REPORT N^{O} 70031610

SANDY PARK HOTEL, EXETER, DEVON

WASTE AUDIT STATEMENT

APRIL 2017

WSP | PARSONS BRINCKERHOFF

SANDY PARK HOTEL, EXETER, DEVON

WASTE AUDIT STATEMENT

Exeter Rugby Group Plc.

Project no: 70031610
Date: April 2017

WSP | Parsons Brinckerhoff
The Victoria
150-182 The Quays
Salford
Greater Manchester
M50 3SP

Tel: +44 (0)161 886 2400
Fax: +44 (0)161 886 2401
www.wsp-pb.com

QUALITY MANAGEMENT

ISSUE/REVISION	FIRST ISSUE	REVISION 1	REVISION 2	REVISION 3
Remarks	Draft	Final Draft	Final	
Date	06 April 2017	11 April 2017	20 April 2017	
Prepared by	Francesca Walker	Francesca Walker	Francesca Walker	
Signature	Francesca Walker Digitally signed by Francesca Walker DN: cn=Francesca Walker, c=GB, o=WSP, ou=Manchester (The Victoria), email=francesca.walker@wspgroup.com Date: 2017.04.20 15:16:49 +01'00'	Francesca Walker Digitally signed by Francesca Walker DN: cn=Francesca Walker, c=GB, o=WSP, ou=Manchester (The Victoria), email=francesca.walker@wspgroup.com Date: 2017.04.20 15:17:11 +01'00'	Francesca Walker Digitally signed by Francesca Walker DN: cn=Francesca Walker, c=GB, o=WSP, ou=Manchester (The Victoria), email=francesca.walker@wspgroup.com Date: 2017.04.20 15:17:41 +01'00'	
Checked by	Michael Berney	Michael Berney	Michael Berney	
Signature	Berney, Michael Digitally signed by Berney, Michael DN: cn=Berney, Michael, ou=Manchester (The Victoria), email=Michael.Berney@WSPGroup.com Date: 2017.04.20 15:21:17 +01'00'	Berney, Michael Digitally signed by Berney, Michael DN: cn=Berney, Michael, ou=Manchester (The Victoria), email=Michael.Berney@WSP Group.com Date: 2017.04.20 15:21:29 +01'00'	Berney, Michael Digitally signed by Berney, Michael DN: cn=Berney, Michael, ou=Manchester (The Victoria), email=Michael.Berney@WSP Group.com Date: 2017.04.20 15:21:41 +01'00'	
Authorised by	Matthew Venn	Matthew Venn	Matthew Venn	
Signature	matthew.venn@emeia.wspgroup.com Digitally signed by matthew.venn@emeia.wspgroup.com DN: cn=matthew.venn@emeia.wspgroup.com, email=matthew.venn@emeia.wspgroup.com Date: 2017.04.20 15:34:37 +01'00'	matthew.venn@emeia.wspgroup.com Digitally signed by matthew.venn@emeia.wspgroup.com DN: cn=matthew.venn@emeia.wspgroup.com, email=matthew.venn@emeia.wspgroup.com Date: 2017.04.20 15:34:52 +01'00'	matthew.venn@emeia.wspgroup.com Digitally signed by matthew.venn@emeia.wspgroup.com DN: cn=matthew.venn@emeia.wspgroup.com, email=matthew.venn@emeia.wspgroup.com Date: 2017.04.20 15:35:08 +01'00'	
Project number	70031610	70031610	70031610	

TABLE OF CONTENTS

APPENDICES

1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 WSP | Parsons Brinckerhoff has been commissioned by Exeter Rugby Group Plc. to prepare an Waste Audit Statement to support the planning application for Sandy Park Hotel, Exeter, Devon (hereafter referred to as the 'Proposed Development').

1.1.2 This Waste Audit Statement considers the potential impacts that may arise from waste generated during the site preparation, construction and operational phase, with the overall aim of developing a strategy for legislative compliance and good practice in the prevention, minimisation, management and collection of waste arisings.

1.1 PROPOSED DEVELOPMENT & APPLICATION SITE DESCRIPTION

Proposed Development

1.1.1 The formal description of the Proposed Development is:

'*Demolition of existing bungalow to allow construction of new hotel up to 250 bedrooms and associated facilities including new pedestrian foot bridge link as main entrance at high level via Sandy Park Stadium car park*.'

Description of Site

1.1.2 The site is occupied by a residential bungalow owned and used by our client Exeter Rugby Group PLC, the extent of the ground stretch from Old Rydon Lane down to the Southern boundary with the M5 motorway. The majority of the site adjacent to the Bungalow is overgrown shrubbery and small trees and bushes.

1.1.3 The Site falls within the jurisdiction of Exeter City Council (ECC).

1.1.4 **Figure 1.1** shows the site for the Proposed Development.

Figure 1.1: Proposed Site for Sandy Park Hotel

1.2 REPORT STRUCTURE

1.2.1 This report is set out in the following format:

- **Section 1: Introduction**
- **Section 2: Waste Legislation, Policy and Guidance** - details of the national legislation and local waste policy that have relevance to the Proposed Development.
- **Section 3: Construction Waste Strategy** - provides an estimate of construction waste arisings and outlines the plan which would be adopted to successfully manage the waste during construction.
- **Section 4: Operational Waste Strategy** - provides an estimate of commercial waste arisings and outlines the plan which will be adopted to successfully manage the waste once operational.
- **Section 5**: **Summary and Conclusion**
- **Appendix A: National and Local Waste Policy & Guidance**

2 WASTE LEGISLATION, POLICY AND GUIDANCE

2.1 INTRODUCTION

2.1.1 The development and implementation of European Union (EU) waste policy and legislation is delivered by EU Directives e.g. Landfill Directive, Waste Electrical and Electronic Equipment Directive etc. Member States must implement the policy drivers and requirements of these Directives through national legislation.

2.1.2 The revised Waste Framework Directive (rWFD) is a unique EU Directive because it clarifies the definition of 'waste' and of other concepts such as 'recycling' and 'recovery'. It implements a revised Waste Hierarchy, expands the 'polluter pays' principle by emphasising producer responsibility and applies more stringent waste reduction and waste management targets for Member States. It also requires Member States to take measures to promote high quality recycling and to set up separate collections of paper, plastic, metal and glass.

2.1.3 This section focusses on the details of the national legislation that is relevant to the Proposed Development, much of which is influenced by the rWFD. National and local waste policy and guidance reviewed during the preparation of this Waste Management Strategy are listed below.

2.2 NATIONAL LEGISLATION

2.2.1 A list of relevant items of national waste legislation is outlined below in reverse chronological order:

- **Waste Management, The Duty of Care Code of Practice (2016 update)** - This code of practice replaces the 1996 Code and is pursuant to Section 34(9) of the Environmental Protection Act 1990. It sets out practical guidance on how to meet waste duty of care requirements and is admissible as evidence in legal proceedings i.e. its rules will be taken into account where relevant in any case based on breach of the duty of care.
- **The Waste (England and Wales) Regulations 2011 (as amended) -** From 1 January 2015, waste collection authorities must collect waste paper, metal, plastic and glass separately. It also imposes a duty on waste collection authorities, from that date, when making arrangements for the collection of such waste, to ensure that those arrangements are by way of separate collection.
- **Environmental Protection Act 1990 -** Part II of the act was originally implemented by the Duty of Care Regulations 1991. The Duty of Care is a legal requirement for those dealing with certain kinds of waste to take all reasonable steps to keep it safe and is set out in Section 34 of the Act. The Waste (England and Wales) Regulations 2011 repealed the Environmental Protection (Duty of Care) Regulations 1991 and apply the Duty of Care requirements brought in by the Environmental Protection Act 1990.

2.3 NATIONAL & LOCAL WASTE POLICY & GUIDANCE

2.3.1 The relevant national and local waste policy that was reviewed during the preparation of this Waste Management Strategy is outlined below and further detail provided in **Appendix A**:

- *National Planning Policy Framework* (2012);
- *National Planning Policy for Waste* (2014);

- *Waste Management Plan for England* (2013);
- *Devon County Council, The Devon Waste Plan* (2014);
- *Devon County Council*, *Devon County Minerals and Waste Development Framework; Part 1: Waste Management and Infrastructure- Supplementary Planning Document*;
- *ECC, Core Strategy (2012);*
- *ECC, Local Plan First Review 1995-2011 (2005); and*
- *ECC*, *Residential Design Supplementary Planning Documents Chapters 6 to 8* (2010).

3 CONSTRUCTION WASTE STRATEGY

3.1 INTRODUCTION

3.1.1 This section details how overarching waste management processes and practices will be undertaken during the site preparation and construction phase of the Proposed Development.

3.2 CONSIDERATE CONSTRUCTORS SCHEME

3.2.1 The Principal Contractor(s), once appointed, will register their site with the 'Considerate Constructors Scheme'. This is a national initiative, set up by the construction industry. Sites that register with the Scheme sign up and are monitored against a Code of Considerate Practice, designed to encourage best practice beyond statutory requirements.

3.2.2 The Scheme is concerned about any area of construction activity that may have a direct or indirect impact on the image of the industry as a whole. The main areas of concern fall into three categories: the environment, the workforce and the general public. Waste management is a key area of focus and on-site considerations may include:

- How waste is avoided, reduced, reused, and/or recycled;
- Whether there is a Waste Management Plan/Strategy and how this is monitored; and
- The type of feedback received (if any) as to how much waste on-site is diverted from landfill.

3.2.3 It is expected that registered construction sites work in an environmentally conscious, sustainable manner.

3.3 SITE WASTE MANAGEMENT PLAN

3.3.1 As part of a drive to cut red tape, the Government revoked the requirement for Site Waste Management Plans (SWMPs) for construction projects costing over £300,000 as of 1 December 2013 and they are no longer statutory.

3.3.2 However, SWMPs remain good practice during construction and allow waste credits to be achieved under certification schemes such as BREEAM; one would be prepared by the Principal Contractor(s) post planning consent.

3.4 SITE PREPARATION AND EARTHWORKS

3.4.1 The Proposed Development will include the demolition of an existing building.

3.4.2 The specific quantities and types of demolition material have not been determined at this stage, as a pre-demolition audit has not yet been commissioned. Therefore, it is not possible to generate an estimate of waste arising from the demolition phase of the Proposed Development.

3.4.3 The demolition and site clearance works will likely take place by reducing the building's height from the top down. It is most likely that the demolition works will be carried out in the following sequence, comprising:

- Removal of any Asbestos Containing Material (ACM) and other hazardous materials from the area, if applicable;
- Soft strip;
- Demolition of structures; and
- Removal of ground slabs.

3.4.4 Waste arising from site clearance, primary infrastructure and earthworks is expected to comprise topsoil, rubble, tarmac from former hard-standings, gravel and clay material.

3.4.5 Any clean excavated material that cannot be reused on-site would be removed by licensed waste carriers and sent for reuse at another development site or sent for disposal at appropriately licensed facilities (there are expected to be inert waste landfill sites).

3.4.6 Any clean excavated material that cannot be reused on-site will be removed by licensed waste carriers and sent for reuse at another local development site or sent for disposal at appropriately licensed facilities (these are expected to be inert waste landfill sites).

3.4.7 Any contaminated material found that requires removal from the site will be collected by suitable waste carriers and sent for disposal at appropriately licensed hazardous waste facilities.

3.5 CONSTRUCTION WASTE

3.5.1 During each stage of the construction process there is the potential to generate waste from a variety of means, including the over-ordering or on-site damage of raw materials and construction process waste, such as material off-cuts, packaging and chemical residues.

3.5.2 Opportunities for minimising construction waste are discussed in this section, considering issues such as reducing waste through selection of more sustainable raw materials and the implementation of effective on site waste management practices.

Estimating Construction Waste

The Building Research Establishment (BRE) has developed indicators to aid in the calculation of construction waste arisings at the design of a new development. The Environmental Performance Indicator (EPI) measures tonnes of waste/100m^2 of floor area.

3.5.3 **Table 3.1** shows the relevant EPI for the Proposed Development.

Table 3.1: Waste benchmark

PROJECT TYPE	TONNES / 100M^2 GROSS INTERNAL FLOOR AREA
Leisure	21.6

Source: BRE Waste Benchmark Data (issued June 2012)

3.5.4 **Table 3.2** shows the estimated construction waste arisings for the hotel element of the Proposed Development, based on the gross internal area (GIA) of the building and the applicable BRE waste benchmark. It should therefore be noted that these figures are indicative at this stage and will be subject to further refinement.

Table 3.2: Estimated construction waste

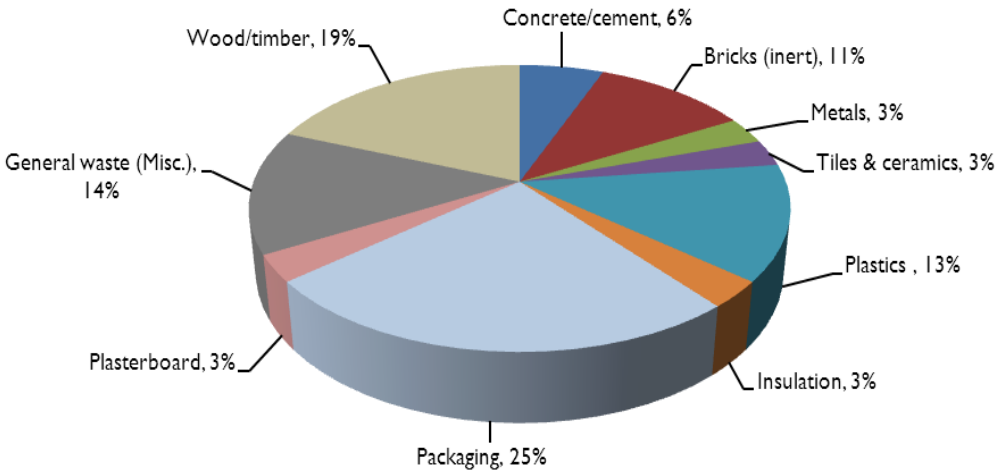
Building	Indicative GIA (sqm)	BRE Project Type	BRE Benchmark (tonnes per 100sqm)	Construction Waste (tonnes)
Hotel (C1)	13,500	Leisure	21.6	2,916

3.5.5 It is estimated that 2,916 tonnes of waste may arise from construction of the Proposed Development.

3.5.6 It should be noted that the estimated total figure also does not include waste from infrastructure development, such as utilities and pavements, which will add to the total construction waste volume. This is due to the fact that infrastructure development cannot be easily calculated using benchmarking data; and the BRE have no applicable information on this area of construction.

3.5.7 **Figure 3.1** illustrates the estimated composition of construction waste arisings for the Proposed Development, based on data from UK construction projects of a similar nature.

Figure 3.1: Estimated construction waste composition (Source: SmartWaste)



3.5.8 **Table 3.3** shows the typical recovery rate of construction materials.

Table 3.3: Recovery rate of the construction materials

MATERIAL	STANDARD RECOVERY* %	GOOD PRACTICE RECOVERY* (QUICK WIN) %	BEST PRACTICE RECOVERY* %
Timber	57	90	95
Metals	95	100	100
Plasterboard	30	90	95
Packaging	60	85	95
Ceramics	75	85	100
Concrete	75	95	100
Inert	75	95	100
Plastics	60	80	95
Miscellaneous	12	50	75
Electrical Equipment	Limited information	70**	95
Furniture	0-15	25	50
Insulation	12	50	75
Cement	Limited information	75	95
Liquids and oils	100	100	100
Hazardous	50	Limited information***	Limited information***
* Proposed waste management actions 'Reuse' and 'recycling' are forms of waste recovery.			
** This is a required recovery target for the type of Waste Electrical and Electronic Equipment (WEEE) likely to be produced from construction sites, e.g. lighting (the WEEE Regulations).			
***This cannot be 100% as most hazardous waste streams (e.g. asbestos) must be landfilled.			

3.5.9 **Table 3.4** shows the type and volume of waste to be generated during excavation, demolition and construction based on the percentages provided in **Figure 3.1**.The 'Standard Recovery (%)' in **Table 3.3** were used to determine the percentage recovered from the construction materials.

Table 3.4: Type and volume of waste to be generated during excavation, demolition and construction

MATERIAL	QUANTITY		
Inert	Total Estimated Amount (tonnes)	Tonnage to be recovered	Tonnage to be landfilled
Brick	1,755	n/a	n/a
Concrete	810	608	203
Tiles and Ceramics	405	304	101
Non- Hazardous			
Packaging	3,375	2,025	1,350
Metals	405	385	20
Plastics	1,755	1,053	702
Plasterboard	405	122	284
General Waste	1,890	227	1,663
Wood/ Timber	2,565	1,462	1,103
Installation	405	49	356
Total	**13,500**	**6,233**	**5,426**

3.5.10 It should be noted that typical hazardous materials from construction sites that fall within the Hazardous Waste Regulations include:

- Treated wood, glass, plastic (alone or in mixture) containing dangerous substances;
- Bituminous mixture containing coal tar and other dangerous substances;
- Metals containing oil, coal tar and other dangerous substances;
- Cables containing oil, coal tar and other dangerous substance;
- Rubble or hardcore containing dangerous substances;
- Soil, stones and dredging spoil containing dangerous substances;
- Gypsum materials such as plasterboard containing hazardous materials;
- Unused or unset cement;
- Paints and varnishes containing organic solvents or other dangerous substances;
- Paint or varnish remover;
- Adhesives and sealants containing organic solvent or other dangerous substances; and
- Empty packaging contaminated with residues of dangerous substances e.g. paint cans.

3.5.11 Hazardous waste materials will be stored in secure bunded compounds in appropriate containers which are clearly labelled to identify their hazardous properties and are accompanied by the appropriate assessment sheets.

3.5.12 Any fuels, oils and chemicals that are used will be stored in appropriate containers within secure bunded compounds in accordance with good site practice and regulatory guidelines and located away from sensitive receptors.

Sustainable Selection of Construction Materials

3.5.13 A sustainable materials selection strategy would be prepared prior to the construction of the Proposed Development. Measures will be taken, such as face-to-face 'toolbox talks' and provision of clear operational instructions, to ensure that contractors are committed to the operation of good practice measures on-site with emphasis on continual improvement and identifying appropriate opportunities to reduce waste, promote recycling and use recyclable materials. The ordering of appropriate, minimum amounts of building materials will be part of the materials selection strategy.

Setting Targets for Reducing Construction Waste

3.5.14 Appropriate targets and objectives will be set in relation to the minimisation and recycling of any waste materials during earth works and construction. This will ensure that a clear action plan is generated for the management of specified types and quantities of materials identified for each of the construction stages. These targets will be agreed at the inaugural meeting between the Principal Contractors, the contractors and ECC.

3.5.15 To ensure that the system of waste prevention, minimisation, reuse and recycling is effective, consideration will be given to the setting of on-site waste targets and a suitable programme of monitoring at regular intervals to focus upon:

- Quantifying raw material wastage;
- Quantifying the generation of each waste stream;
- Any improvements in current working practices;
- Methods by which the waste streams are being handled and stored; and
- The available waste disposal routes used, e.g. landfills, waste transfer stations.

3.5.16 The Principal Contractors will be responsible for the setting and review of waste targets from the outset of the development process to ensure that high standards are maintained with the emphasis being on continual improvement. Specific waste quantification and monitoring will assist in determining the success of waste management initiatives employed on each construction site and progress against these targets should be relayed back to the appropriate stakeholders.

Achieving Reductions in Construction Waste - Promotion of Best Practice

3.5.17 As part of the encouragement of on-site best practice, there will also be a need to ensure that suppliers of raw materials to the Proposed Development are committed to reducing any surplus packaging associated with the supply of any raw materials. This includes the reduction of plastics (i.e. shrink wrap and bubble wrap), cardboard and wooden pallets. This may involve improved procurement and consultation with selected suppliers regarding commitments to waste minimisation, recycling and the emphasis on continual improvement in environmental performance.

3.5.18 **Table 3.5** below summarises the most important mitigation measures to minimise the potential waste of on-site materials during construction. It is important to note, however, that not all construction materials will be provided by local suppliers.

Table 3.5: Measures to reduce the wastage of on-site construction materials

Ordering	**Delivery**
Avoid: Over-ordering (order 'just in time') Ordering standard lengths rather than lengths required Ordering for delivery at the wrong time (update programme regularly)	Avoid: Damage during unloading Delivery to inappropriate areas of the site Accepting incorrect deliveries, specification or quantity
Storage	**Handling**
Avoid: Damage to materials from incorrect storage Loss, theft or vandalism through secure storage and on-site security	Avoid: Damage or spillage through incorrect or repetitive handling

3.5.19 Where practicable, waste streams that have the potential to be reused on-site or transported off-site for recycling will need to be segregated. Although every effort will be made to retain all suitable materials on-site, it is possible that some of these materials cannot be reused or recycled during the construction process. In these situations, the Site Managers will work to identify a nearby Transfer Station or suitably licensed facility in order for material to be redistributed as fill on other suitable sites. This represents the most sustainable alternative to landfill disposal.

Construction Materials and Waste Storage

3.5.20 Emphasis will be placed on the provision of appropriate storage conditions for raw materials and key waste streams relating to each development. This will include the segregation of material for reuse or recycling on-site. Where this is not practicable, materials will be segregated for off-site recycling.

3.5.21 The location of the waste storage areas will be clearly labelled, identifying the materials that can be received. Provisions that will be made include:

- Temporary offices and work compounds on-site will retain all details relating to the waste strategy for the site, health and safety and monitoring and reporting details.
- Storage areas for raw materials and assembly areas for construction components will be located away from sensitive receptors;
- Clearly identified containers for segregated waste streams for reuse and recycling;
- Dedicated skips will be provided for any construction waste that requires off-site disposal;

3.5.22 In addition, the provision of effective and secure storage areas for construction materials is important to ensure that potential loss of material from damage, vandalism or theft is avoided. These measures will be supported by ensuring well-timed deliveries to the site, providing on-site security and installing temporary site security fencing.

3.5.23 Implementation of good practice measures in terms of on-site storage and security practices will assist in reducing unnecessary wastage of material and ensure that high standards are maintained throughout the development process.

Managing Transport and Traffic Impacts from Construction

3.5.24 The logistics associated with construction waste are affected by a wide range of factors. The quantity and types of waste materials generated will fluctuate during the construction phases and the resulting number of waste collections will be dictated by a range of variables, including the amount of storage space for waste, the capacity of waste containers used, the materials segregated for recycling and whether any on-site processes are used for reducing the volume of waste (compactors / balers / shredders etc.).

3.5.25 The Principal Contractors will be expected to provide construction waste logistics forecasts, which will be discussed with waste contractors and ECC following appointment of relevant parties.

3.5.26 The impact of traffic associated with the movement of construction and waste materials on surrounding neighbourhoods and the local road network will be minimised by a combination of factors. These include reducing the need to import / export materials; and minimising off-site removal of waste to landfill. Dedicated haulage routes will be agreed with ECC to minimise disturbance to local communities.

4 OPERATIONAL WASTE STRATEGY

4.1 INTRODUCTION

4.1.1 This section details how overarching waste management processes and practices will be undertaken during the operational phase of the Proposed Development.

4.2 GENERATION OF COMMERCIAL WASTE

4.2.1 Waste from the Proposed Development will be generated from the following main sources:

- Housekeeping;
- Reception;
- Staff office;
- Restaurant; and
- Leisure areas.

4.2.2 Likely volumes of commercial waste from the Proposed Development have been calculated based on the most reliable available data to identify availability for storage, recycling/ reuse, treatment or disposal of waste produced during the operational life of the development.

4.2.3 The British Standard 5906:2005 *Waste management in buildings - Code of practice* has been used as guidance to identify the potential arising of commercial waste.

4.2.4 **Table 4.1** below outlines the estimated operation waste arisings.

Table 4.1: Estimated Commercial Waste Generated (per week)

	EQUATION FOR WEEKLY WASTE	NUMBER OF BEDROOMS	WEEKLY WASTE ARISINGS (LITRES)	1,100 LITRE WHEELED BIN EQUIVALENT
Hotel [a]	Volume per bedroom [250l] x number of bedrooms	250	62,500	57

Notes:

[a] Assumes that the hotel will be 2/3 stars.

4.2.5 At this stage it is estimated that the Proposed Development could potentially generate up to approximately 62,500 litres of commercial waste per week (the equivalent of 57 Eurobins), assuming that the maximum gross floor space will be constructed and occupied.

4.3 STORAGE OF COMMERCIAL WASTE

4.3.1 The Proposed Development will have dedicated waste containers for refuse and recycling. It is proposed that 50% of the allocated waste storage space will be dedicated to the storage of segregated materials for recycling.

4.3.2 All collection points and waste storage areas will be clearly labelled to ensure no cross contamination of general refuse and segregated recyclables.

4.3.3 It is anticipated that small amounts of hazardous waste will be generated during operation. It is recommended that, where appropriate, equipment is provided for the correct collection and

storage of the following hazardous waste in the waste storage areas:

- Batteries: container of small dimensions.
- Fluorescent bulbs: specialist ‘coffin’ container.
- Paints, solvents: Flammable Safety Cabinet with lockable doors.
- Printer cartridges: bin provided with a lid.

4.4 COLLECTION OF COMMERCIAL WASTE

4.4.1 It is proposed that collection of commercial waste will be undertaken via external waste management contractors.

4.4.2 Surfaces that waste containers need to be moved over will be of a smooth, continuous finish and free from steps or other obstacles. Any steps will incorporate a drop-kerb. Measures will be taken by the tenants to ensure that access to the agreed collection point will not be restricted on collection days.

4.4.3 Waste collection frequency will be dependent upon the schedule of the appointed waste contractor and the volume of waste generated during the operation. It is also dependent upon the storage method used, for example, if segregated recyclables are to be collected separately rather than in co-mingled loads, the number of collections required will increase.

5 SUMMARY AND CONCLUSION

5.1 SUMMARY OF THE STRATEGY

Waste from the Construction Phase

5.1.1 In the first instance, the Client/Principal Contractor will register the construction site with the '*Considerate Constructors Scheme*'.

5.1.2 Waste arising from the construction phase of the Proposed Development would be separated into key waste groups. The contractor would provide a suitable area(s) within the construction site for the separation of materials for recycling (e.g. timber, metals, packaging, hardcore etc.).

5.1.3 It is acknowledged, however, that construction sites can often be space constrained and this may limit the opportunity for segregation of the full suite of materials on-site. This segregation may instead be undertaken off-site by a suitable waste contractor.

5.1.4 It would be a condition of contract for the contractors to discuss and agree waste recovery rates to be targeted at the inaugural meeting. A monitoring report would then be generated on a monthly basis which would include details of the progress made in diverting waste materials from landfill, against these pre-agreed targets.

Waste from the Operational Phase

5.1.5 It is estimated at this stage that the Proposed Development could potentially generate 62,500 litres of commercial waste per week, of which a significant proportion will be separated for recycling.

5.2 CONCLUSION

5.2.1 This Waste Audit Statement has taken into account the need to lessen the overall impact of waste generation through minimisation, reuse and recycling of materials from both the construction and operational phases.

5.2.2 The Proposed Development meets the requirements of relevant waste policy and follows applicable guidance.

5.2.3 Means by which to further reduce the waste arisings and increase recycling rates from the Proposed Development have been identified, to ensure that the Site can achieve an improved waste management performance.

Appendix A

NATIONAL AND LOCAL WASTE POLICY GUIDANCE

National Waste Policy

National Planning Policy Framework (2012)[1]

The National Planning Policy Framework ('the Framework') sets out the Government's economic, environmental and social planning policies for England and provides a framework within which local people and councils can produce local and neighbourhood plans. Most of the existing Planning Policy Statements (PPSs) have been abolished and replaced by 12 'core' planning principles.

Unfortunately, the Framework does not provide much clarity on planning policy for the development of waste infrastructure and states that:

> *'This Framework does not contain specific waste policies, since national waste planning policy will be published as part of the National Waste Prevention Plan for England. However, local authorities preparing waste plans and taking decisions on waste applications should have regard to policies in this Framework so far as relevant'.*

Further guidance is included in the Waste Management Plan for England (2013) which superseded Waste Strategy for England 2007 for these purposes

National Planning Policy for Waste (2014)[2]

The National Planning Policy for Waste replaces 'Planning Policy Statement 10: Planning for Sustainable Waste Management' (PPS 10) and is to be considered alongside other national planning policy for England - such as in the NPPF and the Waste Management Plan for England. As its primary focus is on planning for waste management facilities, it is not considered relevant to the Proposed Development.

Waste Management Plan for England (2013)[3]

The Waste Management Plan for England, published in December 2013, provides an analysis of the current waste management situation in England and fulfils the mandatory requirements of Article 28 of the revised Waste Framework Directive (WFD). The WFD required that Member States ensure that their competent authorities, in this instance Defra, establish one or more waste management plans covering all of their territory.

The Plan does not introduce new policies or change the landscape of how waste is managed in England. Its core aim is to bring current waste management policies under the umbrella of one national plan. It supersedes the previous waste management plan, the Waste Strategy for England 2007.

The mandatory requirements of Article 28 of the revised WFD specify that waste management plans must contain the following information:

---

1 Department for Communities and Local Government (DCLG) (2012) *National Planning Policy Framework* http://www.communities.gov.uk/documents/planningandbuilding/pdf/2115939.pdf

2 DCLG (2014) *National Planning Policy for Waste* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/364759/141015_National_Planning_Policy_for_Waste.pdf

3 Department for Environment, Food and Rural Affairs (DEFRA) (2013) *Waste Management Plan for England* https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/265810/pb14100-waste-management-plan-20131213.pdf

- *'An analysis of the current waste management situation in the geographical entity concerned, as well as the measures to be taken to improve environmentally sound preparing for re-use, recycling, recovery and disposal of waste and an evaluation of how the plan will support the implementation of the objectives and provisions of the revised WFD.*

- *The type, quantity and source of waste generated within the territory, the waste likely to be shipped from or to the national territory, and an evaluation of the development of waste streams in the future;*

- *Existing waste collection schemes and major disposal and recovery installations, including any special arrangements for waste oils, hazardous waste or waste streams addressed by specific Community legislation;*

- *An assessment of the need for new collection schemes, the closure of existing waste installations, additional waste installation infrastructure in accordance with Article 16 (on the proximity principle), and, if necessary, the investments related thereto;*

- *Sufficient information on the location criteria for site identification and on the capacity of future disposal or major recovery installations, if necessary; and*

- *General waste management policies, including planned waste management technologies and methods, or policies for waste posing specific management problems.*

In addition, Schedule 1 to the Waste (England and Wales) Regulations 2011 sets out other obligations for the Plan which have been transposed from the revised WFD. These other obligations include:

- *In pursuance of the objectives and measures in Directive 94/62/EC (on packaging and packaging waste), a chapter on the management of packaging and packaging waste, including measures taken pursuant to Articles 4 and 5 of that Directive.*

- *Measures to promote high quality recycling including the setting up of separate collections of waste where technically, environmentally and economically practicable and appropriate to meet the necessary quality standards for the relevant recycling sectors.*

- *As appropriate, measures to encourage the separate collection of bio-waste with a view to the composting and digestion of bio-waste.*

- *As appropriate, measures to be taken to promote the reuse of products and preparing for reuse activities, in particular -*

    (a) measures to encourage the establishment and support of reuse and repair networks;

    (b) the use of economic instruments;

    (c) the use of procurement criteria; and

    (d) the setting of quantitative objectives.

- *Measures to be taken to ensure that by 2020*

    (a) at least 50% by weight of waste from households is prepared for reuse or recycled.

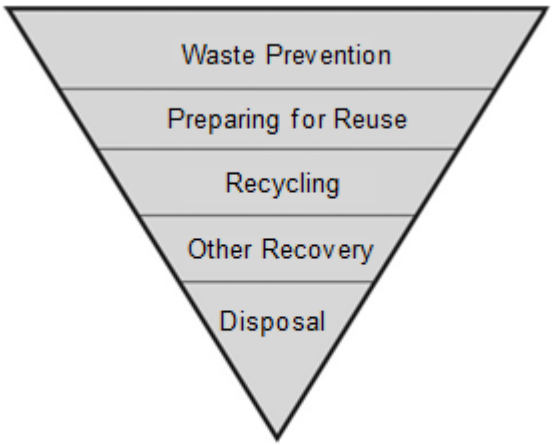
    (b) at least 70% by weight of construction and demolition waste is subjected to material recovery.'

Waste Hierarchy

The Waste Hierarchy requires avoidance of waste in the first instance followed by reducing the volume that requires disposal after it has been generated.

It gives an order of preference for waste management options to minimise the volume for disposal, as shown in **Figure A1.1**.

Figure A1.1: The Waste Hierarchy



Source: Waste Framework Directive

The main principles of the Waste Hierarchy are:

- Waste should be prevented or reduced at source as far as possible;
- Where waste cannot be prevented, waste materials or products should be reused directly or refurbished and then reused;
- Waste materials should be recycled or reprocessed into a form that allows them to be reclaimed as a secondary raw material;
- Where useful secondary materials cannot be reclaimed, the energy content of the waste should be recovered and used as a substitute for non-renewable energy resources; and
- Only if waste cannot be prevented, reclaimed or recovered, should it be disposed of into the environment and this should only be undertaken in a controlled manner.

The Waste Hierarchy has been implemented *in England and Wales by the Waste (England and Wales) Regulations 2011*. These regulations require that an establishment or undertaking that imports, produces, collects, transports, recovers or disposes of waste must take reasonable steps to apply the Waste Hierarchy when waste is transferred or disposed of.

Local Waste Policy

Devon County Council, The Devon Waste Plan (2014)[4]

The Devon Waste Plan provides the policy framework for decisions by Devon County Council on planning applications for waste management development over the period to 2031, and builds on the progress made since adoption of the previous Waste Local Plan in 2006.

To deliver the Vision and Objectives, ten core policies are provided:

- *Policy W1: Presumption in Favour of Sustainable Development* underlines the Waste Plan's positive approach to waste development.
- *Policy W2: Sustainable Waste Management* outlines how this will be achieved and provides a commitment to meeting Devon's waste capacity needs through the sequential approach of the waste hierarchy.
- *Policy W3: Spatial Strategy* explains the Waste Plan's approach to the distribution of waste management facilities, including the identification of Exeter, Barnstaple and Newton Abbot as the foci for strategic waste development and provision for other waste facilities at Devon's other market and coastal towns.
- *Policy W4: Waste Prevention* requires the provision of waste audit statements for major development proposals. This will ensure that waste generation is minimised in construction projects and subsequent occupation of sites and that any waste generated is managed through the waste hierarchy.
- *Policy W5: Reuse, Recycling and Material Recovery* aims for increased recycling levels of at least 64% for household and business waste and 90% for construction and demolition waste by 2031 with targets for interim years and provides criteria for the nature and location of new recycling facilities.
- *Policy W6: Energy Recovery* seeks the delivery of up to 377,000 tonnes of energy recovery capacity within Devon by 2031, with targets for interim years, through existing and consented facilities together with new facilities. The Policy identifies five locations for new facilities: Brynsworthy Environmental Centre (Barnstaple), Tiverton Eastern Urban Extension, Hill Barton and Greendale Barton (east of Exeter) and Heathfield (Kingsteighton). In addition, the Policy allows for new capacity at other locations under certain circumstances and for all new locations, limits the capacity of individual plants to around 80,000 tonnes. Policy W6 also emphasises the need to make efficient use of the energy generated by the facilities as well as ensuring the reusable and recyclable materials are recovered prior to the waste's treatment in an energy recovery facility.
- *Policy W7: Waste Disposal* only allows for new landfill or other disposal capacity where there is a demonstrable need, with the intention of the disposal of waste being below 5% by 2031 (with targets provided for interim years).
- *Policy W8: Waste Water Treatment and Policy W9: The Management of Special Types of Waste* each address the specific requirement of these individual waste streams.
- *Policy W10: Protection of Waste Management Capacity* aims to ensure that existing and planned waste management capacity is safe guarded from constraint by other forms of development.

[4] Devon County Council (2014) *Devon County Minerals and Waste Development Framework: Devon Waste Plan 2011-2031* https://new.devon.gov.uk/planning/planning-policies/minerals-and-waste-policy/devon-waste-plan

Devon County Council, Devon County Minerals and Waste Development Framework; Part 1: Waste Management and Infrastructure- Supplementary Planning Document[5]

Proposals should be made in accordance with the relevant policies in the development plan, and this Supplementary Planning Document (SDP) aims to provide clear and practical guidance on the policies contained within the Devon Waste Plan that are of particular relevance to other organisations. These are the policies that the waste planning authority is relying on the local planning authorities to implement and "non- waste" developers to achieve. Therefore this SPD supports the policies that will be relevant in determining all "non-waste" planning applications across Devon. The SPD is intended to provide guidance for developer who are preparing a planning application and for local planning authorities who are determining the applications.

Managing Waste from New Development

This section focuses on achieving the successful implementation of Policy W4 and Policy W21 for managing waste from new development, both during the construction of the development and that generation during its occupation.

Policy W4 looks for all kinds of development to apply a sequential approach to waste management, in line with the waste hierarchy in order to achieve sustainable waste management.

The main scope for waste prevention through the planning process is by placing responsibility on the developer to demonstrate how waste will be minimised and managed, not only during the construction stage, but how this has been considered in the developments design and once the site is occupied for its approved use.

There may be no option during the construction stage other than to dispose of waste arising. The Devon Waste Plan sees this as a last resort, and justification should be given as to why this method is needed. For any waste that cannot be reused, recycled or recovered, confirmation of the location for their disposal is required. In line with the proximity principle, this should take place as close to the source of waste as possible.

Policy W4 requires all planning applications for major development to contain a waste audit statement; this mirrors the National Planning Practice Guidance which highlights the usefulness of including a waste audit as part of the application in minimising waste. The detail contained within the waste audit statement for should be proportional and relevant to the development. Major development is defined as:

- Residential development comprising 10 or more dwellings or, where the number of dwellings is not known, a site area of at least 0.5 hectare; or
- Non –residential development comprising one or more buildings with a total floorspace of 1,000 square metres or more; or
- Development carried out on a site with an area of 1 hectare or more.

The policy also requires all forms of development to achieve a reduction in waste through sustainable construction, procurement and waste management. Therefore, all development proposals should follow the principles of the waste hierarchy to achieve a reduction in waste and meet the requirements of the policy.

[5] Devon County Council (2015) *Devon County Minerals and Waste Development Framework: Part 1: Waste Management and Infrastructure - Supplementary Planning Document* https://new.devon.gov.uk/planning/planning-policies/minerals-and-waste-policy/supplementary-planning-document

The waste audit statement should form part of the planning application and the relevant local planning authority should attach a condition to the planning permission to ensure the development will be monitored by the developer in compliance with the submitted waste audit statement.

Sustainable waste management in new developments

To achieve sustainable waste management, the principles of the waste hierarchy need to be considered and incorporated from the outset of a project. It is at this point where there is the greatest opportunity to implement measures that will ensure waste is minimised and managed sustainably throughout the lifecycle of the development.

Excavation and demolition waste

Excavation waste consists mainly of soils, but many contain stone, rock, clay, sand and other underlying materials depending on the depth of excavation required. Contaminated soils may also be present. Demolition waste can consist of concrete, bricks, wood, metals, glass, installation materials, plastics and many other materials. It can also contain hazardous substances such as asbestos. Demolition waste may not always be present depending on the previous use of the site.

Factors such as the site topography, soil type and potential level of contamination will affect the amount of excavation waste that will arise.

To prevent waste occurring there may be scope for the development to incorporate existing topographical features within the layout and design of the proposal, which part of generic good design practice in any case. To minimise the amount of excavation waste produced, housing and roads should be positions with the contours, rather than against them.

All excavation waste can be reused or, in some cases, recycled. If the existing feature of the site cannot be incorporated into the proposal, or the soil type is affecting the site, steps should be taken to ensure the maximum amount of waste arising from the excavation is reused, preferably within the new development, for example by using the waste to create new landscape feature or as screening. If top-soil is preserved effectively, this can also be re-used on the site to surface gardens and landscaped areas. If this is not possible, opportunities should be taken to re-use the waste off-site.

If existing materials cannot be used in their current form, the most sustainable alternative would be to ensure that the demolition waste arising is recycled for use on site. To produce a quality recycled aggregate, it is necessary to segregate demolition waste to avoid contamination. Demolition waste can be processed and may be suitable for concrete manufacturing, sub-base or fill for drainage or road construction. It is important to be aware this process may require an environmental permit from the Environmental Agency. Where recycling cannot take place on site, it should be carried out at the nearest suitable facility.

Construction Waste

Construction waste can be made up of surplus building materials, such as bricks, wood and insulation materials. The materials used for the construction of the development can influence how much waste is produced at this stage and contribute significantly to minimising waste.

The new materials selected can also reduce the amount of waste produced. If materials are pre-fabricated and pre-treated at the point of production, this can reduce the amount of excess materials produced on site. Ensuring the correct amounts of materials are ordered will also reduce the amount of waste produced. If there are lefts overs or offcuts, steps should be taken to ensure these will be reused. Materials that have a long-life span can reduce the amount of waste in the long term by reducing the frequency of maintenance and replacement of certain element that will be required.

New development should also use recyclable and environmentally friendly materials as this will result in the ability for any leftover materials to be recycled and for future uses or development on the site to

recycle or reuse the materials. It is important that materials are segregated at this stage as well to ensure effective management.

The use of hazardous materials should be reduced and instead replace, where possible, by non-hazardous ones. This will reduce the risk of harm and make the management of waste during construction and any future demolition more effective and sustainable. Where hazardous waste is being handled, suitable measure should be put in place and details should be provided in the planning application.

Occupation stage of the development

Once the new development is occupied, waste will inevitable be generated. The type of waste generated will vary with the use of the new development.

The development should ensure the waste generated at this stage will be managed in accordance with the waste hierarchy. Applications should detail, in the waste audit statement, the likely quantities of waste that will be generated at this stage, and the steps taken to ensure sustainable waste management.

To calculate likely amounts of household waste from residential development, the County Council produce yearly figures at a district level for the recycled and non-recycled waste generated. These can be used as a basis to make assumptions on the amount of waste likely to be generated per household and how much is likely to be recycled.

The good design of waste management facilities in new development can increase the opportunities for sustainable waste management to take place. It is more likely that people will recycle more if the infrastructure is in place. New developments should ensure that there is the provision of sufficient storage facilities that enables the segregation of reusable and recyclable waste from waste that requires disposal.

Although detailed design residential guidance and space requirement will vary in each of Devon's districts, the general principles can be given:

- Each house should have its own storage facilities that are outside of the house, although flats may have communal storage;
- Bins should be stored alongside each other and should have sufficient space to open the lids and without the need to stack containers;
- Storage should be well ventilated, away from the windows and ventilators where odours may enter the house, and in a location that will keep internally cool; and
- Bins and storage facilities should be sited and designed to be easily accessible for the waste collection authorities (for example, not needing to be carried up or down flights of steps between the storage point and collection vehicle).

Commercial development will also require detailed consideration for the storage of recyclable material and waste for disposal. This space should be sufficient to allow any fluctuations in waste that may occur which is seasonal or dependent on the economic environment.

Policy W21 requires applicants for non-waste development to demonstrate that they meet one of the following criteria:

- The development includes adequate provision for the management of it anticipated waste arisings; or
- The development makes financial of other provision for the off-site management of its anticipated waste arisings; or
- The existing waste management infrastructure serving the development is adequate.

Exeter City Council, Core Strategy (2012)[6]

The Core Strategy sets out the vision, objectives and strategy for the spatial development of the city up to 2026, explaining how sustainable growth may be achieved that protects the high quality environment of the city and that takes the implications of climate change and the transition to a low carbon economy fully into account.

The following extracts are considered to be of relevance the waste management at the Development:

'Sustainable Construction

The Government has introduced the Code for Sustainable Homes to cover residential development. This code applies different rating levels for homes based on a range of criteria such as CO^2 emissions, water efficiency, materials and site waste management.

CP17: All proposals for development will exhibit a high standard of sustainable design that is resilient to climate change and complements or enhances Exeter's character, local identity and cultural diversity.

Exeter City Council, Local Plan First Review 1995-2011[7]

The Local Plan guides development of the city in the period up to 2016. Our Core Strategy Development Plan Document (DPD) has been adopted and policies in the Exeter Local Plan First Review have been saved.

The following extracts from the saved Local Plan are considered to be of relevance the waste management at the Development:

'DG1: Development Should:

a) *Be compatible with the urban structure of the city, connecting effectively with existing routes and spaces and putting people before traffic;*

b) *Ensure that the pattern of street blocks, plots and their buildings (the grain of development) promotes the urban character of Exeter;*

c) *Fully integrate landscape design into the proposal and ensure that schemes are integrated into the existing landscape of the city including its three-dimensional shape, natural features and ecology;*

d) *Be at a density which promotes Exeter's urban character and which supports urban services;*

e) *Contribute to the provision of a compatible mix of uses which work together to create vital and viable places;*

f) *Be of a height which is appropriate to the surrounding townscape and ensure that the height of constituent part of buildings relate well to adjoining buildings, spaces and to human scale;*

---

[6] Exeter City Council (2012) *Core Strategy - Adopted February 2012* http://exeter.gov.uk/planning-services/planning-policy/local-plan/core-strategy-development-plan-document/

[7] Exeter City Council (2005) Local Plan First Review 1995-2011 http://pub.exeter.gov.uk/asp/local_plan/contents_written.htm

g) *Ensure that the volume and shape (the massing) of structures relates well to the character and appearance of the adjoining buildings and the surrounding townscape;*

h) *Ensure that all designs promote local distinctiveness and contribute positively to the visual richness and amenity of the townscape;*

i) *Use materials which relate well to the palette of materials in the locality and which reinforce local distinctiveness.*

DG7: The design of development should aim to achieve a safe and secure environment. Proposals should:

a) *Ensure pedestrian routes and public spaces are overlooked and subject to natural surveillance;*

b) *Provide enclosure of properties, so that private spaces are well defined and fulfil the role of defensible space;*

c) *Ensure that lighting is located and designed in such a way as to defined and fulfil the role of defensible space;*

d) *Ensure that schemes for landscape design, including new planting, do not create opportunities for crime that, where appropriate, species of plants are used to deter criminal or anti-social behaviour;*

e) *Integrate crime prevention measure in an unobtrusive manner, such that the fear of crime is not raised, and that there is no detrimental effect upon townscape and amenity.'*

Residential Design SPD Chapters 6 to 8 (2010)[8]

Chapter 8: Bin Storage

This chapter sets out the City Council's requirements with regard to the bin storage. Bin storage needs to be considered from the outset of the design process. Recycling requirements have resulted in an increase in both the size and the number of bins which, without carefully located storage, can be detrimental to the quality of the public realm, to residential amenity and the public health. Developers need to be familiar with Exeter City Council's publication; "Refuse storage for new and converted residential properties". The guidance below incorporated the principles on which this document is based.

Policy Background

The guidance sets out in this chapter primarily relates to the required saved policies DG1 and DG7 in the Local Plan. This chapter also relates to policy CP17; Design and Local Distinctiveness in the submission Core Strategy.

Bin storage space must be provided within the curtilage of each property to accommodate two bins of a size indicated in **Figure A1.2.** Layouts need to comply with requirements for carriage distances and access for appliances.

[8] Exeter City Council (2010) *Residential Design Guide SPD Chapters 6-8* http://exeter.gov.uk/planning-services/planning-policy/supplementary-planning-documents/residential-design-guide-spd/

Figure A1.2: Specifications of a standard 240 litre domestic wheelie bin

Height = 1070 mm
Depth = 730 mm
Width = 570 mm

Houses

Houses must include purpose-build storage within the curtilage and screened from the public realm, which allows step free access to be the collection point. Storage may be within garages or within purpose built areas in unobtrusive locations. Storage provision, particularly if it is communal, must be within 25 meters of the kerbside collection point and identification on plans.

In houses without garages, purpose designed bin stores located in rear gardens may be possible but will not be counted in garden area calculations. The distance from bin stores to the collection point should be no further than 25 metres. As refuse will not be collected from rear service paths or lanes, developers must clearly indicate collection points (with sufficient area to accommodate all the necessary bins on collection days) in their plans. Stores would be best located adjacent to rear gates and may be incorporated into the design of bicycle storage. Bin stores within rear gardens should not be included in garden area calculations.

Rear lanes should be 2 metres wide and free of steps to allow convenient movement of bins and allow pedestrians to pass when bins are being moved along the lanes. Particular attention should be paid to the need to provide safe and secure rear lanes within new developments.

In practice the scope for storage bins in rear gardens is likely to be limited by the maximum wheeling distance to collection point of 25 metres. Therefore storage on the frontage will often be required, either within the footprint of the dwelling or in the front garden. Because there is an inherent contradiction in creating attractive frontages and providing storage for waste, very careful attention must be paid to the design of bin storage at the front of dwellings to ensure that they are not detrimental to residential amenity or to the quality of the public realm. Frontage storage may be within the footprint of the dwelling or in the front garden complying with the principles indicated. Open storage is detrimental to amenity and the townscape and will, therefore not be permitted.

Front garden storage needs to be carefully designed so that the quality of the front garden and the streetscape is maintained. Bins must be located behind front walls which are at least 1.1 meters high. In terms of the public realm there are significant advantages in pairing dwellings to create attractive front boundaries.

Flats

Communal bin storage, located within the envelope of building should be used for flats. Internal access should be provided for residents and external access for refuse collectors. Good ventilation,

drainage and washing facilities must be included. In some circumstances stores integrated into boundary screen walls may be acceptable but it is important that they do not detract from the quality of amenity space. Free standing bin stores will not normally be acceptable because of their detrimental impact upon the public realm and private amenity and consequent difficulties in complying with Building for Life (BfL) criteria.

For details of the amount of space required, carry distances and other technical requirements developers should make early contact with Exeter City Council Environmental Health Services, Cleansing Department.

Design for bin collection

Vehicular access in terms of vehicle heights, weights, turning circles, width etc. needs to be taken into account in the design. Archways will need to be a minimum of 4.5 metres high to allow access for refuse vehicles.

Waste collection vehicles are required to be able to get to within 25 metres of any storage point and the gradient between the two should not exceed 1:12. There should be a maximum of three steps for waste containers up to 250 litres and none when larger containers are used.

The design of new developments must be designed to deter waste bin being left on the footway as they reduces its effective width. Waste bins on the footway pose a hazard for blind or partially sighted people and may prevent wheelchair and pushchair users from getting past.