Darton Lane, Darton, Barnsley

784-B042180

Waste Management Plan

Duchy Homes Ltd

October 2022

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TABLE OF CONTENTS

LIST OF TABLES

DRAWINGS

Planning Layout – 2239.01

APPENDICES

Appendix A: Waste Data Sheet

1.0 INTRODUCTION

1.0.1 This Waste Management Plan relates to the proposed development of 46 residential dwellings at Darton Lane, Darton, Barnsley. The report sets out the applicant's (Duchy Homes) intentions in terms of the management of waste generated from the proposed construction works as well as the operational phase of the development.

1.0.2 This Waste Management Plan aims to ensure that waste will be managed appropriately during the construction and operational phases of the development. This document encourages the minimisation of construction waste as far as is practicable. However, where the generation of construction waste is unavoidable, waste will be appropriately managed in the most sustainable manner available. A key objective of this document is that all waste will be managed in accordance with the waste hierarchy.

1.0.3 This document sets out the responsibilities of the generic roles within a site management team and those of a Principal Contractor and its sub-contractors in relation to the management of waste. To ensure procedures are being followed and the desired results are being achieved, waste management training and communications between Duchy Homes as the applicant and its appointed Principal Contractor and sub-contractors would be carried out using the most appropriate means. Furthermore, waste monitoring procedures would be put in place by the appointed Principal Contractor and formally reviewed at the end of the construction phase.

1.0.4 This Waste Management Plan also addresses the sustainable management of operational (household) waste arising from the future occupation of the residential dwellings, including opportunities for minimising waste together with the correct storage, removal and management of all waste streams. The range of waste types predicated to arise from the operational phase of the development is also discussed, and as far as possible proposals are made with respect to the collection and management of these wastes.

1.1 LEGAL REQUIREMENTS

1.1.1 Compliance with environmental and waste legislation is a minimum requirement when managing waste and will be a primary objective of the development. There is substantial regulation of waste in the United Kingdom that is applicable to all wastes generated by the construction and operation of the proposed development. The key (waste related) legislation of relevance to this project is the Environmental Protection Act 1990, Environment Act 1995, The Controlled Waste (England and Wales) Regulations 2012 (as amended), Revised Waste Framework Directive 2008/98/EC, The Waste (England and Wales) Regulations 2011, the Waste (England and Wales) (Amendment) Regulations 2012, Control of Pollution (Amendment) Act 1989 and The Hazardous Waste (England and Wales) Regulations 2005 (as amended).

1.1.2 The key waste management compliance issues from this Waste Audit Report are as follows: -

- Waste categories are identified and coded as per the List of Wastes (England) Regulations 2005;
- Waste is segregated appropriately;

- Waste is handled and stored safely;
- Waste is transported appropriately and safely;
- Waste is minimised and recycled wherever possible;
- Waste is disposed of responsibly;
- Waste data is recorded, collated and monitored regularly; and
- Waste carrier and contractor performance is monitored regularly.

1.1.3 The construction phase, as well as the post construction phase of the development, has the potential to generate a range of waste materials including some hazardous wastes. Although some of the quantities may be small, the environmental impact can be significant if the wastes are not handled correctly, as are the legal penalties.

1.1.4 Correct environmental management of wastes is a key objective of this Waste Audit Report. In addition, Duchy Homes and its appointed Principal Contractor have a legal duty of care to ensure safe and proper management of all waste materials including on-site contractor's wastes. Both Duchy Homes and its appointed Principal Contractor will therefore ensure that all wastes are handled and disposed of in accordance with current legislation and best practice from the time waste is generated, through to its final treatment or disposal.

1.2 PROJECT DETAILS

1.2.1 The proposed development site is located off Darton Lane, Darton, Barnsley. The proposed development comprises 46 residential properties, highway works including access off Darton Lane, landscaping, ground works and other ancillary works.

1.2.2 The 46 dwellings comprise four x 1 bedroom properties, six x 2 bedroom properties, sixteen x 3 bedroom properties and twenty x four bedroom properties. The dwellings range from 174 m^2 to 705.6 m^2 and the combined Gross Internal Area (GIA) of the dwellings is approximately 4,422 m^2. The Proposed Site Layout Plan has been appended to this report. The internal road will provide access for Refuse Collection Vehicles once the development is complete.

2.0 WASTE POLICY AND STRATEGY

2.1 NATIONAL POLICY

2.1.1 The revised National Planning Policy Framework (NPPF) updated in July 2021 does not contain any specific waste policies, although part of the environmental objective (of achieving sustainable development) includes 'minimising waste' and paragraph 20 (Strategic Policies) states sufficient provision should be for waste management.

2.1.2 The waste strategy, 'Our Waste, Our Resources: A Strategy For England' published in December 2018 sets out a national policy framework with respect to waste. The document describes how the use of resources will be optimised through minimising waste, promoting resource efficiency, and progressing to a circular economy. The strategy provides a longer-term policy direction commensurate with the UK Governments 25 Year Plan to Improve the Environment, published in January 2018. The Government's 25-year plan includes aims to maximise resource efficiency and minimise environmental impacts. The plan includes a commitment to achieve a target of zero avoidable waste by the end of 2050.

2.1.3 Paragraph 9 of the National Planning Practice Guidance (NPPG) for waste addresses the impact of non-waste development on local waste infrastructure and states that Planning Authorities must have regard to national planning policy for waste and are expected to help deliver the Waste Hierarchy. It suggests that Planning Authorities should consider, where relevant, the potential impact of proposed non-waste development on existing waste management sites and should promote sound management of waste from proposed development sites.

2.1.4 National waste planning policy is contained within the National Planning Policy for Waste (October 2014) (NPPW) which is to be read in conjunction with the NPPF and the national waste strategy 'Our Waste, Our Resources'. The NPPW states that: -

'Positive planning plays a pivotal role in delivering this country's waste ambitions through: -

- Delivery of sustainable development and resource efficiency, including provision of modern infrastructure, local employment opportunities and wider climate change benefits, by driving waste management up the waste hierarchy; and
- Helping to secure the re-use, recovery or disposal of waste without endangering human health and without harming the environment.'

2.1.5 NPPW defines the Waste Hierarchy as follows: -

Figure 1: The Waste Hierarchy

2.1.6 The principal objective of the Waste Hierarchy is to minimise the amount of waste produced by adopting economy and efficiency in raw materials usage. Where this is not possible, the aim is to deal with the waste produced in a reasonable and sustainable way, with the least preferred option being disposal to landfill. The overall objective being to minimise the environmental impact both in the short term via prevention of pollution and in the long term, in terms of resource and land usage.

2.2 LOCAL WASTE POLICY

2.2.1 The development plan with respect to waste comprises the Barnsley, Doncaster and Rotherham Joint Waste Plan (2012). The Joint Waste Plan sets out the overall approach to managing waste across Barnsley, Doncaster and Rotherham. The Joint Waste Plan includes Policy MCS7: 'Managing Waste in all developments', which is set out in full below: -

'A. All development proposals (excluding minor planning applications) must submit a waste management plan as part of the planning application. In particular, such plans will need to include:

1) information on the amount and type of waste that will be generated from the site;

2) measures to reduce, re-use and recycle waste within the development, including the provision of on-site separation and treatment facilities (using fixed or mobile plants where appropriate);

3) an assessment of the potential to re-use or adapt existing buildings on the site (if demolished it must explain why it is not possible to retain them);

4) design and layouts that allow effective sorting and storing of recyclables and recycling and composting of waste and facilitate waste collection operations during the lifetime of the development;

5) measures to minimise the use of raw materials and minimise pollution of any waste;

6) details on how residual waste will be disposed in an environmentally responsible manner and transported during the construction process and beyond;

7) construction and design measures that minimise the use of raw materials and encourage the re-use of recycled or secondary resources (particularly building materials) and also ensure maximum waste recovery once the development is completed; and

8) details on how the development will be monitored following its completion.'

2.2.2 In addition to the Joint Waste Plan, Supplementary Planning Document '*Design of Housing Development'* states in section 18 that: -

"*The Council encourages waste minimisation, re-use and recycling. All new development must be designed to accommodate the waste and recycling regimes in force, for example providing sufficient space for the full range of waste and recycling bins.*

In design terms bins should not be visible from within the public realm and shared private space when stored. Communal bin storage areas should be in robust materials that will withstand vandalism.

In most instances access must be provided to the rear garden for the storage of wheelie bins, via a clear pathway unimpeded by cars parked within the boundary of the dwelling. For terraced properties the use of ginnels to provide direct rear garden access should be considered as they are more likely to be used than fenced pathways along the rear of adjoining gardens".

2.2.3 The management of waste arising from the proposed development would be in accordance with the above requirements in line with the principals of the Waste Hierarchy. Waste will be prevented in the first instance, but where waste is generated, it will be minimised or reused in preference to other options such as recovery. The landfilling of waste will be avoided unless all other management options have been shown to be non-viable. This will support National and Local Waste Planning Policy objectives of diverting waste from landfill.

2.2.4 The proposed site has been designed to ensure that household waste can be correctly segregated and stored in accordance with Council requirements and best practice and so that waste collection is achievable for Refuse Collection Vehicles as well as for collection crews.

3.0 CONSTRUCTION WASTE MATERIALS AND MANAGEMENT OPTIONS

3.1 IDENTIFICATION OF WASTE TYPES

3.1.1 The identification of the likely key construction activities and the associated waste types produced from these activities is detailed in Appendix A – Waste Data Sheet. The Waste Data Sheet includes the best practice management options that are currently available for each waste stream produced i.e. prepare for reuse, recycle and disposal, etc.

3.1.2 The site preparation phase is likely to involve initial cut and fill works with site levelling as well as excavating for foundations, services and other infrastructure. This phase of the project will produce quantities of inert excavation waste, the majority of which will comprise soils which are suitable for reuse. It is not currently possible to calculate the quantity of excavation waste that will arise. However, most of the soils and excavations materials will be managed on the development site to balance level changes and to facilitate landscaping. There is therefore unlikely to be a requirement for large quantities of this material to be taken off site for further management.

3.1.3 Quantities of organic (green) waste will arise from site and vegetation clearance works. This waste will require removal off site. It will be sent for composting at an appropriately permitted composting facility or sent for energy recovery. No organic waste will be treated on site by burning.

3.1.4 The types of waste predicted to arise from the site preparation and excavation works are shown in **Table 3-1** below.

Table 3-1: Predicted Excavation Wastes Types (from site preparation)

Waste type	EWC Codes
Gravel and crushed rocks other than those mentioned in 01 04 07	01 04 08
Waste sands and clays	01 04 09
Concrete	17 01 01
Soils and stones including chalk other than those mentioned in 17 05 03	17 05 04
Soils and stones	20 02 02
Biodegradable waste	20 02 01

3.1.5 The site is currently greenfield land in agricultural use and there will not be any requirement to demolish buildings and structures. Consequently, there will not be any demolition wastes arisings from the proposed development. However, quantities of organic green waste will arise from vegetation clearance and site preparation works, as discussed in Section 3.1.3.

3.1.6 The types of wastes predicted to arise from the construction of the proposed dwellings are shown in Table 3-2 below.

Table 3-2: Predicted Construction Waste types

Waste Type	EWC Codes	Typically Produced From
Waste paint and varnish containing organic solvents or other dangerous substances	08 01 11* (hazardous)	Construction (fit out).
Waste paint and varnish other than those mentioned in 08 01 11	08 01 12	Construction (fit out).
Paper and cardboard packaging	15 01 01	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Plastic packaging	15 01 02	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Wooden packaging	15 01 03	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Metallic packaging	15 01 04	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Composite packaging	15 01 05	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Mixed packaging	15 01 06	Construction (all stages). Associated with deliveries of construction materials and fixtures etc.
Concrete	17 01 01	Construction (foundations, building fabric) (excess or damaged).
Bricks	17 01 02	Construction (excess or damaged).
Tiles and ceramics	17 01 03	Construction (excess or damaged).
Wood	17 02 01	Construction (excess or damaged).
Glass	17 02 02	Construction (excess or damaged).
Plastic	17 02 03	Construction (excess or damaged).
Bituminous mixtures other than those mentioned in 17 03 01	17 03 02	Construction (external surfacing).
Copper, bronze, brass	17 04 01	Construction (excess or damaged).
Aluminium	17 04 02	Construction (fit out).
Iron and steel	17 04 05	Construction (structural supports).
Cables other than those mentioned in 17 04 10	17 04 11	Construction (excess).
Insulation materials other than those mentioned in 17 06 01 and 17 06 03.	17 06 04	Construction (damaged, excess/off-cuts).

Paper and cardboard	20 01 01	Construction (fit out).
Biodegradable kitchen and canteen waste	20 01 08	Small quantities from construction workers within site accommodation.
Biodegradable waste	20 02 01	Site clearance (vegetation removal), tree pruning, landscaping etc.

3.1.7 The appointed Principal Contractor will calculate the likely quantities of waste arisings from the construction phase including the site preparation works. However, based on waste benchmark data issued by Building Research Establishment (BRE) (June 2012) it is estimated that the development would produce approximately 743 tonnes of construction waste. This figure is based on waste benchmark data for 'residential' development which generates an average of 16.8 tonnes of construction waste per 100m^2.

3.1.8 The following template (**Table 3-3**) can be used to monitor the waste quantities associated with the construction phase once the bill of quantities has been prepared. However, the appointed contractor may have their own method of calculating and recording such data which could also be used which would allow the monitoring of waste production.

Table 3-3: Estimated Waste Arisings by Activity and Waste Type

Waste Category & Type	Site Preparation & Enabling Working		Construction Works: Building Fabric		Construction Works: Fit-out Finishes & Building Services	
	Tick	Est. Quantity (m^3)	Tick	Est. Quantity (m^3)	Tick	Est. Quantity (m^3)
Inert Waste						
Sand						
Gravel						
Bulk Excavated						
Aggregate						
Concrete						
Brick / Block						
Topsoil /Sub-soil (uncontaminated)						
Glass / ceramics						
Rockwool / Glasswool						
Mixed inerts						
Other [detail]						
Sub-total						
Active Waste						
Plasterboard / Gypsum						

Waste Category & Type	Site Preparation & Enabling Working		Construction Works: Building Fabric		Construction Works: Fit-out Finishes & Building Services	
	Tick	Est. Quantity (m^3)	Tick	Est. Quantity (m^3)	Tick	Est. Quantity (m^3)
Timber						
Cardboard						
Paper						
Plastic						
Vegetation						
Other [detail] Mixed Packaging						
Sub-total						
Metal Waste						
Ferrous (i.e. steel)						
Non-ferrous (i.e. lead, zinc copper)						
Other [detail]						
Sub-total						
Hazardous Waste						
Topsoil / Sub-soil (contaminated)						
Batteries						
Asbestos						
Paints / Solvents / Binders						
Other [detail] Asphalt & Tar						
Sub-total						
TOTAL						

3.2 WASTE MANAGEMENT OPTIONS

3.2.1 There are a number of waste management facilities within 25 road km of the site which accept construction and demolition waste, which have been identified through a search of the Environment Agency's Public Register. There are approximately 11 waste transfer stations or recovery facilities within the local area which could accept the waste generated from the site clearance and preparation works. The closest of which is an inert and excavation waste transfer and treatment station located 4 road km from the site, operated by Wordsworth Crushing Ltd. GMM Aggregates Ltd, have a permitted site for the treatment of waste to produce soil, which is approximately 4.5 road km from the site.

3.2.2 There are also two 'deposit of waste to land for recovery' sites within proximity of the site. The first is located 6.6 road km from the site which will be permitted to accept construction type wastes which is operated by Portland Homes Limited. The second is operated by the City of Wakefield Metropolitan District Council and is approximately 11 road km from the site on the outskirts of Wakefield.

3.2.3 In addition, there is one inert landfill site (Carlton Brick Landfill Site) located 11.6 road km from the site. Stairfoot Landfill is located 5.4 road km from the site and is operated by B D R Waste Disposal Ltd and Naylor Drainage Landfill is located 12.7 road km from the site. These two landfill sites accept non-biodegradable waste.

Waste Prevention and Reduction

3.2.4 For the site preparation works, waste will be minimised through design, where appropriate. The quantity of waste soils and excavation materials will be reduced by maximising the amount of material which is incorporated into the proposed site levels. Opportunities for including soils in landscaping areas and gardens will further minimise the amount of waste soils and excavation materials which will arise from the scheme and which would need to be transported off-site for further management.

3.2.5 For the construction of the central infrastructure and the dwellings, there is potential for the avoidance or reduction of construction waste at source. Key opportunities include: -

- As far as is practicable, structures and features will be pre-fabricated off site which avoids the production of waste on the development site;
- The sustainable procurement of building materials will result in the minimisation of waste by selecting products and materials with reduced levels of packaging, reusable rather than single-use products and specifying durable and long-life construction materials;
- The implementation of 'just in time' deliveries will minimise the potential for damage to stockpiled materials from adverse weather or physical damage from mobile plant etc. Good on-site housekeeping measures will also reduce the potential for construction materials to become damaged; and
- The use of supplier take-back schemes, particularly with respect to packaging waste. Where possible, outer and inner packaging and timber pallets will be returned to a supplier by prior arrangement.

Reuse and Preparation for Re-use

3.2.6 To manage waste in accordance with the Waste Hierarchy, the re-use rates of generated wastes will be maximised as far as is practicable and economically viable. This will necessitate an understanding of how the materials may be re-used and segregating the materials in such a way whereby they may be reused with only minimal preparation and without further processing. For example, materials such as timber will be segregated at an early stage before they are placed in mixed waste containers, which will minimise the potential for damage and increase the likelihood that the material will be reused (either on-site or off-site).

3.2.7 There are a number of wastes likely to arise from the site preparation and construction phases of the scheme which can be reused or prepared for re-use, either on the new site or off-site. These include:

- Excess construction materials such as soils, sand, cement, hardcore, concrete, timber, plasterboard, insulation, plastic pipe (drainage etc), paving, temporary fencing, paints etc;
- Good quality timber which can be reused as new flooring, cladding, fencing and other landscaping features or for low grade uses such as temporary shuttering, hoardings and battening. The proportion of timber which can be reused will be dependent on its quality. However, what cannot be reused on-site will be sent for off-site re-use in preference to recycling;
- Re-use of plasterboard off-cuts in areas where smaller or non-standard sized boards are required;
- Reuse of inert material or aggregate arising from site clearance works as fill or sub-base for areas of hardstanding or paving; and
- Reuse of brick, stone and block for landscaping features such as retaining or feature walls.

3.2.8 As far as is practicable, structures and materials will be reused on-site in preference to being used off site. However, where on-site reuse is considered inappropriate or unviable, for example where the old materials are of an incorrect size, quality or design, consideration will be given to off-site reuse.

Recycle or Compost

3.2.9 Where the re-use of waste is not practicable it will be sent for recycling, composting or energy recovery, thereby avoiding the need for landfill disposal. To ensure that waste recovery is maximised, the Principal Contractor will only permit waste to be managed by approved waste management subcontractors which can demonstrate a high level of waste recovery.

3.2.10 Any inert materials arising from the construction work, such as concrete and brick, will be recycled where they cannot be reused. Typically, this will arise where the materials are damaged.

3.2.11 Non-inert construction waste, such as metal, damaged timber, pipework (metal or plastic) etc, will be recycled at appropriate local recycling facilities.

3.2.12 Quantities of organic (green) waste will be generated during the site preparation phase of the construction works. Organic waste arising from vegetation clearance will be taken from the site and composted at an appropriately permitted facility or sent for energy recovery. No organic waste will be sent to landfill or treated on site by burning.

3.2.13 Whilst measures will be taken to ensure that building materials stored and used on site for the central infrastructure do not become damaged, any damaged materials will be recycled unless this is proven to be unviable. In summary, the key wastes which will be recycled comprise damaged construction wastes (including off-cuts) which cannot be reused – damaged/off-cut timber, metal, pipework, cladding, plastics etc.

Energy Recovery

3.2.14 The appointed Principal Contractor will ensure that, for non-recyclable residual waste, energy recovery is considered as a waste management option in preference to landfill disposal.

Landfill disposal

3.2.15 Disposal to landfill is the least preferred option in terms of the waste hierarchy and will only be considered as a waste management method when all other options have been explored. Whilst landfill is currently the accepted management method for certain hazardous wastes, alternative management methods will be considered before landfill disposal is arranged.

4.0 DUTY OF CARE

4.1 DUTY OF CARE REQUIREMENTS

4.1.1 All construction waste arising from the site preparation work and construction of the central infrastructure will be handled and transported by a registered waste carrier in full compliance with the Duty of Care requirements and all other relevant environmental legislation (see Section 1.1.1). All waste leaving the site will be taken to appropriately permitted waste management facilities in compliance with the Environmental Permitting Regulations (England and Wales) Regulations 2016. This requirement is absolute, regardless of whether the waste management site is being used to transfer the waste to an onward destination or the site is a final destination for waste treatment, recycling, recovery or disposal.

4.1.2 During the construction phase, the Principal Contractor and all waste sub-contractors will ensure that where possible and/or practicable, legally compliant local waste re-processing, treatment or disposal sites are used in order to minimise the potential for adverse effects associated with transporting waste materials long distances on the public highway.

4.1.3 Duty of Care documentation (e.g. Waste Transfer Notes and Consignment Notes) for all waste collections from the construction site will be checked by the Site Manager and a copy retained. Waste Transfer Notes will be retained by the Principal Contractor for a minimum period of two years. Consignment Notes will be retained for a minimum period of three years.

4.1.4 It is also a requirement for a declaration to be signed on the Waste Transfer Note to confirm that the waste has been managed in accordance with the Waste Hierarchy (as required by Regulation 12 of the Waste (England and Wales) Regulations 2011).

5.0 ROLES AND RESPONSIBILITIES FOR MANAGING CONSTRUCTION WASTE

5.0.1 The correct management of waste throughout the construction phase of the project is essential in ensuring that statutory requirements are met, that high environmental standards are maintained, and that waste is managed sustainably and in accordance with the Waste Hierarchy.

5.0.2 This Section describes the various roles within the construction team (i.e. Principal Contractor, Waste Management Contractor and Trades (Sub) Contractors) which are likely to have responsibility for managing waste during the construction phases of the development. It is not currently possible to definitively identify these roles and the information in this Section is therefore indicative at this stage. However, once a Principal Contractor has been appointed, the names of the nominated persons with responsibility for site waste management will be displayed in the site office. These details will be updated and maintained regularly by the Site Manager to reflect the specific site requirements or changes in nominated persons. Exact roles and job titles may vary depending on the contractor appointments made and one individual may undertake the duties of more than one role, for example the Site Manager and Environmental Manager may be the same individual.

5.0.3 Responsibility for waste management during the construction works will be assigned to either the Principal Contractor or a waste contractor (e.g. skip hire company). In terms of general waste management on site, the Principal Contractor's responsibilities will include, but not be limited to, the following: -

- Providing an area for a secure waste compound where segregated materials for (on-site or off-site) reuse or recycling can be safely stored;
- Monitoring the general site conditions in terms of waste management. Ensuring the trade contractors keep their work areas safe and tidy; and
- Where there have been large volumes of waste generated (from improper storage, damage or other incident), investigating further and carrying out a review in order to avoid a recurrence.

5.0.4 The waste management contractor's responsibilities will include but not be limited to the following:

- Supply and management of waste containers, skips, wheeled bins and labour at the site's waste compound;
- Managing the waste compound;
- Ensuring correct segregation of wastes at the waste compound and on site;
- Managing and monitoring waste streams and quantities and ensuring maximum reuse and recycling performance;
- Managing the timely collection of waste, ensuring that the supply chain (including waste carriers and management facilities) is appropriately licensed and permitted;
- Maintaining legal compliance (including the maintenance of records in accordance with Duty of Care);
- Responding to waste incidents on site; and
- Reporting information on waste production and recycling quantities on a monthly basis.

5.0.5 The trade contractor's responsibilities will include but not be limited to the following:-

- Each trade contractor is responsible for maintaining a safe and tidy work area; and
- Each trade contractor is required to engage in material segregation on site.

5.1 COMMUNICATION AND TRAINING

5.1.1 Education on general waste management issues, such as the importance of waste segregation, waste storage, handling etc, will primarily be delivered to staff through the site induction process. Specific awareness training on the contents and requirements of relevant waste legislation and Duty of Care Regulations will be delivered to key staff, such as site management and foremen, via an awareness briefing by the Principal Contractor but it will be disseminated to all operatives via Toolbox talks or staff meetings. The Site Manager will be responsible for ensuring that all staff are competent to carry out their duties, or where necessary, arrange for further training to be undertaken.

6.0 CONSTRUCTION WASTE STORAGE, HANDLING AND SEGRAGATION

6.0.1 This Section describes the requirements for construction waste storage, handling and segregation in order to demonstrate that throughout the site preparation and construction of the central infrastructure, waste would be stored, handled and segregated safely and in full accordance with legislation and industry best practice.

6.0.2 Step 8 – 'Site Design and Training' of the Waste & Resources Action Programme guidance 'Achieving Good Practice Waste Minimisation and Management' (2007) sets out a number of important operational considerations in order to maximise waste recovery: -

- Layout and skip location should be considered at the design / planning stage;
- Provision of separate containers for hazardous waste;
- Containers optimised for segregation with clear labels and signs;
- Segregated containers provided at workface;
- Use of compacters, balers to minimise waste volume and reduce transportation costs;
- Provision of clearly located and defined storage areas for materials; and
- Just in time delivery, secure storage areas, no double handling.

6.1 STORAGE

6.1.1 All construction materials that are brought onto the site will be allocated space so they may be properly stored on an even surface and protected from adverse weather conditions. Materials will be stored in a dedicated storage area that is routinely kept clean and tidy in line with good housekeeping measures (thereby preventing slips and trips from poorly stored materials). Where possible 'just in time' delivery measures will be implemented on site in order to prevent damage from poor storage and over handling of materials.

6.1.2 All hazardous materials will be kept safe and secure in dedicated (United Nations approved) storage receptacles of an appropriate design. Fuel or oil storage arrangements will fulfil the Environment Agency's 'Control of Pollution (Oil Storage) (England) Regulations 2001' in order to ensure best practice is applied. The Environment Agency will be consulted where queries exist regarding the legal or regulatory requirements for the storage of hazardous materials.

6.1.3 All skips and waste containers will be provided by and managed by the waste management contractor. The number of skips provided will depend on the space available within the waste compound. If space allows for several different skips, they will be labelled (according to waste type) and if possible, colour coded in order to aid segregation. Waste stream colour coding has been identified by the construction industry as an integral part in raising waste awareness, separating waste at source, reducing the amount of construction waste sent to landfill and providing cost savings to construction companies.

6.1.4 The accepted colour coding scheme is as follows: -

- Gypsum - White;
- Inert – Grey;

- Mixed – Black;
- Metal – Blue;
- Wood – Green;
- Asbestos – Red;
- Packaging – Brown; and
- Hazardous – Orange.

6.1.5 Each trade contractor will be responsible for maintaining a clean and tidy work area with the prompt removal of waste and other debris. All waste containers will be stored in designated areas and away from thoroughfares and surface water drains.

6.2 HANDLING

6.2.1 Manual handling of wastes will be minimised as far as is practicable. The manual sorting of waste containers or the movement of waste from one container to another will be actively discouraged, unless the appropriate Personal Protective Equipment (PPE) is used.

6.3 SEGREGATION

6.3.1 There are several measures which can encourage and improve segregation of different waste types on a construction site. The establishment of a waste management compound or zone with sufficient space for recycling/recovery skips is an important first step. However, where there is a lack of space on site to achieve segregation, it is important to: -

- Work closely with the waste management contractor to ensure that the mixed waste containers are sorted for recycling at a waste facility;
- Use smaller, portable bins at the work face; and
- Empty containers on a regular basis to prevent overfilling, a lack of space and/or possible contamination of waste streams.

6.3.2 Labelling containers and the provision of adequate signage typically increases participation in segregating wastes. Furthermore, the use of a colour coding system can improve segregation of wastes and can provide simple and effective communication for promoting and easing streaming and segregation of construction waste at source (see Section 6.1.4 for the industry approved colour scheme).

6.3.3 Discussions will be held at an early stage with the appointed waste management contractor regarding their requirements for waste segregation. This will establish how the waste should be sorted, stored and collected from site. Once this has been established, the labels and/or colour will be assigned to each waste container to ensure the correct material is placed inside.

6.3.4 The location of skips is known to influence the participation of staff in the segregation of different materials. Containers will be located within safe and easy access of work areas and it will be ensured that operatives do not have to walk long distances to the skips/containers.

6.3.5 The full compliance of all site operatives with the rules for segregating wastes prevents the risk of cross contamination between waste streams. The agreed segregation scheme will therefore be

enforced using appropriate personnel and monitoring. For example, this may involve a designated member of staff (such as a 'Waste Champion' or the Site Manager) checking skips and other containers on a regular basis to assess and monitor whether segregation is occurring and whether or not sub-contractors are co-operating. This will identify if problems exist.

7.0 OPERATIONAL WASTE MANAGEMENT

7.0.1 Upon completion of the construction phase, the development will generate a range of household waste. The types of waste which are predicted to arise from the development following occupation are presented in **Table 7-1** below: -

Table 7-1: Predicted Operational Waste Types and Management Options

Waste Type	EWC Code
Paper and cardboard	20 01 01
Glass	20 01 02
Biodegradable kitchen and canteen waste	20 01 08
Clothes	20 01 10
Textiles	20 01 11
Solvents	20 01 13* (hazardous)
Fluorescent tubes and other mercury containing waste	20 01 21* (hazardous)
Discarded equipment containing chlorofluorocarbons	20 01 23* (hazardous)
Edible oil and fat	20 01 25
Detergents other than those mentioned in 20 01 29	20 01 30
Medicines other than those mentioned in 20 01 31	20 01 32
Batteries and accumulators other than those mentioned in 20 01 33	20 01 34
Discarded electrical and electronic equipment other than those mentioned in 20 01 21 and 20 01 23 containing hazardous components	20 01 35* (hazardous)
Discarded electrical and electronic equipment other than those mentioned in 20 01 21, 20 01 23 and 20 01 35	20 01 36
Plastics	20 01 39
Metals	20 01 40
Biodegradable waste	20 02 01
Soil and stones	20 02 02
Mixed municipal waste	20 03 01
Bulky waste	20 3 07

7.0.2 It is possible to estimate the amount of household waste which will arise from the completed development of 46 dwellings. Predicted average household waste generation rates range from 13.8 to 24.2 kilograms per household per week (kg/hh/wk). This data is supported by information provided by the Office of National Statistics (ONS) which states that based on an average household size of 2.4 persons per household, an average household produces 1118.4kg of household waste per

annum or 21.5kg/hh/wk. DEFRA estimates that each person produces 431kg of household waste per annum. This equates to 1034.4kg per household per annum or 19.9kg/hh/wk.

7.0.3 The most recently publicly available WasteDataFlow data for Barnsley Metropolitan Borough Council (Barnsley) is for the first quarter of 2021 (January to March) and the available data for the year period April 2020 to March 2021 has been reviewed. The data for the 12-month period shows that each person in Barnsley generated an average of 432.76 kg, which is very similar to the DEFRA estimate. Over the year period there was a total of 107,359.12kg of household waste collected. This figure divided by the number of household in Barnsley (112,590) shows that there was a total of 953.5 kg of household waste collected in the year (hh/yr), per household. This equates to 18.3kg/hh per week.

7.0.4 Using these WasteDataFlow figures for Barnsley, it is estimated that approximately 43,862.84kg or 43.86 tonnes per annum of household waste would be generated from the 46 dwellings.

7.0.5 Barnsley provide the following bins for residential kerbside collection:

- Grey bin
  - Food waste
  - Plastic trays and film
  - Polystyrene packaging
  - Wrapping paper
  - Sanitary wear, personal hygiene items and nappies
  - Paint tins (in a carrier bag)
  - Other household waste that can't be recycled
- Brown bin
  - Clean milk bottle tops
  - Clean baking foil
  - Glass bottles
  - Glass jars
  - Food tins
  - Food/drink cans
  - Foil trays
  - Plastic bottles
  - Plastic pots (e.g. yoghurt pots)
  - Plastic tubs/trays (e.g. margarine tubs)
- Blue bin
  - Cardboard
  - Corrugated cardboard
  - Mixed paper
  - Junk mail

- Shredded paper
- Office paper
- Catalogues and brochures
- Telephone directories
- Newspapers
- Magazines

- Green bin
  - Garden waste

7.0.6 The most recent WasteDataFlow data shows that majority of the residual waste stream went to an energy from waste facility with only a small percentage of waste sent to landfill.

7.0.7 Barnsley operate an alternate weekly kerbside collection of residual and garden waste and a four-weekly collection of glass bottles and jars, aluminium and metal cans, plastic bottles, cardboard and paper for recycling. Barnsley will provide each new property with the above four waste bins, which are either 140L or 240L wheeled bins. All of the new dwellings will have sufficient internal and external space to enable householders to segregate their household waste in accordance with the Council's requirements.

7.0.8 External space will be provided to enable the four bins to be stored, with sufficient additional space to enable the bins to be easily manoeuvred. External waste storage areas will be positioned so that bins do not have to be transported long distances to the collection point at the kerbside and are less than 30m from an external door. In order to assist with the manoeuvring of waste bins, the development will include paths which do not incorporate steep gradients or changes in levels, such as steps.

7.0.7 In addition to the kerbside waste collection service, householders have the option of taking their waste to household waste collection centres the nearest of which is located on Smithies Lane, Barnsley, S71 1NL. At the time of writing this report (September 2022) a permit is required to visit the household waste recycling centre. This facility is located approximately 3 miles road distance from the site. This facility is open from 9am to 5pm from 1st April to 30th September and then from 9am to 4pm from 1st October to 31st March. The facility is open every day apart from Christmas Day, Boxing Day and New Year's Day. Barnsley also operate a chargeable bulky waste collection service for items such as furniture and white goods.

7.0.9 The range of options for household waste collection and recycling will enable the occupants of the dwellings to send their waste for reuse and recycling. The Council offers useful information on its website regarding the types of waste which are recyclable and non-recyclable. This information will help to minimise the amount of waste which is sent for energy recovery or landfill.

8.0 SUMMARY AND CONCLUSIONS

8.0.1 Waste from the development at Darton Lane, Darton, Barnsley, will be generated from all phases of the project (site clearance, construction and post-completion). There is a legal requirement to manage this waste sustainably in accordance with the Waste Hierarchy and the Duty of Care.

8.0.2 This Waste Management Plan aims to demonstrate to the Local Planning Authority at Barnsley Metropolitan Borough Council and key stakeholders how waste arisings will be managed from the development both during the construction and post-construction phases. All parties involved in the site preparation and construction phase will ensure that waste is minimised or reduced as a priority. However, where the generation of waste is unavoidable it will be managed in accordance with all relevant legislation, the Duty of Care and the waste hierarchy.

8.0.3 Waste produced during the day-to-day occupation of the development will comprise household waste from residents. It is proposed that Barnsley Metropolitan Borough Council, as the Waste Collection Authority, will collect the household waste from the development. The development will be designed to provide suitable access for Refuse Collection Vehicles and ensure that waste can be safely collected from the kerbside collection points.

8.0.4 It will be necessary for residents to segregate their waste according to the Council's requirements. This is likely to necessitate the provision of four separate bins which includes one for general waste, two recyclable waste bins and one garden waste. Sufficient internal and external space will be provided to ensure that the household waste produced from the development can be segregated in accordance with the Council's requirements as well as legal requirements.

8.0.5 The sustainable management of waste has been given a high priority within the design of the development, both in terms of the management of construction waste and the longer-term management of household waste.

DRAWINGS

Planning Layout – 2239.01

TIMELESS COLLECTION

DARTON LANE, DARTON

NOTES:

Scaled @ 1:500

0 10m 20m 50m

N

PLANNING LAYOUT KEY:

Boundary treatments

- Brick wall
- Boundary fence
- Railings
- Knee height railing

General

- Application red line. (To be confirmed by client)
- Block paving
- BCP — Bin collection point (bin collection day only)
- Indicative electric charging point.
- Affordable Dwelling
- Timber cycle store (If seperate store not shown, cycle storage to be provided within detached or integral garage of associated plot.

Accommodation schedule - Darton Lane, Darton

Reference	Code	Beds	Floor Area (Sqft)	Floor Area (Sqm)	Storeys	Total	Total Sqft	Total Sqm	% of Mix
Private									
Wentworth	WEN	3	929	86.3	2	5	4645	431.5	10.9
Wentworth 2	WEN2	3	929	86.3	2	2	1858	172.6	4.3
Thornbury	THO	3	982	91.2	2	6	5892	547.2	13.0
Thornbury Detached	THO	3	982	91.2	2	3	2946	273.6	6.5
Edworth	EDW	4	1238	115	2	6	7428	690	13.0
Willington	WIL	4	1265	117.5	2	4	5060	470	8.7
Harewood	HAR	4	1266	117.6	2	6	7596	705.6	13.0
Calverley	CAL	4	1267	117.7	2	4	5068	470.8	8.7
Affordable									
Bodnant	BOD	1	470	43.6	4	4	1880	174	8.7
Stratford	STR-AFF	2	873	81.1	2	6	5238	487	13.0
Grand Total						**46**	**47611**	**4422**	**100.0**

Parking schedule	
Curtiledge parking	82
Integral garage	9
Detached garage	8
Total	**99**

Rev	Date	Amendment	By
--	--	--	--

Duchy Homes

Duchy Homes Ltd.
3125 Century Way, Thorpe Park, Leeds, LS15 8ZB.

DEVELOPMENT:
Darton Lane
Darton

TITLE:
Planning Layout

DATE: 26.08.22

SCALE: 1:500 @ A0

DRAWN: STEN

DRAWING NO: 2239.01

REV: --

APPENDIX A: WASTE DATA SHEET

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site or Waste Recovery Operation	Disposal to landfill
Site Preparation Phase					
Non-hazardous soil	✓			✓	
Inert waste/rubble	✓	✓			
Organic waste		Compost	✓		
Construction Phase					
Concrete (washout)	✓				
Concrete (excess)	✓				
Concrete (hardened)		✓			
Metal (rebar)		✓			
Blocks (excess)	✓				
Blocks (damaged)		✓			
Timber (shuttering)	✓	✓	✓ (biomass)		
Timber (off cuts)		✓	✓ (biomass)		
Timber (pallets)		Return to supplier			
Cement		✓			
Plaster/cement		✓			
Insulation		✓			
Cement (cement board)		✓			
Metal (ferrous off-cuts)		✓			
Metal (non ferrous off-cuts)		✓			
Inert (stone)	✓				
Glass (damaged glazing)		✓			
Fit Out					
Timber	✓	✓	✓		

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site or Waste Recovery Operation	Disposal to landfill
Site Preparation Phase					
Plastics (general)		✓	✓		
Plastic (ducting)		✓	✓		
Plastic (vinyl)		✓	✓		
Hazardous (paints, mastic etc)		✓	✓		
Hazardous (solvents)		✓			
Metal		✓			
Ceramic (tiles)	✓				
Inert (stone)	✓				
Plasterboard		Return to supplier			
Insulation (carpet)	✓	✓			
General					
Road sweepings		✓	✓		
Hazardous (used spill kits, asbestos)			✓		✓
Hazardous (oily water)		✓	✓		
Timber (pallets)		Return to supplier			
Site accommodation/office					
Paper /cardboard	✓	✓			
Canteen oil		✓			
Plastic (cups)		✓			
Cans/glass bottles		✓			
Printer cartridges/toner	✓	✓			
Food waste (i.e. from site canteen)			✓		

Activity and Waste Types	Waste Management Option				
	Reuse (on-site or off-site)	Recycle	Recovery of value (e.g. energy)	Disposal to Environmental Permit exempt site or Waste Recovery Operation	Disposal to landfill
Site Preparation Phase					
Electrical/electronic equipment	✓	✓			
Bulky waste (e.g. furniture)	✓	✓			