dry recyclables and 10% (156 litres) for green (garden) waste.
Storage Units	**Storage Units**
1 x 9.5m3 portable skip compactor for residual waste. 1 x 9.5m3 enclosed skip for mixed dry recyclables.	1 x 3m3 underground waste storage unit for residual waste. 1 x 3m3 underground waste storage unit for mixed dry recyclables. 1 x 240 litre wheelie bin for garden waste.

Table 11.2 Capacity Provision and Storage Methods

Systems, Supporting Infrastructure and Additional Provision

11.18 The systems used to convey waste from the point of generation to the point of temporary storage are detailed in the table below. Facilities Management is a fundamental requirement for both blocks, essential for maintenance and servicing.

High-rise Apartment Block	Low-rise Apartment Block
Residual Waste and Mixed Dry Recyclables	**Residual Waste and Mixed Dry Recyclables**
Chute system accessible from each floor. The system comprises 2 separate chutes allowing the segregation of waste - one chute feeding the portable skip compactor with residual waste, the other feeding the enclosed skip with mixed dry recyclables.	Resident transit. Residents are required to carry their waste from the point of generation and deposit it through the ground level receptacle to the appropriate underground storage container – i.e for residual waste or mixed dry recyclables.
Food Waste	**Food Waste**
Collected on a door to door basis in the caddy provided by the Waste Collection Aurthority. Caddy replaced.	Collected on a door to door basis in the caddy provided by the Waste Collection Authority. Caddy replaced.
Bulky Waste	**Garden Waste**
Residents are advised to contact Facilities Management when they have bulky waste items to dispose of. A store room is provided for bulky waste items. The store is checked periodically by Facilities Management and collection arrangements made with the Waste Collection Authority as appropriate.	Collected by the Waste Collection Authority for composting.
	Bulky Waste
	Residents are advised to contact Facilities Management where they have bulky waste items to dispose of. They will then transfer it to the store room at the high-rise block.

Table 11.3 Transit of Waste

11.19 The high-rise and low-rise apartment blocks have each been provided with a motorised flat bed trolley by the developer to which a suitable frame and containment structure has been added. This enables the Community Trust to easily collect and replace food waste receptacles on a door to door basis utilising the service lifts installed in each block.

Facilities Management and Maintenance

11.20 The developer had written into the property deeds a requirement for the provision of a Facilities Management service. This is provided on a contract basis for the upkeep of the apartment blocks, and in the case of the low-rise development this includes upkeep of the communal gardens. A maintenance charge is levied upon residents for this service.

11.21 As part of their contract, it has been agreed that the Facilities Management service provider will monitor and maintain records on waste produced by occupiers of developments. Waste audits are undertaken periodically and allow for adjustments to be made in waste management such as collection frequency ensuring the most efficient service possible is provided.

11.22 Facilities Management service provider will work in partnership with the Local Authority to provide education and information to residents on a range of matters including waste management. Up-to-date information is made available in communal areas.

Waste Collection

11.23 For the high rise development, access to the waste compound where the skips are located is via a dedicated road. A separate road serves the residents car park. The collection vehicle reverses down the access road to collect the unit. The replacement unit is delivered in the same way.

11.24 The bulky waste store is located adjacent to the waste compound.

11.25 For the low-rise development, the underground waste storage units are accessible from the road and are lifted out by crane arm, emptied and replaced.

Bring Site

11.26 The new development includes the installation of a new Bring Site to serve the development itself and the wider area. Four underground banks each with a capacity of 5m3 have been installed. They are located close to the road and can be serviced in the same manner as that outlined for the low-rise development.

Summary and Conclusion

11.27 For flats and apartments it is unlikely that any one option will provide a complete solution to segregation, storage and collection of waste. An integrated and considered approach is required.

11.28 To ensure adequate waste management this model demonstrates:

- Consultation with the Local Authority;
- Completion of the RECAP Waste Management Design Guide Toolkit;
- The use of legal agreements;
- Appropriate design;
- Co-operation with Community Groups; and
- The use of a variety of waste infrastructure.

Question 11

Is the suggested scenario (set out in Waste Management provision in flats and apartments) useful in illustrating the likely requirements for residential developments in terms of waste storage infrastructure and likely developer contributions for both Bring sites and Household Recycling Centres? If not what further guidance should be provided as part of the Design Guide.

12 Case Studies

12.1 The following Case Studies provide examples of real life practice. To the best of the authors' knowledge the information detailed is correct at the time of publication.

Access Planning, Huntingdon

12.2 A block of flats to 3 floors and a community centre were constructed in the centre of Huntingdon. Huntingdonshire District Council were consulted extensively on the development from the design stage through to project completion. Through the Environment and Planning Department, contact was made with the Waste Collection Department.

12.3 Following consultation, designers ensured:

- Sufficient width at access points and along access corridors to permit the type of refuse vehicle employed by the council;
- Short distances between the public highway and the waste storage compound;
- Unobstructed access to refuse collection points – e.g. car-parking located away from waste storage compound;
- Short distances for collection crews to move waste receptacles;
- Flat or very low-graded surfaces from the public highway to the waste storage compound; and
- Dropped kerb lines and rounded corners permitting improved access for collection vehicles.

12.4 In their original plans, the designers were looking to create an archway, spanning the entrance providing access to the waste chambers. However, after consultation it was decided to omit this feature because of the minimum height requirements of the refuse collection vehicles.

Underground Storage of Waste, Peterborough

12.5 Peterborough City Council have installed a number of underground waste storage banks at various areas across the city. The scheme is being run in partnership with Huntingdonshire District Council.

12.6 Underground units have been installed at multi-occupancy residential developments and within areas of mixed use and act as Bring Sites. In residential locations, the units are being used to collect mixed dry recyclables and residual waste. Where installed in mixed use areas, the units are used to collect segregated recyclables.

12.7 A hiab vehicle services the unit. The crane arm raises the unit up above the storage container of the vehicle by remote control. Trap doors at the bottom are released, again by remote control, and the waste deposited. The underground system has a number of advantages:

- Unobtrusive visible street furniture with storage unit located below ground and out of sight;
- Large capacity;
- Modular construction minimises risk of pollution to the environment – reinforced concrete liner with galvanized steel container with welded joints; and
- Problems from waste odours and noise from waste deposit are reduced due to contained nature of the system.

12.8 Peterborough City Council considers that the underground waste storage could be used more widely.

Recycling in Flats Everyday (RIFE), Bristol

12.9 Out of the 173,000 households in Bristol, 27,000 are flats with most being unsuitable for kerbside collection of recyclables using the standard 'black box' containers. However, with the development of a network of 300 Mini Recycling Centres (MRCs) across the city, residents living in flats and apartments can now recycle their paper, cans and glass.

12.10 Since its inception in 2004, the RIFE project has worked at a community level with caretakers, scheme managers, housing officers and agents, encouraging residents to use the MRCs for all their recyclables. Sites served range from high to low rise blocks and include everything from prestigious city centre apartments and suburban sheltered housing schemes.

12.11 RIFE workers have distributed 10,000 reusable 'Recycling Bags' to households served by an MRC. The bags, made from woven polypropylene are designed to hold a week's worth of recyclables. Washable and easily stored when not in use, the bags carry information about all the materials that can be recycled at the MRC. At the original 120 sites, between spring 2004 and 2007, the amount of materials collected increased from 250 tonnes to 440 tonnes, an increase of 75%.

12.12 The RIFE project is now working with residents, caretakers and agents at all 300 current sites to promote the use of the MRCs and is working with Bristol City Council to add another 200 sites to the network in the next few years.

12.13 For further information see: www.recyclingconsortium.org.uk

Offshoots Community Composting Scheme

12.14 The Offshoots project is a community project in Burnley, Lancashire. It is managed by Groundwork East Lancashire and by its own committee of local people.

12.15 This project involves collecting household kitchen waste and taking it back to Offshoots and turning it into compost using three machines called 'Rockets' which have been engineered by Accelerated Compost Limited. Instead of taking several months to make compost, as standard processes allow, the 'Rockets' take only 2 weeks.

12.16 Compost officers collect the kitchen waste from participating households in a bio-diesel powered vehicle and then put it into the 'Rockets' with wood chip to provide the correct balance of carbon material (wood chip) to nitrogen material (kitchen waste). The mixture then spends 2 weeks within the 'Rockets' slowly decomposing. When ready, the compost is stored prior to being sold to the council's Parks Department for use within the grounds of Towneley Hall.

12.17 For further information see: www.offshoots.org.uk

Tower Hamlets Community Recycling Consortium (THRC)

12.18 THCRC is a not-for-profit local community recycling company in Tower Hamlets. Its broad aim is to increase the level of recycling from households and other sectors within the area. THCRC was formed partly to satisfy the strategy of the local authority who were determined that partnership working with local community groups was the best way to meet the recycling needs of a borough with many high-rise flats. THCRC is a member of London Community Recycling Network and the National Community Recycling Network. They operate a large scale door to door recycling scheme serving a large number of residents in high-rise flats. They currently collect 13 types of waste material for recycling from residents' doorsteps using a 'green box' system. Working in partnership with Estate Management Boards, Tenant Management Associations and local residents, 30,000 green boxes and information leaflets have been distributed to households in the high rise estates. Residents are asked to leave their green boxes outside their front doors in the corridors on the appointed day of collection. Trained operatives, using a special recycling trolley, pass through the buildings via the lifts and corridors and sort the contents of the green box into various compartments. Bulk bags are hung by their straps on a top frame divided into seven sections. which can then be removed from the trolley when full and left, in a side alley on each floor, until the whole floor is completed.

12.19 For further information see: www.thcrc.co.uk

Waste Recycling Chutes in Paddington

12.20 Westminster City Council has successfully converted a refuse collection chute at a high-rise residential estate (Hallfield Estate) in Paddington. Since installation in November 2006, recycling rates on the estate have tripled and Westminster City Council is considering introducing the scheme across the borough. The chute system now allows residents to segregate recyclable materials from residual waste and accepts all recyclable material types collected by the council as mixed dry recyclables. Deposited materials fall into a soundproof bin which significantly reduces noise nuisance.

12.21 For further information see: www.westminster.gov.uk

Question 12

Do you consider the case studies presented useful in relation to the requirements set out in the Design Guide? If not what further guidance and/or case studies should be provided as part of the Design Guide.

Appendix A: External and Internal Storage Units

Dimension

External Storage containers

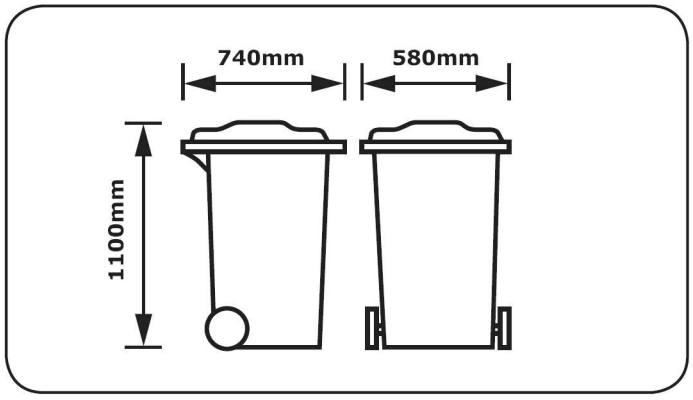
A wide range of internal bins are available and below only a selection of dimensions are illustrated.

Container Type	Typical Dimensions (l x w x h)(mm)
140 litre wheelie bin	500 x 555 x 950
240 litre wheelie bin	580 x 740 x 1100
360 litre wheelie bin	480 x 880 x 1100
55 litre box	395 x 585 x 375
38 litre box	385 x 585 x 275

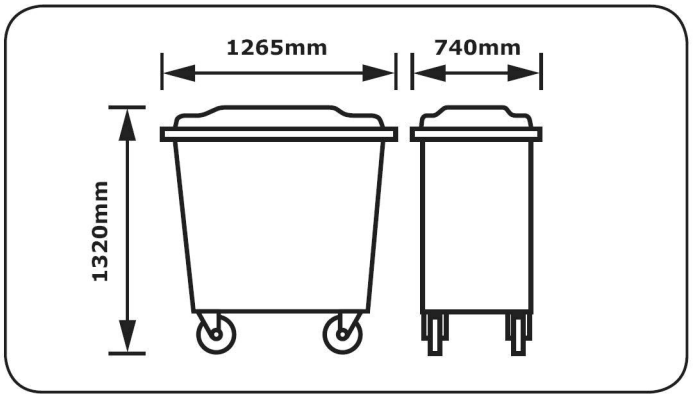
Two-wheeled Containers and Boxes

Container Type	Typical Dimensions (l x w x h)(mm)
1280 litre	1280 x 1000 x 1445
1100 litre	1270 x 1000 x 1380
820 litre	1250 x 1800 x 1370
770 litre	1265 x 810 x 1360
660 litre	1265 x 740 x 1320
500 litre	1305 x 745 x 1145

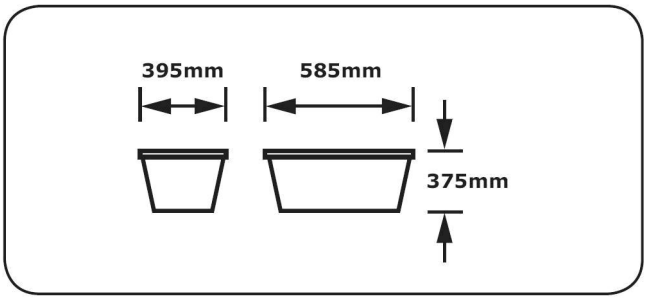
Four-wheeled Containers



240 litre two wheeled container



660 litre four wheeled container

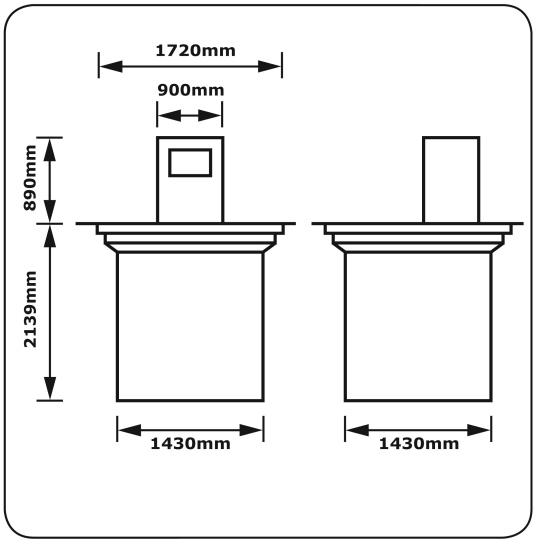


55 litre box

Underground Systems

Typical dimensions are as follows:

Unit Capacity	Typical Dimensions (mm)
3m3 Capacity	Below Ground Component (l x w x h) 1430 x 1430 x 1604 Above Ground Component (l x w x h) 900 x 620 x 890 Ground Area Required 1720mm2
4m3 Capacity	Below Ground Component 1430 x 1430 x 2139 Above Ground Component 900 x 620 x 890 Ground Area Required 1720mm2
5m3 Capacity	Below Ground Component 1430 x 1430 x 2674 Above Ground Component 900 x 620 x 890 Ground Area Required 1780mm2



4m3 underground storage system

Internal Storage Containers

A wide range of internal bins are available and below only a selection of dimensions are illustrated.

Container Type	Typical Dimensions (mm)
40 litre bin (semi-cylindrical)	435 (l) x 302 (w) x 716 (h)
30 litre bin (cylindrical)	722 (h), 293 (Ø)
20 litre bin (cylindrical)	717 (h), 251 (Ø)
38 litre bin (cuboid)	400 (l) x 310 (w) x 648 (h)
45 litre (cuboid)	400 (l) x 280 (w) x 737 (h)

Single Compartment Examples - Freestanding

Container Type	Typical Dimensions (mm)
Two Compartments 30 litre capacity (1x19 litre and 1 x 11 litre housed in one unit)	47 (l) x 25 (w) x 44 (h)
Three Compartments 33 litre capacity (3 x 11 litre housed in one unit)	47 (l) x 25 (w) x 44 (h)

Multi-Compartment Examples - Freestanding

Container Type	Typical Dimensions (mm)
Three Compartments 40 litre capacity (1 x 19 litre, 1 x 12 litre and wire frame housing)	For installation in hinged door cabinets. To fit cabinet with minimum of 500mm horizontal clear space and a height of 525mm.

Container Type	Typical Dimensions (mm)
Four Compartments 39 litre capacity (1 x 12 litre and 3 x 9 litre seated in single wire frame housing)	For installation in hinged door cabinets. To fit cabinet with minimum of 500mm horizontal clear space and a height of 525mm.
Three Compartments plus 2 Cleaner Baskets 43.2 litre capacity (1 x 18 litre and 2 x 8.5 litre plus 2 x 4.1 cleaner baskets housed in one unit)	For installation in drawers or door front fixing cabinets. Minimum 433mm depth and height of 320mm.
Three Compartments plus 2 Cleaner Baskets 37.2 litre capacity (1 x 12 litre and 2 x 8.5 litre plus 2 x 4.1 cleaner baskets housed in one unit)	For installation in drawers or door front fixing cabinets. Minimum 433mm depth and height of 320mm.

Multi-Compartment Examples - Fitted

Appendix B: Compactor Use, descriptions and specifications

Compactor Type and Description	Typical Dimensions
Small Sack Compactor Waste is tipped into the cylinder cabinet, which is lined with a plastic waste sack, and compacted. Available as a cylindrical or cabinet type. A compaction ratio of up to 4:1 can be achieved.	Dimensions (m): Width 0.78 Length 0.98 Raised Height (standard model) 2.68 Raised Height (short model) 2.38 Floor area 1m
Wheeled Bin Compactor Bins are wheeled beneath the compaction plate of the unit which then compacts the waste whilst in the bin. Two types are available – one using 360 litre bins, the other using 660 or 1100 litre bins. A compaction ratio of up to 3:1 can be achieved. It must be noted that Compacted waste in a wheeled bin must not exceed weight limits or be so that it cannot be emptied.	Dimensions for compactor to fit 360 litre bins (m): Width 0.9 Length 1.6 Working Length 2.9 Height 2 Floor area 2.6m2 Dimensions for compactor to fit 660 and 1100 litre bins (m): Width 1.5 Length 1.9 Working Length 4 Height 2.5 Floor area 7.2m2
Rotary Compactor Waste is placed into the compactor which has a spiked rotating head which tears and subsequently compacts the waste. High compaction ratios can be achieved.	Typical dimensions for a bag type rotary compactor (m): Width 1.35 Working Length 2.37 Raised Height 3.08
Portable Skip Compactor This is effectively an enclosed skip combined with a fixed compactor unit. The entire unit may be removed. Range of sizes with typical capacities being 9.5m3 and 27m3. A Compaction ratio of up to 4:1 can be achieved.	Dimensions for 9.5m3 portable skip compactor (m): Width 1.75 Length 4.28 Height 2.34 The area where such a compactor is to be located should have the following minimum dimensions (m): Width 4.5 Length 5.8 Height 4.9 Dimensions for 27m3 portable skip compactor (m): Width 2.5 Length 6.63 Height 2.75 The area where such a compactor is to be located should have the following minimum dimensions (m): Width 5 Length 8.63 Height 6
Static Compactor The compactor is secured to the ground and compacts waste in a removable fully enclosed skip. Range of sizes with typical capacities being 10.5m3 and 27m3. A compaction ratio of up to 5:1 can be achieved.	Dimensions for 10.5m3 static compactor (m): Width 1.8 Length 6.6 Height 2.4 The area where such a compactor is to be located should have the following minimum dimensions (m): Width 4.5 Length 8 Height 4.9

Compactor Type and Description	Typical Dimensions
	Dimensions for 27m3 static compactor (m): Width 2.5 Length 10.2 Height 2.8 The area where such a compactor is to be located should have the following minimum dimensions (m): Width 5 Length 12.2 Height 6

Compactors: Residential Development

Use of Compactors

For both multi-occupancy residential developments and commercial developments it may be desirable to use compactors.

It must be noted that where the use of a compactor is being considered, evaluation must be given to servicing and wider infrastructure requirements. Adequate access for suitable collection vehicles must be provided along with adequate working areas and the wider road network must be capable of accommodating the required service vehicles. The relevant Local Authority should always be consulted where the use of skip containers and waste compaction systems are being considered.

For commercial developments in particular, the following recommendations are made:

Development Type and Floor Space	Equipment Recommendation
*Offices over 10,000m2	Rotary Compactor
*Offices over 15,000 m2	Portable Skip Compactor
Light Industrial Units with Combined Floorspace over 1500 m2	Small Sack Compactor
Retail Premises – up to 5000 m2	Small Sack Compactor
Retail Premises – over 10,000 m2	Portable Skip Compactor or a large Static Compactor
Fast Food Restaurants (eat in facility)	Small Sack Compactor
Fast Food Restaurants (high output)	Rotary Compactor
Hotels – up to 250 beds	Small Bag Compactor
Hotels – over 250 beds	Rotary, Portable Skip or Static Compactor

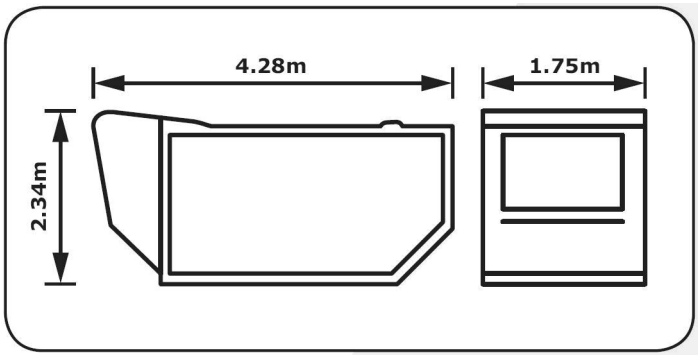
Compactors: Commercial Development

*For all offices over 2500m2 some form of waste compaction is recommended. (Source: City of Westminster Council)

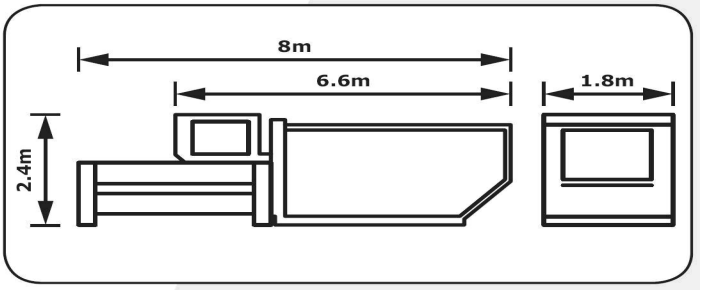
The information in the table set out above has been adapted from the City of Westminster document Clean Streets, Waste and Recycling Storage Requirements.

Descriptions and Specifications

The information in the following table has been adapted from the City of Westminster document Clean Streets, Waste Recycling and Storage Requirements.



9.5m3 portable skip compactor.



10.5m3 static compactor.

Appendix C: Educational Schemes and additional options

A number of additional options that a developer may wish to consider in order to provide an effective system of waste management within their development are suggested below. They represent options that may assist in establishing effective and sustainable methods of waste management.

Education Schemes

RECAP are actively seeking to engage developers in schemes of education to promote the aims of effective waste reduction and recycling especially where alternative waste collection systems are to be employed. It should be recognised that a developers marketing strategy can be enhanced by developing education schemes in partnership with RECAP. An example could be developers providing waste information in a home starter pack.

Local Authorities in the RECAP Partnership run a wide range of education and awareness initiatives all year round to encourage residents to minimise waste and recycle more. RECAP has experience in developing educational materials, as well as implementing recycling awareness campaigns. The RECAP Partnership has received national recognition for its success in engaging with residents and community organisations, and all RECAP partners were awarded Beacon Council Status in the category of waste and recycling.

RECAP has dedicated officers in all partner authorities who are able to provide advice on engaging local communities to encourage sustainable waste management. RECAP also runs an active programme of waste awareness campaigns.

Additional Waste Treatment Options

Composters and Wormeries

Composting is the process of producing compost through aerobic decomposition of biodegradable organic matter. All of the Local Authorities in the RECAP Partnership collect waste for composting on a large scale, but home composting is also encouraged. To this end, developers should evaluate the potential for providing compost bins to individual dwellings as appropriate, offering the immediate opportunity for householders to actively participate in waste reduction.

Typically, home composting is achieved passively (by piling or containing suitable wastes and leaving them to decompose). An alternative active method is vermicomposting (worm composting) where compostable waste is added to a container filled with moistened bedding and redworms which, along with micro-organisms, eventually turn the waste into a rich compost.

Community Schemes

Cambridgeshire Community Reuse and Recycling Network (CCORRN)

CCORRN (www.ccorrn.org.uk) is a network between the community, public and private sector and was started in 2003. Cambridgeshire County Council received financial support for its establishment, from DEFRA's Recycling Challenge Fund and Enventure.

CCORRN's goal when incepted was to successfully increase the quantity of community reuse and recycling projects in the County. The network aims to:

- share knowledge and skills and disseminate best practice;
- assist projects in accessing funding to secure long-term viability;
- build and strengthen partnerships between all those interested;
- provide regular easy access to information;
- work with other parties on wider joint projects; and
- raise awareness and the profile of the network.

CCORRN took over coordination of the Master Composters Scheme, developed by Cambridgeshire County Council. The scheme is a network of local volunteers who provide both advice and expertise on home composting.

Community Recycling Network

The Community Recycling Network UK (www.crn.org.uk) is the national umbrella organisation for community-based, not-for-profit and co-operative waste management groups which work in reduction, re-use and recycling.

CRN helps its members by:

- co-ordinating networks for groups to share information and ideas;
- organising events to bring people together;
- offering advice for members to develop operations and infrastructure;
- lobbying decision-makers; and
- providing advice, training, information and support.

Groundwork

Groundwork (www.groundwork.org.uk) supports communities in need, working with partners to help improve the quality of people's lives, their prospects and potential and the places where they live, work and play.

Groundwork East of England covers 6 historic counties: Essex, Hertfordshire, Bedfordshire, Cambridgeshire, Norfolk and Suffolk. The regional office is based within the Forest Centre, in the heart of the Forest of Marston Vale, Bedfordshire, with staff working alongside the established Community Forest team.

Although, at present, there are no notable waste related projects operational in the Cambridgeshire and Peterborough area, Groundwork East Lancashire supported the development of Offshoots, a community scheme collecting catering waste from households for composting.

Recycling Networks

RECAP Swap and Sell Scheme

RECAP hosts a swap and sell service on its website (www.recap.co.uk). It is a free online exchange service where the public can access details about unwanted or surplus items and view requests for wanted goods. Its main aim is to help users get rid of unwanted items or they want to find goods that others no longer need.

Eastex

Eastex is an on-line tool which enables organisations and businesses to exchange unwanted materials by viewing or placing adverts about redundant stock and surplus raw materials and then finding a 'match', therefore saving money and keeping useful materials in circulation and out of landfill.

Freecycle UK

The UK Freecycle Network (www.ukfreecycle.org) is made up of many individual groups across the globe. Freecycle groups match people who have things they want to get rid of with people who can use them.

Question 13

Do you consider the guidance relating to complementary measures including educational schemes presented to be useful in relation to the requirements set out in the Design Guide? If not what further guidance should be provided as part of the Design Guide.

Appendix D: Design Specifications for Waste Storage Compounds

Feature	Design
Walls and Roofs	To be made of a non-combustible, robust, secure and impervious material with a fire resistance of 1 hour (as tested in accordance with BS 476-21).
Floors	To be made from a hard impervious material with a smooth finish and a minimum thickness of 100mm. There should not be any steps or projections at the entrance.
Doors	Width to be 1.8m – 2m (minimum). To be made of steel or of some other material with a fire resistance of 30 minutes (as tested in accordance with BS 476-22). Should also be self-closing except where they communicate directly with the outside air. Should be hung so that hinges are not damaged where the doors are allowed to swing wide. Should be capable of being opened from the inside and outside to prevent the risk of individual users becoming trapped.
Door Frames	To be metal, hardwood or metal clad softwood. Door frames should also be situated in the external wall and rebated into the reveals of the opening.
Junctions of Walls with Floors	To be covered with the coving formed to prevent damage to the walls from the containers - in accordance with BS 1703
Drainage	To be via a trapped gully connecting to the foul sewer. Floors should have an appropriate fall towards the drainage point.
Ventilation	Areas for ventilation to be situated as near to the top and bottom of the container as possible with the total ventilation area to be not less than 0.2m2.
Lighting	Electrical lighting to be provided by bulkhead fittings within the storage compound with housings rated to IP65 in BS EN 60529:1992. Luminaires to be low energy light fittings and switching should be via proximity detection or time delayed.
Cleansing	A hose union tap with water supply should be provided at the compound.
Access Paths	Should be a minimum of 2m wide and feature a hard finished surface with a dropped kerb to enable ease of access.

(Adapted from: BS 5906:2005)

Appendix E: Waste Storage Compound Security

Compound Location

Subject to carry distances, it is preferable that storage compounds be separate and located away from the main building(s).

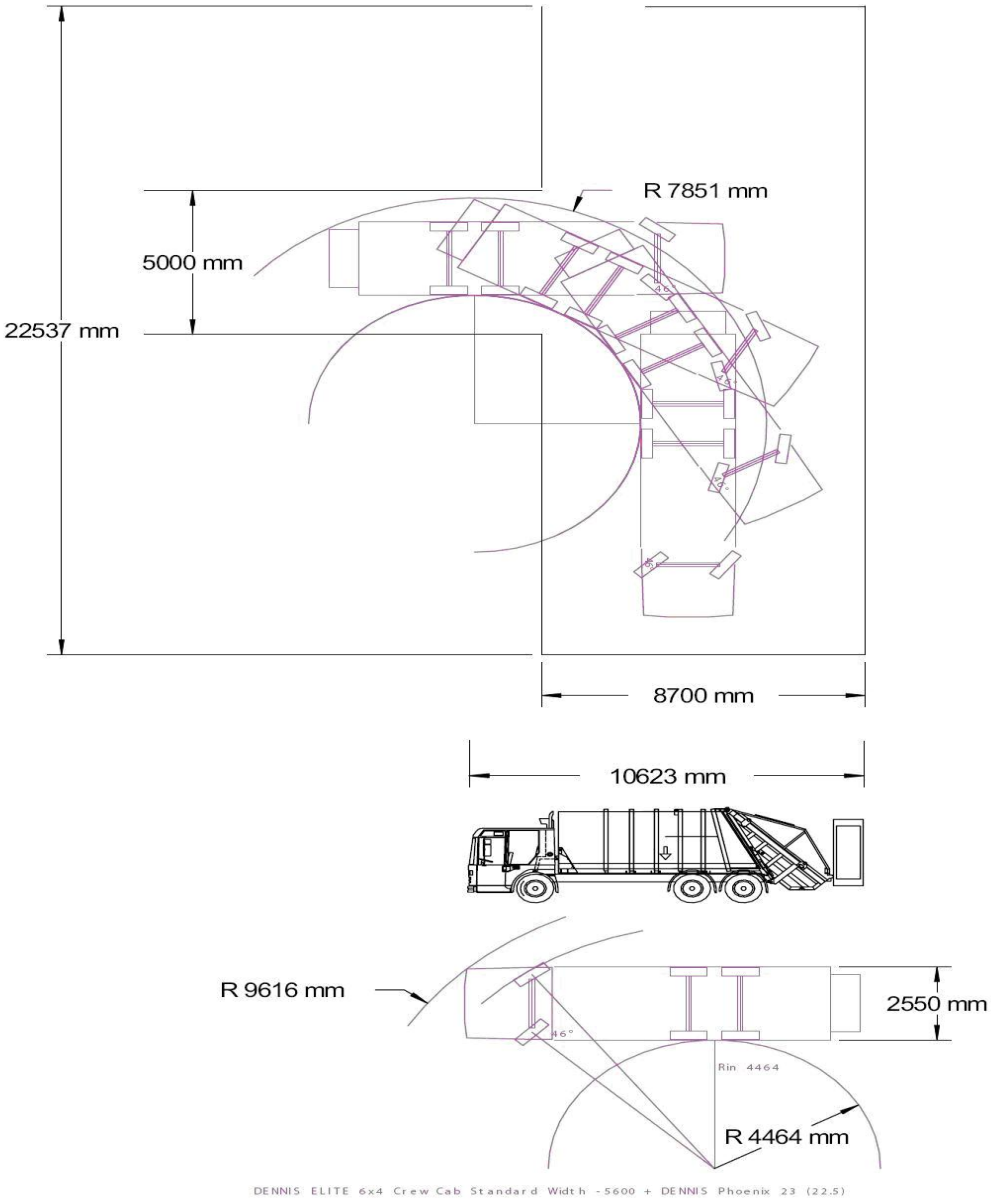
Where this cannot be achieved, it should be possible to secure the main building from the compound. BS 5906:2005 Waste Management in Buildings – Code of Practice recommends that where a storage compound forms part of a building it should have 2 access points – one internal with a secure lock, the other external allowing access for collection (also acting as the only point of egress from the compound).

Compound Locks

It is preferable that compounds are secured by a universal lock and key mechanism (standard Fire Brigade mortise lock and key). Although keys for these locks are widely available, they represent the best option in terms of operational efficiency.

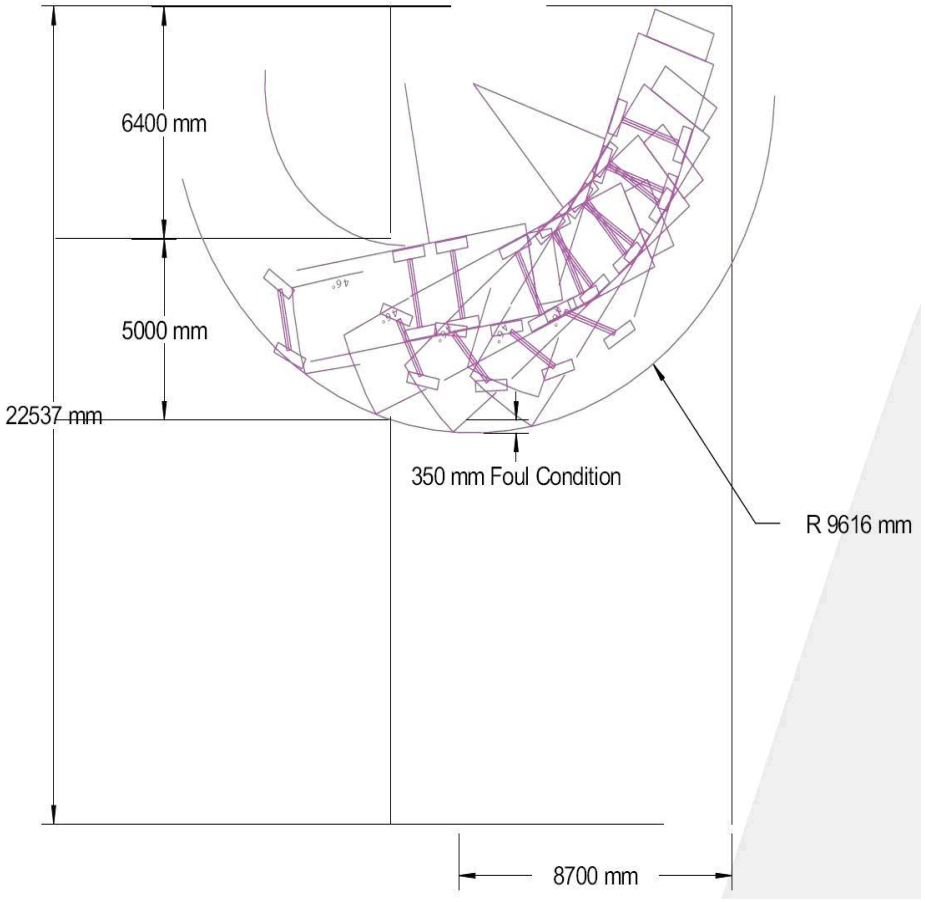
Other options include electronic key code entry systems or call systems. However, these systems may compromise operational efficiency. For example where the key code is changed but no notification given to the Waste Collection Authority or where management are absent and unable to permit entry of a collection crew.

Appendix F: Waste Collection Vehicle Tracking Path



Driving into cul-de-sac

Diagram courtesy of Dennis Eagle.



Reversing into cul-de-sac

Diagram courtesy of Dennis Eagle.

Appendix G:Typical Specification for an Underground Bring Site

The Specification below is provided as an example of an integral underground bring bank. However, there are other forms of underground bring bank, such as free standing underground bring banks.

1. Systems must be suitable for paper, cans, plastics, glass, textiles and battery recycling.
2. The underground bank walk-on platform must be:

    1. manufactured using a welding construction, which is hot-tip galvanised, and
    2. non slip (to a degree), and
    3. highly durable, and must not move or give in any way and is capable of withstanding a weight of at least 150kg, and
    4. be constructed in such a way to prevent the ingress of water into the storage container or concrete casing, such as through an overlapping design.

3. underground banks must be provided with an automatic rising safety platform, the safety platform must:

    1. be made of galvanised steel, and
    2. be able to carry a load of at least 150-kg – suitable for two persons when the storage container is not in place and
    3. the empty shaft must be fully sealed when the safety platform seal is raised to ensure maximum safety.

4. The underground storage container must be housed in a concrete casing, which must be:

    1. 100% waterproof, and
    2. if the underground bank is sited in an area with a high water table or on Pulverised Fuel Ash (PFA) it must be fully secured or set with stilts to avoid any movement after installation, and
    3. the casing must be fully approved under the relevant European directive(s) and either UK or equivalent industry standard such as BSI or KEMA (Dutch) or equivalent must be held.

5. The storage container must be:

    1. manufactured from galvanised steel and sealed with fully welded joints, and
    2. fitted with a trap door to allow emptying of container, and
    3. the contractor or supplier must also be able to provide maintenance works for the container if required; such as for broken “trap door”, and
    4. the container should be available in sizes of 4m3 and 5m3;
    5. be fitted with remote fill level alarms/indicators.

6. The “column” or “refuse receptacle” should:

    1. be available in a range of styles and colours that best match the surrounding built environment, and
    2. be available with a range of receptacles which best suit the specific material such as a “multiple different coloured circular receptacles” for glass or “single circular receptacle” for glass, and
    3. be available with a clear visually appealing marking which indicates which type of material should be placed in the receptacle.

7. lifting mechanism to aid emptying of storage container should be available to integrate with relevant Council lifting equipment eg with 2 exposed apertures for use with a hook and hydraulic arm arrangement.

8. It must be possible to empty liquid and solid residues from the container by providing suitable access for pipes from a vacuum tanker.
9. During installation [1], the contractor must take full responsibility for the installation of the underground banks, and be able to provide a turn key arrangement and therefore provide their own staff for this purpose of installation

[1]Installation is defined as including the process of checking correct and proper levelling of excavation works, arrangement and fixing of outer concrete casing into one solid unit, lowering of concrete casing, fixing concrete casing to ground in high water table to avoid post installation movement of casing.

Glossary

Above-ground storage compounds –A waste storage compound is a structure which houses the appropriate containers for the storage of waste associated with development.

Additional storage areas –This is the additional space required for the storage of bulky waste items which is normally located close to the external waste storage compound within residential developments. Please see part 11 of the Guide and the section entitled “Waste Management Provision for Flats and Apartments” for further details.

Alternate weekly (collection) – Alternate weekly collection involves the collection of household wastes every other week, during the intervening weeks recyclables and/or green wastes will be collected.

Assessment Criteria – To be completed by developers and submitted as part of planning applications it sets out the information required in relation to any development which involves the construction of a waste storage compound, Bring site or an alternative scheme to that suggested in the Design Guide.

Basis for conditions and agreements – sets out the scope and process relating to planning obligations to provide expanded and/or new Bring sites and Household Recycling Centres as part of residential developments.

Biodegradable waste – waste which is able to decompose through the action of bacteria or other microbes. This includes material such as paper, food waste and green garden waste. Waste which is under the control of local authorities is referred to as biodegradable municipal waste.

Bring Site – These sites comprise a number of containers to allow for the collection of materials for recycling and which are generally located in publiclly accessible areas such as a supermarket or public car park. Please see part 9 of the Guide for further detail

Bulky waste – is a term used to describe waste types that are too large to be accepted by the regular waste collection service. Bulky waste items can include discarded furniture, large appliances and white goods.

Cambridgeshire Design Guide for Streets and Public Realm - The Design Guide which is County Council policy sets out the key principles and asprirations that should underpin the detailed discussions about the design of streets and public spaces. Please see part 2 of the Guide for further details.

Collection frequency – This is the frequency of waste collection from residents in Cambridgeshire and Peterborough. Further details relating to current collection frequencies are available from the Cambridgeshire and Peterborough Waste Collection Authorities.

Community Group – Voluntary group operating at a local level.

Community Infrastructure Levy – The Community Infrastructure Levy (CIL) will be a new charge which local authorities in England and Wales will be empowered, but not required, to levy on most types of new development in their areas. CIL charges will be based on simple formulae which relate the size of the charge to the size and character of the development paying it. The Levy is intended to partially replace the existing system of negotiating Section 106 Agreements with developers.

Community Recycling – this is recycling which is led by a community group or a local community.

Community Trust – Independent non-profit trusts which own or control land and facilities in perpetuity for the benefit of the community.

Compactor – This is a machine or mechanism used to reduce the volume of waste material through compaction, storage and transportation.

Composters/composting bins – these are containers which are designed to enable residents and community groups to compost their organic waste. Please see Appendix C of the Guide for further details.

Condition (planning) – Planning conditions are applied to the grant of planning permission and limit and control the way in which the planning permission may be implemented.

Design Standards Checklist – Applies to all commercial and residential developments including redevelopment of existing sites it sets out the minimum standards required in relation to waste storage, highway design, highway design, planning obligations and alternative waste schemes.

Development Plan Documents (DPDs) – spatial planning documents prepared by the relevant planning authority and subject to an independent examination by a Planning Inspector appointed by the Secretary of State.

Dry Recyclable – Dry Recyclable waste including materials such as paper, cardboard, food tins, drink cans (aluminium) and plastic bottles.

Education Schemes – These are schemes which are used to promote waste reduction and recycling amongst residents including those promoted by the RECAP Partnership. Please see Appendix C of the Guide for further details.

Environmental Protection Act (1990) – This act sets out the duties of Waste Collection and Waste Disposal authorities in relation to the collection, disposal and recycling of controlled waste and the regulation of such activities.

External storage capacity – This is the amount of space required for external storage containers to serve residential and commercial developments. Please see part 4 of the Guide for further details in relation to the recommended capacities for different types of development.

Food waste – includes kitchen food, raw or cooked, which is discarded.

Green waste – is household waste which is unwanted vegetation such as grass cuttings, tree cuttings, leaves which arise from gardens.

Hazardous Waste Regulations 2005 – Regulations which provide a documented cradle-to-grave procedure for the safe movement, treatment and disposal of hazardous waste.

Household Recycling Centre (formerly known as Household Waste Recycling Centre) – a place provided by the Waste Disposal Authority where members of the public can deliver household wastes for disposal. Recycling facilities may also be provided at these sites. (Also known as Civic Amenity Sites). Please see part 8 of the Guide for further details.

Internal storage capacity – This is the amount of space required within dwellings to enable the segregation and where possible the composting of waste. Please see part 4 of the Guide for further details.

Landfill –the deposit of waste onto and into land in such a way that pollution or harm to the environment is prevented and, through restoration, to provide land which may be used for another purpose.

Landfill Allowance Trading Scheme (LATS) - This is an initiative by the UK government, which identify the amount of biodegradable municipal waste (BMW) which can be sent to landfill. Local authorities are then allowed to trade, bank or borrow this allowance with other authorities.

Landfill Directive – This a European Directive the overall aim of which is to prevent or reduce as far as possible negative effects on the environment arising from the landfilling of waste, during the whole life-cycle of the landfill.

Local Planning Authority – This is the local authority responsible for the preparation of a Development Plan relating to all matters (excluding minerals and waste) and the determination of related planning applications e.g. housing development. Both the Cambridgeshire Districts and Peterborough City Council are Local Planning Authorities.

Manual for Streets - The Department of Transport Manual for Streets was launched in March 2007 and supercedes Design Bulletin 32 and Places, Streets and Movement, which are now withdrawn. The manual which is national guidance should be used for the design, construction, adoption and maintenance of new residential streets, but it is also applicable to existing residential streets subject to re-design.

Mixed Dry Recyclables – this is where different types of dry recyclable e.g. glass, plastic and cans are collected together by the relevant Waste Collection Authority.

Municipal waste – Waste from households which is under the control of local authorities is referred to as municipal waste.

On-site Treatment – Is recycling on site where the waste is generated and involves the physical, chemical or biological processing of wastes to reduce their volume or harmfulness.

Peterborough Residential Design Guide - This document which is Peterborough City Council approved guidance sets out design guidelines for all those involved in housing development in the Peterborough area. Please see part 2 of the Guide for further details.

Planning obligations – please see Section 106 agreements.

Planning Obligations Circular 05/05 – a Planning Circular which sets out guidance to English local authorities on the use of planning obligations under Section 106 of the Town and Country Planning Act (as amended by subsequent Acts).

Planning Policy Statement (PPS) – Documents issued by Government to replace the existing Planning Policy Guidance notes in order to provide greater clarity and to remove from national policy advice on practical implementation, which is better expressed as guidance rather than policy.

RECAP Partnership – The Cambridgeshire and Peterborough Authorities together have responsibility for the collection and disposal of municipal waste. The Cambridgeshire and Peterborough Waste Partnership (RECAP) was established to oversee waste management as a whole.

RECAP Waste Management Design Toolkit – Developers are required to complete the relevant parts of the toolkit in accordance with the Cambridgeshire and Peterborough Minerals and Waste Core Strategy and submit this information as part of planning applications for residential and commercial developments. The toolkit has three interrelated components (Design Standards Checklist, Assessment Criteria and Basis for Conditions and Agreements).

RECAP Waste Strategy – This document which is formally known as the Cambridgeshire and Peterborough Joint Municipal Waste Management Strategy published in 2008 which covers arrangements for the management of waste that falls under the control of a local authority (municipal waste),whilst recognising the potential 'wider waste' role of local authorities influencing non-municipal waste e.g. commercial and industrial waste. The strategy also includes the expansion of the partnership's remit to include environmental protection, including littering and fly-tipping.

Recycling (of waste) – Involves the reprocessing of wastes, either into the same material (closed-loop) or a different material (open-loop recycling). Commonly applied to non-hazardous wastes such as paper, glass, cardboard, plastics and metals. However, hazardous wastes e.g. solvents can also be recycled by specialist companies, or by in-house equipment.

Reduction (of waste) – this is reducing the amount of waste which is generated.

Refuse Disposal (Amenity) Act 1978 – This act sets out the duties of Waste Disposal authorities and Waste Collection Authorities in relation to the disposal of certain types of municipal waste.

Residential Storage Point – This is where waste from residential developments is stored e.g. within boundaries of the house. Please see part 5 of the Guide for further details.

Residual Waste –The waste for disposal remaining after the recovery, recycling or treatment of municipal waste sent for disposal.

Reuse (of waste) – Using materials or products again, for the same or different purpose, without reprocessing the material.

Section 106 Agreements – these are legal agreements which are negotiated between local planning authorities and developers to ensure that development is acceptable in planning terms and which are commonly known as planning obligations. In the context of this SPD the use of these agreements would relate to the provision of financial contributions and/or land to develop the existing network of Household Waste Recycling Centres and Bring Sites within Cambridgeshire and Peterborough as appropriate (please see parts 8 and 9 of the Guide for further details).

Segregation (of waste) – this is the separation of different types of waste to enable recycling, recovery and/or disposal as appropriate.

Supplementary Planning Documents (SPDs) – cover a wide range of issues on which the planning authority wishes to provide guidance to supplement the policies and proposals in the DPDs. They will not form part of the Development Plan or be subject to independent examination, but their programme of preparation must be set out.

Underground bring site – These sites comprise a number of posting units above ground to allow for the collection of materials for recycling. Please see part 9 and Appendix G of the Guide for further details.

Underground storage systems – These are an alternative way of storing waste below ground which typically consists of containers which are concealed from view at street level and are accessed through a lift mechanism. Please see part 6 and Appendix A of the Guide for further details.

Waste Audit – A formal structured process used to identify the type, composition and quantity of waste that will be produced during the construction and occupation phases of a development, usually forming part of a wider waste management strategy.

Waste Collection Authority (WCA) – A local authority (a district, city or unitary council) duty to collect municipal waste in its area. Both the Cambridgeshire Districts and Peterborough City Council are Waste Collection Authorities.

Waste Disposal Authority (WDA) – A local authority (a county or unitary) responsible for the management of the waste collected and delivered to it by constituent collection authorities. The processing and/or final disposal of the waste is usually contracted to the private sector waste management industry. Both Cambridgeshire County Council and Peterborough City Council are Waste Disposal Authorities.

Waste Electrical and Electronic Equipment Regulations (WEEE) 2006 – regulations which are intended to both reduce the amount of electrical and electronic equipment being generated and to encourage everyone to re-use, recycle and recover these items.

Waste Hierarchy – The Government's framework for securing a sustainable approach to waste management, e.g. reuse of waste is preferable to landfill.

Waste Management – Waste management is education, regulation, collection, transport, processing, recycling or disposal, and monitoring relating to waste materials.

Waste Planning Authority (WPA) – This is the local authority responsible for the preparation of a Development Plan relating to waste and the determination of waste related planning applications e.g. Household Waste Recycling Centres. Both Cambridgeshire County Council and Peterborough City Council are Waste Planning Authorities.

Waste Strategy – A strategy for dealing with waste arising from the proposed development in accordance with the principles of the waste hierarchy, including specific measures to be incorporated into the developments design. The Strategy is likely to incorporate a Waste Audit and SPD Compliance Toolkit.

Wormeries – Similar to a home composter but where specific worms are introduced to aid the decomposition of the waste material. Please see Appendix C of the Guide for further details.

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