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Waste Audit

Proposed Housing Development

Off Beck Lane, Skegby

July 2025

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Issue and Revision Record

Rev	Date	Originator	Checker	Approver	Description
-	July 2025				Final

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Chapters and Appendices

1 Introduction

This is a waste audit for a proposed development off Beck Lane, Skegby. The site was originally arable land which has been occupied by a Nursery (plants) from 1957.

Griffiths Services and Developments intend to redevelop the site as residential housing.

The residential dwellings will comprise of 33 houses.

The objectives of the waste audit were:

1. to document the waste management design features and practices that will be used during the construction and occupational phases of the development;
2. compare waste design features and practices to relevant benchmarks; and
3. where appropriate, to identify additional opportunities to reduce, reuse and recycle waste.

2 Site Location

The site is located to the North of the junction of Mansfield Road (B5014) and Beck Lane (A6075) Skegby on the left of Beck Lane. The site location is shown in Figure 2.1. The site is centred on National Grid Reference 450636, 360716

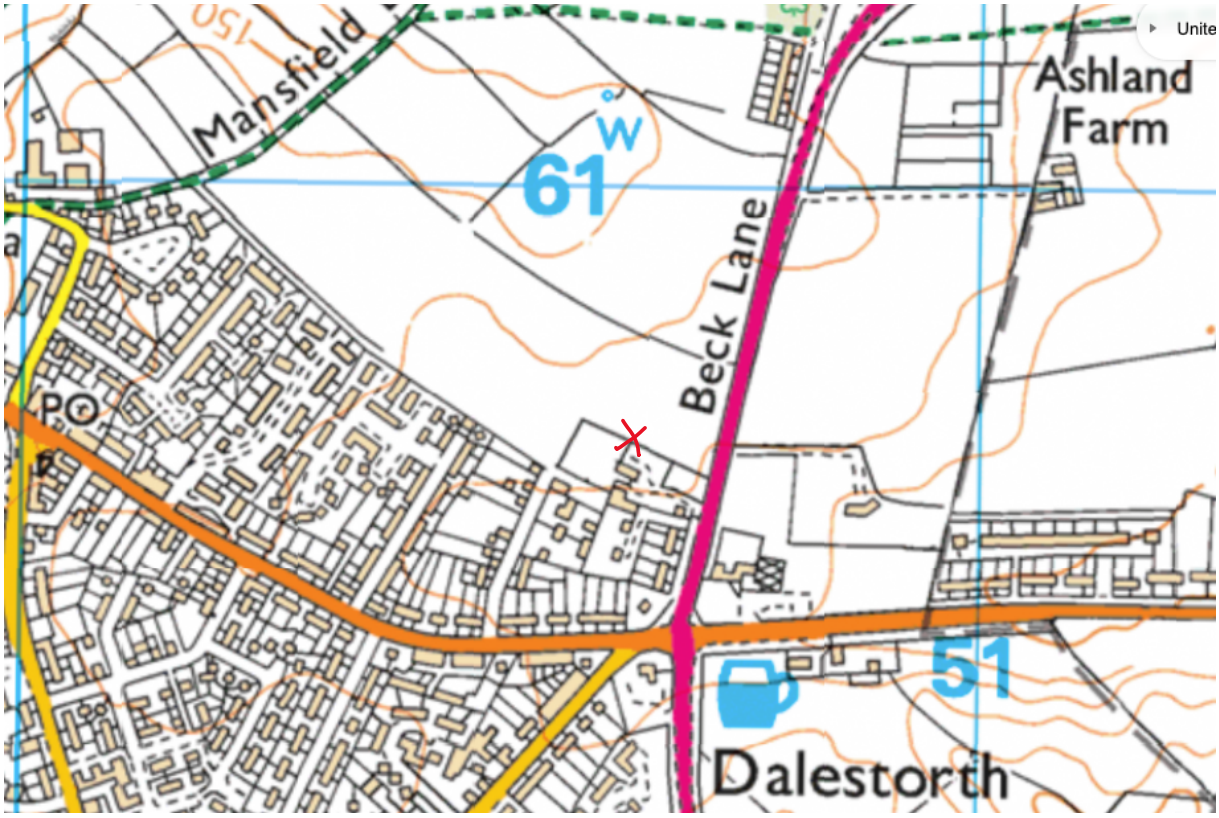

Figure 2.1: Site Location

3 Site Description

The site occupies an area of roughly 0.85 hectares. It comprises land that previously had a Nursery (Plants) located on a small part.

The rest of the site is predominantly grass.

The site is bounded to the East by Beck Lane (A6075). To the South lies existing housing.

To the North and West is arable land.

The falls from the South East to the North West.

4 Waste Audit Methodology

4.1 Information Sources

The following information sources were used to assist in writing the waste audit.

- Review of previous developments waste management practices.
- Discussions with the scheme Architects, Allan Joyce Architects Ltd, regarding design features and incorporation of waste management requirements.
- Discussions with the engineer and demolition company to identify how waste management and sustainability requirements will be accounted for in their design.
- Review of Department for Environment, Food and Rural Affairs (Defra) household waste arisings statistics (ref. 3).
- review of local recycling amenities within the vicinity.

4.2 Waste Audit Process

For the purposes of the waste audit, the development was divided into three distinct phases:

- Demolition phase;
- Construction phase; and the
- Occupational phase.

For each phase, the main waste related activities have been identified and reviewed against:

- performance benchmarks taken from information sources given above;
- benchmarks for good industrial practice based on our own experience; and
- the waste hierarchy i.e. reduce, reuse, recycle, energy recovery, disposal.

5 Pre Development Phase

In order to redevelop the site it will be necessary to undertake demolition of the existing buildings and to remove existing concrete slabs, foundations, and buried services.

The following section provides a brief outline of the different materials present at the site, for which waste management options have been appraised.

5.1 Topsoil

The existing topsoil will be stripped and retained on-site for reuse.

5.2 Vegetation

Any vegetation will be cleared and shredded/chipped for beneficial use as mulch or compost. No material will be burnt on-site.

5.3 In-situ Concrete

The existing slabs and foundations on the proposed development contain an amount of concrete that will require breaking up as part of the demolition works. The total amount of concrete is estimated to be approximately 125m^3 including slabs and foundations. It is intended that the concrete will be excavated and removed from site.

5.4 Gravel / Stone Hardstanding

Any gravel / Stone hardstanding will be excavated and reused as a fill material for the new development.

5.5 Earthworks

The site requires fill material to the West of the development and therefore the imported material will be clean and suitable for use for housing developments.

5.6 Brickwork

The existing buildings are predominantly brick structures therefore these will be removed from site and sent to landfill.

5.7 Asbestos

The existing building has an asbestos sheet roof which will be removed and disposed of by the specialist demolition contractors.

6 Construction Phase

6.1 Waste Management Practices

A good range of practices/considerations will be incorporated into the new development with regard to waste management and the waste hierarchy. These include:

- efficient design (building form and shape) to minimise the use and waste of materials e.g. sizing rooms to allowing fitting of standard size plasterboard sheets;
- a 'whole life approach' to the proposed development i.e. flexibility in design for future building expansion and alterations;
- avoiding over specification and composite material specifications;
- segregation and recycling of used plasterboard;
- use of timber sourced from legal and sustainable suppliers;
- use of secure storage containers for timber storage;
- storage of all plaster and cement under waterproof cover;
- return of undamaged pallets to the supplier; and
- provision of induction training, and regular toolbox talks so that everyone understands the need for waste segregation and the opportunities for reusing/reusing/recycling wastes.

The findings of the waste audit have illustrated that waste management practices, both at the design stage and construction stage are generally in line with industry good practice, and allow for the avoidance, minimisation and reduction of construction waste.

6.2 Quantity and Type of Waste

The main waste streams expected to be generated during the construction phase are shown in Table
6.1 below.

Material	%
Packaging	25.0
Timber	13.8
Plaster & cement	11.5
Miscellaneous	9.6
Ceramic	8.6
Insulation	7.5
Inert	7.1
Metal	4.0
Plastic	3.2

Table 6.1: Breakdown of Waste Types from UK Construction Sites (ref.4)

Based on knowledge of waste management practices we estimate that the waste arisings at the development will equate to roughly 7.5 tonnes per house. The proposed development will comprise 33 housing units, hence it is estimated that the construction phase will generate approximately 248 tonnes of construction waste.

7 Occupational Phase

7.1 Design

An assessment of waste arisings has been made to ensure the design capacity meets the predicted household waste arisings.

To successfully incorporate waste management issues into the housing unit design the following have been included:

- each house will have a space for waste/recycling storage in the rear gardens;
- bin collection areas have been designed to avoid blocking views between occupied rooms and the street;
- the down pipes from all housing units will interlink and allow for occupier installed water butt collection; and
- roads have been designed to accommodate refuse collection vehicles (RCVs) and collection points have be positioned so that collection crews do not have to transport two wheeled containers far to the RCV.

7.2 Assessment of Expected Household Waste Quantities

The Accredited official statistics: Local authority collected waste management – Provisional annual results 2023/24, published by DEFRA (ref.3) show that the average quantity of household waste collected was 377kg/person/year, comprising 210kg/person/year of mixed refuse and 165kg/person/year of separated recyclables. Therefore the total volume of waste generated by an individual is estimated at 1.885m^3/yr (assuming a conversion factor of 0.2 tonnes/m^3).

The Chartered Institution of Building Services Engineers (CIBSE ref.5) provides estimates of occupancy rates for residential buildings. These are shown in Table 7.1 below.

Residence Size	Occupancy Rate
1 bedroom	1.8 people
2 bedroom	3 people - (19 Plots)
3 bedroom	4 people - (14 Plots)
4 bedroom	5 people

Table 7.1: Normal Occupancy Rates for residential Buildings

Using these norms the total occupancy for the development is estimated to be 113 people. Therefore, the total weight of mixed waste generated for all housing units combined per week is estimated to be 0.82 tonnes (4.1m^3). this breaks down as 0.46 tonnes (2.3m^3) of mixed waste and 0.36 tonnes (1.8m^3) of recycled waste.

Table 7.2 below shows the estimated volumes of wastes generated by dwelling type per week.

Dwelling type	**Mixed waste generated per week (litres)**	**Recyclable waste generated per week (litres)**	**Total waste generated per week (litres)**
2 bedroom	60.57	47.61	108.75
3 bedroom	80.76	63.48	145

Table 7.2: Waste Volume Breakdown by Size of Household for Beck Lane Skegby Development

Ashfield District Council Supplementary Planning Guidance (SPG) 2014 regarding waste and residential developments indicated that the basic requirements for new dwellings are:

- minimum space for waste/recycling storage per individual property of 0.75m x 1.36m (i.e. 2 x 180 litre wheeled bins); and 15kg Glass box.
- where appropriate communal collection points should be provided which cater for 180 litre storage for 2 and 3 bedroom dwellings.

By comparison, to the expected waste volumes given in Table 7.2 it can be seen that the expected waste volumes match the design requirements in the SPG that has been adopted in the development design.

7.3 Local Waste Management Facilities

In addition to household collections there are a wide range of other waste facilities locally that provide opportunities for recycling and disposal of wastes. Local facilities include:

- *Mansfield Recycling Centre, Kestral Park, Kestral Road, Mansfield, NG18 5FT* - 1.8 miles
- *Kirkby Recycling Centre Sidings Road, Lowmoor Industrial Estate, Kirkby-in-Ashfield, NG17 7JZ* – 3.1 miles
- *Hucknall Recycling Centre, Wigwam Lane, Hucknall, NG15 7SZ* – 10.1 miles
- *Giltbrook Recycling Centre Gilthill, Giltbrook, NG16 2HR* – 16.2 miles

8 Summary

Griffiths Services and Developments are redeveloping a former nursery (plants) in Skegby for residential housing. A waste audit was carried out to identify how waste management requirements are intended to be integrated into the development.

For the purpose of the audit, the development was considered as three phases: demolition phase; construction phase; and the occupational phase.

The waste audit was conducted by liaising with key staff involved in the development design to review waste management practices. References were made to relevant documentation regarding integration of waste management requirements into residential developments and UK research regarding waste arisings from residential developments.

In general, it was found that waste management requirements have been given detailed consideration and integrated into the development design where possible. There was evidence for this identified in all three development phases. Overall, good waste management practice makes economic sense so and is consistent with good business practice. Hence, the integration of good waste management practice into the design is not unexpected.

9 References

1. Nottinghamshire County Council - Waste Core Strategy: Adopted 2013.
2. Department for Environment, Food and Rural Affairs. Municipal Waste Management Statistics 2022. https://www.gov.uk/government/statistics/uk-waste-data
3. https://www.gov.uk/government/statistics/local-authority-collected-waste-management-annual-results/local-authority-collected-waste-management-provisional-annual-results-202324
4. Construction and Demolition Waste. Good Building Guide 57, Part 2. BRE. July 2003.
5. CIBSE Guide D Transportation systems in buildings. Chartered Institution of Building Services Engineers, 2020.