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APPENDIX 9 – CARLTON MASTERPLAN FRAMEWORK



CARLTON MASTERPLAN FRAMEWORK

MASTERPLAN FRAMEWORK AND DESIGN CODE

REVISION NO:	ISSUE DATE:	PREPARED BY:	APPROVED BY:
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Glossary of Acronyms

BMBC	Barnsley Metropolitan Borough Council
GI	Green Infrastructure
NEAP	Neighbourhood Equipped Area of Play
LEAP	Local Equipped Area of Play
EPA	Equipped Play Area
PRoW	Public Right of Way
SuDS	Sustainable Drainage Systems
NCN	National Cycle Network
TPT	Trans Pennine Trail
DPH	Dwellings per Hectare
SPD	Supplementary Planning Document
POS	Public Open Space
BNG	Biodiversity Net Gain
LVA	Landscape Visual Assessment
LCA	Landscape Character Area

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1. INTRODUCTION

1.1 Background

In the Barnsley Local Plan (adopted January 2019) a number of allocations require Masterplan Frameworks to inform any future planning applications. These frameworks are subject to public consultation and council approval prior to determination of any planning applications on the affected sites.

The Carlton Masterplan Framework has been commissioned by Barnsley Metropolitan Borough Council (BMBC). It will be responsible for setting the objectives for the development to ensure that it contributes towards BMBC's wider objectives and is aligned with the Local Plan. The framework will serve to coordinate sustainable development across a number of land parcels and ownerships and integrate with surrounding landscape and existing communities.

This report includes research and analysis compiled from Stage 1 (Evidence Base) and Stage 2 (Site and Context Analysis). It has been produced through a combination of document reviews, OS mapping data, input from public and stakeholder consultations, professional analysis and collaboration work with the multi-disciplinary consultancy team and BMBC.

This Masterplan Framework forms part of a wider programme of work to bring forward regeneration and economic growth across Barnsley, including Carlton. This includes improvements proposed through the Local Plan Spatial Strategy, Barnsley Transport Strategy and the Sheffield City Region Transport Strategy and associated Implementation Plans. Whilst this Masterplan Framework is focused on specific Local Plan site allocations, it is reflective of these wider initiatives which are being brought forward by the Council and its partners.

BMBC have commissioned Arup and Gillespies to develop a Masterplan Framework and Design Code for this proposed development. The process has involved the analysis of issues and opportunities, exploration of options, intensive engagement and consultation.

This report takes into account the particular instructions and requirements of our client. It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Fig. 1 shows the extent of allocated sites MU2 and MU3 (now referred to collectively as 'the site', unless stated otherwise) in Carlton, which form the study area of our analysis in this report.



Fig. 1: Site Location Map MU2 and MU3

1. INTRODUCTION

1.2 Overview

In the Local Plan, the MU2 and MU3 Carlton allocations have been designated to be a combined new mixed-use development for 1977 homes, a small local shop and education expansion. However, after working through the masterplanning process, this Masterplan Framework is providing circa 1500 homes. The designated site is located immediately to the east and south of Carlton, and within close proximity to Royston, Cudworth, Monk Bretton and Athersley. The development will include a new small local shop, expansion to Carlton Primary Academy, improved play and community facilities and will capitalise on the Wharncliffe Woodmoor green heart - all formed around three new neighbourhoods.

A new community garden will bring grow gardens, an orchard, informal woodland play and an active travel focal point to Carlton. The community garden will be focused towards neighbourhood activity and will not include a shop.

Wharncliffe Woodmoor will be retained and enhanced as an invaluable asset to the people of north Barnsley, while also contributing to the improvement of biodiversity in the area.

Multiple active travel routes and green/ wildlife corridors will be across the site, connecting key open spaces and surrounding towns, villages and nature reserves, including Carlton Marsh Nature Reserve, which is now part of a new Site of Special Scientific Interest (SSSI).

1.3 Use of this Document

The purpose of this document is to ensure coordinated, comprehensive and quality development is brought forward at Carlton. It will form material guidance in the determination of any planning applications on the site.

Applicants are required to present each planning application to the Design Panel at key stages throughout design development and demonstrate compliance with the Masterplan Framework and Design Code through a Masterplan Framework Compliance Statement. This shall form part of the validation requirements for submission of a planning application, including any of the land edged in red in Fig. 01. Where applicants judge that either the requirements cannot be complied with, or they wish to put forward alternative proposals that they believe will continue to meet the aims of the Masterplan Framework, these shall be clearly set out in the Masterplan Framework Compliance Statement with supporting evidence setting out the rationale for this, to permit consideration by the Local Planning Authority as part of the determination process.

It is recommended that any proposed departures from the Masterplan Framework are discussed with the Local Planning Authority as part of formal pre-application discussions and are included in pre-application public consultation.

The Masterplan Framework Compliance Statement shall set out:

- How the proposed application accords with the Masterplan Framework, by framework layer.
- How the proposed application accords with the Design Code, by Design Code principle.

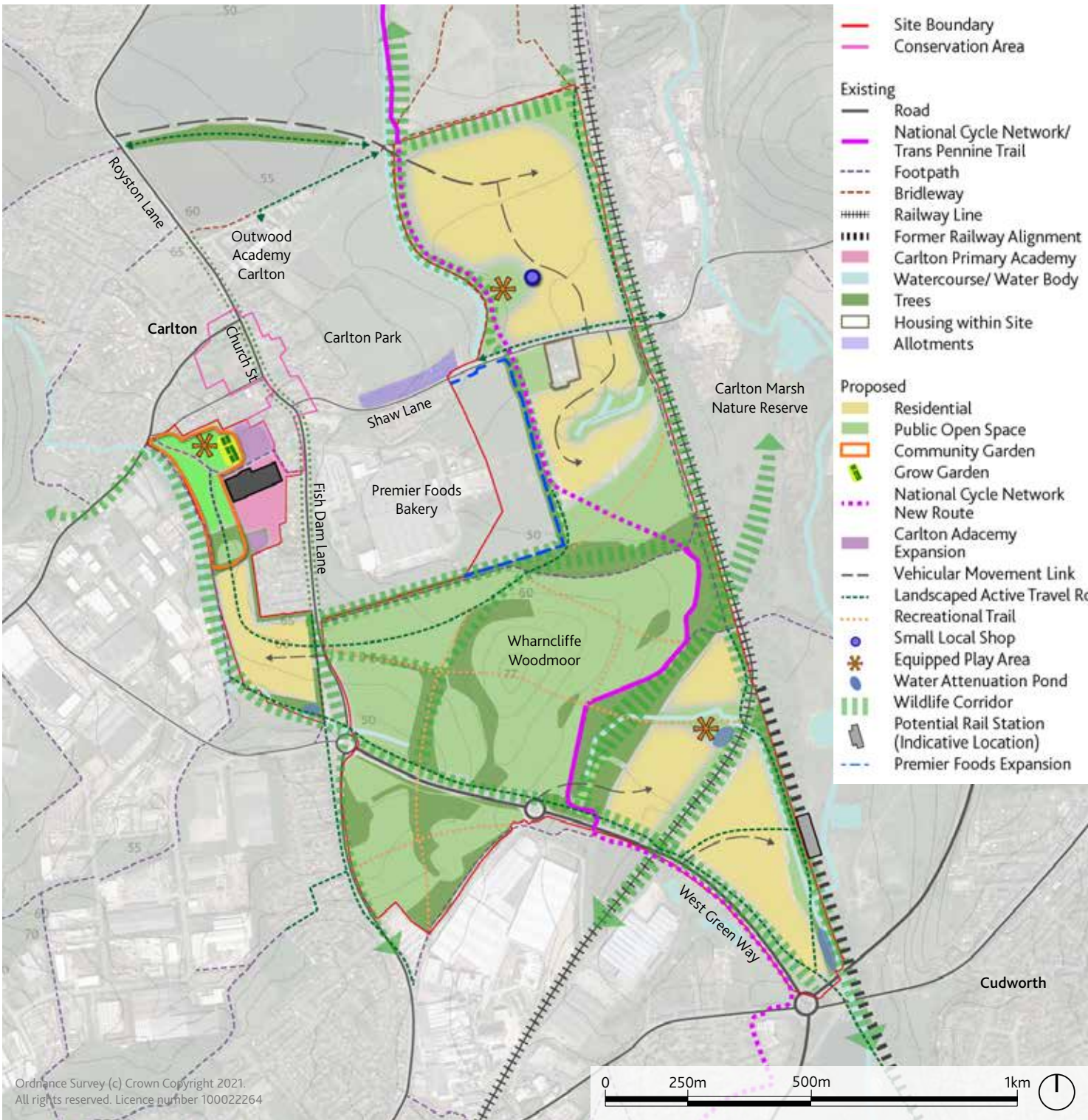


Fig. 2: Carlton Masterplan Framework Plan

2. PLACEMAKING PRINCIPLES

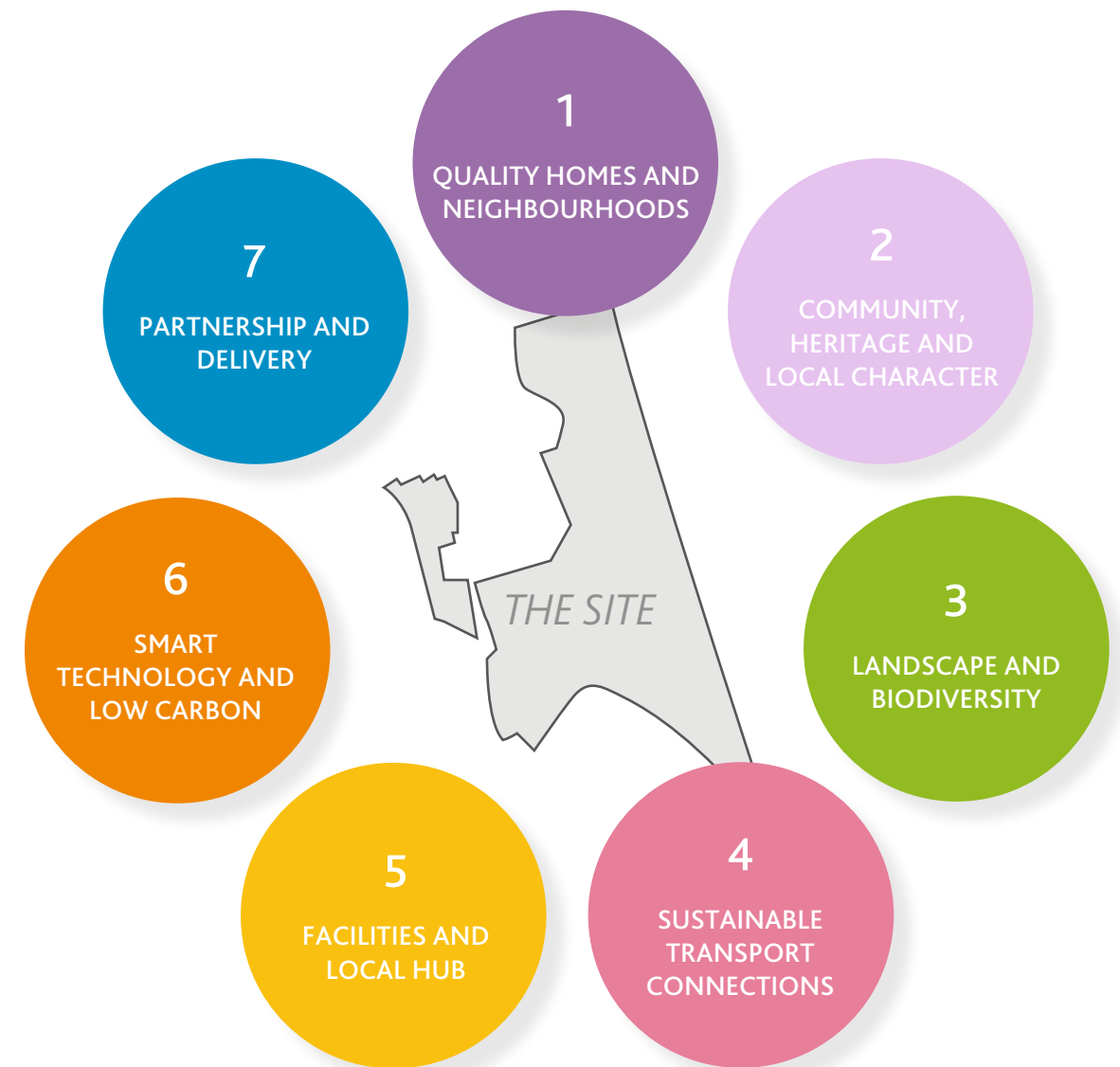
Vision

Carlton's new development will be a cluster of sustainable neighbourhoods focused around Wharncliffe Woodmoor as the key community greenspace. They will offer innovative housing and diverse neighbourhoods within a pedestrian and cyclist friendly environment, and a distinctive landscaped setting integrated into the fabric of existing green, blue and service assets such as Carlton Marsh Nature Reserve, Barnsley Canal, National Cycle Route and connections to local facilities including the nearby local centres of Royston and Cudworth.

The Masterplan Framework for Carlton is based around the seven placemaking principles. To ensure quality and sustainability, these principles will be embedded throughout the process of planning and delivering Carlton's new communities.

BMBC declared a climate emergency in 2019 and has a goal to become a net zero carbon borough by 2045. Therefore, sustainably reducing energy usage is a key consideration for the Masterplan. Elements being considered in the Masterplan Framework to make it more sustainable include:

- Promoting the use of sustainable transport, including walking, cycling, bus services, connections to railway stations and electric vehicle charging points in every home
- Provision of high-speed digital fibre connections to allow people to work from home
- Use historic mine workings around Barnsley as a heat source
- Smart technology such as energy efficient building fabric and efficient, low-energy heating systems to help drive down carbon emissions



2. PLACEMAKING PRINCIPLES

1 Quality Homes of Character and Diverse Neighbourhoods

Provide innovative, future proofed housing of character for the new neighbourhoods within a distinctive landscaped setting and offering a diverse range of types and tenures promoting intergenerational and healthy living having regard to the local character and townscape of Carlton including its conservation area.

2 Community Integration

To ensure the new development is a good neighbour, integrating well with surrounding neighbourhoods for mutual benefit.

3 Landscape and Biodiversity

Enhance and preserve Wharncliffe Woodmoor as the new neighbourhood greenspace. Establish green wildlife links as part of the distinctive neighbourhood landscaping connecting with Carlton Marsh and retaining and rejuvenating as many of the existing trees and habitats as possible across the site.

4 Sustainable Transport Promotion and Connections

Ensure provision of well promoted attractive active travel and public transport links within the new neighbourhoods and between the new and surrounding neighbourhoods to make these modes the first choice of travel mode. Improve the existing National Cycle Network/ Trans Pennine Trail to form a secure and well connected network through the site.

5 Facilities and Community Hub

Promote the primary and senior school expansion, community garden and neighbourhood park as facilities serving both new and existing neighbourhoods.

6 Smart Technology and Low Carbon

Promote clean alternative energy usage and minimum carbon consumption throughout the development together with ensuring the neighbourhoods are serviced by high quality broadband and digital technology.

7 Partnership and Delivery

Innovative engagement and partnership methods with community and other key stakeholders will be used to develop innovative exemplary ways of funding, implementing and managing the development and its associated services maximising social enterprise opportunities.



Wharncliffe Woodmoor



Carlton Marsh Nature Reserve

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.1 CONTEXT

This site and contextual analysis report refers specifically to the site, which is also known as the MU2 (west) and MU3 (east) sites. MU2 is 11.8 ha and MU3 is 117.2 ha, combining to create a total of 129 ha in the local authority of Barnsley Metropolitan Borough. The site is currently designated as mixed-use under the BMBC Local Plan.

The site lies less than 0.5km south-east of the centre of Carlton and are approximately 4km to the north-east of Barnsley. They are accessible via the M1 (J38) and A61.

MU2 is bounded to the west by a green buffer to Carlton Industrial Estate, north and east by housing and Carlton Primary Academy, and south by travellers site TS1.

MU3 is bounded to the north by green belt, east by a railway line, north-west by the Barnsley Canal, west by Premier Foods Bakery, south-west by housing and south by Ardagh Glass Works. Shaw Lane bisects the northern quarter of the site, while West Green Way bisects the southern quarter of the site.

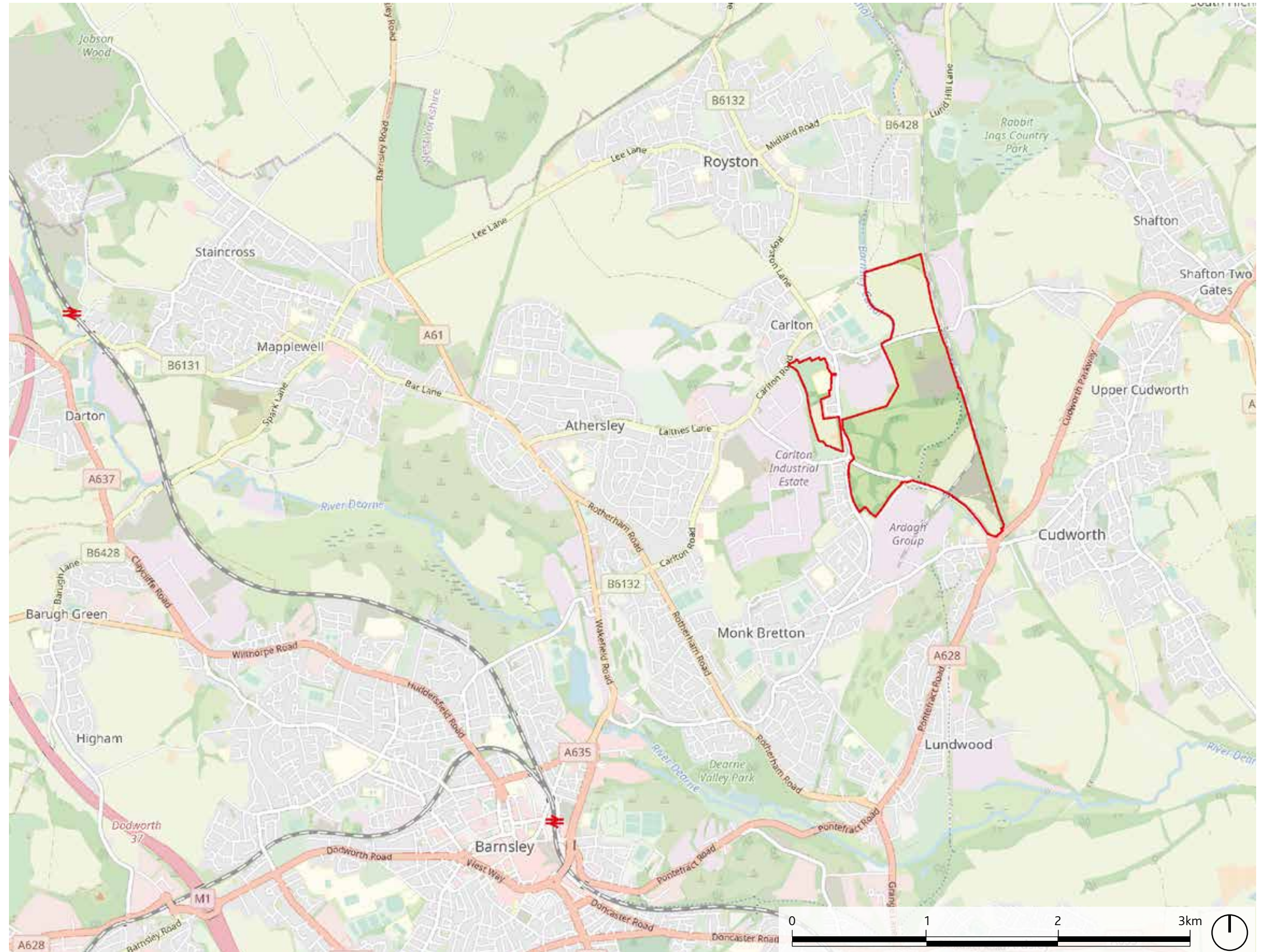


Fig. 3: Site Context Map

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.2 TOPOGRAPHY

Site MU2 rises from a low point in the south towards the north-east with an overall level change of circa 15m.

Site MU3 rises from the lowest level along the eastern edge (particularly to the south east) towards the central south area where the summit is located and has a level change of over 35m.

The steepest region lies in the central and southern part of MU2, and within Wharncliffe Woodmoor area in MU3 around the high point and towards the railway lines. The rest of the site is located on a relatively flat area.

These topographical issues should be respected and addressed in the Masterplan.

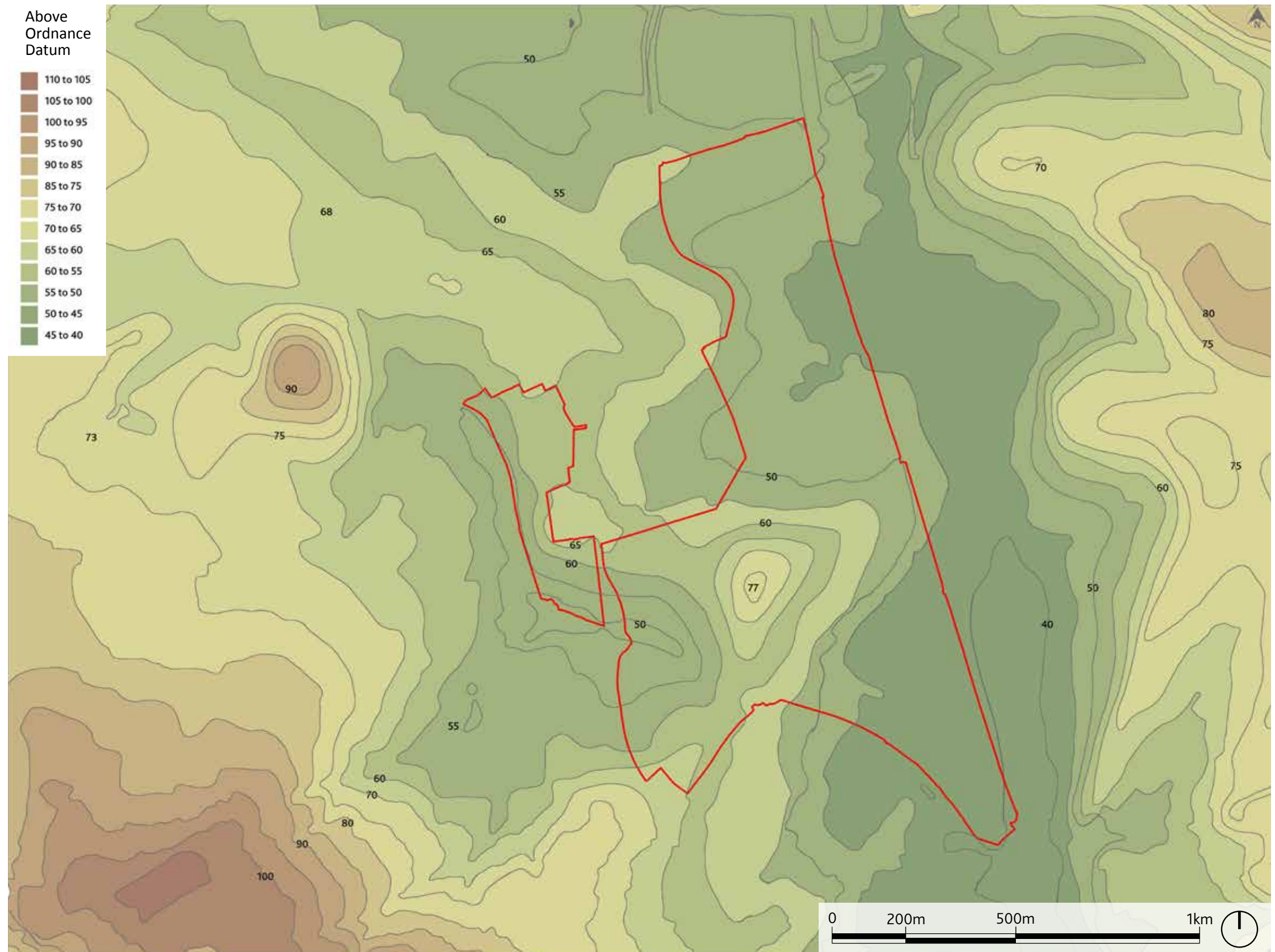


Fig. 4: Carlton Existing Topography

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.3 KEY CONSTRAINTS

The site constraints plan summarises the various technical constraints that are found within and around the site.

Ground Condition:

There are a number of ground constraints across the site as detailed in the Evidence Base. For most of these, ground investigations will be required during the design phases. Some of the key constraints are illustrated in Fig. 5 and detailed below:

- Shallow mineworkings in the northern part of the MU2 allocation will require ground investigations to check for ground gas and if coal still exists. These may need to be extracted prior to development to prevent sterilisation in line with Barnsley Local Plan Policy MIN1.
- Ground investigations will be required to locate the mineshafts and mine adit on Site and to confirm the treatment. This can then lead to the determination of the exact development exclusion zone.
- There is a potential source of contamination in groundwater in the former landfill areas which will require a desk study and ground investigation in order to confirm the contents and extent of contamination and required remediation.
- Further investigation will be required with Coal Authority (including CON29M report) to obtain Information on mine gas and ground source heat potential of the deep mineworking areas.

Heritage and Archaeology

Most heritage assets of interest are outside of the site and an assessment of impacts on the setting of designated heritage assets is likely to be required to support planning applications made for the site.

For the heritage assets located within the site, proposals must be accompanied by an appropriate archaeological assessment. The canal for example should be reflected within the proposed landscape and others such as the ridge and furrow earthworks may need to be recorded prior to construction.

Flood Risk

Development should be avoided on areas within Flood Zone 2 and 3, as required by Local Plan Policy.

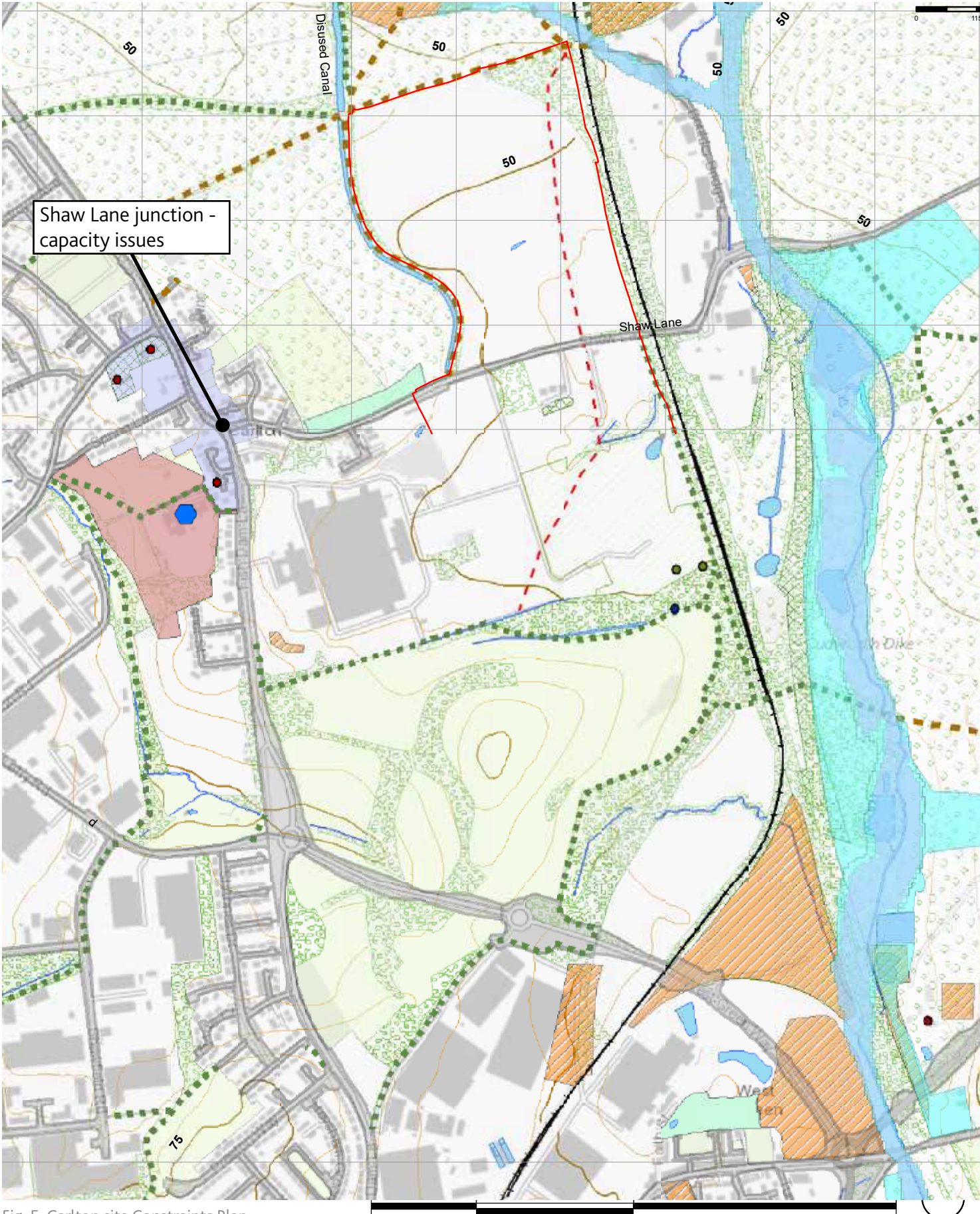
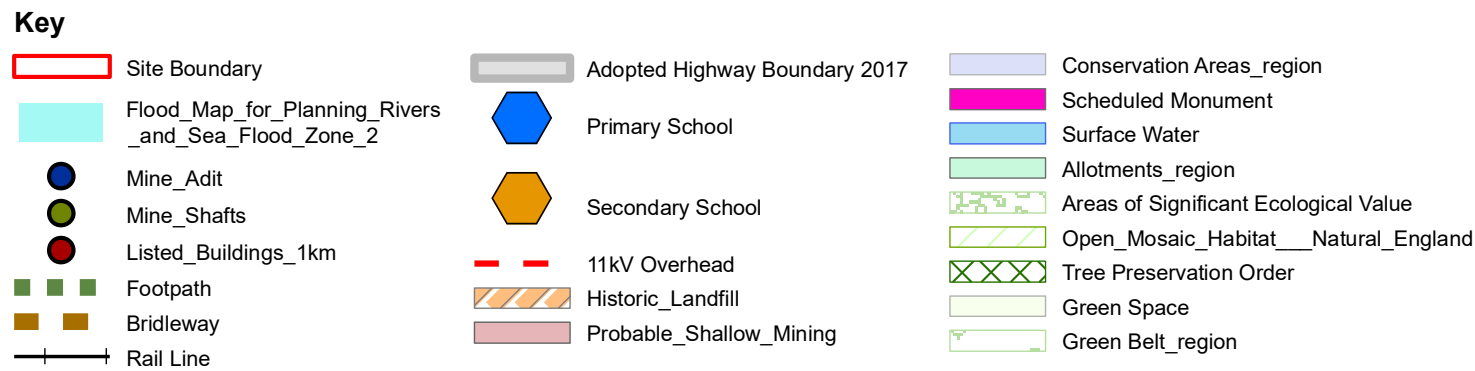


Fig. 5: Carlton site Constraints Plan

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.4 SITE OWNERSHIP

Mapping to the right indicates that there are a number of different land parcels with different owners across the site. There are 17 different landowners with varying sizes of land parcels.

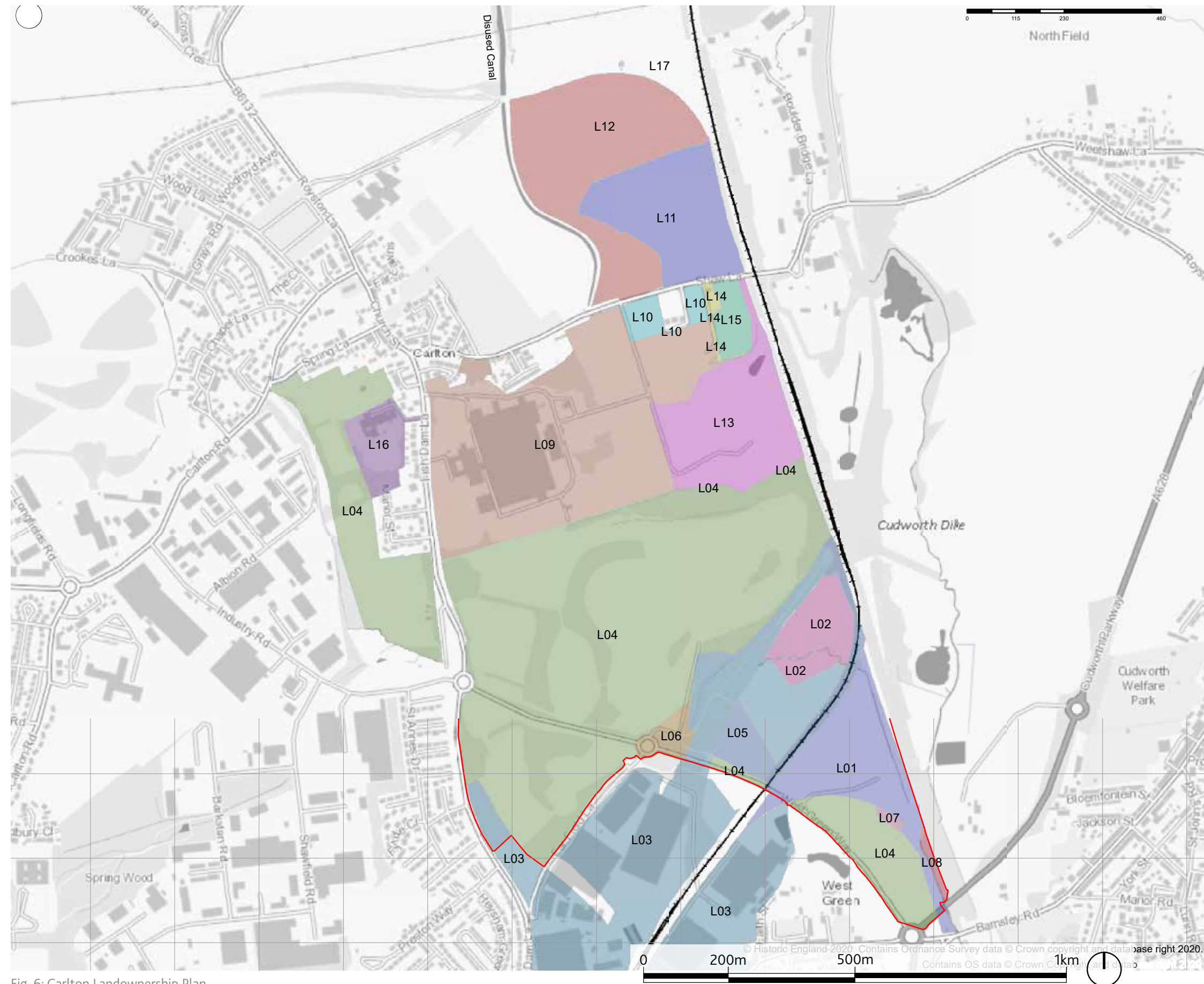


Fig. 6: Carlton Landownership Plan

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.5 URBAN DESIGN ANALYSIS

The site and context urban design analysis plan to the right summarises the below key findings:

- Provide safe active travel and public transport links to Carlton Primary Academy, Outwood Academy Carlton, Carlton Park and Recreational Ground and to the local centres of Cudworth and Royston.
- Sensitive treatment and potential mitigation buffer required along existing industrial edges.
- Large areas of contaminated/ unsettled land within the site will require remediation to enable residential development to take place.
- Proposed development shall consider significantly steep topography.
- Safe pedestrian and cycle crossing points should be provided along existing roads and connect the site with surrounding Public Right of Way network.
- Mitigation required for noise and environmental pollution from national speed limit traffic along West Green Way.
- NCN/TPT of poor quality along eastern edge of site MU3 and along Shaw Lane to be either improved or relocated.

All applications must provide robust mitigation measures to mitigate against noise, odour and other potential impacts arising from the existing (and potentially expanding) industrial operations.

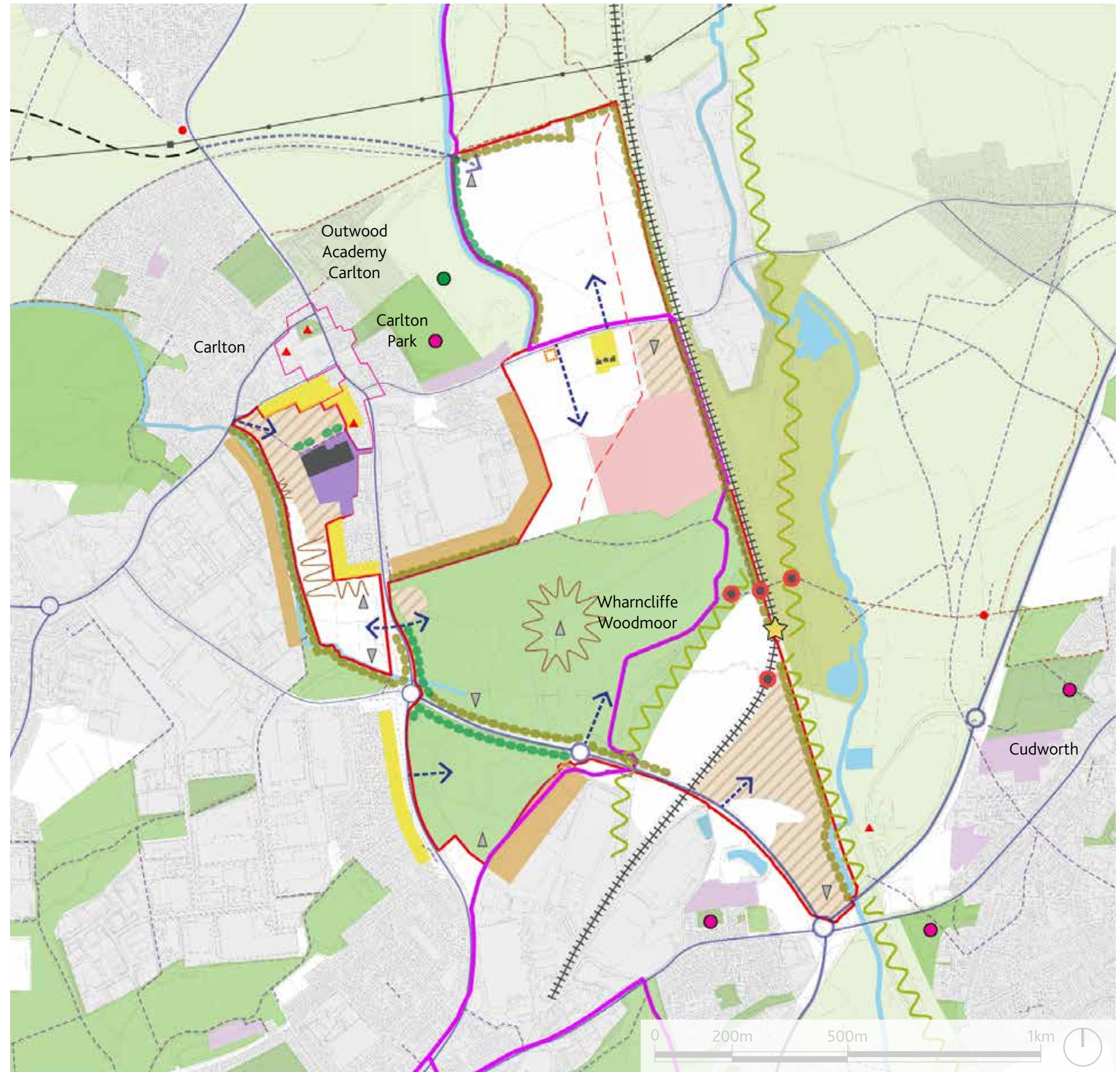


Fig. 7: Urban Design Analysis

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3. SITE CONSTRAINTS AND OPPORTUNITIES

3.5 URBAN DESIGN ANALYSIS

The site and its surrounding areas have distinctive characteristics that provide a platform for placemaking strategies in the new development:

1 HISTORIC CONSERVATION AREA

The historic centre of Carlton is centred at the junction of Church St and Carlton Road, consisting of a church, significant manor houses and former barns.

2 CARLTON GREEN

Likely the first extension of Carlton, an area of mid 20th century municipal housing following a loose grid layout with narrow streets.

3 MINER'S QUARTER

Terrace housing of former miners, in close proximity to former collieries and mine shafts, typically following an industrial grid layout or along key streets.

4 WOOD LANE ROUNDABOUT

Recent developer led edge of settlement extension following a disconnected grid form.

5 CARLTON EDGE

Area of mid-late 20th century developer housing following a perimeter block and cul-de-sac layout.

6 CARLTON CENTRE

Permeating away from the centre of the conservation area is distinctive and unique early 20th century housing, primarily along Spring Lane.

7 FARMSTEAD

New small developer housing on the site of former farms/ farmsteads - typically forming cul-de-sacs.

8 FISH DAM LANE EXTENSION

Seemingly random inter-war housing extension disconnected from Carlton, consisting of semi-detached housing following a perimeter block.

9 LITTLE LANCASHIRE

Post-war municipal housing following a Radburn/ Neu Frankfurt style of housing perpendicular to arterial streets, while street names take influence from Lancashire towns.

10 KLONDYKE EXTENSION

21st century mass housing development, with tall and narrow streetscapes and no ground floor active frontage, following a loose but connected street formation.

11 INDUSTRIAL CUDWORTH

Former miners terrace housing along the arterial road leading into Cudworth, housing is typically raised with a small front garden and dominated by on-street parking.

12 WEETSHAW

Individual and isolated detached and semi-detached housing between Carlton and Cudworth, forming mostly along primary streets.

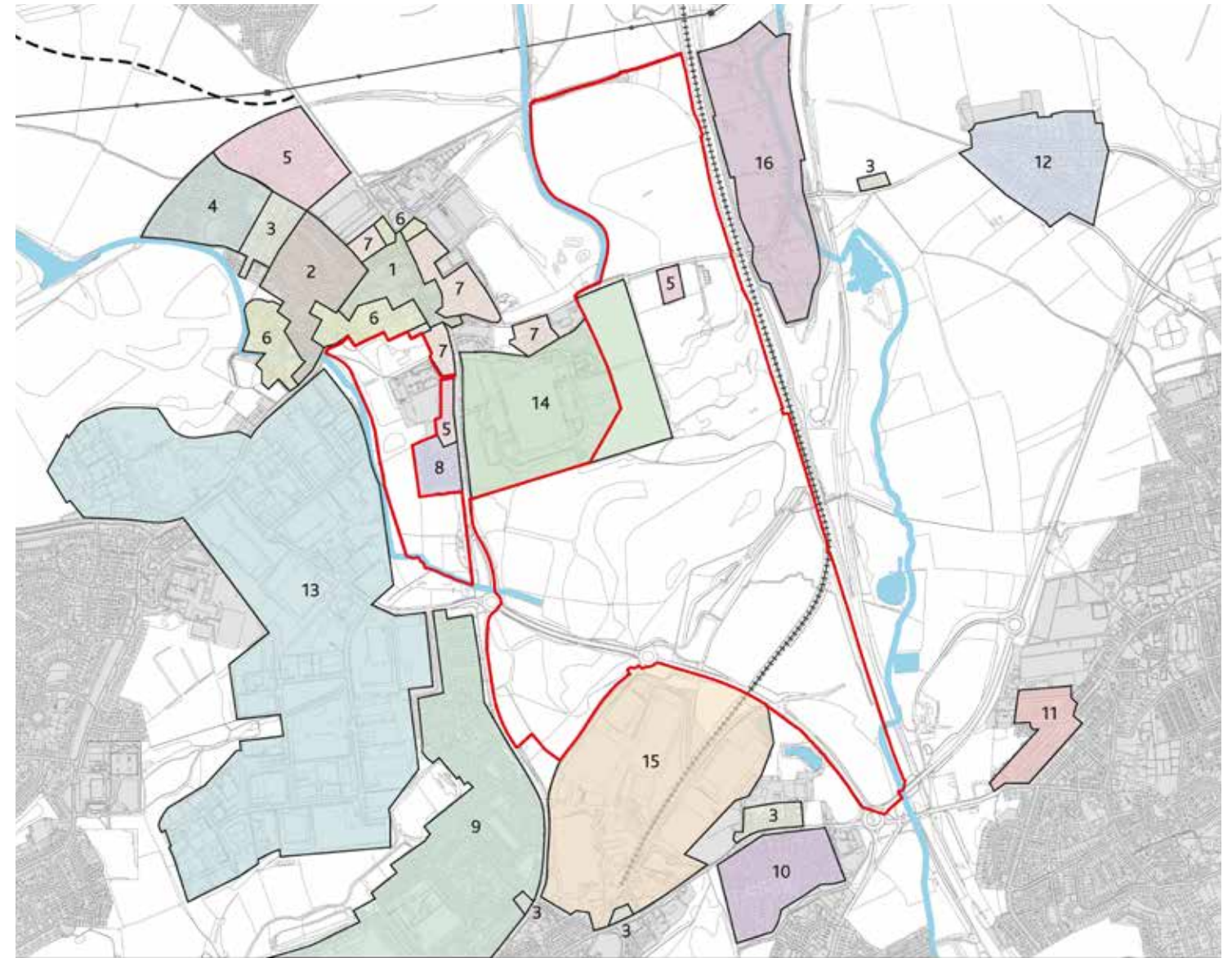


Fig. 8: Carlton Townscape Character Map

13 CARLTON INDUSTRIAL ESTATE

Significant post-war industrial estate divided from Carlton by a green buffer - consisting of low rise, medium-large footprint warehouses.

14 PREMIER FOODS BAKERY

Low-rise large footprint warehousing situated close to the centre of Carlton, partially screened by a sparse woodland boundary.

15 ARDAGH GLASS WORKS

Prominent piece of industry to the north of Monk Bretton, with tall warehouses and chimney stacks visible as a significant landmark seen from miles around.

16 BOULDER BRIDGE LANE

Elongated mostly low-rise area of industry specialising in scrap metal, typically away from public view, penned in by railway embankments.

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.5 URBAN DESIGN ANALYSIS



3. SITE CONSTRAINTS AND OPPORTUNITIES

3.6 LANDSCAPE ANALYSIS

The site and context landscape analysis plan to the right summarises the below key findings:

- Retain and enhance areas in Wharncliffe Woodmoor as valuable public greenspace, with a focus around the peak of the Carlton South Spoil mound as this offers panoramic views out over the surrounding landscape.
- Create a thematic and well-connected active travel network across and beyond the site, teeing into surrounding Public Rights of Way and National Cycle Network/ Trans Pennine Trail.
- Existing trees and hedgerows within the site to be retained where possible.
- Create strong wildlife corridors across and beyond the site, ensure connections with Carlton Nature Reserve and surrounding priority habitats.
- Respect priority habitats and areas of significant ecological value within the site as rich environmental features, and tee into wildlife corridors where possible.
- Blue infrastructure strategy to be coordinated with existing topography across the site.

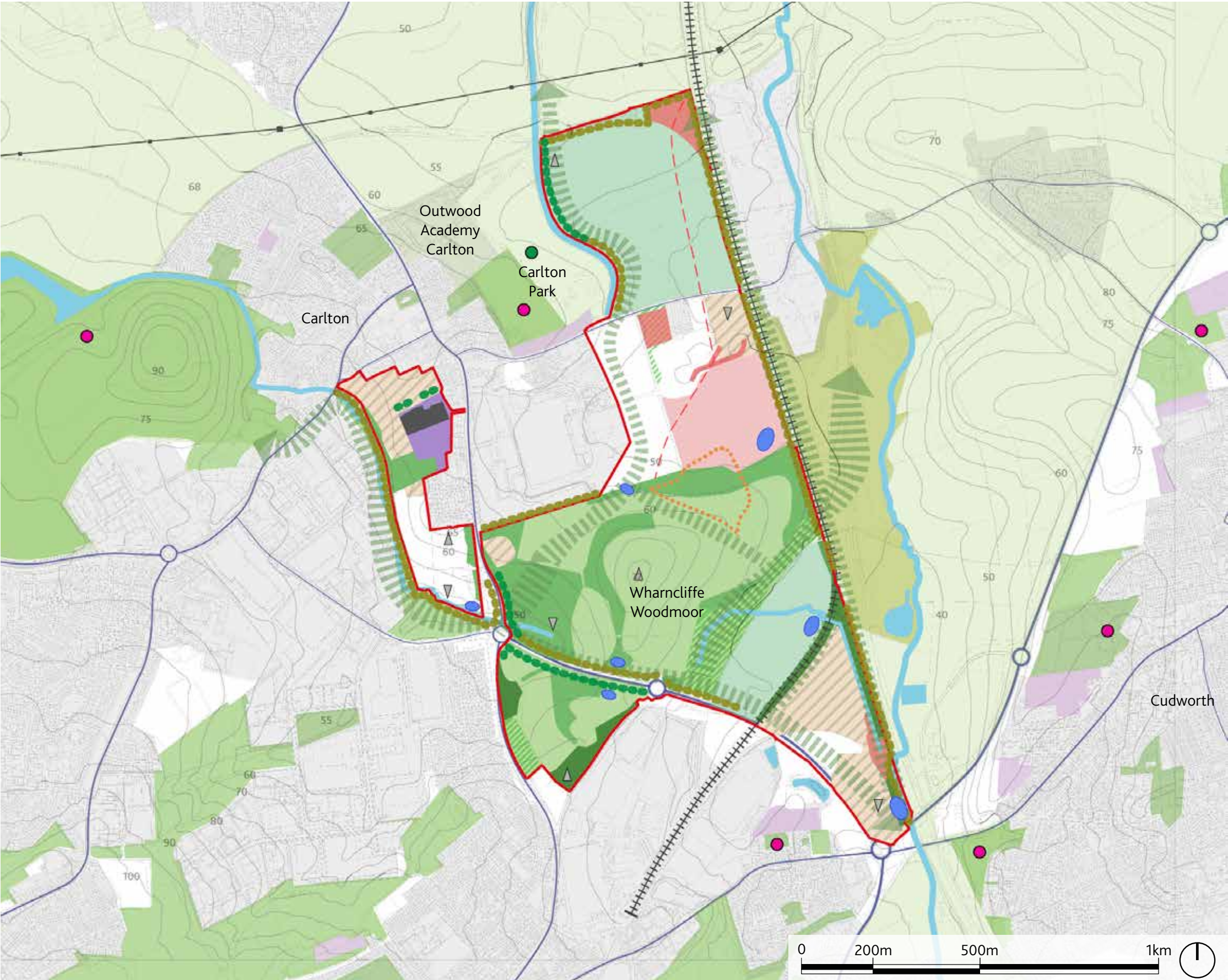


Fig. 9: Green Infrastructure Analysis

3. SITE CONSTRAINTS AND OPPORTUNITIES

3.7 BASELINE CONCLUSIONS

Summary Opportunities

- Extension to Carlton Primary Academy (210 places, circa. 0.87ha).
- Enhance active travel and public transport links to surrounding key assets, such as Carlton Park, Carlton Primary Academy and Outwood Academy, including the diversion and improvement of the NCN/ TPT.
- Connect and establish distinctive active travel network to link between the site and Cudworth and Royston local centres.
- Potential implementation of new railway station in MU3 connecting between Wakefield and Barnsley.
- Establish wildlife corridors to connect significant assets in the site with Carlton Nature Reserve and surrounding parks.
- Extensive heritage characteristics to be reflected in design.
- Propose Local Equipped Areas of Play in areas throughout the site that are not divided by arterial streets including MU2 and MU3 (north and south of Shaw Lane).

Summary Issues

- Further investigations will be required to assess the contaminated and unsettled land within the site.
- Problematic steep topography to be considered in the development layout.
- Capacity constraints at the existing Shaw Lane/ Church Street/ Fish Dam Lane junction.
- Site boundaries along industrial edges in site MU3 present aesthetic and acoustic issues.
- Land ownership to be respected with configuration of land use and potential phasing.
- National speed limit along West Green Way causes concern for noise pollution and movement barrier within MU3.
- NCN/TPT of poor quality along eastern edge of site MU3 and along Shaw Lane.

4. MASTERPLAN DEVELOPMENT

4.1 PRE AND POST CONSULTATION FRAMEWORK

In response to the feedback received during the consultation process, a range of amendments were made to the consultation masterplan based on a 'You said, we did' approach.

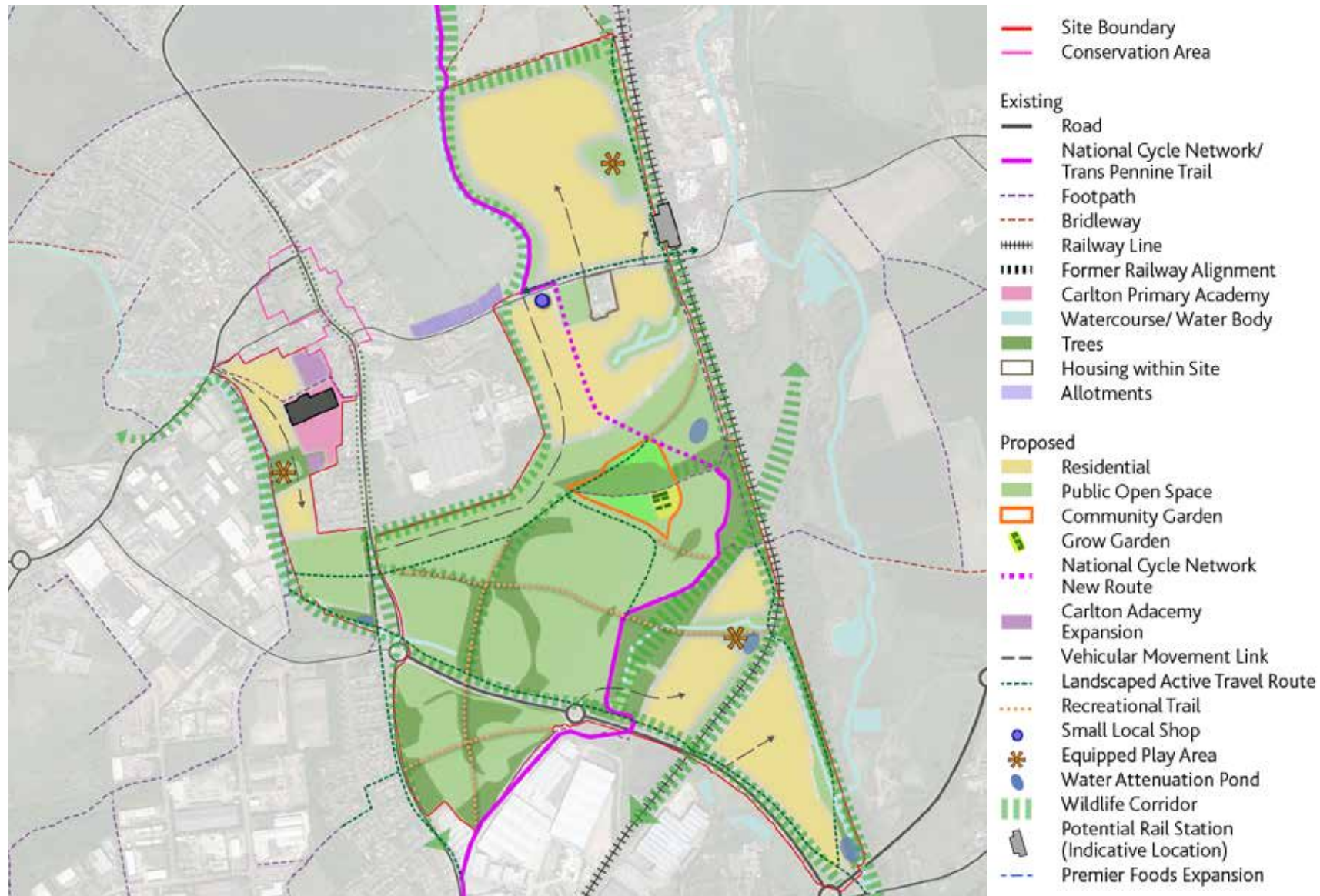


Fig. 10: Consultation Masterplan Framework Plan (Contains information from Esri)

Consultation Masterplan Framework

- Promote a new community garden where the former Carlton Colliery Allotment Garden was, including new grow garden and recreational field.
- Retain and enhance the majority of Wharncliffe Woodmoor as a neighbourhood greenspace.
- Enhance Royston Lane, Church Street and Fish Dam Lane as a central green spine.
- Propose vehicular link from Fish Dam Lane to the north of the site to reduce impact on Shaw Lane.
- Locate small local shop on Shaw Lane/ NCN/ TPT to maximise passing trade into the development.
- Enhance and divert sections of NCN/ TPT to integrate with the overall GI strategy.

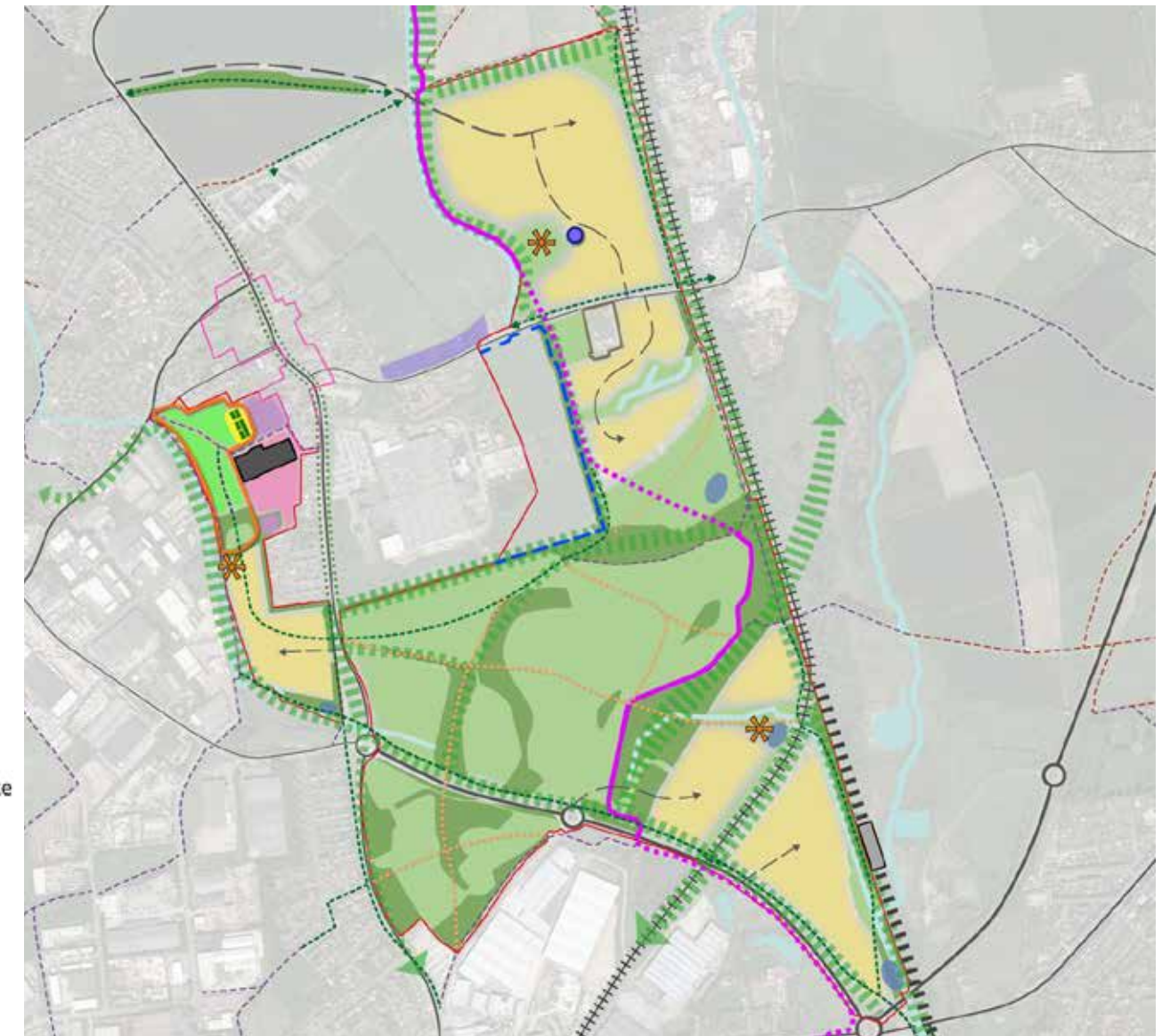


Fig. 11: Post-Consultation Masterplan Framework Plan (Contains information from Esri)

Post-Consultation Masterplan Framework

- Reduce residential area north of MU2 and around Wharncliffe Woodmoor in MU3 to preserve it.
- Preserve and enhance Wharncliffe Woodmoor in its entirety as a community greenspace.
- Community garden to the north of site MU2, bringing a grow garden and play facilities to new and existing residents of Carlton, while integrating with Carlton Primary Academy.
- Northern movement link from Royston Lane to site MU3 to help relieve existing Carlton transport pressure.
- Small local shop near the junction to the north of site MU3, integrating with a proposed neighbourhood park.
- Enhance and divert sections of the NCN/ TPT, including along West Green Way into Wharncliffe Woodmoor, along the boundary of Premier Foods Bakery and directly across to Barnsley Canal.
- Safeguarding of Premier Foods owned land for future employment uses.

5. MASTERPLAN FRAMEWORK

5.1 THE MASTERPLAN

By consolidating all the consultation feedback into the Masterplan Framework based on a 'You said, we did' approach, the final framework includes the following key design principles:

- Circa. 1,500 new homes over three individual residential neighbourhoods, a small local shop, 210 pupil expansion to Carlton Primary Academy and expansion of Premier Foods Bakery.
- Preserve and enhance Wharncliffe Woodmoor as a neighbourhood greenspace, as well as on site landscape designations and delivering 10 per cent Biodiversity Net Gain.
- New community garden to the north of site MU2, including a grow garden/ orchard and play facilities, while integrating with Carlton Primary Academy.
- Small local shop north of Shaw Lane integrating with the Canal Park, providing service to the majority of new residents and Carlton.
- Movement link from Royston Lane to site MU3, relieving congestion in Carlton and along Shaw Lane.
- Potential railway station to the south of site MU3, providing accessibility to Wharncliffe Woodmoor and surrounding residential and employment.

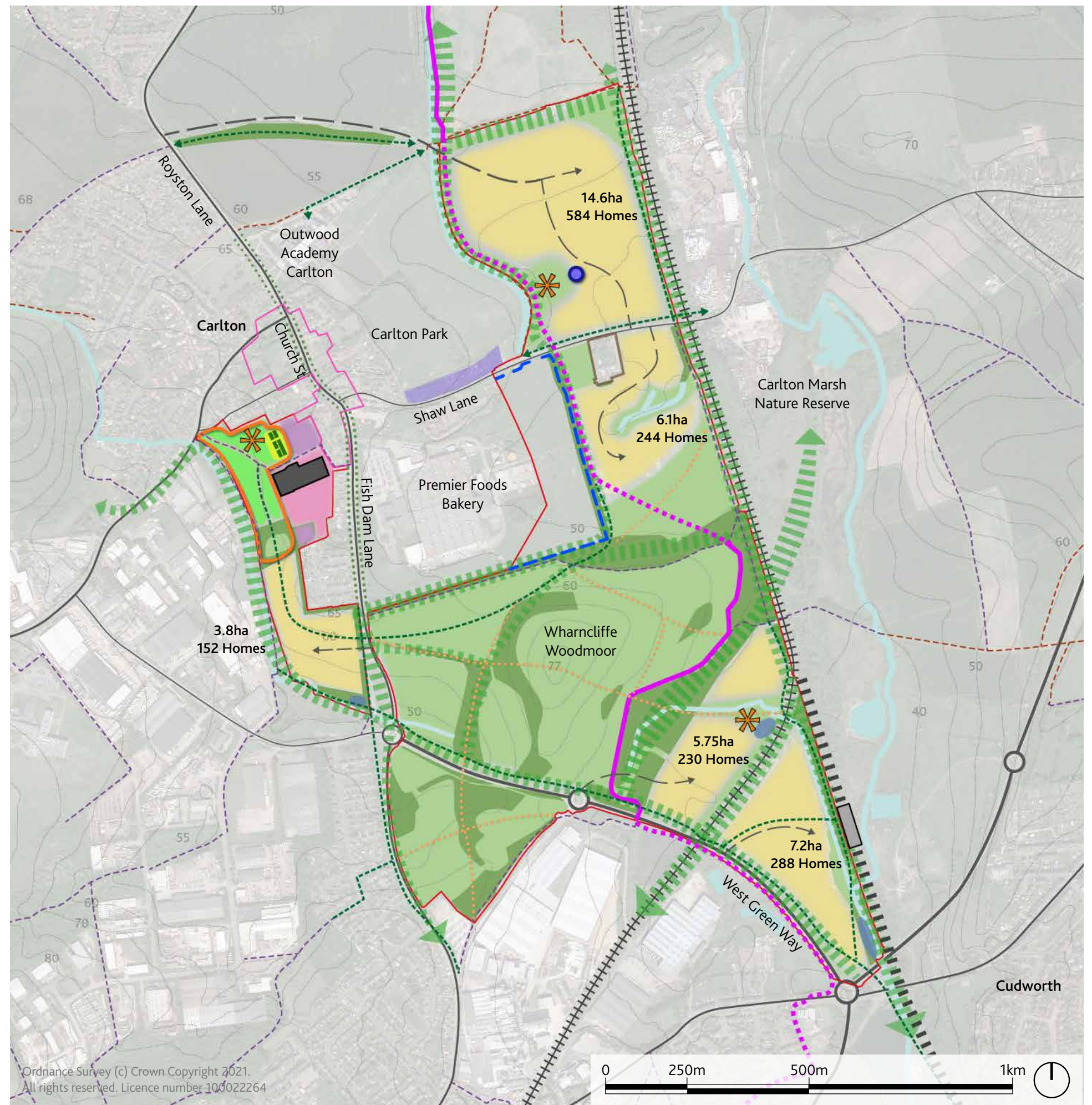


Fig. 12: Masterplan Framework Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.1 THE MASTERPLAN

Indicative development quantum are as follows:

Gross site area	MU2 - 11.8ha MU3 - 117.2 Total - 129ha
No. of Proposed Homes	MU2 - circa. 152 MU3 - circa. 1346 Total - circa. 1,500 Average residential density: 40 DPH per Local Plan
Local shop	Circa 0.1 ha
Education (or community use)	Circa. 1ha (210 pupil expansion at Carlton Primary Academy)
Open space	Circa 64ha (including existing area of Wharncliffe Woodmoor)
Attenuation	Circa 2.3-3.4ha (included in open space)

Residential land use within the allocation is divided into three density zones in order to achieve a diverse mix of housing types and tenures (Fig. 13):

- 1. High density zone 40-45 average DPH
- 2. Medium density zone 35-40 average DPH
- 3. Low density zone 30-35 average DPH

The higher densities are located in the most central places, typically close to key gateways and primary streets, while also relating to adjacent development. Lower densities are located in less central areas of the site - typically around the periphery and adjacent to POS, the green belt and sensitive habitats to limit impact.

High Density
Medium Density
Low Density

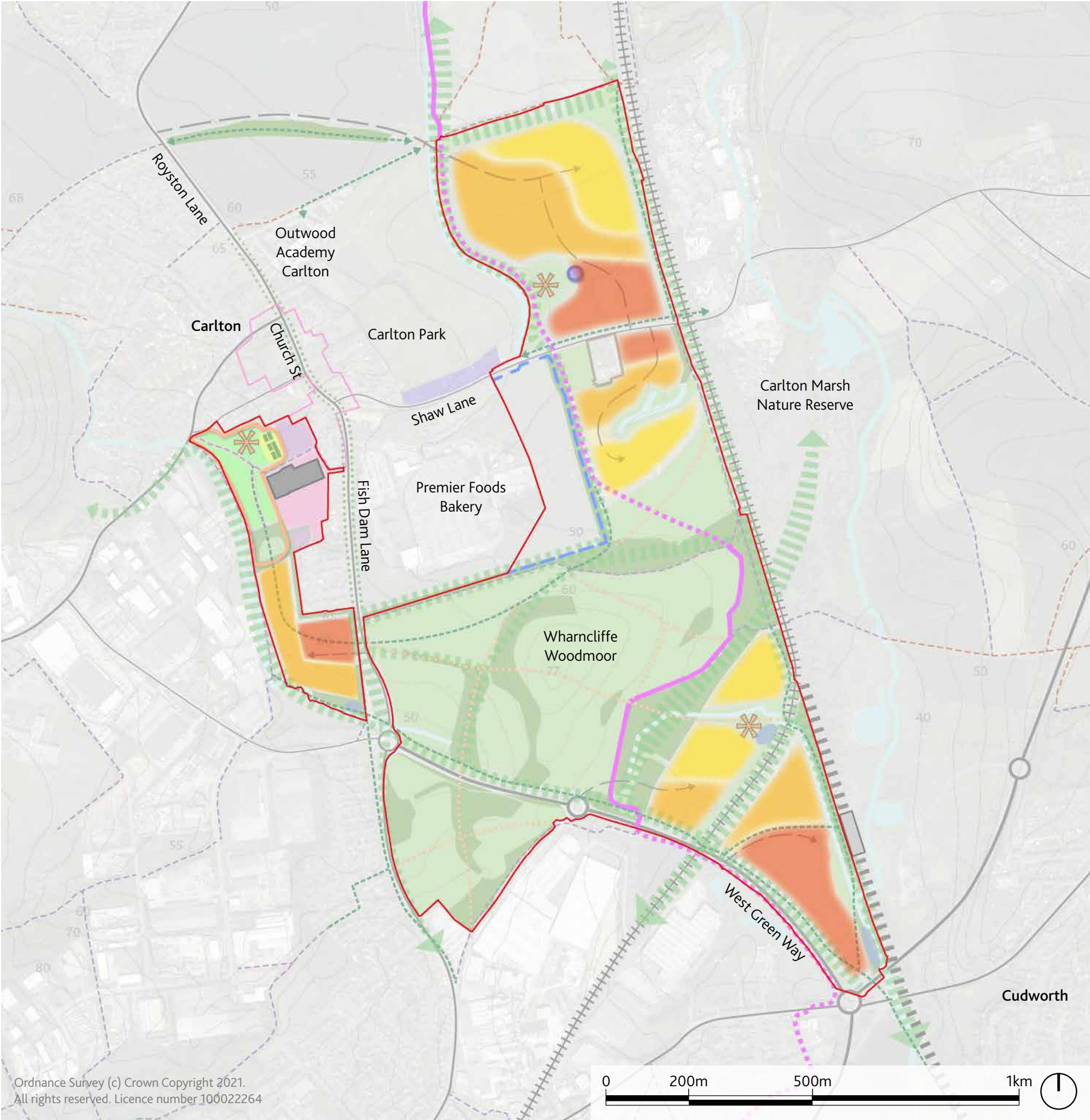


Fig.13 Residential Density Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.1 THE MASTERPLAN

Successful places are not just about the buildings, spaces and routes, they're also about diversity and distribution of uses that they facilitate. The Masterplan Framework plan of the site is based on a combination of seven placemaking principles to create a unique place (see Section 2).

These principles have been taken into consideration in designing the new framework. The proposals also meet the requirements of site specific policy MU2 and MU3 combined in the adopted Local Plan (2019), in that they deliver the necessary commercial, residential and community uses within the broad area for growth. The land uses allocated are as follows and are illustrated in Fig. 12.

Housing

The masterplan area will allow for the provision of up to 1,500 new homes at an average density of 40 DPH. New housing shall be delivered at various densities and scales to meet different accommodation needs. The provision of a mix of housing will include 10 per cent affordable housing as indicated in the Local Plan.

Education

With the introduction of new residential neighbourhoods to the area, Carlton Primary Academy will require a 210 pupil expansion as the school is almost at capacity. Policy I2 gives support to the provision of education facilities that are centrally located to the communities they serve.

Open Space

The masterplan area will provide sufficient high-quality accessible open space in response to the requirements set out in the Local Plan. This shall include the provision of parks and gardens, natural and semi-natural greenspace, neighbourhood greenspace, provision for children and young people, community gardens, etc. At the heart of site MU3 is Wharncliffe Woodmoor, a landscape treated colliery mound that has become a popular neighbourhood greenspace in the north of Barnsley. The site contains a number of landscape designated priority habitats and is adjacent to Carlton Marsh Local Nature Reserve. The open space shall create a GI network of connecting links between habitats to provide wildlife corridors and habitats in their own right. These links shall be utilised for active travel and, where topography allows, SuDS.

In accordance with the SPD Open Space Provision on New Housing Developments, this site is expected to provide a full range of greenspace required to meet the needs of the development. Informal open space and children's play will be provided on site in accordance with the masterplan principles. However, a financial contribution will be required towards the provision of formal recreation, which will improve facilities and access at the existing Carlton Park.

Local Shop

A new residential development will generate a need for a new local shop below 500 m². It shall be located centrally, connected to key active travel links and also accessible to vehicles. The shop shall tie in with other facilities to create a focal point in the site, in this case it is alongside Canal Park and the proposed play area.

Movement Strategy

The Movement Strategy is based on a hierarchy of routes through the site, connecting with existing routes, communities and amenities. The hierarchy prioritises walking, cycling and public transport over motor vehicles to encourage sustainable travel and reduce the impact of private vehicles. The scheme design considers access requirements for all users in the following order:

- Pedestrians
- Cyclists/equestrians
- Public transport
- Specialist service vehicles - emergency services, refuse and delivery vehicles
- Private vehicles



Green open spaces will promote places to gather, socialise and play



Proposed green active travel routes throughout the development



Grow garden as part of the Community Garden

5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK - ACTIVE TRAVEL

Active travel is encouraged with a network of landscaped active travel and leisure routes as well as an improved National Cycle Network/ Trans Pennine Trail providing access for pedestrians, cyclists and equestrians. These provide generous, attractive and safe traffic free routes through the site, linking to local facilities and services. Existing Public Rights of Way through the site shall be retained and enhances. These new and existing routes will connect with existing external Public Rights of Way to connect the site to the surrounding areas.

Fig. 14 identifies the different active travel routes, including pedestrian links, cycle routes and the National Cycle Network/ Trans Pennine Trail.

- Existing
- National Cycle Network/ Trans Pennine Trail
 - Footpath
 - Bridleway
- Proposed
- Landscaped Active Travel Route
 - National Cycle Network/ Trans Pennine Trail New Route
 - Former National Cycle Network/ Trans Pennine Trail
 - Recreational Trail

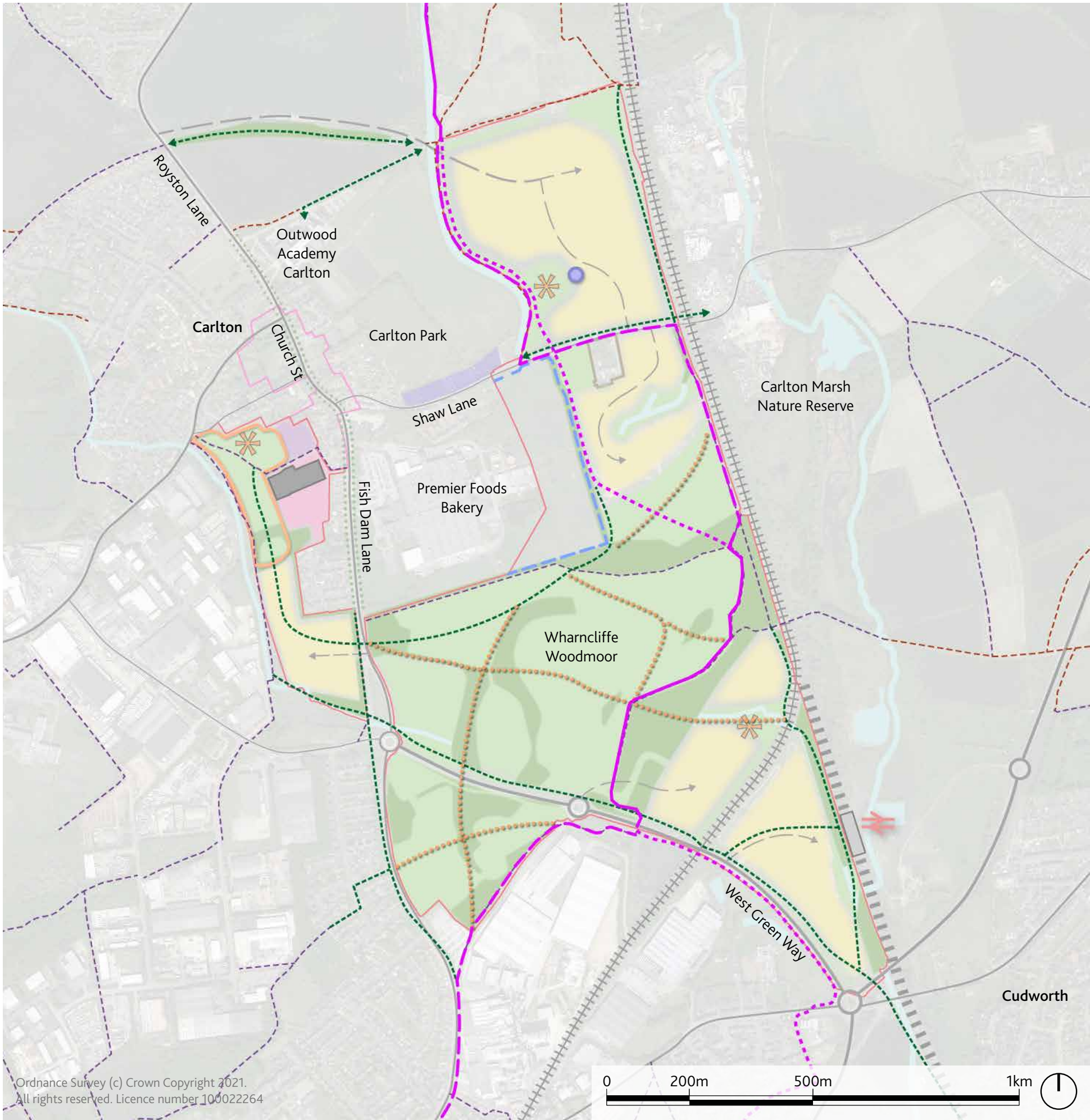


Fig. 14: Active Travel Links Strategy Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK - ACTIVE TRAVEL

Landscaped Active Travel

A network of Landscaped Active Travel routes is proposed. These include east-west routes connecting Royston Lane and Outwood Academy to the northern parcel of the site, an east-west route along Shaw Lane, north-south routes adjacent to the rail line, a route through MU2 connecting to Shaw Lane through Wharncliffe Woodmoor to the south and east of the Premier Foods site and a route along the northern edge of West Green Way connecting with the southern parcel and proposed rail station in the south.

Routes shall be wide, include planting and provide segregation between pedestrians, cyclists and horses. Safety considerations include that routes are overlooked for passive surveillance and lighting is provided.

National Cycle Network/ Trans Pennine Trail

The National Cycle Network/ Trans Pennine Trail running in an approximate north-south direction through the site will be upgraded to provide improved facilities for pedestrians, cyclists and equestrians for connections between Wakefield and Barnsley. The central section will be diverted through the site.

Existing Footpaths

Existing footpaths through the site will be retained, including adjacent to the rail line and through Wharncliffe Woodmoor in MU3 and the western boundary of MU2. Footpaths will also be provided alongside new highways within the site.

Recreational Trails

In addition, Recreational Trails provide pedestrian routes

through Wharncliffe Woodmoor.

These proposals provide a network of routes available to provide direct connections and a choice of routes for pedestrians and cyclists. Desire lines include links to local communities and amenities in Carlton and leisure routes through the countryside to connect with Royston and Cudworth.

Cycle/ Pedestrian Routes

Cycle Route provision is made along the Landscaped Active Travel Routes and the National Cycle Network/ Trans Pennine Trail through the site. These will provide segregated facilities to provide legible, safe traffic-free routes for pedestrians and cyclists and will link to existing routes around the site. In addition, the vehicular streets through the site will be designed to keep vehicle speeds low and enable cyclists to cycle on-street.

New walking/ cycling routes will be fully accessible for all abilities and include suitable surfacing.

New walking/ cycling routes will be fully accessible for all abilities and include suitable surfacing. Equestrian access will be provided on all public bridleways.

New routes not forming part of the adopted vehicular highway will become designated Public Rights of Way where appropriate: to be determined.



National Cycle Network/ Trans Pennine Trail through Wharncliffe Woodmoor



Active travel link in natural landscape through historic arch

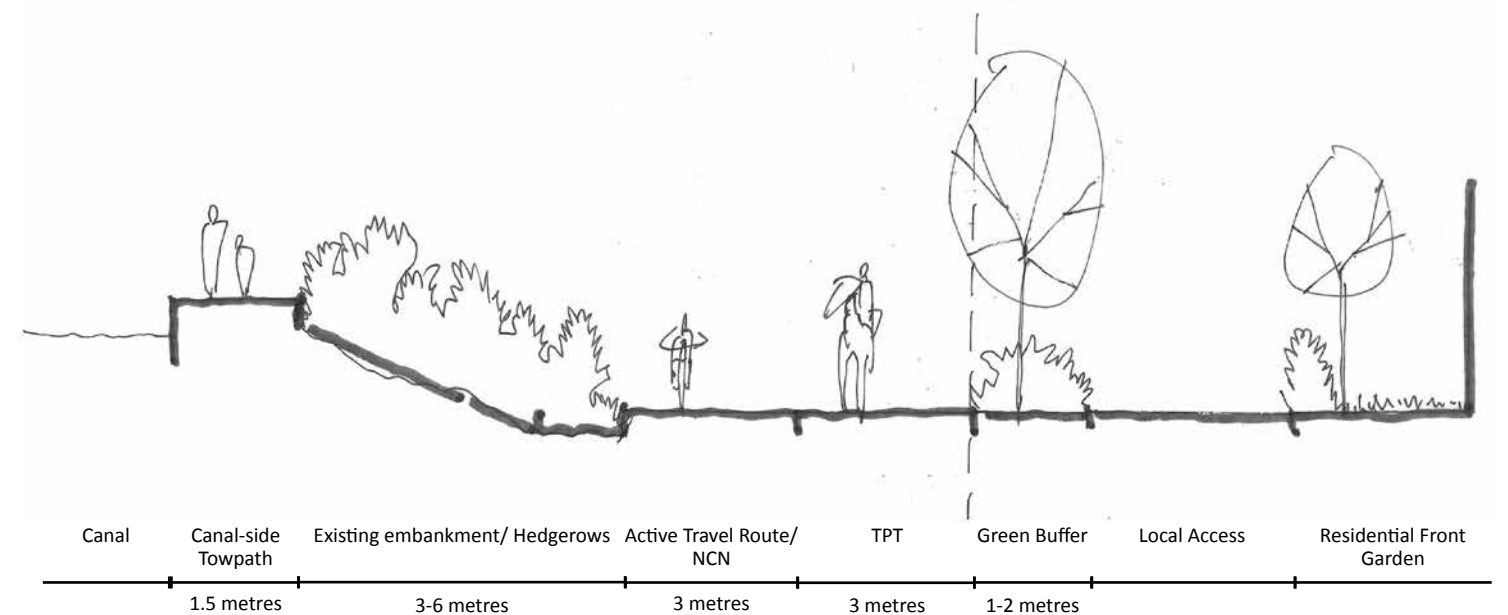


Fig. 15: Canal towpath, proposed rerouting of NCN and TPT Cross Section

5. Masterplan Framework

5.2 Movement framework - Public Transport

Bus routes through the site will be determined in consultation with BMBC, SYMCA and bus operators. Given the number of separate residential development parcels a number of bus routes may serve the site. This would include modifying existing services to provide additional buses and divert some of these in to the site via the northern primary access route and Shaw Lane. In addition, services on Fish Dam Lane will serve the MU2 parcel and new or diverted services will serve the MU3 southern parcels. It may be appropriate for some services to access the southern parcel to better serve the proposed rail station. Contributions to funding of additional bus services will be agreed with BMBC.

Bus stops to be provided at regular intervals with the aim of all dwellings being within 400m walking distance of a bus stop. Bus stops shall include shelters and real time displays.

There are aspirations for a new train station to serve this area being developed through a separate study to reopen the freight line to passenger services. A possible location for the rail station has been identified in the Masterplan. The station would serve new residents as well as existing residents in surrounding areas including Carlton, Cudworth, Lundwood and Monk Bretton. The railway station is being developed by BMBC separately and will need to consider the impact on the adjacent SSSI as part of its development.

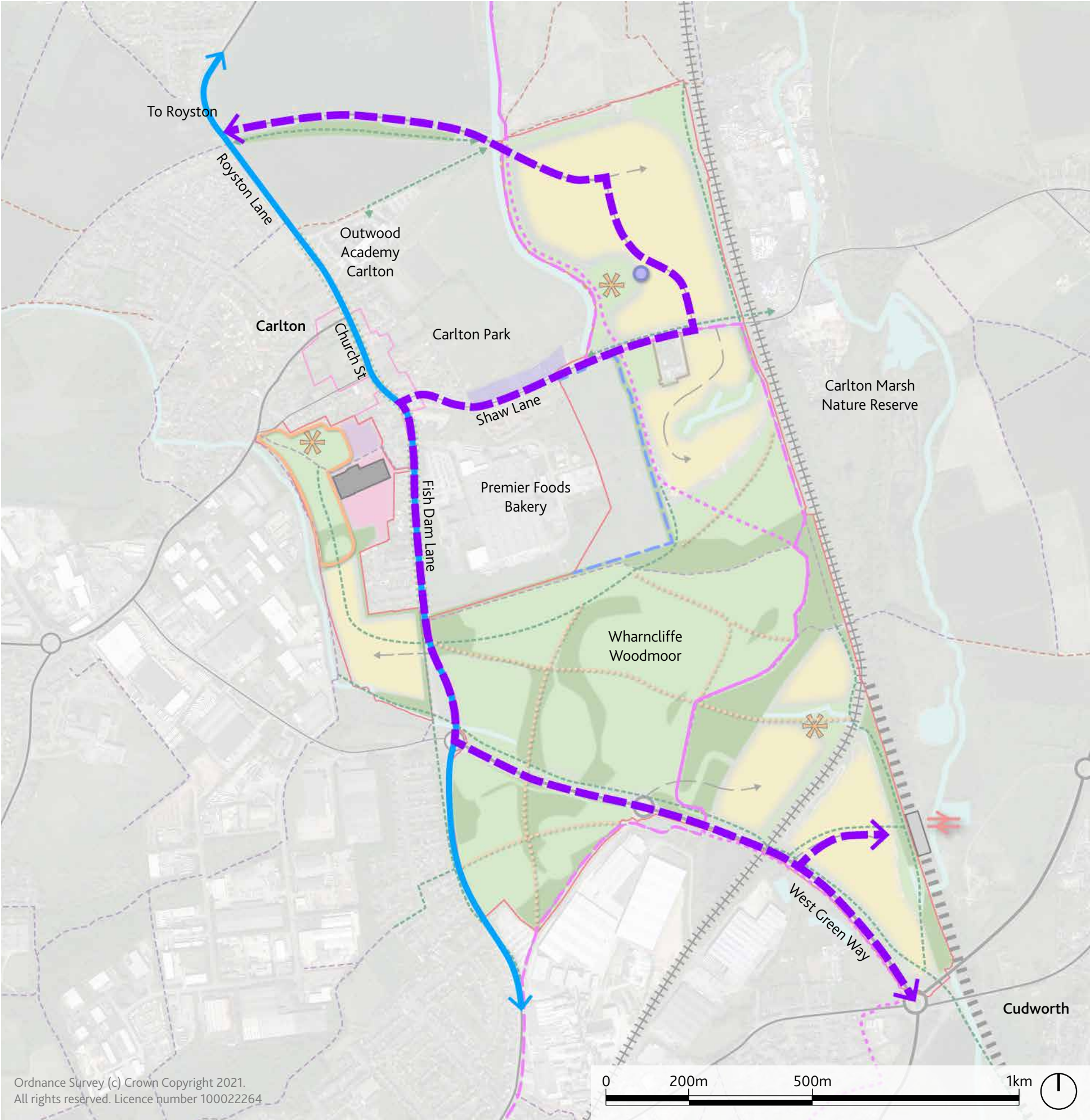
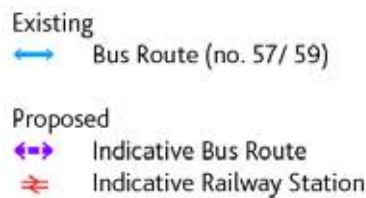


Fig. 16: Vehicular Movement Strategy Plan (Contains information from Esri)

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5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK - HIGHWAYS

The indicative street network provides vehicular access through the site. Pedestrians and cyclists shall also be accommodated on these routes.

The Masterplan protects the existing Wharncliffe Woodmoor open space with a number of separate residential parcels. While connections between the parcels are made by active travel modes, separate highway access to each parcel is made from the existing highway network.

All highway and active travel infrastructure shall be developed in accordance with the LTN1-20 guidance.

- Existing
- Road
- Proposed
- Primary Street
- Secondary Street
- Local Street
- Royston Relief Road

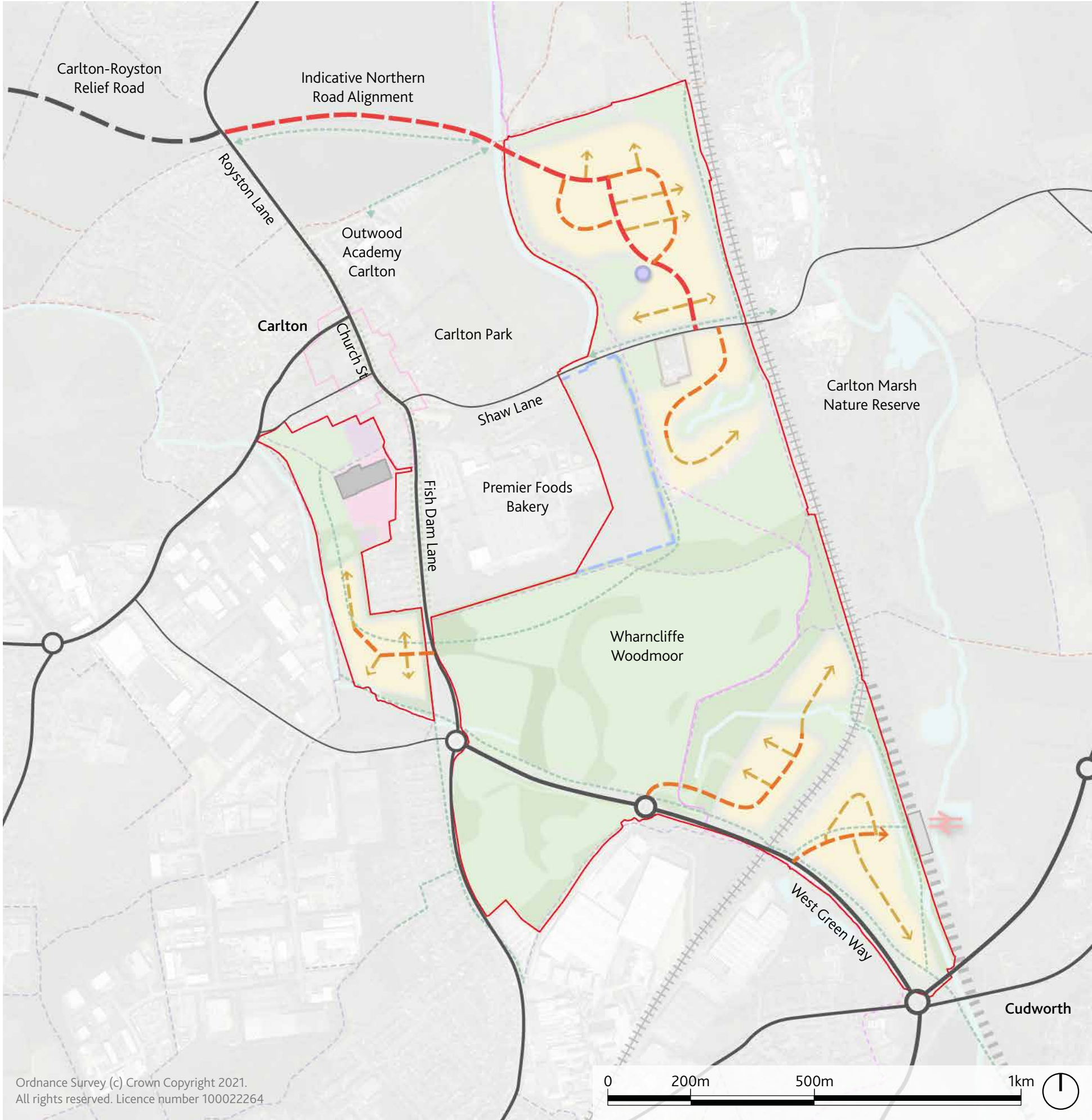


Fig. 17: Vehicular Movement Strategy Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.2 MOVEMENT FRAMEWORK - HIGHWAYS

Primary Routes

The highways proposals seek to relieve current congestion in Carlton with the provision of a new northern highway access route from Royston Lane into the northern parcel of site MU3. This will provide the primary access route to the largest residential parcel as well as new local shop. The new link to the north forms part of BMBC's strategic ambitions and would connect with the Carlton-Royston Relief Road when it comes forward. The alignment of this road is shown indicatively in the plans and will need to be developed in detail. The form of junction with Royston Lane will be determined through more detailed junction modelling. Access requirements for the Primary Route are for all vehicles - buses, emergency services, refuse / service vehicles and general traffic. A 30mph design speed is proposed for the northern access connection to Royston Lane and a 20mph design speed proposed within the built up site. Pedestrian footways are to be provided on both sides of the carriageway. A two-way segregated cycle path shall be provided on the primary route in accordance with LTN1-20 guidance based on predicted traffic flows. A Pegasus crossing for the Trans Pennine Trail will be provided. The Primary Route will be adopted by BMBC.

Secondary Streets

Secondary access streets provide access from the primary street in the northern parcel as well as also provide access from the existing local highway network in to the other residential parcels. New access junctions with Shaw Lane, Fish Dam Lane and West Green Way will provide access in to these parcels. These will likely be priority controlled junctions but their form will be determined through more detailed junction modelling.

Access requirements are for emergency services, refuse/ service vehicles and general traffic. Pedestrian footways are to be provided on both sides of the carriageway. Cycle provision is on-street.

Secondary Routes will be adopted by BMBC.

Tertiary Streets / Local Accesses

Tertiary routes / local access roads will provide access to individual residential streets and dwellings within each development parcel. These are not shown on the Masterplan but are considered as part of the Movement Framework. Access requirements are for emergency services, general traffic and refuse/ service vehicles. Pedestrian footways are to be provided on both sides of the carriageway. Cycle provision is on-street.

The adoption of tertiary routes and local accesses is to be determined.

Carlton Royston Relief Road

An indicative alignment of the Carlton Royston Relief Road is shown within the Movement Framework. Whilst this route does not form part of the Carlton site proposals, it is a strategic ambition for BMBC and will reduce the impact of development traffic on existing communities of Carlton and Royston. It is to be delivered by BMBC and forms an external highway connection.

Shaw Lane Improvements

Shaw Lane shall be improved to provide sufficiently wide footways on both sides of the carriageway and appropriate cycling provision in both directions. All improvements shall be in accordance with LTN120. Appropriate streetscape and a speed limit review shall take place to ensure it's a safe environment for all users.



Well designed local residential street with street trees and integrated landscape



Traffic calmed tree-lined secondary street



Tree lined segregated cycle way along primary street

5. MASTERPLAN FRAMEWORK

5.3 CHARACTER AREA FRAMEWORK

A number of character areas must be created that respond to the local context and distinctive site characteristics, as well as the land use for each area. The surrounding neighbourhoods and local landscape, along with site constraints, help to shape the various character areas.

The character areas identified, shown in Fig 18. are as follows:

- Canal Side
- Colliery Quarter
- Carlton Green
- Wharncliffe Woodmoor
- West Green Quarter

Character Area

- Canal Side
- Colliery Quarter
- Carlton Green
- Wharncliffe Woodmoor
- West Green Quarter

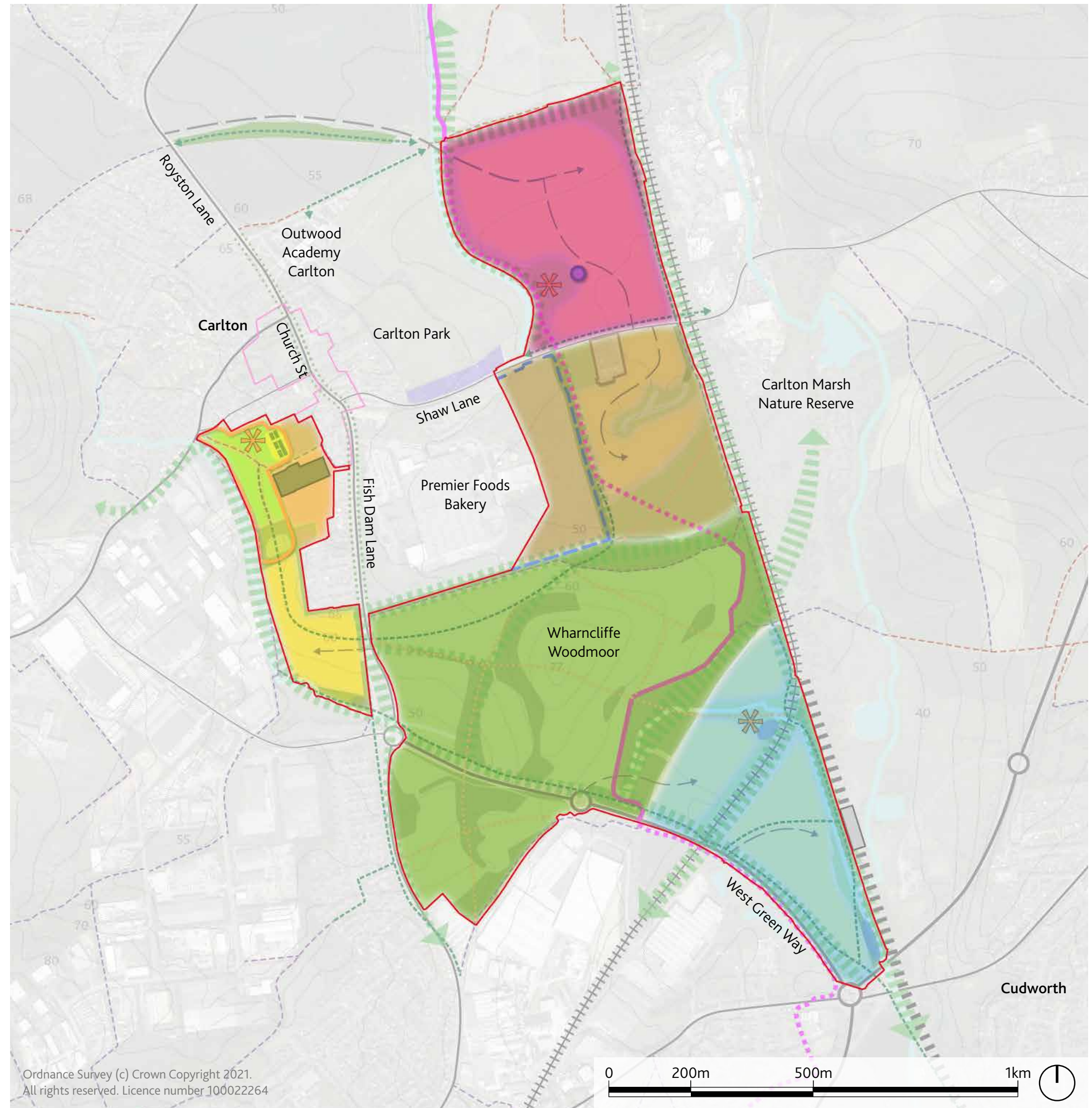


Fig. 18: Character Areas Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.3 CHARACTER AREA FRAMEWORK

1 Canal Side

To the north of Shaw Lane, the neighbourhood will sit along Barnsley Canal and surround Carlton Park. The area will be central in the new development and include important services including a local shop, Canal Park and play facilities. The neighbourhood will naturally be higher density towards Shaw Lane, creating an urban focal point of mostly terraces and townhouses. Medium density semi-detached housing will be along the canal and key streets creating a movement gateway to the north. Density will reduce and 'feather' out towards the surrounding rural fringe including some detached houses with larger front gardens. The nature of the key streets are indirect, but still allow permeability and passing through the site as to not create an isolated community. Canal Park maximises green connectivity with the canal and allows the NCN/ TPT to pass through directly and create a point of services in which people can gather.

2 Colliery Quarter

Located to the south of Shaw Lane, Colliery Quarter will sit on the grounds of former Carlton Colliery and nestle alongside the bakery. Higher density terraced housing along Shaw Lane will combine with Canal Side urban

gateway and naturally disperse into lower density housing with larger gardens overlooking Wharncliffe Woodmoor. Remnants of Carlton Colliery in the Open Mosaic Habitat adjacent will create a unique historic industrial aesthetic. Dense scrub to the north and a beck running through the neighbourhood will soften the otherwise rigid language. The houses will form around and front onto the natural beck to the heart of the neighbourhood. Materials and detailing of buildings should represent industrial aesthetic to characterise the historic and still present industry.

3 Carlton Green

Creating the character area for the whole of site MU2, Carlton Green is characterised by the slight extension to Carlton to the south and rich community garden to the north. Higher density built form will reflect the existing residential area at Woodmoor Street and Manor Street, seamlessly integrating into Carlton and orienting in such a way to complement the awkward topography. To achieve this, street layout and architectural features must represent that of the direct but spatially generous perimeter block of the original Garden City era. This will subtly 'feather' out toward the surrounding woodland and make sure not to merge with and respect Monk

Bretton. The community garden to the north will become an epicentre in Carlton, creating a place for all to gather, play and grow food. The grow garden will be integrated with the adjacent Carlton Primary Academy extension, bringing nature into the classroom.

This is highly visible to the surrounding area, so any residential planning application will require a Landscape and Visual Impact Assessment. Conventional red brick shall be used throughout to reflect the local housing.

4 Wharncliffe Woodmoor

This landscape treated colliery spoil is the green heart between Cudworth and Carlton. The topography creates a summit with views for walkers to surrounding towns, industry and in the distance, rolling countryside hills. The broadleaved woodland throughout, quality active travel infrastructure, recreation trails, historic railway arches and priority habitats will create a quality neighbourhood greenspace that's rich in character. The park is complemented by the sensitive edges of new development and connects well to surrounding landscape, such as connections to Carlton Marsh Nature Reserve.

Adjacent development shall front the neighbourhood greenspace and and prove a "soft feather edge", with lower densities and larger front gardens to increase landscape and tree planting with a more informal building line. This will transition any neighbourhoods into Wharncliffe Woodmoor.

5 West Green Quarter

West Green Quarter creates a pleasant addition to Lundwood and Cudworth, connecting through to Wharncliffe Woodmoor. With the potential location of the new railway station, this draws in new and surrounding residents to frequent the neighbourhood, creating a key movement gateway along West Green Way, which shall be determined by landmark corner dwellings in the gateway. The dissecting railway line creates a shift in character from formal streets and building set backs at a higher density in the central south, slightly contrasting to a softer and more relaxed language in the lower density north. Housing shall back onto the existing railway line, but front onto the proposed railway station and create a strong sense of arrival and vibrancy. The beck, equipped play area and attenuation pond will create a natural feature to the north.



Lower density neighbourhood periphery - Derwenthorpe, York



Contemporary terraced neighbourhood - Goldsmith Street, Norwich (Image Credit: Tim Crocker)



Local brick family housing responding to topography - Greenhills, Blackburn



Formal higher density neighbourhood - Great Kneighton, Cambridge

5. MASTERPLAN FRAMEWORK

5.4 PLACEMAKING/ URBAN DESIGN FRAMEWORK

The placemaking framework shall promote a distinct identity and strong sense of place for the site. It shall facilitate the creation of a cohesive community that sits comfortably within its context and is well integrated with the surrounding landscape and neighbourhoods.

- Residential

Carlton Primary Academy

Academy Expansion

Public Open Space

Active Travel Route

National Cycle Network/
Trans Pennine Trail

National Cycle Network/
Trans Pennine Trail
New Route

Existing Footpath

Existing Bridleway

Vehicular Movement Link
- Development Gateway

Small Local Shop

Community Garden

Grow Garden

Primary Housing Frontage

Historic Archway

Landscape Folly

Key Vista/ Viewpoints

Equipped Play Area

Environmental Buffer/
Hedgerow

Industrial Edge

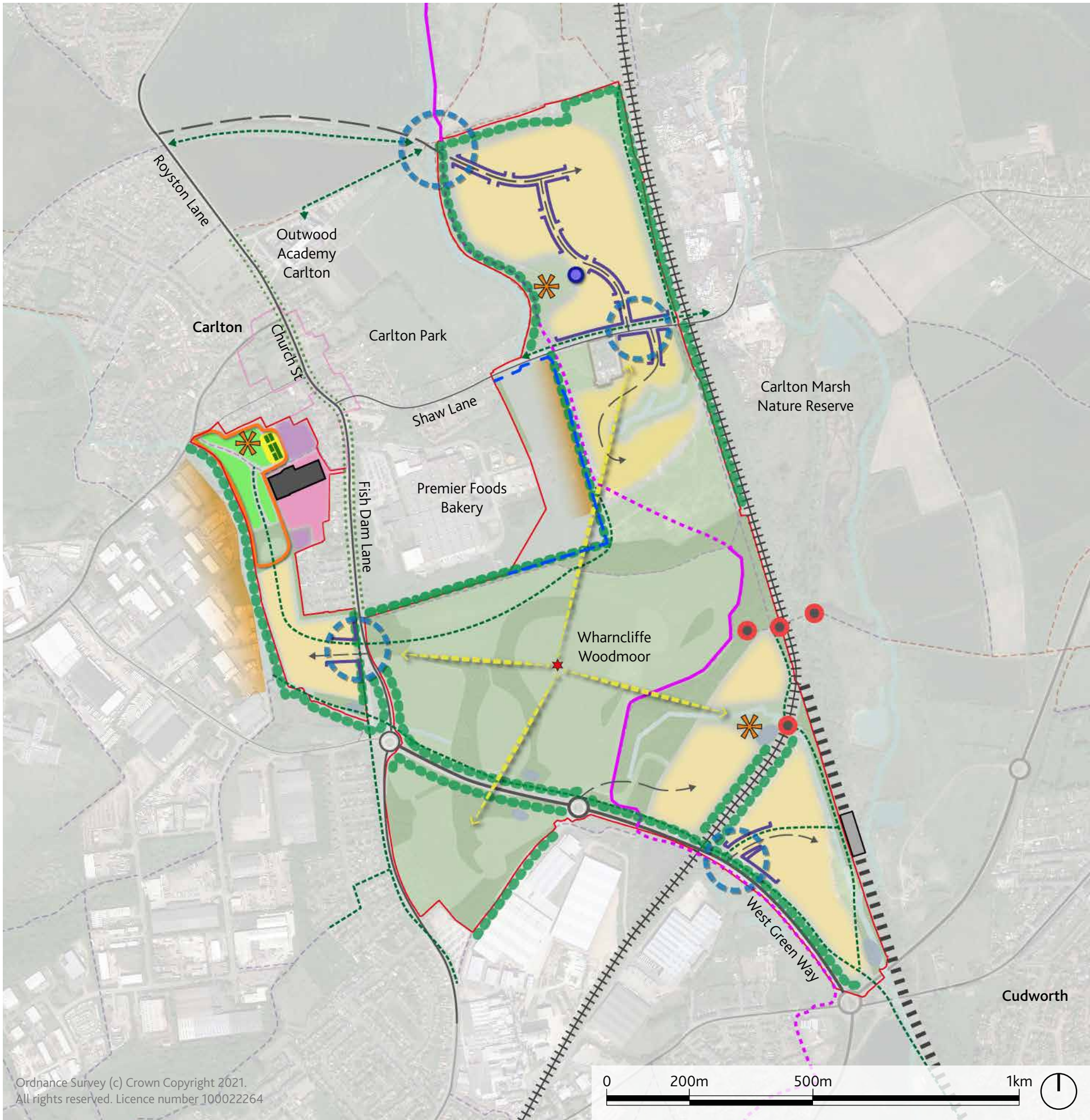


Fig. 19: PLacemaking/ Urban Design Framework (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.4 PLACEMAKING/ URBAN DESIGN FRAMEWORK

A number of strategies have been identified that are essential to the placemaking and urban design framework to ensure a cohesive and legible neighbourhood.

Local Distinctiveness

A strong placemaking framework shall help ensure that the masterplan area embodies a strong sense of place whilst taking cues from local characteristics.

Legibility

Central to the placemaking approach is the notion that gateways and vistas across the masterplan area shall allow for coherent navigation and movement throughout.

Walkability and Connectivity

Quality networks of pedestrian and cycle infrastructure shall create a network of compact and walkable neighbourhoods that support sustainable transport.

Integrated neighbourhoods

Whilst the masterplan area shall be made up of different character areas, connections between them shall create an overarching identity to the development.

Desirable neighbourhoods

Areas that have a distinct character, provide a variety of community facilities and have integrated networks of public realm and greenspace that are attractive.

Public realm

A key placemaking principle for the masterplan area is concerned with the creation of a hierarchy of spaces that both connect people to community facilities as well as creating an integrated and walkable development.

Gateways and Vistas

Existing site conditions, particularly topography shall be used to create key vistas of the surrounding countryside, gateways and points of interest. Landmarks and gateways shall be adopted at prominent locations in order to make visual connections across the development and create a series of integrated neighbourhoods.

Edges and Frontages

There shall be a contextual use of edge treatments across the development. Some outer areas shall adopt a soft rural edge to integrate sensitively into the surrounding landscape, whilst other areas shall show urban frontage and interact with key routes throughout.

Community Garden

The community garden shall provide a central space for people to gather and interact. It will provide play facilities for children, community grow gardens for families and educate school pupils about nature.

Character Areas

As the masterplan integrates residential areas with existing respective communities, it is important that these neighbourhoods are distinguishable areas of character within their own rights (See Fig. 18).



Historic disused railway archway east of Wharncliffe Woodmoor



Quality public realm and planting throughout the neighbourhood (Image Credit: Tim Crocker)



Landmark corner building to assist with legibility and wayfinding



View from Wharncliffe Woodmoor summit

5. MASTERPLAN FRAMEWORK

5.5 GREEN INFRASTRUCTURE FRAMEWORK

The site shall adopt a holistic approach to planning and design with integrated GI - including the provision of natural features and ecosystem services, delivering a resilient landscape.



Wharncliffe Woodmoor existing woodland adjacent Ardagh Glass



Opportunity for informal woodland play in existing quality woodland throughout

- Existing**

 - Wharncliffe Woodmoor
 - Broadleaved Woodland Plantation
 - Broadleaved Woodland - Semi-Natural
 - Areas with Significant Ecological Value
 - Priority Open Mosaic Habitat
 - Watercourse/ Water Body (inc. Suitable Habitat Buffer)
 - National Cycle Network Trans Pennine Trail
 - Footpath
 - Bridleway
 - Hedgerow
- Proposed**

 - Allotments
 - Carlton Primary Academy
 - Landscaped Active Travel Route
 - National Cycle Network New Route
 - Recreational Trail
 - Community Garden
 - Grow Garden
 - Equipped Play Area
 - Indicative Water Attenuation Pond
 - Carlton Academy Expansion
 - Native Trees/ Hedgerow

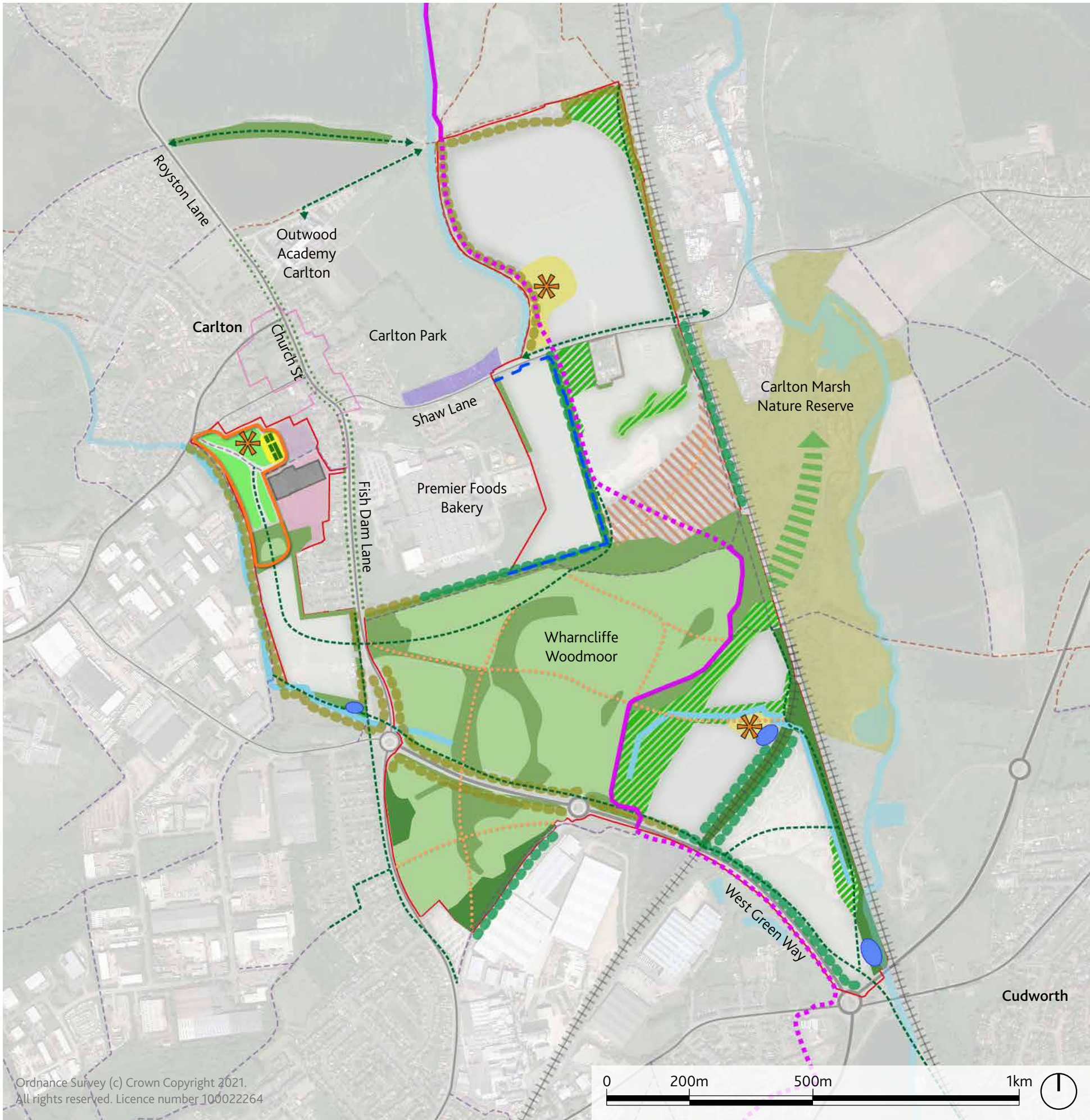


Fig. 20: Green Infrastructure Framework (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.5 GREEN INFRASTRUCTURE FRAMEWORK

The GI and public realm framework of the site draws cues from the existing landscape and habitat features on site and surrounding landscape character. It shall retain and enhance existing hedgerows and trees and provide a minimum of 15 per cent open space in line with Local Plan policy. Development will also be expected to provide a minimum of 10 per cent Biodiversity Net Gain.

Key drivers of the GI strategy are as follows:

- Green Heart. Retain and enhance Wharncliffe Woodmoor as an invaluable social and environmental asset to the local area, creating a significant neighbourhood greenspace for people to gather, socialise and play.
- Climate change adaptation and mitigation. By delivering a well connected GI framework, people will be encouraged to travel more sustainably.
- Connected GI creates wildlife corridors which provides increased permeability through the landscape. Installation of attenuation features will reduce the risk of flooding and provide aquatic habitat to increase biodiversity.
- Recreation and Health. By providing recreational opportunities close to peoples homes, such as allotments and equipped areas for play, there will be a positive impact on local health and wellbeing.
- Education. With an expanding primary school, there is opportunity to provide areas of outdoor play and recreation to connect children with nature.
- Retention of habitat identified to have high biodiversity value.

Open Space Provision

The masterplan area will provide high-quality accessible open space in response to the requirements set out in the Local Plan. The open space network will respect and enhance the existing natural features and create new ones. They will manifest as a response to existing drainage, land form, ecology and recreation.

Green Corridors

Corridors of trees, greenspace and pedestrian and cycle ways will connect the masterplan area with the surrounding active travel network. These corridors reduce the impact of climate change, offer sustainable active transport routes and create wildlife corridors providing permeability through the landscape.

Green Heart

Retain and enhance Wharncliffe Woodmoor as an invaluable asset to the local area, providing increased biodiversity value through the site along with opportunities for active travel and nature play.

Play and Recreation

Informed by the Local Plan, equipped areas that provide a wide range of facilities, such as play equipment and casual play areas, must be created for children and young people. Within the wider open space, opportunities for naturalistic and informal play shall be encouraged. A community grow garden must also be facilitated to provide residents with the opportunity to grow food and flowers. Active travel links shall be implemented and enhanced between the development, Carlton Park and other surrounding formal recreation.

Neighbourhood Greenspace

The GI framework will accommodate a series of greenspace along the key green corridors. These will be managed and vary in scale and location across the masterplan area to ensure recreational opportunities to all residents.

Biodiversity Net Gain

Biodiversity Net Gain looks to leave biodiversity in a better state than before. One of the important principles to implement is the mitigation hierarchy starting with avoiding impact. The development shall achieve at least 10 per cent Biodiversity Net Gain.

Management and Stewardship

The management, governance and stewardship of the proposed green and blue infrastructure opportunities have only been considered in principle at this stage.

The likely option shall be for the new residents to enter into a service charge arrangement run by organisations such as the Land Trust and Yorkshire Wildlife Trust (YWT) who specialise in maintaining open space provision, detention basins and swales. When determining the management arrangement structure, consideration shall be given to the following:

- Ensure there are opportunities to secure Biodiversity Net Gain and any land assigned for Biodiversity Net Gain will be maintained for a minimum of 30 years;
- Community engagement shall deliver added social value;
- Include appropriate management of hard and soft landscaping;
- Purpose, power, responsibilities, financial

arrangements and internal procedures of the open space owner(s)/manager (management body/entity/organisation);

- Annual reporting to the council for a suitable number of years, in line with proposed habitat enhancement/ creation will need to be considered;
- Incorporation of information boards and signage to educate residents;
- Stewardship on par with those being implemented for garden communities.

This approach shall be subject to further work including assessing the scope and management required and the feasibility of management models, funding sources and legal structures.

Developers shall engage with the management and organisation at an early stage so that they can input into the design of green and blue infrastructure.

The vision for transferring green and blue infrastructure to a land management arrangement is based around core principles for residents and occupiers:

- They shall be instrumental in the major decisions that affect their new community;
- They shall have an ongoing role in 'co-producing' the planning, decision and commissioning of services;
- They shall make sure that the benefits of biodiversity enhancements are continued in perpetuity;
- They shall be the beneficiary of the initiatives funded by the management organisation and are therefore best placed to evaluate the impact of these initiatives.

5. MASTERPLAN FRAMEWORK

5.6 LANDSCAPE/ ECOLOGY FRAMEWORK

The site shall adopt a holistic approach to planning and design with integrated strategies on landscape and ecology.

- Existing

 - Wharncliffe Woodmoor
 - Broadleaved Woodland Plantation
 - Broadleaved Woodland - Semi-Natural
 - Areas with Significant Ecological Value
 - Priority Open Mosaic Habitat
 - Watercourse/ Water Body (inc. Suitable Habitat Buffer)
 - National Cycle Network/ Trans Pennine Trail
 - Footpath
 - Bridleway
 - Hedgerow
 - Allotments
- Proposed

 - Landscaped Active Travel
 - National Cycle Network Trans Pennine Trail New Route
 - Recreational Trail
 - Park
 - Community Garden
 - Grow Garden
 - Indicative Water Attenuation Pond
 - Native Trees/ Hedgerow

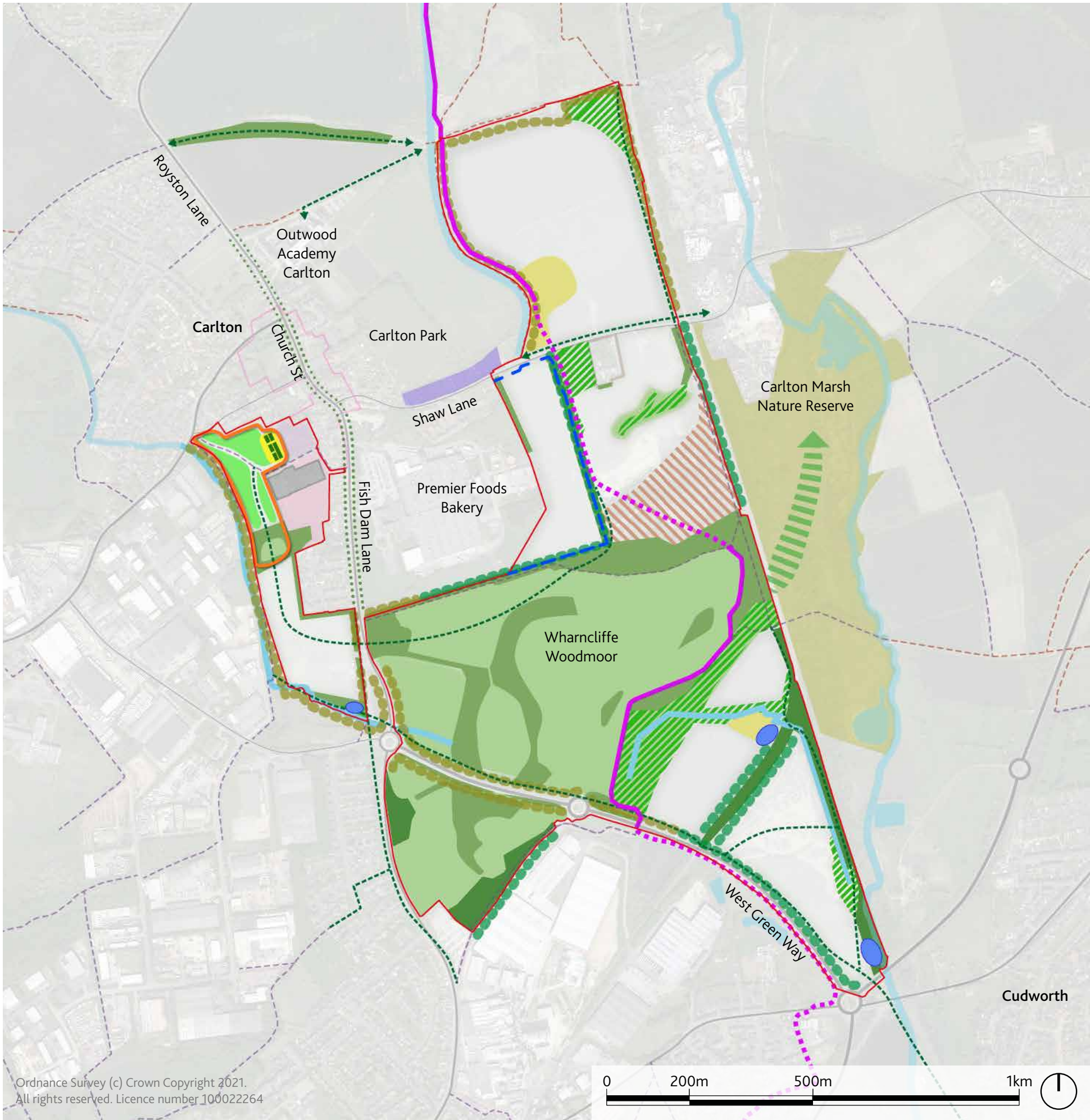


Fig. 21: Landscape Strategy Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.6 LANDSCAPE/ ECOLOGY FRAMEWORK

Key drivers for the proposed landscape and ecology strategy are as follows:

- Retention and enhancement of the majority of Wharncliffe Woodmoor;
- Retention of habitats within the site which have been identified to have high biodiversity value;
- Enhancement measures may include additional planting of native species to woodland areas or creation of native hedgerows and trees providing additional connectivity through the site;
- Consultation with YWT regarding suitable native species for planting that will provide additional foraging resource for species supported by Carlton Marsh Nature Reserve (which forms part of Dearne Valley Wetlands SSSI);
- Appropriate management of habitats retained, enhanced or created in order to achieve suitable condition;
- Suitable habitat buffers will be included adjacent to watercourses to protect existing watercourses;
- Enhancement of riparian zones of watercourses utilising appropriate native aquatic plants to increase biodiversity;
- Incorporation of bird and bat boxes on suitable trees and buildings, where appropriate to enhance the site;
- Explore the use of green and brown roofs on buildings where appropriate to increase biodiversity.



Opportunity to add strategic woodland to Wharncliffe Woodmoor



Ecologically rich open Mosaic Habitat formed by exposed slag pile



Dense scrub of significant ecological value to south-east of Wharncliffe Woodmoor



Opportunity to grow native species wild flowers in POS



Opportunity to maintain and connect green corridors to assist wildlife accessibility



Broad leaved woodland to south-west of Wharncliffe Woodmoor

5. MASTERPLAN FRAMEWORK

5.7 BLUE INFRASTRUCTURE FRAMEWORK

The site shall adopt a holistic approach to planning and design with integrated blue infrastructure strategies - including the provision of natural features and SuDS throughout and around the development.

The blue infrastructure shall provide amenity value to people and the designs shall also enhance biodiversity, including native aquatic and marginal planting.

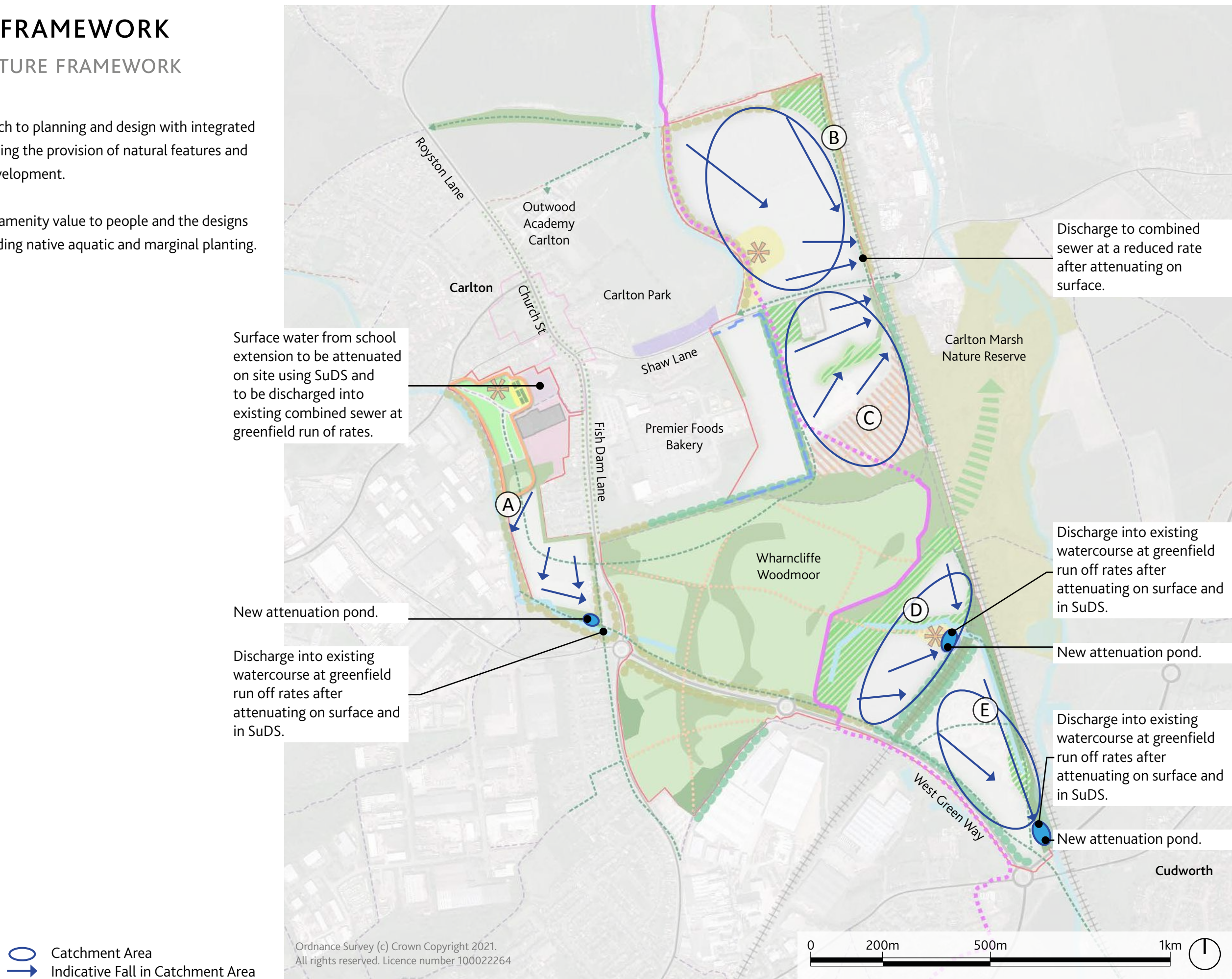


Fig. 22: Blue Infrastructure Strategy Plan (Contains information from Esri)

5. MASTERPLAN FRAMEWORK

5.7 BLUE INFRASTRUCTURE FRAMEWORK

Hierarchy for Discharging Surface Water
The developer shall use the following drainage hierarchy for discharging the site’s surface water:

A. Maximise the use of infiltration
Underlying bedrock is a mixture of sandstone and mudstone. Sandstone areas will generally have infiltration potential depending on the depth of sandstone, whereas areas with mudstone are unlikely to have infiltration potential. At this stage there is no evidence to suggest that this can be relied upon as a strategy and further investigation will be required to test the infiltration potential.

Areas with contaminated land, such as the south eastern corner of the MU3 allocation, will not be suitable for infiltration. Colliery spoil has been tipped on the east part of allocation MU3 (south of Shaw Lane), therefore despite it being sandstone, the area will need testing for contamination prior to determining the infiltration potential. The area north of Shaw Lane is a mix of mudstone and sandstone.

Allocation MU2 is mostly on mudstone except for the narrow area based on a mixture of sandstone and mudstone adjacent to the new Manor Street housing development.

B. Discharge into existing watercourses
If tests indicate that infiltration is not possible, drainage to the watercourses with flow controls is recommended. There are no main rivers within or near to the site, however smaller watercourses are identified on the plan.

A flow restriction would need to be imposed, requiring surface water attenuation on the site and upstream of

the flow restrictor to safeguard against downstream flooding. Potential attenuation areas have been indicated on the framework.

C. Discharge to Yorkshire Water Sewers
Where discharge via infiltration or to a watercourse is not possible, connection to sewers shall be investigated with Yorkshire Water (YW). There may be a requirement to pump into the Yorkshire Water sewers, depending on the invert levels.

High Level Drainage Strategy
In accordance with South Yorkshire Interim Local Guidance for SuDS, the high-level strategy for the site’s surface water is defined below. The incorporation of SuDS will provide amenity value to people and increase biodiversity on site. The approach based on available information for each plot is summarised in Table 1.

1. Maximise the use of source control features
Where infiltration is not possible, SuDS will be used. This will help to keep surface water on or as close to the surface as possible, prevent below ground drainage becoming too deep and reduce the need for large below ground attenuation tanks. It can include networks of shallow swales, rills, or rain gardens through the development.

Under Sewers for Adoption 8th Edition (now known as Design and Construction Guidance document (DCG)) these can be adopted by Yorkshire Water from April 2020, as long as it can be demonstrated that the majority of the surface water is coming from houses rather than the roads. Therefore, separate development and highway drainage systems shall used. Drainage within adopted highway boundaries, including SuDS,

will need to be adopted by the Highway Authority and an agreement will need to be reached with the Highway Authority if any SuDS are to be incorporated. SuDS within the new development will become part of the GI network, helping to achieve the targeted biodiversity net gain and offering amenity value, providing a positive impact to the health and wellbeing of residents and the local community.

- 2. Convey water to discharge locations through small open channels or underground pipes depending on the context
- 3. Use flow restrictors to limit the rate of discharge and safeguard against downstream flooding
- 4. Attenuate run-off prior to discharge - using a combination of surface features such as ponds if applicable and below ground attenuation tanks

Plot	Approach
A - MU2	Carlton Primary School to have a gravity system, discharging to the YW combined sewer. The rest of the site to have a gravity system to discharge to the existing watercourse.
B - North of Shaw Lane	Gravity system discharging to the YW combined sewer crossing Shaw Lane.
C - South of Shaw Lane	Gravity system discharging to the YW combined sewer crossing Shaw Lane.
D - West of Railway	Gravity system discharging to the existing watercourse.
E - East of Railway	Gravity system discharging to the existing watercourse.

Table 1: Drainage strategy for each plot, for all plots use source control, attenuation ponds, crates etc to attenuate run-off and discharge at a controlled rate as agreed with YW and the Lead Local Flood Authority.

5. MASTERPLAN FRAMEWORK

5.7 BLUE INFRASTRUCTURE FRAMEWORK

Estimated Attenuation Volumes

Table 2 sets out the total catchment areas, the greenfield run-off discharge rate for a 1 in 30-year storm, and the total attenuation required to meet the 1 in 30-year greenfield run-off rate. In order to calculate the attenuate storage volume, a conservative estimate of 80 per cent impermeable area was used for catchments B – E. For catchment A, because of the community garden area, it was assumed that 60 per cent would be impermeable. It is assumed that in reality there will be more permeable area. This attenuation volume would include any run-off attenuation and storage upstream in SuDS features.

In addition, the site would need to accommodate a 1 in 100-year storm event within the site boundary, without causing any negative off-site impacts. This will need to be demonstrated for each planning application and managed within the design of each drainage catchment and the design of the landscape. The drainage design will need to address the areas of localised surface water flooding issues on the site.

Future Planning Applications

As planning applications are developed, the applicant will need to carry out further surveys and testing to validate and further develop the strategy set out here, particularly to test the infiltration viability across the site. Engagement shall be undertaken with the Lead Local Flood Authority and Yorkshire Water.

Foul Water Drainage Strategy

The developers will need to confirm the capacity of the Yorkshire Water sewers adjacent to the site prior to developing the foul water drainage strategy for the site. It is anticipated that the strategy will be for gravity systems for the developments discharging into the Yorkshire Water sewer system. There are no recommendations from YW in the utility report.

However, there is a combined sewer along Fish Dam Lane, another to the west of the MU2 allocation and a number of sewers connecting to the pumping station at the disused Yorkshire Water sewage treatment works on Shaw Lane. It is likely that a pumped connection will be needed especially for the south east corner of the site due to the distance and the levels differences.

There is potential to explore black water recycling on the site due to the availability of land and the distance from existing combined sewers.

Plot	Total Area (ha)	Greenfield run-off discharge rate (1 in 30-year event)	Attenuation Volume (m3)
A - MU2	11.8	43.6	1,957 - 2,886
B - North of Shaw Lane	21.82	181.5	4,001 - 6,036
C - South of Shaw Lane	9.43	86	1,669 - 2,534
D - West of Railway	11.41	42.3	2,776 - 4,055

Table 2: Assumed attenuation for each plot



Existing pond formation as a result of the exposed slag pile/ open mosaic habitat



SuDS Swales integrated with GI and active travel routes provide green links across the site



SuDS Swales integrated between pavement and residential buildings

5. Masterplan Framework

5.8 Health and Wellbeing

The promotion of health and wellbeing principles are considered and embedded within the Masterplan Framework. The Masterplan Framework promotes sustainable development to support the creation of strong, vibrant and healthy communities. Planning for healthy and successful communities requires the provision of homes, jobs and services that people need whilst designing these places to facilitate healthy, active lifestyles alongside minimal environmental risk.

The Health Impact Assessment has identified the key health and wellbeing challenges that the Carlton site and wider area face. The following health and wellbeing priorities have been embedded into the Masterplan Framework addressing the key challenges identified:

- Housing design and quality – providing space, screening and buffers to reduce noise and encourage peacefulness. Promotion of sustainable development and net-zero carbon development. Providing a range of housing densities to promote a mix of tenure and housing types.
- Access to healthcare services and social infrastructure – clear access routes and links to the existing healthcare services and shops within Carlton and wider area.
- Provision of a small local shop - to cater for existing and new local residents in an easily accessible and central location.
- Access to open space and nature – opportunities for spaces to exercise, provision of recreational facilities for all users to have fun and decompress. Provision of green space allowing people to connect with nature and appreciate biodiversity, encouraging mindfulness.
- Air quality, noise, and neighbourhood amenity - improving air quality outdoors through encouraging use of sustainable transport and low emission vehicles through active travel routes and electric vehicle charging points, and indoors through use of modern building systems and green buffers around dwellings.
- Accessibility and active travel - encouraging people to move more with the mental and physical health benefits this brings. Access to wider Carlton to encourage a feeling of rootedness and belonging. Access opportunities to Wakefield and Barnsley providing access to key employment sites.
- Crime reduction and community safety – safe routes for school children that are legible and well lit. Design safe routes to key facilities within Carlton and enable passive surveillance for public open spaces.
- Access to healthy food – opportunities to link with the existing allotments and proposed community grow garden to encourage community food growing projects for all ages.
- Access to work and training – digital connections for people to work and learn at home, whilst also allowing them to connect with family and loved ones. Access to both local and regional employment opportunities – offering the potential for financial security, personal fulfilment and purposefulness.
- Social cohesion and lifetime neighbourhoods - defined hubs and focal points within the Masterplan Framework that will allow the community to come together, encouraging belonging and togetherness and helping those in need while connecting with the wider area.



Access to healthy food in the Community Garden



Safe routes to key facilities within Carlton



Digital connections for people to work and learn from home

5. Masterplan Framework

5.9 Sustainability and Energy Usage

Recognising the climate emergency declared by BMBC in 2019, and the goal to become a net zero carbon Borough by 2045, sustainability and energy usage have been intrinsically considered in the development of this Masterplan Framework.

Local policies specify that all developments will be expected to incorporate renewable or low carbon energy sources to reduce carbon dioxide emissions (**Policy CC1**). Sustainable design and construction techniques are also promoted to reduce greenhouse gas emissions and impact of climate change (**Policy RE1**).

Sustainable Travel

In 2019, the UK transport sector was responsible for 34per cent of overall greenhouse gas emissions, whilst 19per cent came from the residential energy use. A smaller proportion, estimated to be around 3.6per cent, came from construction. Therefore, the biggest gains are to be made in the way people travel, and in the energy demand and supply to buildings. Notwithstanding this, driving down “embodied carbon” in the construction sector also has a key role to play.

As set out elsewhere in this document, the use of sustainable transport is promoted, including walking, cycling, bus services, connections to railway stations and electric vehicle charging points and secure cycle parking provision for every home. This, alongside proactive travel planning on the part of developers, will reduce the carbon emissions associated with transport from residents and occupiers of the scheme.

Digital Communications Infrastructure

Furthermore, provision of high-speed digital fibre connections to the site will allow people the option of working from home, reducing the need to travel.

Advanced, high-quality and reliable digital communications infrastructure is essential for economic growth and social well-being (NPPF Paragraph 112). Local Plan policy I1 confirms that developments must be supported by appropriate infrastructure, including provision for broadband. The deployment of gigabit-capable full fibre digital infrastructure from a range of providers to new developments will support this approach.

Developers shall consider installing gigabit-capable full fibre infrastructure from two suppliers in order to provide choice and competition to consumers. A variety of infrastructure providers are keen to deploy gigabit-capable full-fibre infrastructure on employment and residential sites. Various incentives may be available such as payments made to the developer for the right to deploy, and deployment offered free of charge to the developer.

Developers shall engage with infrastructure suppliers at an early stage to confirm that gigabit-capable full-fibre broadband can be delivered to all new development in a timely manner. Developers shall consider the infrastructure requirements of the wider Masterplan Framework area in order to avoid prejudicing future infrastructure delivery and creating a need for retrospective works. Occupiers shall be able to access broadband (ideally from a choice of at least two providers) upon occupation of the premises.

Developers shall also consider their ability to upgrade infrastructure in the future in order to minimise disruption to occupiers/users. In developing detailed proposals, developers shall consider the following design principles:

- Minimise and/or mitigate against the visual presence of infrastructure on the façade of buildings;
- Minimise physical obstructions on footpaths and cycle ways;
- Maximise the use of recessed infrastructure;
- Carefully consider the location of cabinets to minimise visual clutter in the street scene.

Sustainable Construction

The reduction of embodied carbon is encouraged.

This is achievable by, for example, far more extensive use of timber from certified sustainable sources than traditionally seen in UK housebuilding; use of modular products that reduce wastage; and greater use of both natural and recyclable materials alongside adoption of circular economy principles. It is required that developers will utilise the RICS Whole Life Carbon Assessment for the Built Environment framework to reduce the embodied carbon of housing on this site and will transparently publish details of the outcome of this assessment as part of the marketing process.

Sustainable Drainage Systems

The blue infrastructure strategy for the site follows SuDS principles to manage surface water run-off from the site, by maximising the use of source control features, slowing the flow, attenuating run-off and discharging at a restricted rate (to be agreed with Yorkshire Water and the Lead Local Flood Authority).

Energy Strategy

An Energy Strategy will need to be carried out to better understand how the developments can help Barnsley in their transition to becoming a net zero carbon emissions borough, by 2045. Two main aspects are building fabric performance and energy supply and distribution.

Building Fabric Performance

As per the Future Homes Standard guidelines for new build homes, which was published in January 2021. Developers shall aim to reduce the carbon footprint of homes. This includes delivering zero carbon ready homes with low carbon heating and high level of energy efficiency in new homes.

High fabric performance of a dwelling is key to reducing the space heating demand and the associated carbon emissions. In order to assist BMBC in becoming a net zero carbon borough by 2045, developers shall meet the aspirational standards outlined below in Table 3. Whilst the aspirational targets may seem ambitious, as technology and construction techniques improve and costs decrease, these targets will become more readily achievable.

Energy Supply and Distribution

Further work will need to be done to identify appropriate energy supply and distribution pathways. Some options for individual buildings are:

- Electrically heating homes instead of using gas boilers and fossil fuel heating systems in all dwellings.
- Distributed air source heat pumps (ASHPs) in all dwellings.
- Solar thermal panels on roofs to preheat water for use in sinks, showers, underfloor heating and other hot water applications.
- Roof mounted photovoltaic (PV) panels with battery storage on dwellings with south-facing roofs, and grid backup.
- Roof mounted PV panels on the shop, and grid backup.
- Roof mounted PV panels on the school, and grid backup.
- Ground source heat pump (GSHP) in the school with electric boiler backup.
- Battery storage with grid back up.

Some community wide options are:

Connect up to district heating (heat networks) as per Barnsley Adopted Local Plan, page 264. The Council is currently considering the possibility of a 5th generation ultra low temperature heat network that could recover local industrial waste heat and use this to heat local existing homes and new developments via large heat pumps. This scheme might also include seasonal storage of heat.

Historic mine workings around Barnsley could allow for minewater heat for either an individual scheme or to be incorporated into a smart local energy scheme. Finally, it is unlikely that Developers will be able to avoid any emissions, therefore they will need to do this through investing in off-site renewables or rewilding and tree planting schemes.

Future Applications

Future applicants shall note that the council’s local validation checklist requires the submission of an Energy Statement for residential schemes over 10 dwellings and non-residential schemes of 1,000sqm plus. The Energy Statement shall clearly set out measures that will be included to deliver a net zero carbon development and the supporting evidence that underpins the proposed approach. If net zero carbon cannot be achieved, developers shall demonstrate why this has not been possible and explain what steps have been taken in the provision of infrastructure and the design of individual properties to permit net zero carbon through retrofit at a future point.

Further carbon reduction measures could include:

- Smart devices at home: Smart devices such as thermostats and lighting controls can implemented as part of smart homes. Smart devices have the potential to reduce the energy (heat and electricity) demand of dwellings and the associated emissions.
- EV home charging: Promoting the uptake of electric vehicles by providing in-built electric vehicle charging capabilities in the dwellings, could reduce transport emissions within Barnsley.

Fabric performance area	Performance value			
	Recommended minimum standard	Recommended minimum standard source	Recommended aspirational standard	Recommended aspirational standard source
Air permeability	≤ 5 m³/ (h.m²) @50Pa	Building Regulations Part L1A (2013)	≤ 1 m³/ (h.m²) @50Pa	LETI Design Guide
Roof U-value	≤ 0.15 W/m². K	Passivhaus standards	≤ 0.11 W/m². K	Part L 2020
Wall U-value	≤ 0.15 W/m². K	Part L 2020 LETI Design Guide Passivhaus standards	≤ 0.13 W/m². K	LETI Design Guide (lower boundary)
Floor U-value	≤ 0.15 W/m². K	LETI Design Guide Passivhaus standards	≤ 0.11 W/m². K	Part L 2020
Window U-value	≤ 1.2 W/m². K	Part L 2020	≤ 0.8 W/m². K	Part L 2020 LETI Design Guide Passivhaus standards

Table 3: Recommended fabric performance standards for dwellings

- Vehicle-to-Grid scheme: The vehicle-to-grid scheme is a smart charging system that also allows energy stored in batteries of electric vehicles to be injected back into the grid when required.
 - Microgrids: a localised energy grid for these developments would provide control capability, and can be powered by generators, batteries and renewable sources. It can operate autonomously or alongside the grid.
 - Demand side response (DSR): DSR refers to the process of managing energy more efficiently through modifying the energy requirements of consumers.
- The new developments could implement a DSR system to maximise the use of onsite energy generation. Consumers can switch to use the local energy source, the grid or local energy storage at different times.

 - LED streetlights and streetlighting controls: The energy required for street lighting can be reduced by installing LED streetlights with flexible controls.
 - Streetlighting controls allow lights to be switched only when required and offer inter seasonal flexibility.

6. PHASING AND DELIVERY

Development of the site shall come forward in phases. There is flexibility on how phases may come forward and illustrative phasing is depicted in Fig. 23. It is noted that phases may not necessarily be delivered sequentially, however the delivery of certain phases could be dependent upon the availability of infrastructure networks (e.g. highways, drainage, utilities, etc.) to serve the respective parts of the site. The phasing strategy for the site has been developed as set out on the following page.

Further detail of the proposed approach to delivery is set out in the Delivery Strategy in Appendix B.

Extension to Carlton Primary Academy by the Academy Trust with S106 contributions from developers.

Improvements and enhancements to Wharncliffe Woodmoor to help deliver a minimum 10 per cent Biodiversity Net Gain, funded by developers to offset adverse impacts on development plots.

① Phase Number

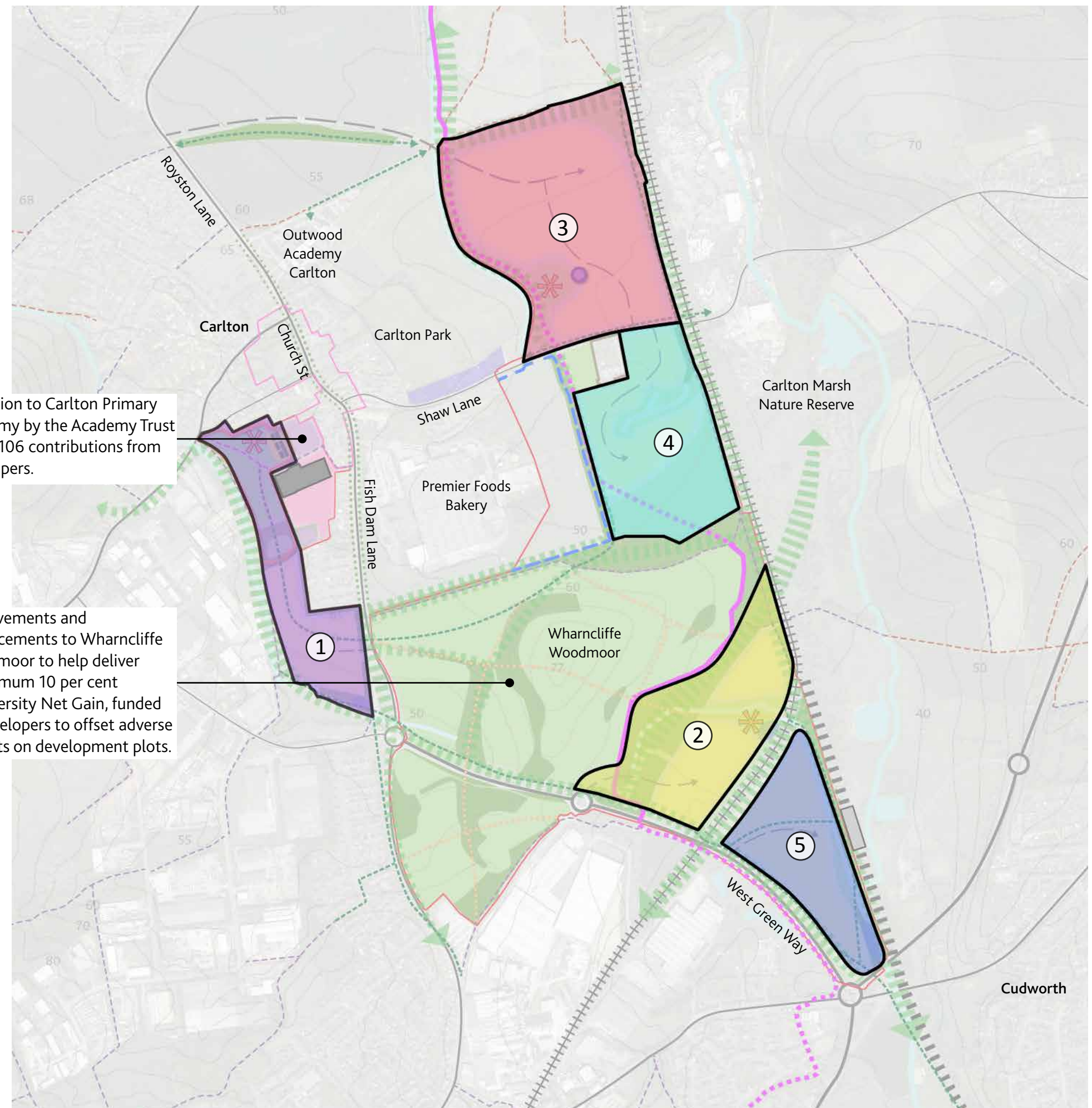


Fig. 23: Phasing Strategy Plan (Contains information from Esri)

6. PHASING AND DELIVERY

Phase 1

Phase 1 is the development of the MU2 land. It can be accessed off Fish Dam Lane and is adjacent to existing infrastructure and therefore assumed to come forwards first.



Phase 2

Phase 2 is the development of the plot off West Green Way, between Wharncliffe Woodmoor and the railway embankment due to ease of access.



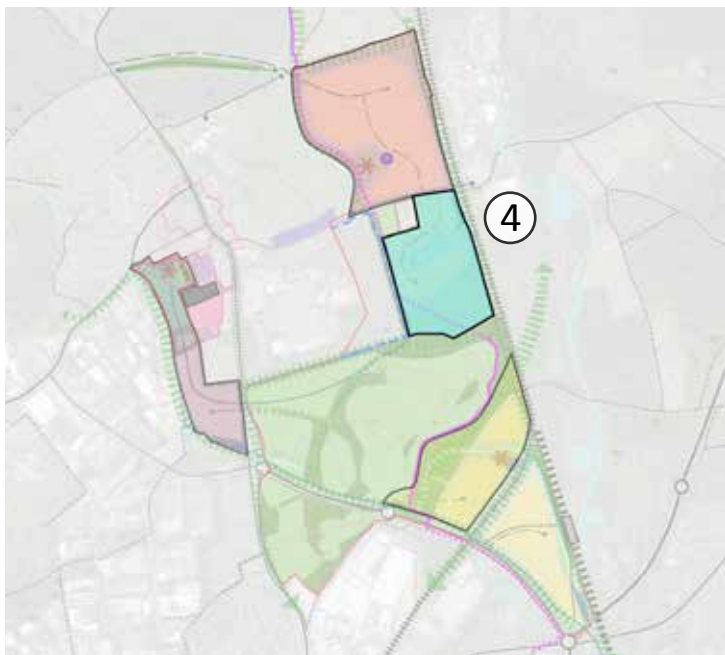
Phase 3

The delivery of Phase 3 is dependent on the delivery of the northerly access road, which will be delivered by BMBC using S106 contributions from developers in Phases 3 and 4. The indicative alignment of the northerly access road is shown on the Masterplan Framework.



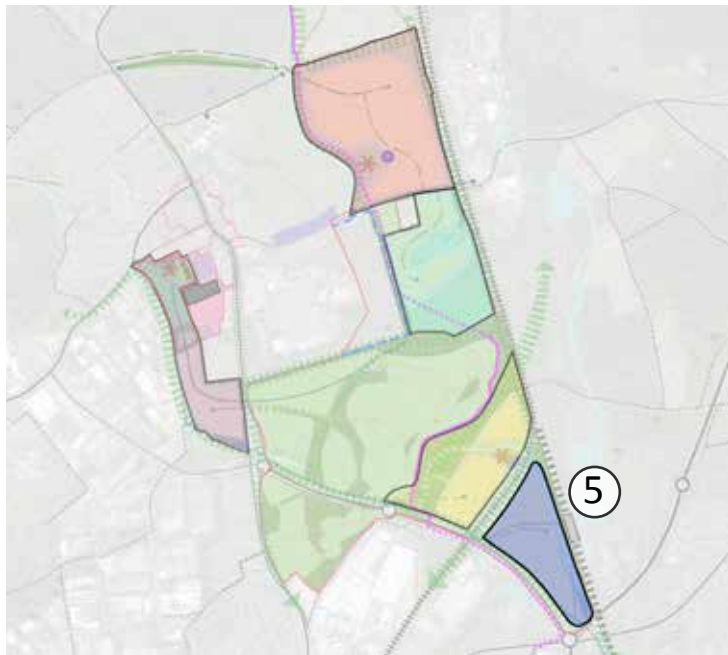
Phase 4

The plots south of Shaw Lane are dependent on the delivery of the northerly access road.



Phase 5

The final phase is slightly set apart from the rest of the site and can be delivered independently.



7. DESIGN CODE

7.0 INTRODUCTION

Purpose of the Design Code

This Design Code has been prepared by Gillespies and Arup to support the delivery of development of quality in Carlton (sites MU2 and MU3 as allocated in the Local Plan). The purpose of the Design Code is to set out a number of key principles that shall be applied across the site to create a distinctive and attractive place where people want to live, work and visit for generations to come.

The Design Code has been prepared in accordance with the Carlton Framework Masterplan, and shall be read and applied in conjunction with Local Plan policy and SPDs.

The Design Code seeks to provide the necessary guidance on how these placemaking principles can be developed and applied across the Carlton development to support the delivery of the overall vision. It does this by setting out the design principles that shall be applied in relation to key elements of the Masterplan Framework and by providing guidance on how the character of different parts of the proposed development shall be developed in order to create distinctive places defined by their landscape and built form.

This Design Code reflects the placemaking objectives set out in the Masterplan Framework (see Section 5 of this document) and draws on the principles set out in the National Model Design Code, as well as in Building for a Healthy Life.

The National Model Design Code

This recently published national guidance document on the production of design codes promotes quality and successful urban design. The document determines that codes shall be illustrative and easy to understand, while providing specific and detailed parameters where possible to tailor to the site.

The document sets out the structural skeleton of a design code and the coding process. The 'well designed place' wheel, as included below, considers character, community and climate as the three key criteria, while further addressing 10 sub-categories required for quality design and coding process. All these criteria will be carefully considered and weaved into this Design Code for the site.



Building for a Healthy Life

Building for a Healthy Life (BfHL) places emphasis on 'Putting Health into Place' by addressing the role the built environment has on people's health and wellbeing. This is achieved by responding to 12 spatial considerations over three headings - Integrated Neighbourhoods, Distinctive Places and Streets for All. To achieve this, BfHL recommends that new developments work with the site and its context, take advantage of existing natural and built features and respond to the scale of its surroundings. The principles included in this Design Code also focus on promoting health and wellbeing and placemaking characteristics observed in a range of attractive places within the district as well as around Carlton.

Using this Design Code

The Design Code is intended to ensure quality development across the site. Developers will be expected to comply with the Design Code or justify why they have not. Developers are encouraged to appoint a design team including: Architects, Urban Designers, Landscape Architects and Ecologists to ensure that the principles set out in the Masterplan Framework and the Design Code are met. The design principles that are considered to be fundamentally important to the development of Carlton are listed below:

1. Character
2. Urban Form
3. Homes
4. Facilities and Services
5. Connections
6. Streets
7. Landscape and Biodiversity
8. Parking and Accessibility



Distinctive homes that positively address open space and are integrated with the wider GI Framework



Community spaces that create a focal point and offer gathering and meeting spaces



Active travel routes that connect homes with services, facilities and the wider Public Right of Way network

7. DESIGN CODE

7.1 CHARACTER

This principle ensures the proposed development shall create a place with a locally inspired and distinctive character. A number of character areas shall be identified in the development that respond to the specifics of the immediate vicinity, in terms of form and materials.

1. Existing factors - Topography, buildings and existing GI

Carlton has a rich variety of existing factors both within and around the site that shall be used to create locally inspired identity.

1.1 Topography

Steep topography can be found to south of site MU2 and around the summit of Wharncliffe Woodmoor. These local high points provide opportunities for vista connections to originate from, at the same time development on these spots will be highly visible from the rest of the site and surrounding communities. To help mitigate visual impact of the proposed development on both the surrounding communities and wider landscape, Landscape and Visual Impact Assessments are expected to be undertaken alongside all future planning applications in the site.



Steep topography to the south of MU2, looking north-east

1.2 Buildings and Historical influences

Local character shall inform proposed development. Cues shall be taken from buildings of merit such as listed or locally listed buildings, local villages, towns and the landscape around Carlton, particularly Carlton Conservation Area.

Within Carlton Conservation Area, the dominant historic building materials are pale sandstone and stone slates, giving Carlton a typically rugged Yorkshire village character. Walls tend to be slightly offset square coursed sandstone which is often quite fine and typically varies from light sand to grey. More contemporary historic materials include red smooth faced brick - often the material used post-industrial revolution. Welsh blue slates are in evidence that sometimes replaced earlier stone roofs, with post-industrial structures occasionally using red tiles. Chimneys are common, often in stone but sometimes appear in red or buff brick depending on era. Invariably chimneys are topped with a terracotta or buff pot. Roofs are predominantly pitched or hipped and frequently include coping where the roof meets the gable end. Windows are often sash or sometimes casement and are set well back in the openings from the face of the wall. Sandstone quoining and detailed corbelling



Residential barn conversion in Carlton Conservation Area

are common in both stone and red brick structures with stone sills and lintels - it is common for these to have been painted white. Render is sparingly used throughout the conservation area. Boundary treatments are defined through the use of 3ft high sandstone or red brick walls with domed tops or established hedges. Farmsteads make up some of the built form in Carlton Conservation Area. Due to the effect these materials and methods have on the quality of views and the character they lend, they shall form majority of the materials pallet for the proposed development.

The setbacks of historic properties are related to their importance with the larger industry managers buildings set well back from the road. The workers' cottages and farmstead tend to be located close to the back of pavement with a very small or non existent front yard with small rear yards.

Distinctive historic arches along the railway line to the east of site MU3 are uniquely detailed with 4-course red brick arches with black brick tops and stone top pilasters. However, they are in poor condition and would require enhancement. The site of former Carlton Main Colliery in site MU3 is still evident in the form of untreated slag heaps. Currently these are ecologically valuable and further present the industrial character of Carlton.

1.3 GI and Landscape

Within the development, mature trees are expected to be retained and located within publicly accessible space to create focal points. Development shall promote the restoration and management of key hedgerows as described in the local plan and 'Trees and Hedgerows (May 2019)' SPD, and retain boundary walls, to better define roads and fields. Using trees and general planting helps define the boundaries of the proposed development

and adds depth to the landscape setting, helping the development to "settle" into the existing landscape and provide important, mature and distinctive features.

GI, both within the development boundary and around the site shall be used to influence the built character. Development shall actively front onto GI with a number of windows for habitable rooms and/or main entrances overlooking them to create safe, attractive and well used open space. The character of development fronting GI shall change depending on the character of the GI. Naturalistic settings such as Wharncliffe Woodmoor, Carlton Marsh Nature Reserve, greenbelt to the north of site MU3 and areas of significant ecological value shall have a "softer" surrounding built form character with larger front gardens - ideally deeper than 8 metres from the front boundary, more generous spacing between houses (garages or side parking) and a more informal appearance with a variety of natural materials and form. Development fronting more formal GI including green gateways and key active travel corridors shall create a strong sense of enclosure with defined building lines, similarity of materials and coherent boundary treatments.

2. Locally inspired identity and characters

By working with its existing context, the site has the opportunity to create a locally inspired identity that fits into the existing landscape.

Buildings shall be designed with large south facing windows to capitalise on the views, benefit from solar orientation and provide a distinctive character to the built form. The topography also offers opportunities in providing areas for SuDS that shall be incorporated within GI creating a rich landscape character within the development.

7.1 CHARACTER

3. Landscaping traditions and boundary treatments

Locally there are three main boundary treatments. Hedges make up the majority of field boundaries in rural locations, while dry stone walls and smooth faced red brick are predominantly used along road edges and urban areas. This principle shall be adapted and applied to the boundary treatments of the proposed development.

Walls (dry stone) shall be used as the front boundary treatment along primary and secondary streets as well as around the main gateways to the site and along existing roads. A mix of walls and hedges shall be used along tertiary streets. Frontages along the rural fringe and adjacent to habitat designations shall be hedges and include mixed native planting. Hedges dividing properties and located within development can be more formal and of single species.

4. Density, built form and appearance

The varying local conditions provide a structure to create different densities of development. Within site MU2 close to Carlton's existing built form, to either side of Shaw Lane and area close to Cudworth's centre, the proposed residential density shall be generally higher (between 40-45 DPH) due their adjacencies to their central locations. Built forms in these higher density areas shall be more formal with defined building lines and a clear confined palette of materials.

Towards Wharncliffe Woodmoor and the very north of site MU3, the density shall taper/ feather to a lower 30-35 DPH with a more informal built form and a more varied palette of natural materials.

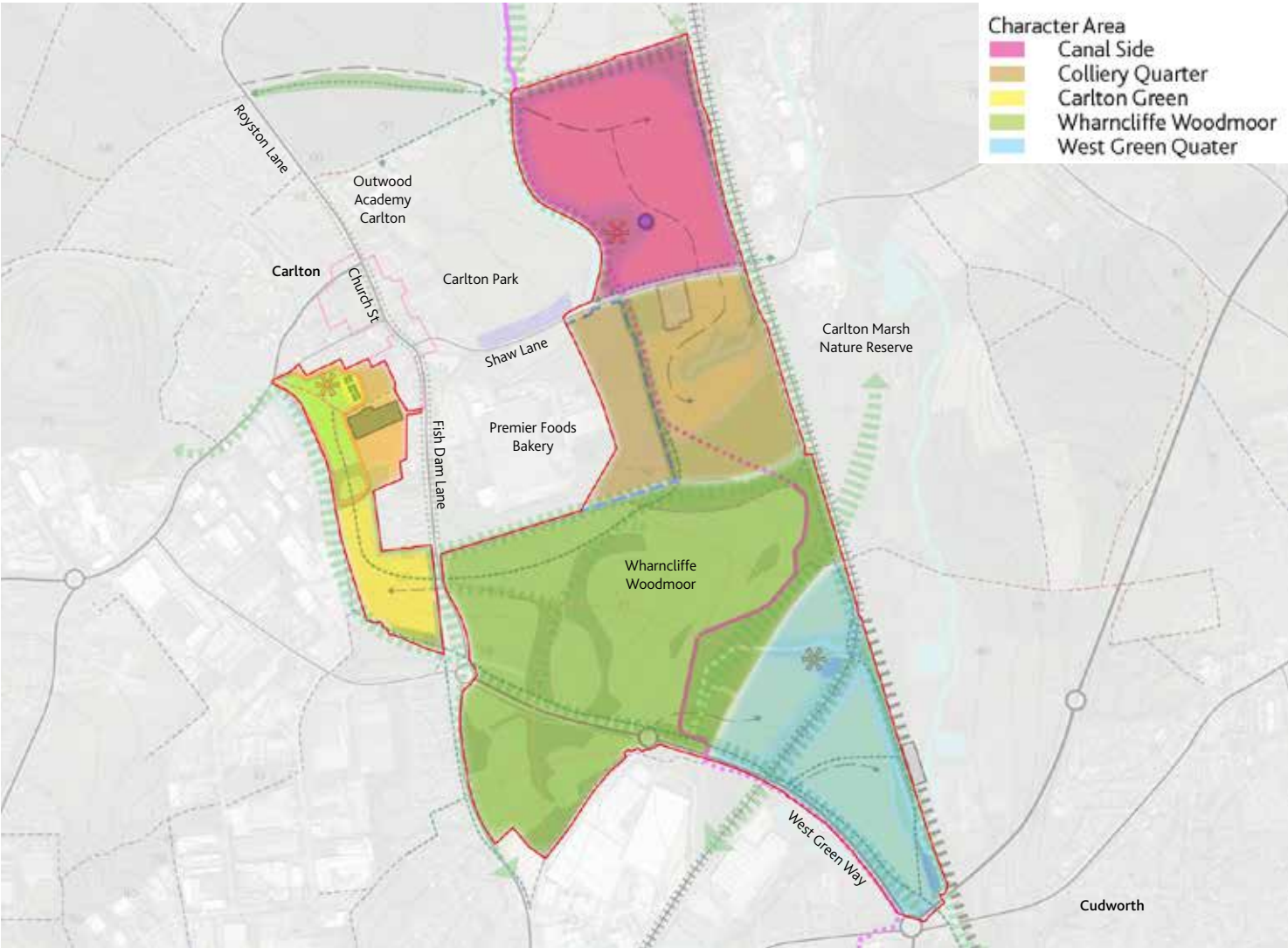


Fig. 24: Character Areas as established in the Carlton Masterplan Framework (Contains information from Esri)

For buildings crossing contour lines, plots shall be stepped in single or double units with a corresponding stepped roof scape that follows the topography. For character areas and densities identified across the site - see Section 5.3 (character area framework) of this document.



Boundary treatments that reflect local character

DESIGN CODE SUMMARY - CHARACTER

- High quality natural materials to be used for material palette.
- Locally vernacular materials to be used in key character areas - particularly site MU2 in close proximity to Carlton Conservation Area and along Shaw Lane.
- Retain existing mature trees and hedgerows as set out in the Local Plan. Improve hedges with a mix of native species where gaps occur.
- Buildings fronting sensitive landscape and naturalistic settings, including Carlton Marsh Nature Reserve, Wharncliffe Woodmoor, the green belt and existing vegetation of significant ecological value shall have building set backs of more than 8 metres from the front boundary.
- Buildings shall actively front open spaces with main entrances or habitable windows overlooking open space.
- Boundary treatments shall consist of stone walls fronting primary and secondary streets with a mix of hedge, stone walls and brick walls for tertiary streets. Open space shall be fronted with hedges.
- Native and local planting species shall be used adjacent to sensitive spaces (see above).
- Dwelling densities shall be varied across the site with higher densities (40-45 DPH) located more centrally, with lower densities (25-30 DPH) located adjacent to sensitive spaces (see above).
- Landscape and Visual Assessments (LVA) to be included in future planning applications.

7. DESIGN CODE

7.2 URBAN FORM

This design principle aims to influence the key aspects of the built environment of the site. These are reflected in the Masterplan Framework at a strategic level and future planning applications shall provide a further level of detail to demonstrate how these have been embedded in development proposals.

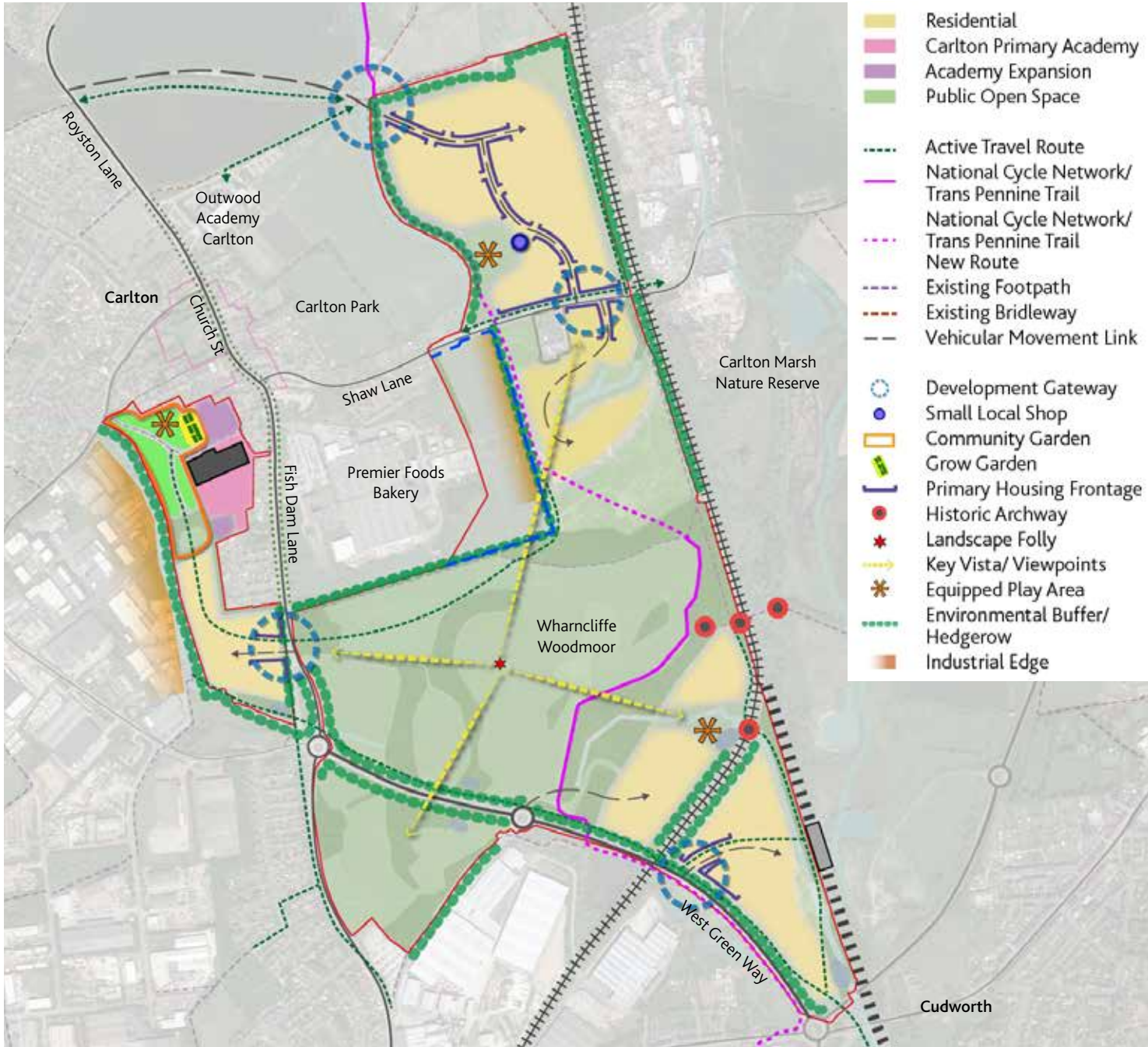


Fig. 25: Perimeter Blocks and Residential Frontages as established in the Carlton Placemaking/ Urban Design Strategy Plan (Contains information from Esri)

1. Development blocks

Development blocks can vary in shape and size according to the configuration of the Masterplan layout. A perimeter block structure provides clarity between the fronts and backs of buildings, between public and private spaces, and enables continuous overlooking of the street or open space. Creating variation in the shape and size of perimeter blocks helps to generate interesting and distinctive Character Areas.

The use of perimeter blocks must be consistent throughout the site. Their sizes and shapes shall respond to the use, existing landscape features, topography, character and density. Fig. 25 shows the different configurations of perimeter blocks and how they respond to the surrounding context and characters in Carlton , Cudworth, Royston and Athersley.



Urban fabric consists of perimeter blocks around Athersley, west of Carlton and the site

2. Fronts and backs

Designing development blocks with a clear distinction between residential fronts and backs is crucial in order to achieve best practice in placemaking, and to create secure and coherent streets and places.

In the site, a clear distinction shall be made between public fronts and private/semi-private backs. The primary access of the buildings shall align with the public spaces to create activity, while private or semi-private frontages – such as service areas and gardens – shall be located to the rear. Fronting the public space with blank walls/ gable ends, high fences and hedges which block the view of the public spaces must be avoided. Ambiguous spaces that are neither fully public nor fully private shall be avoided. Blocks that contain narrow lanes and pedestrian and cycle routes shall ensure that they are overlooked in order to create natural surveillance and a sense of security.



A clear distinction shall be made between public fronts and private backs

7.2 URBAN FORM

3. Edges

The interface of development edges to countryside, open space, green links or boundaries of the site has a critical role in defining the character and quality of the place.

At all the edges of the site, buildings shall positively address the public realm, and provide a natural surveillance. The building scale, mass and typologies shall respond to the topography, existing landscape and its context. Architectural and public realm material will be chosen sympathetically to the existing landscape character. Where buildings face sensitive edges and naturalistic settings such as Wharncliffe Woodmoor, Carlton Marsh Nature Reserve, Carlton Conservation Area, the green belt and vegetation of significant ecological value, a sensitive approach shall be followed with appropriate setbacks, building heights, roof typologies and the use of materials.

All dwellings bordering Premier Foods Bakery and other industrial buildings adjacent are to be provided with a minimum 20m green setback as environmental visual screening. To the west of MU2, adjacent to existing industrial units, existing trees and planting shall be enhanced to create visual screening. To the east of MU2, a green setback of 10m wide shall be introduced to buffer from the existing neighbourhood. Along the woodland edges and Carlton Marsh, ecologically sensitive lighting shall be used.

4. Building lines and setbacks

Building lines and setbacks are important to the overall character of the area and the sense of enclosure of the streets and public realm. Continuous building lines with a minimum gap creates a strong distinction between public and private spaces, and provides a sense of enclosure to the public areas. Where buildings step back from the building line, this shall be designed in order to create usable and attractive spaces.

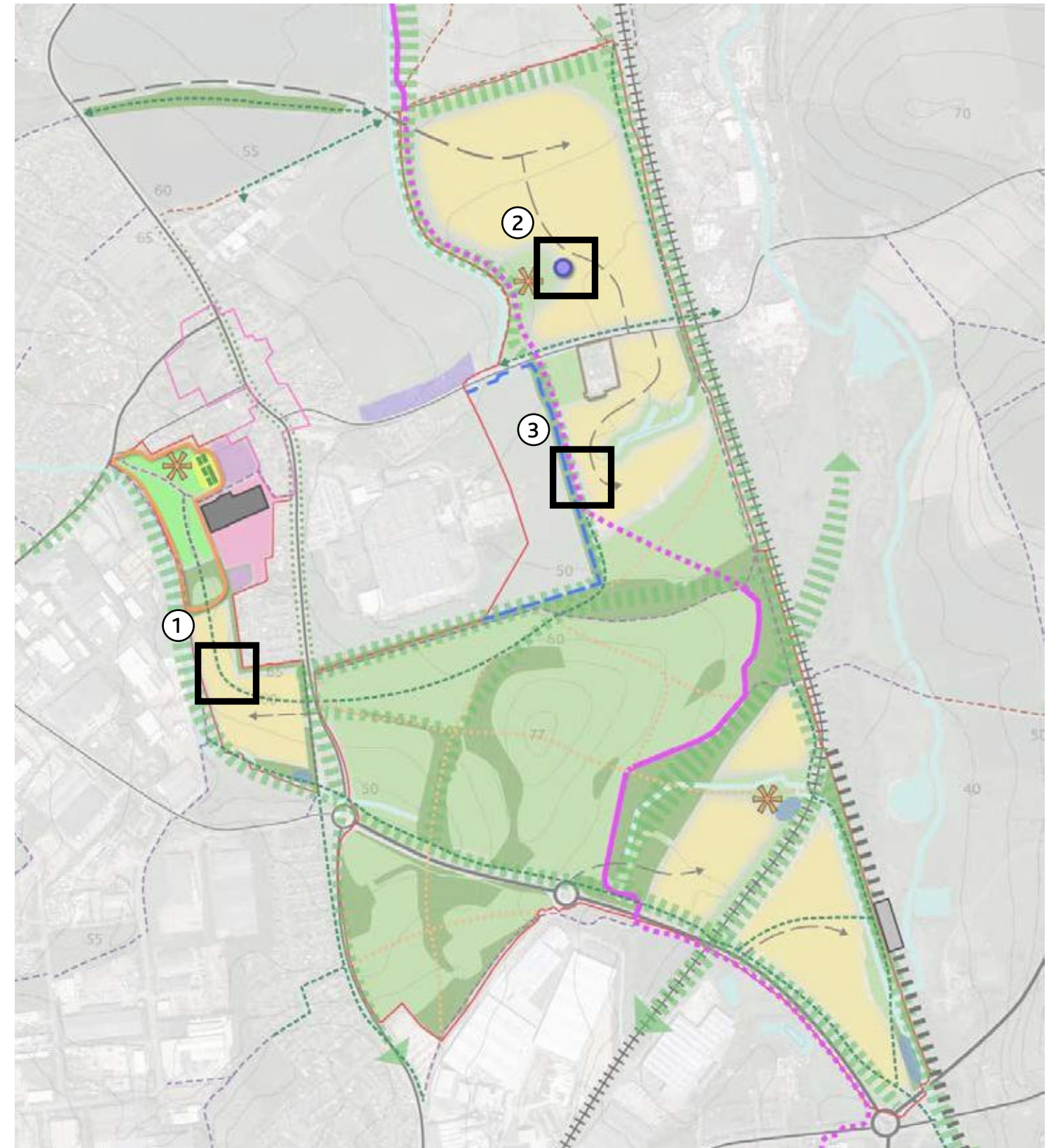


Fig. 26. Key plan for enlarged layout plans

7.2 URBAN FORM



Enlarged Plan 1 - South of MU2 adjacent to existing neighbourhood to the east, where a 10m wide green setback shall be included



Enlarged Plan 2 - North of MU3 where new local shop and neighbourhood greenspace is located



Enlarged Plan 3 - North of Wharnccliffe Woodmoor adjacent to the Premier Food site expansion and proposed 20m green setback

7.2 URBAN FORM

Around the higher density areas, building lines shall be continuous with consistent setbacks and a small private strip, to accommodate a small garden or area for plantation. At low to medium density residential areas, setbacks can vary in depth in order to accommodate larger front gardens or landscaped strips. This can also better respond to the character and the landscape context of the area. Front gardens can be much deeper along the peripheries of the development in order to create a softer transition between countryside, woodland, parks, Wharncliffe Woodmoor and built environment.

5. Well-defined public and private space

Buildings fronting the streets and open spaces give life to the public realm, therefore primary access and principal frontages shall always face onto public spaces. In the site, spacing between principal habitable rooms shall be sufficient to avoid them being intrusively overlooked and avoid the need for curtains and blinds

to be drawn. Setbacks from the street and front garden landscaping shall seek to balance privacy for front living rooms with the need for a view of the streets.

The minimum distance from the back of one dwelling to the back of another shall be 21 metres to provide the required level of privacy. Where this is not achievable, the layout shall be a back-to-side arrangement of no less than 12 metres, or use single-aspect buildings to avoid creating overlooking issues.

Appropriate boundary treatments including hedges, low walls and railings shall be incorporated into design layouts to clearly distinguish public and private space.

6. Corner treatment

It is an important design principle on urban form to appropriately address the corner of a development block. In the site, where corners of development plots are visually prominent, dual aspect buildings - buildings

with more than one entrance and two active frontages - shall be implemented with prominent entrances and windows.

In lower-density areas closer to the peripheries of the development, continuous built frontage shall address the corner by using a series of linked dwellings where possible. When a terraced, detached or semi-detached house faces out onto the corner, the buildings shall have the main entrance and habitable room windows facing both aspects to create activity, and shall provide natural surveillance by overlooking the street. This building can also be taller or have a distinctive architectural element, to ensure a greater presence than the neighbouring buildings to articulate the corner.

DESIGN CODE SUMMARY - URBAN FORM

- Perimeter blocks shall be used to ensure that there is a distinction between public and private space and to ensure that the public realm is overlooked.
- Buildings shall positively address public realm by being overlooked by windows from habitable rooms and/ or access doors.
- Building setbacks shall respond to the context. Dwellings fronting primary streets shall have limited setbacks of up to 6 metres and provide strong building lines. Buildings fronting Secondary and Tertiary streets can have a more varied building line with deeper setbacks. Buildings fronting habitat sensitive spaces including Wharncliffe Woodmoor, Carlton Marsh Nature Reserve, Carlton Conservation Area, the green belt and vegetations of significant ecological value to have a building setback of more than 8 metres.
- Buildings shall back onto Premier Food Bakery and other adjacent industrial buildings with a 20m wide green buffer and environmental visual screening between. To the east of MU2, a green setback of 10m wide shall be introduced to buffer from the existing neighbourhood. Environmental visual screening to be enhanced immediately west of site MU2.
- Buildings located on-street corners shall be designed to address both streets.



Precedent of well-designed tertiary street with minimal setback, small private strip - Abode, Great Kneighton



Precedent of residential frontages and appropriate setbacks from a tertiary street - Madeley Rd, Wakefield



Precedent of well-designed corner typology in residential plot - Derwenthorpe, York

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7. DESIGN CODE

7.3 HOMES

This design principle ensures the framework promotes a rich mix of housing types and tenures that suit local requirements, therefore building a diverse and balanced community.

1. A suitable housing mix

Below are housing policies from the Barnsley Local Plan 2019 that are relevant to this site:

- **Policy H6:** Housing mix and efficient use of land - This policy states that an average density of 40 DPH shall be expected in urban Barnsley and Principal Towns where the Carlton site is situated.
- **Policy H7:** Affordable housing - Housing developments of 15 or more dwellings shall be expected to provide affordable housing. In Carlton, 10 per cent affordable housing is expected.

In addition to the above policies, there are a number of adopted SPDs that relate to homes including:

- Design of Housing Developments - Adopted May 2019
- Affordable Housing - Adopted May 2019*

*Subject to update following publication of the Strategic Housing Market Assessment (SHMA)

The average residential density of the site shall be around 40 DPH, as proposed currently in the Masterplan Framework. Densities of individual residential parcels shall vary in line with the various character areas within the development. Parcels with higher densities (40-45 average DPH) comprising 2.5 - 3 storey dwellings, shall be located around Carlton centre in MU2 site, to the north and south of Shaw Lane and towards the south east corner of MU3 site adjacent to Cudworth. Parcels with lower density (30-35 average DPH) shall be found around the outskirts of neighbourhoods adjacent to green fields to the north and the peripheries

of Wharncliffe Woodmoor and Carlton Marsh Nature Reserve. This density gradient shall help to limit impact and create a "feather" edge to Wharncliffe Woodmoor and surrounding wildlife sites.

2. Type and tenure

To fit within the surrounding residential context of Carlton, the proposed dwellings within the development shall vary in size from 2-2.5 storey detached, semi-detached and terraced housing. The majority of the dwellings shall range from 2-4 bedrooms family houses to cater for a younger demographic. Some higher density 3 storey blocks may be located around the Carlton centre in MU2 and around Shaw Lane where the new local shop is located. These higher density parcels shall include smaller sized homes that can be suitable for young professionals or downsizing households.

The proposed dwellings shall provide a broad mix, offering a range of options such as First Homes, accessible and Lifetime Homes (LTH) and affordable homes for young people, families and the elderly. As per Policy H7 of the Barnsley Local Plan, 10 per cent affordable housing is expected in the Carlton development. The proposed Lifetime Homes shall be of a high quality and well maintained with possibilities for elderly and specialist accommodation.



Where houses are designed to comply with the requirements of Lifetime Homes - Derwenthorpe, York

3. Tenure-blind neighbourhood

As suggested, a mix of homes can help to provide a more diverse and balanced community. The proposed neighbourhoods within the site shall be tenure-blind and avoid differentiation of dwelling types. It is also recommended to avoid neighbourhoods that only provide homes for one market segment, large groupings of singular tenure types (e.g. affordable rent) will not be acceptable. Exterior features of dwellings, landscaped boundary treatment and parking provision shall not differ, to enable easy identification of various tenure types within the development.

4. House types

To increase the quality of development it is expected that developers use house types that are site and location specific and shall be designed to respond to the local character and specifics of the site and location. The quality of development shall strive to be better than the surrounding areas, and while standard house types may be used, they must be carefully selected to sit comfortably with local traditions, surrounding landscape and character areas. A number of site specific bespoke houses in key locations will be encouraged.



Abode, Great Kneighton - variety of terraced, semi and detached home types

DESIGN CODE SUMMARY - HOMES

- Principles of creating homes of meeting long term needs such as the incorporation of fabric first and net-zero technology, accessible and adaptable dwellings will be supported. Building for a Healthy Life standards shall be applied to development.
- Dwelling densities shall be varied across the sites. Higher densities (40-45 DPH) located closer to Carlton centre, along Shaw Lane and public transport routes. Medium to low densities (30-35 DPH) located adjacent to Wharncliffe Woodmoor, green belt and landscape designations such as Carlton Marsh Nature Reserve.
- Affordable housing provision of 10 per cent is expected. The type and ratios of affordable housing are stated in Barnsley Local Plan SPD Design of Housing Development (adopted May 2019) and Affordable Housing (adopted May 2019).
- Affordable housing shall be tenure blind and indistinguishable from other dwellings.
- Brown and green roofs to be considered on buildings where appropriate.
- Developers are expected to use house types that are location and site specific.

7. DESIGN CODE

7.4 FACILITIES AND SERVICES

Facilities and Services

This principle shall ensure necessary provision of facilities and services are provided, such as shops, schools, workplaces, parks, play areas, grow gardens etc. It is essential to ensure that the proposed development integrates into its surroundings by reinforcing existing connections and creating new ones, while also respecting existing buildings and land uses around the site.

The local centres of Carlton and Cudworth are within 1,200m of the site boundary and provide services and amenities within a 15 minute walk for most residents. In addition to this, the development shall provide an appropriate bus route linking Royston Lane and Church Street to Shaw Lane/ through the north of site MU3, to allow for improvements to the public transport network.

Small Local Shop

The development shall provide a small local shop of up to 500m2 of retail space for new and existing residents. To ensure that this meets local needs and is viable, it shall be located adjacent to the proposed primary street through the north of site MU3. High quality design for the shop frontage, façades and signage is essential to improve the appearance and reputation of the locality.

Community Garden

A community garden shall be located to the north of site MU2, in order to create a central community focus. This shall include allotment gardens, formal and informal recreational areas. This shall be run as a community asset and be managed and maintained by local residents.

The public realm around both the new local shop and community garden shall be high quality, with a mixture of quality hard surfacing and landscaping to create inviting

and pleasant spaces, where local residents would want to meet and socialise.

Carlton Primary Academy

Carlton Primary Academy shall be expanded both to the north and south to accommodate for an additional 210 students. This will include a building extension or additional structure, private play facilities and sport pitch provision.

Parking

Designated off-street parking areas for both vehicles and bicycles shall be provided at small local shop, community garden and Carlton Primary Academy, with an emphasis on quality cycle shelters to promote active travel within both the site and further afield.

Play

Three new play areas shall be provided among the neighbourhoods with alternative methods of play around the development:

1. Play Area 1 - Located within the proposed community garden in MU2 next to Carlton Primary Academy. This complements the lack of Local Equipped Area of Play in Carlton.
2. Play Area 2 - Located within the park north of Shaw Lane, creating a place alongside the small local shop. Naturalistic play equipment and informal play space shall be specified to sit in the greener neighbourhood.
3. Play Area 3 - Located at the existing beck and proposed water attenuation pond south of MU3.
4. Trim trails shall be provided around the perimeter of development and along the recreational routes to promote active lifestyles.
5. Opportunities for naturalistic and non designated play areas are encouraged throughout the open space network.



Open space provides opportunities for social gathering



Community allotments/ grow gardens



Example of small local shop (Image credit: RetailGazette)



Informal woodland play

DESIGN CODE SUMMARY - FACILITIES AND SERVICES

- Development is expected to provide a small local shop (up to 500 sqm of retail floorspace) as set out in the adopted Local Plan. There is a degree of flexibility as to the final location of the small local shop, which shall be determined on viability. The Masterplan Framework has shown it in a preferred location which is along the proposed primary street north of Shaw Lane.
- A community garden shall be created to the north of MU2 site adjacent to Carlton Primary Academy, inclusive of allotment gardens, formal and informal recreational areas.
- Carlton Primary Academy is to be expanded to the north and south to accommodate an additional 210 pupils.
- A minimum of three additional equipped play areas shall be provided at or close to the locations shown on the Masterplan Framework.

7.5 CONNECTIONS

4.2 Landmarks

Landmarks are used to emphasise the hierarchy of a place and are often related to focal points to create a visual guide to help users navigate through places and reinforce the sense of identity. They are not limited to taller or large scale buildings. Public art, a tree with a distinctive quality, a strong landscape with quality materials and/or rich planting, an architectural element or an ornament on a building can be a landmark.

Within the development new landmarks shall respect the existing landscape setting. Landmarks shall be located at key positions throughout the site and will form part of the wayfinding strategy, particularly at gateways. A landscape folly will complement the summit at Wharncliffe Woodmoor, creating a prominent landmark that can be seen from the surrounding areas (see Fig. 28).

4.3 Vistas

Views and vistas shall be used effectively to reinforce the distinctiveness and the legibility of the place. This can often be achieved by using higher structures on buildings, atypical architectural materials, a large distinctive tree or a public art feature.

Creating short-distance views broken by buildings, trees or landmarks helps to create memorable routes. Creating views and vistas allows easily usable links between places. Vistas shall be aligned where possible along green corridors looking south to the open countryside and from the higher ground to the north.

Wharncliffe Woodmoor summit provides a viewing point with key vistas to surrounding gateways.

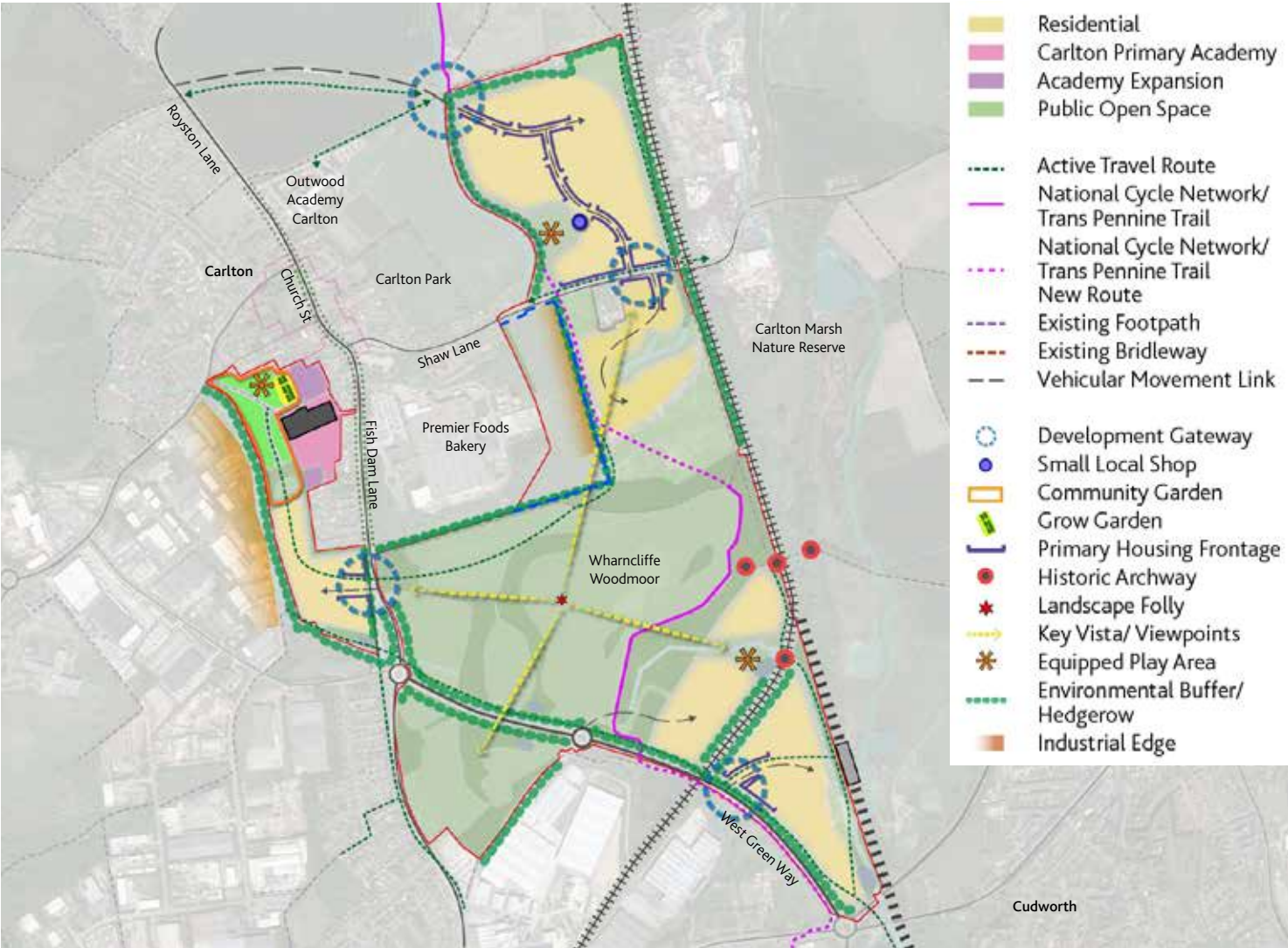


Fig. 28: Strategic landmarks, vistas and focal points/ gateways. Carlton Placemaking/ Urban Design Strategy Plan (Contains information from Esri)



Pocket parks integrated into the street create a focal point and allow social interaction - Accordia, Cambridge



Well overlooked footpaths provide natural surveillance and improved security - Derwenthorpe, York

DESIGN CODE SUMMARY - CONNECTIONS

- Existing footpaths shall be retained. Where required, minor diversions may be permitted to accommodate development.
- New Public Rights of Way shall be created that link into the existing network.
- A number of Public Rights of Way that are separate to the road network shall be provided / upgraded to provide a hard surface that is suitable for non powered wheeled vehicles, including cycles and pushchairs.
- If cul de sacs are proposed, they must be connected at both ends with foot and cycle paths to the wider foot and cycle network.
- Minimum widths for Public Right of Way*:
 - 2 metres for public footpaths
 - 3 metres for unenclosed bridleways
 - 4 metres for enclosed bridleways
 - Active travel routes shall have segregated cycle lanes of 3m in addition to the footpath

* Where constraints prevent minimum widths being achieved these may be reduced.

7. DESIGN CODE

7.6 STREETS

Streets

Within the proposed development, buildings shall be designed and positioned with landscaping to define and enhance streets and spaces. A well connected street formation with a clear and thematic street hierarchy is the fundamental structure of the Masterplan Framework.

1. Permeable and interconnected street network

New residential neighbourhoods must provide permeable layouts within the development site, as well as connecting to the wider area and to active travel networks beyond. In particular, they shall provide direct and secure connections between neighbourhoods and local facilities, such as the small local shop, schools, parks, Wharncliffe Woodmoor and public transport links for pedestrians and cyclists. This shall be through the provision of traffic free landscaped active travel corridors, as well as the street network. A permeable layout generates a higher level of pedestrian/cycle activity, which makes social interactions more likely and increases the level of security. Vehicular routes shall provide access to residential neighbourhoods and facilities within the site, but shall not be direct; a more circuitous route shall make driving less appealing and encourage the sustainable modes of travel.

The design of the street network shall establish a clear and legible layout with a strong structure, and avoid being formed around the technical demands of traffic. The layout shall respond to the topography, natural desire lines and access to the site. It shall avoid creating cul-de-sacs and indirect pedestrian and cycle routes, to ensure lower traffic levels on minor roads and to encourage the use of sustainable movement alternatives. Pedestrians and cyclists must be able to

move freely between all parts of the development and have easy access to the surrounding street networks and key destinations. Space shall be allocated within the highway corridor to create a functional balance between vehicles and pedestrians/ cyclists, avoiding vehicle domination of the streetscape.

2. Active frontages

Active frontages are important in terms of bringing life and activities to streets and public realm. Introducing regular doors, windows, front gardens and front parking can stimulate activity and social interactions. Narrow frontages with a vertical rhythm can create a more attractive and urban streetscape, while articulation on façades and use of bays and porches can create a more residential aesthetic.

In the development, exposing blank walls/ gable ends to the public realm and use of passive and blank façades must be avoided. Within higher density areas, a minimum of 15 doors and windows shall be accommodated every 100m, while in lower density areas there shall be a minimum 6 to 10 doors and windows every 100m to achieve a good level of activity within the public realm.



Fig. 29: Road Hierarchy and vehicle movement as established in the Carlton Vehicular Movement Strategy Plan (Contains information from Esri)

7.6 STREETS

3. Street Design

To be read in conjunction with section 5.2 Movement Framework in this document.

3.1 Primary Route

- Design requirement = min 6.75m, 20mph design speed (30mph to the access route north of site MU3).
- Two-way segregated cycleway - min 3m width.
- Pedestrian footways – min 2m width.
- Where on-street parking is proposed it shall be in designated parallel bays maximum 5 bays long. Where on-street parking is proposed, this shall be in combination with street trees at not more than 5 bays apart.
- The car parking provision will comprise a mix of curtilage and on-street parking to break up the linear nature of street design and reduce vehicle speeds.
- Generally, the street height to width ratio shall be 1:3 - 1:4. For illustrative section, see Fig. 30.
- Asphalt with aggregate chipping shall be applied in all primary street, bus route and cycleways within the site. Modular paving system (eg: concrete pavers or natural stone) shall be applied in all footways. It is also essential to consider the below criteria when selecting materials:
 - Embedded carbon, including associated build-ups;
 - Durability and robustness to minimise maintenance and the need for replacement;
 - Accessibility and the needs of those who are partially sighted to navigate the public realm;
 - Promote permeable paving system where applicable

3.2 Bus Route

Design requirement = preferred 6.75m min width for buses. Bus stops are to be provided at regular intervals to ensure all dwellings are within 400m walking distance, preferably 300m. Guidance indicates bus stops to be provided on-street, however SYPTE/operators have indicated a preference for laybys – this is to be confirmed as the Masterplan Framework is progressed. Pedestrian footways to be min. 3m at bus stops to cater for additional pedestrian movements.

- Shelters, CCTV and raised pavements shall be provided where required to improve accessibility and security. Infrastructure shall also be included at bus stops to allow for real time information.
- Where on-street parking is proposed, it shall be in designated parallel bays, maximum 5 bays long. Where on-street parking is proposed it shall be in combination with street trees no more than 5 bays apart.
- The car parking provision will comprise a mix of curtilage and on-street parking to break up the linear nature of street design and act to reduce vehicle speeds. Generally the street height to width ratio shall be 1:3 - 1:4. For illustrative section see Fig. 30.

Primary Route/ Bus Route

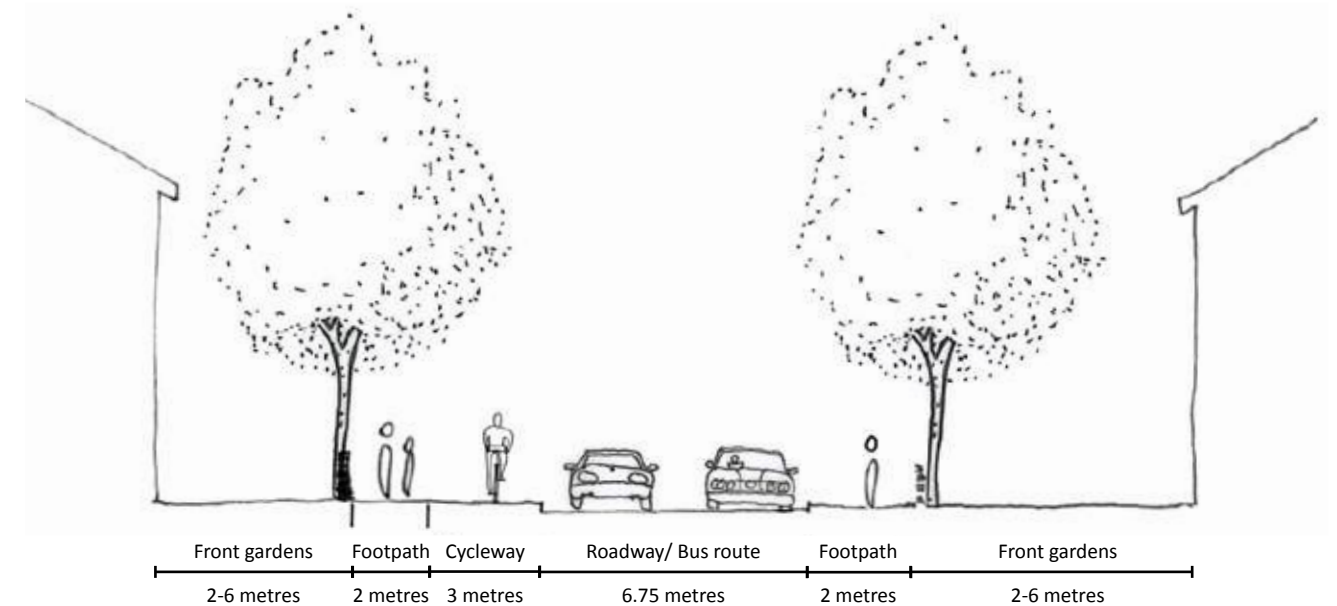


Fig. 30: Typical street section - Primary Route



Integrated parking and landscape help soften the street scene



Pedestrian prioritising primary route/ bus route

7. DESIGN CODE

7.6 STREETS

3.3 Secondary Route

- Design requirement = preferred minimum 5.5m, 20mph design speed.
- Pedestrian footways are to be provided on both sides – min 2m width.
- Trees shall be provided within front gardens.
- Generally the street height to width ratio shall be 1:2 - 1:3.
- For illustrative section, see Fig. 31.
- Asphalt with aggregate chipping or modular paving system (eg: concrete pavers) shall be applied in all secondary streets. Modular paving system (eg: concrete pavers or natural stone) shall be applied in all footways. It is also essential to consider the below criteria when selecting materials:
 - Embedded carbon, including associated build-ups;
 - Durability and robustness to minimise maintenance and the need for replacement;
 - Accessibility and the needs of those who are partially sighted to navigate the public realm;
 - Promote permeable paving system where applicable.

Secondary Route

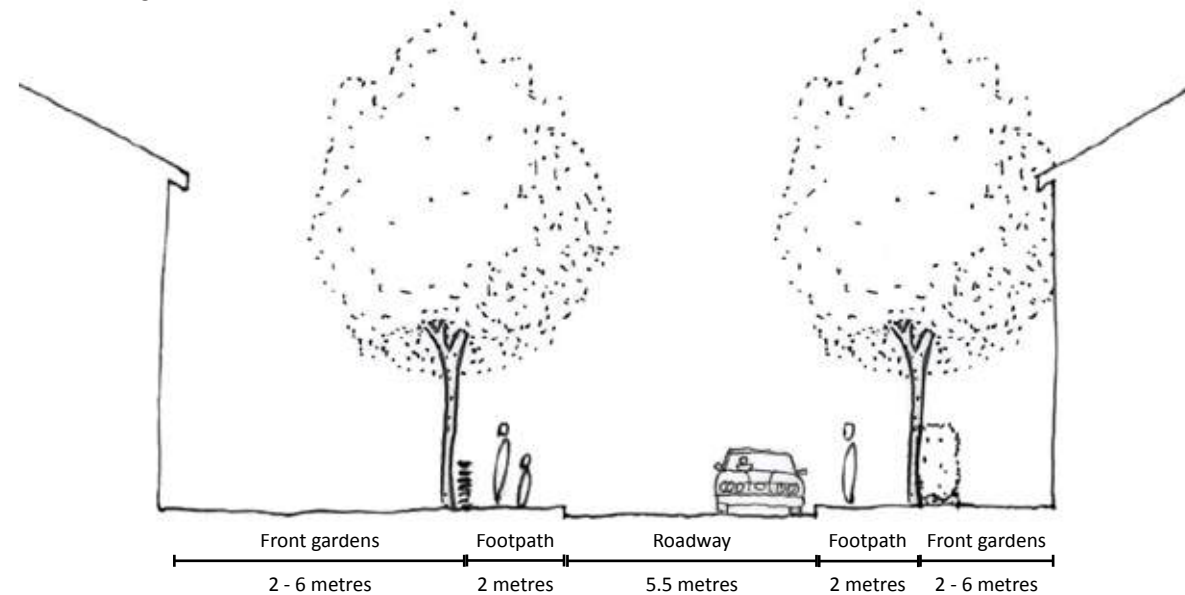


Fig. 31: Typical street section - Secondary Route

3.4 Tertiary Route / Local Access

- Design requirement = preferred min. 5.5m, 20mph design speed.
- Pedestrian footways are to be provided on both sides – min. 2m width.
- A 20m max. distance cul-de-sac can be provided without a turning head
- Access for up to 5 properties from a private drive – requirement for emergency vehicle access.
- Generally the height to width ratio shall be 1:2. For illustrative section, see Fig. 32.
- Modular paving system (eg: concrete pavers) shall be applied in all tertiary streets/ local access and associated footways. It is also essential to consider the below criteria when selecting materials:
 - Embedded carbon, including associated build-ups;
 - Durability and robustness to minimise maintenance and the need for replacement;
 - Accessibility and the needs of those who are partially sighted to navigate the public realm;
 - Promote permeable paving system where applicable.

Tertiary Route / Local Access

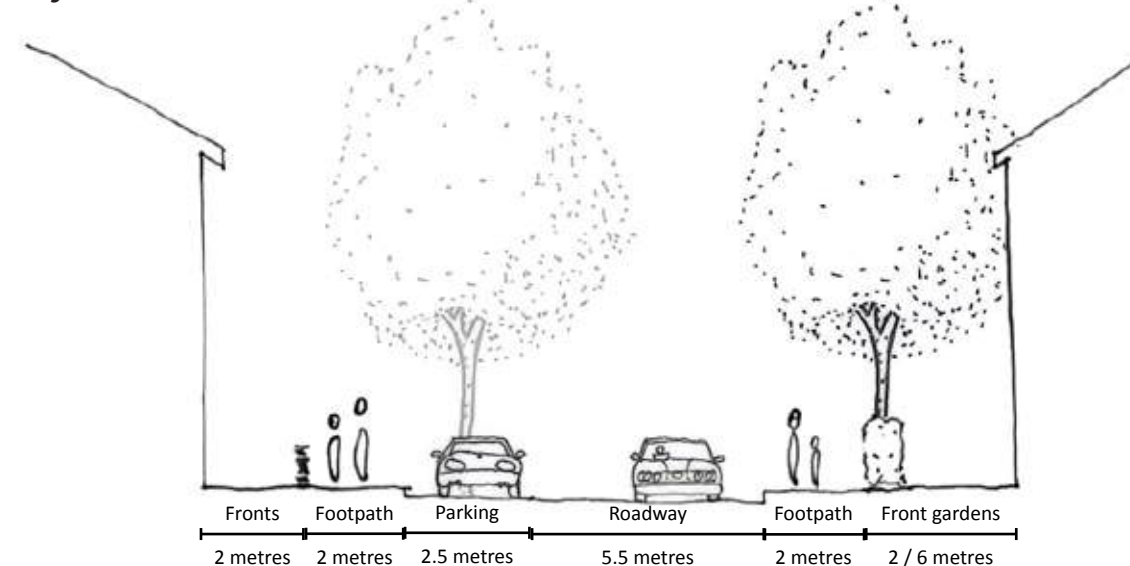


Fig. 32: Typical street section - Tertiary Route



Narrow local streets encourage low vehicle speeds



Green links and active travel routes separate from roads



Private drives as single sided development onto open space.

3.5 Single-Sided Development

- Design requirement = preferred min 5.5m, 15/20mph design speed.
- Pedestrian footways are to be provided on developed side – min 2m width.
- A 20m max distance cul-de-sac can be provided without a turning head.
- Access for up to 5 properties from a private drive – requirement for emergency vehicle access.
- Cul-de-sacs along open space shall be connected with active travel (pedestrian and cycle) links to improve permeability.
- For illustrative section, see Fig. 33.

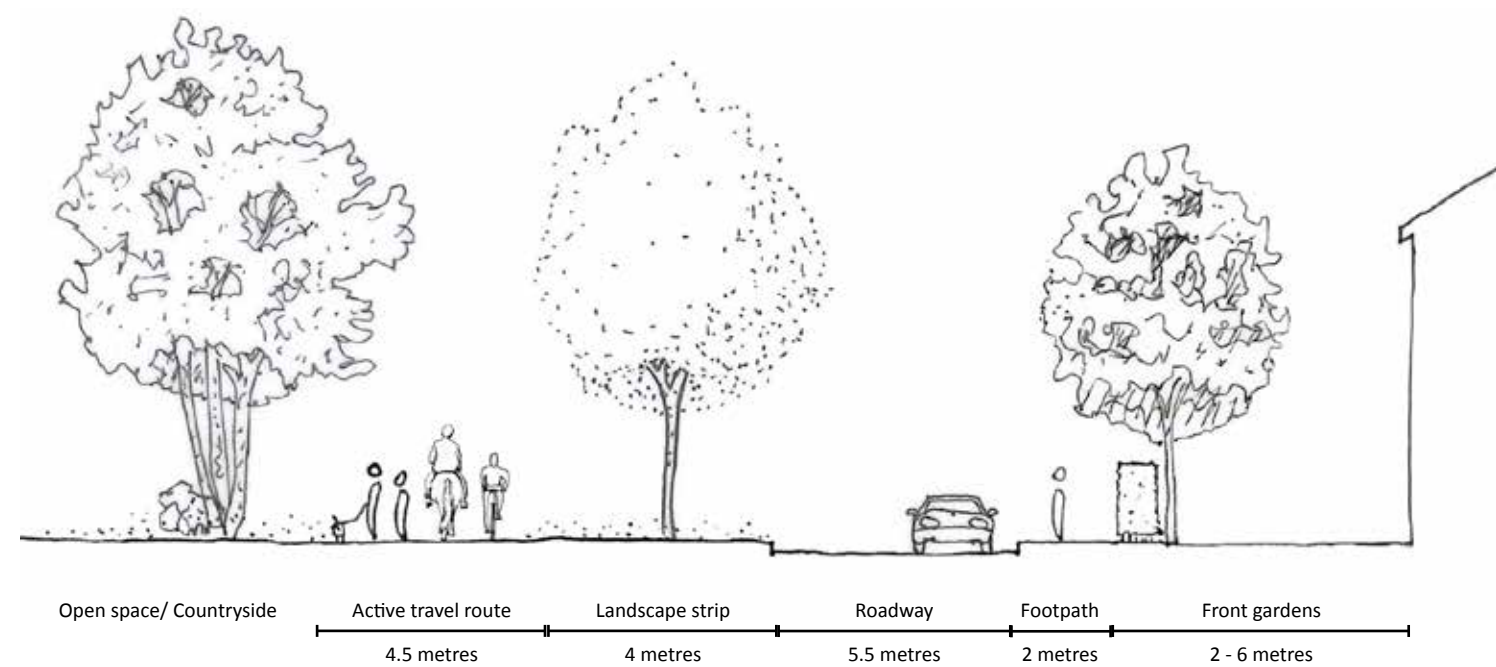


Fig. 33: Typical street section - Single Sided Development

DESIGN CODE SUMMARY - STREETS

- Across the development, a permeable network of streets shall be provided.
- The street network shall be designed to provide a hierarchy of streets to establish a clear and legible layout and aid way finding.
- The hierarchy of street design shall be split into 3 route types; Primary streets provide the main access into the site and create a link from Royston Lane to Shaw Lane. This link shall be designed to accommodate buses; Secondary streets shall link the neighbourhoods internally, while also access MU2 and parcels to the south of MU3; Tertiary streets provide access to dwellings.
- The widths indicated within this design code shall be used for the different street types, footpaths and cycleways.
- The designed speed limits within this design code shall be used for the different street types.
- Parking shall follow limits set out in this design code for the different street types.

7. DESIGN CODE

7.7 LANDSCAPE AND PUBLIC REALM

The site is set within a landscape of existing trees and shrubs of significant ecological value, open mosaic habitat, becks and watercourses, Wharncliffe Woodmoor and Carlton Marsh Nature Reserve (part of the Dearne Valley Wetlands (SSSI)). A GI network of well vegetated active travel routes and semi-natural greenspace are provided throughout the site, promoting health and wellbeing and a unique sense of place for any proposed development.

1. Strategic green / wildlife links

A network of strategic green links are proposed across the site. It connects streets, the local shop, parks, Wharncliffe Woodmoor, the community garden, Carlton Primary Academy and public transport routes with a series of active travel links extending out into the surrounding open spaces - particularly Carlton Marsh Nature Reserve (part of the Dearne Valley Wetlands (SSSI)). They shall include new and enhanced existing landscape features such as woodlands, hedgerows, trees and shrubs to create connections across the site, reducing habitat fragmentation, enhancing biodiversity and providing recreation opportunities.

The strategic green links connect directly into the existing extensive network of footpaths and bridleways beyond the site, encouraging new and existing residents to use the multifunctional active travel routes to access the wider countryside, key facilities and towns and villages around Carlton.

2. Sustainable urban drainage

SuDS are incorporated within the GI network to increase the multi-functionality and benefits of greenspace. SuDS components incorporated within the GI network across the site will include:

- Attenuation ponds
- Below ground water attenuation crates/ pipes
- Permeable paving
- Green roofs shall be applied onto flat roofed buildings where possible, such as the new primary school
- Shallow swales and rain gardens through parks and alongside roads
- Water butts

SuDS components shall be designed into the GI network and public realm - this can help create suitable conditions to increase biodiversity. In the site attenuation ponds are located strategically along the fringes of all neighbourhoods. Rain gardens and shallow swales shall be included alongside all green links and streets to collect surface run off. Permeable paving and below ground attenuation systems shall be located among development blocks and public realm, where hardscape materials are needed and ground conditions allow.

Management of SuDS is essential to ensure functionality and to maintain any associated habitat, particularly in rain gardens and attenuation ponds.

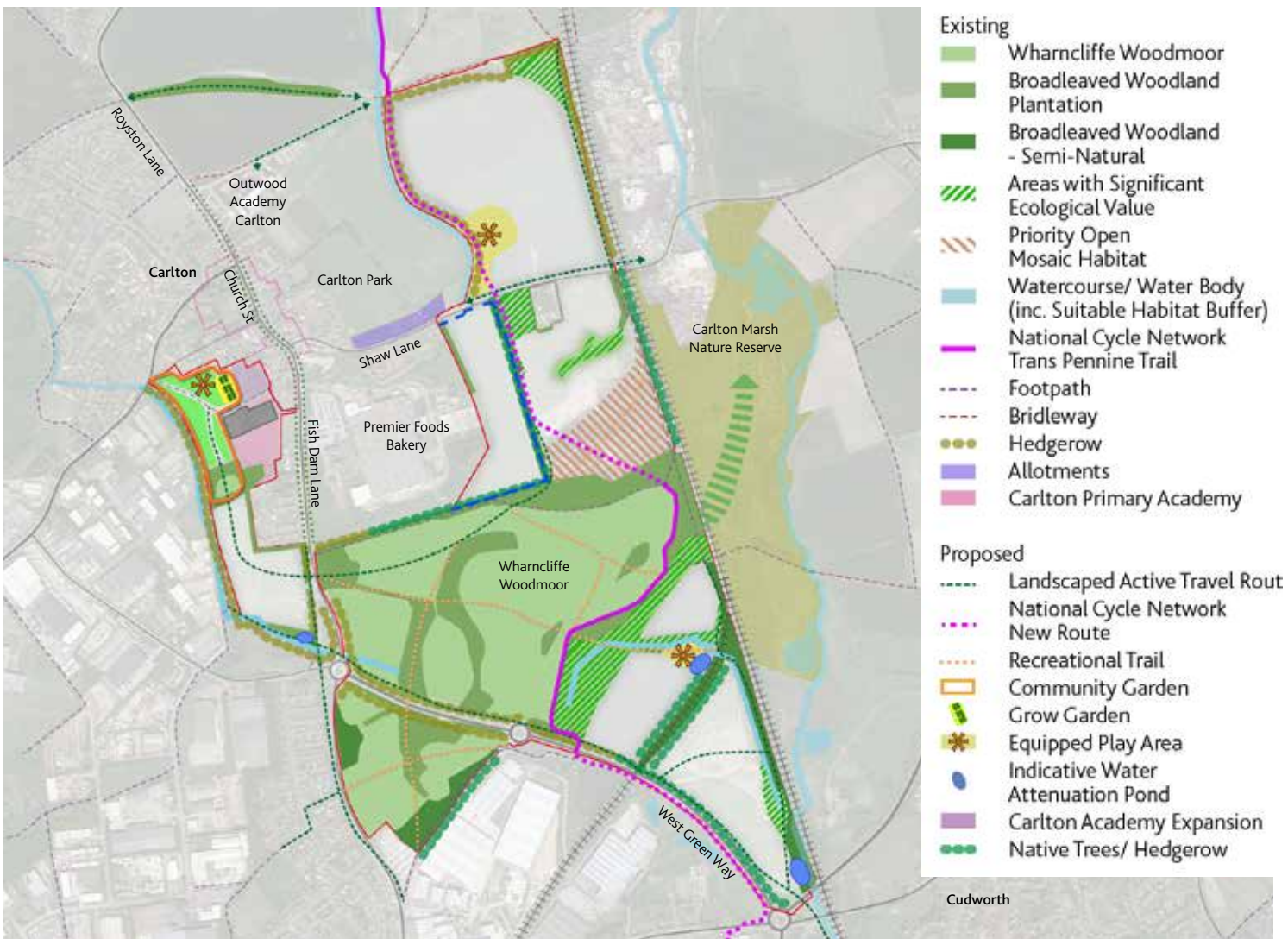


Fig. 34: Strategic green links, Wharncliffe Woodmoor, neighbourhood parks and NEAP locations. Carlton GI/ Public Realm Strategy Plan (Contains information from Esri)



Existing woodland/ wildlife corridor in Wharncliffe Woodmoor



Example of swale integrated with existing beck alongside active travel link

7.7 LANDSCAPE AND PUBLIC REALM

3. Wharncliffe Woodmoor

Wharncliffe Woodmoor is the key neighbourhood greenspace at the heart of the site, it is key to connect it with parcels within and around the site by strategic green links. This open space is an important asset to Carlton and the surrounding communities and will be wholly retained and strategically enhanced. This will be a new 'green heart' for the development and will provide a variety of ecosystem, community, play and recreational resources.

Among the greenspace, all trees and shrubs of significant ecological value and quality woodland and hedgerows shall be retained and enhanced with improved management. New trees, hedges, wildflower grassland and shrubs shall be planted to supplement existing vegetation. Where possible, species poor hedgerows shall be retained and diversified to improve biodiversity. Planting mixes shall be based on native species identified in the local area and are suited to the soil and habitat type, with a view to create habitat mosaics to support terrestrial invertebrates. Habitats shall be enhanced through appropriate management and habitat creation. Wildlife corridors will be continued through the spaces and linked to corridors outside the open spaces. SuDS features will be integrated into landscape and supplemented where appropriate with wetland planting.

The community garden will be to the north of site MU2, which will include informal play in the quality woodland, a Local Equipped Area of Play, formal planting and a community grow garden adjacent to Carlton Primary Academy, incorporating nature into education. There shall be supplementary and secure cycle parking for the community garden.

4. Neighbourhood parks

Three neighbourhood parks are proposed in central and accessible locations to each neighbourhood respectively, providing recreational uses and open spaces. Each of the parks shall have a distinct identity to reflect the character area where it is located. All shall include equipped play areas (EPAs) for the residents of each neighbourhood. All parks shall be highly accessible by all residents and located along active travel or recreational routes.

All parks shall retain and enhance the existing landscape of the site, integrating landscape features into the layouts, safeguarding existing habitats present and continuing wildlife corridors. The below design principles shall be applicable to all neighbourhood parks within the development:

- All existing good quality woodland, hedgerows, trees, shrubs and becks to be retained within the layout of the parks and enhanced with improved management.
- New trees, grassland and shrubs to be planted to supplement existing vegetation. Planting mixes to be based on the species identified for the character area.
- Wildlife corridors to be continued through the parks and green links and connected to corridors.
- SuDS features to be integrated into landscape and native aquatic and marginal planting in attenuation ponds to increase habitat diversity.
- Footpaths, benches, signs and other furniture including low level lighting to be installed to make accessible for all. Lighting shall be designed to consider sensitive adjacent habitats.
- Provide cycle parking in secure locations.

5. Play areas

Areas for play shall be provided throughout the site and consist of equipped play areas and informal play space located within the neighbourhoods and community garden. As identified in the Evidence Base Report, there is a shortage in Local Equipped Areas of Play to the south of both site MU2 and MU3. This development provides the opportunity to enhance play provision. Carlton Park is a NEAP within proximity to the site - the direct and well connected active travel network will connect all new residents to this facility. An informal woodland play facility will be included in the community garden. LAPs will be implemented strategically throughout the neighbourhood where required.

It is crucial to ensure all areas identified for play to be located are within easy reach of the strategic green links, and have good levels of natural surveillance from neighbouring areas. Shaded areas with seating and cycle parking space shall also be provided in all equipped play areas. In the site the proposed play areas are to be located within each of the three neighbourhood parks (see Fig. 34), where they are well connected to the green active travel network and will be in close proximity to surrounding residents.

NEAP (Neighbourhood Equipped Area of Play) – Design Principles:

- A NEAP is an unsupervised site, equipped mainly for older children.
- NEAP to be located within 15 minutes walking time from every home (1,000m walking distance).
- An activity area of a minimum of 1,000m² to be

provided.

- A 30m minimum buffer zone to be created between it and the boundary of the closest residential curtilage, to minimise any disturbance to nearby houses.
- A kick-about area and opportunities for wheeled play to be incorporated.

LEAP (Local Equipped Area of Play) – Design Principles:

- A LEAP is an unsupervised play area equipped for children of early school age (4-8 years old).
- LEAP to be located within 5 minutes walking time from every home (400m walking distance).
- An activity area of a minimum of 400m² to be provided.
- A 20m minimum buffer zone to be created between it and the closest residential curtilage. This buffer zone can include footpaths and planted areas.
- LEAP to be positioned in areas that enjoy a large degree of natural surveillance.

LAP (Local Area of Play) - Design Principles:

- A LAP is an unsupervised play area equipped for toddlers and children of early school age (<6 years old).
- LAP to be located within circa. 1 minute walking time from every home (circa. 100m walking distance).
- An activity area of a minimum of 100m² to be provided.
- A 5m minimum buffer zone to be created between it and the closest residential curtilage. This buffer zone can include footpaths and planted areas.
- LAP to be positioned in areas that enjoy a large degree of natural surveillance.

7. DESIGN CODE

7.7 LANDSCAPE AND PUBLIC REALM

6. Gardens and green roofs

All dwellings within the site shall include private/ communal outdoor spaces such as balconies, courtyards and gardens. Installation of green and brown roofs shall also be promoted throughout the site.

New trees, grassland and shrubs shall be planted where possible in private or communal gardens to supplement existing vegetation. SuDS features shall be integrated across the development including on-plot features such as permeable paving, water butts and green/ brown roofs. All these elements can help increase the biodiversity of the area and maintain continuous wildlife corridors.



Fig. 35: Strategic green links, Wharncliffe Woodmoor, neighbourhood parks and NEAP locations. Carlton GI/ Public Realm Strategy Plan (Contains information from Esri)



View A -Existing trails across Wharncliffe Woodmoor and to the summit



View B - Carlton Marsh Nature Reserve adjacent to site MU3



View C - Existing Barnsley Canal and NCN/ TPT



View D - Open mosaic habitat at former Carlton Main Colliery

7. Allotment gardens

Allotment gardens shall be provided as part of the community offer in the community garden. This is to encourage participation in food production and enhance a sense of wellbeing within this new community. Managed vehicular access and cycle parking/ storage area shall be provided in close proximity.

8. High quality public realm

A consistent approach for designing public realm within the streets and public spaces of the site shall be adopted. A robust and durable design language that draws on the characteristics of the character areas and local vernacular shall be promoted. Sustainability shall also be embedded where materials are sparingly used and recycled, durable and responsive to local conditions.

Design language of the public realm within the development shall be consistent, and it shall respond to key characteristics of the character areas within the development. It is also recommended to consider the whole life cost and embodied carbon in material choice to encourage sustainable use of natural resources, use of recycled materials and reducing quantity of materials and material waste.

Best practice guidance for inclusive design shall be followed including furniture configuration which promotes accessible use by all. Materials, street furniture and lighting shall require minimum maintenance to promote sustainability.

7.7 LANDSCAPE AND PUBLIC REALM

9. Lighting

The lighting strategy for the site shall promote the efficient and sustainable use of lighting in the public realm. Lighting design addresses the issues of security for vehicles and pedestrians, providing focused areas of illumination to highlight distinctive areas and features. Having lighting also enhances use of the public realm in the evenings, but shall be controlled to limit light pollution and impacts on local habitat.

It is important to consider view of the night-time sky to limit or omit any light spill into the sky with design. Wildlife and sensitive habitats shall be protected with directional lighting located and aimed to avoid disruption. Glare or light spill into private property shall also be avoided.



Sensitive housing and boundary treatment overlooking open space



Community allotments and orchards bring people together



Neighbourhood gardens located in the heart of residential blocks



SuDS and blue infrastructure well integrated into the GI

DESIGN CODE SUMMARY - LANDSCAPE AND PUBLIC REALM

- Strategic green links shall be provided to join habitats within and across the site. These shall include cover for wildlife and active travel routes.
- Wharnccliffe Woodmoor shall be wholly retained, ecologically enhanced and expanded into the open mosaic habitat as a key green asset for existing and new residents.
- Neighbourhood parks shall be created within the development and provide formal recreation as well as opportunities for habitat creation and enhancement.
- SuDS shall be incorporated both on plot and in open space.
- Play areas shall be located and designed in accordance with the guidelines identified in this Design Code.
- Green and brown roofs are encouraged to assist with SuDS and provide habitats. To enable biodiversity net gain, green and brown roofs can be explored as an option for appropriate buildings, including the school expansion and local shop.
- A community garden shall be provided as outlined in 7.4 Facilities and Services section of this design code.
- A lighting strategy shall be provided that shall ensure that active travel routes, streets and parking areas, as well as key public realm is adequately lit. Special attention and wildlife friendly design shall be applied to sensitive areas to ensure that the lighting does not adversely affect wildlife.
- A Maintenance and Management plan shall be provided for the open space and SuDS.

7. DESIGN CODE

7.8 ECOLOGY AND BIODIVERSITY

Areas identified to have high biodiversity value have been retained within the masterplan framework. This includes broadleaved woodland plantation, poor semi-improved grassland, scrub and watercourses. Habitats outside these identified areas which provide additional biodiversity interest include similar broad habitat types. These habitat areas are likely to support bats, badgers, water voles, breeding birds, reptiles, amphibians and invertebrates as identified in the Evidence Base. The future development of the site shall ensure key habitats are retained, or if lost, recreated. The following actions are recommended to safeguard and enhance biodiversity. They will work in-combination to inform future design.

Preliminary Ecological Appraisal (PEA)

A PEA must be undertaken in preparing planning applications and will confirm the requirements for any further protected species surveys. This will inform design and appropriate mitigation as well as ensuring regulatory compliance and management of risk, in line with recommended guidelines, Policy BIO1 Biodiversity and Geodiversity, Policy GI1 Green Infrastructure and Policy GS1 Green Space, Site MU2 Land between Fish Dam Lane and Carlton Road and Site MU3 Land off Shaw Lane Carlton, Barnsley Local Plan.

Biodiversity Net Gain (BNG)

Biodiversity Net Gain is an approach to development that leaves biodiversity in a better state than before. Habitat retention, enhancement and creation will be required within the scheme landscaping strategy to ensure a gain in biodiversity units post-development. Consequently, the main areas of biodiversity interest, as identified by the PEA, will be a key focus and the results of the Biodiversity Net Gain assessment must feed into the design. The Biodiversity Net Gain metric must be undertaken with regard to the good practice principles for development.

A habitat management plan must be provided to ensure the success and efficacy of mitigation. This will include planting at appropriate times of year to ensure successful establishment and growth. Species selected for planting will be native and of local provenance, where suitable. Any non-native species utilised will, where possible, provide a nectar resource for invertebrates. Flowering plants will provide sequential foraging resources throughout the year. Consultation must be sought from a suitably qualified ecologist to support the integration of ecological mitigation within the site design.

In the first instance it is expected that applicants seek to achieve a minimum of 10 per cent Biodiversity Net Gain within the application boundary. Where that is not feasible applicants shall provide a Biodiversity Net Gain Assessment and Report setting out why this is the case. Contribution will then be required from applicants to off-site improvements beyond the application boundary. These may include improvements to biodiversity in Wharncliffe Woodmoor, which will be coordinated by BMBC and further details are provided in the Delivery Strategy at Appendix B.

DESIGN CODE SUMMARY - ECOLOGY AND BIODIVERSITY

- Development is expected to achieve a minimum 10 per cent Biodiversity Net Gain.
- Development shall ensure key habitats are retained, or if lost, recreated.
- Further protected species surveys, where required, will inform any mitigation required.
- Design and mitigation shall also comply with local policy.
- A habitat management plan must be provided for the open space.

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7. DESIGN CODE

7.9 ACCESSIBILITY AND PARKING

1. Legibility and Wayfinding

When places are legible and well signposted, they are easier for the public to comprehend and likely to both function well and be pleasant to live in or visit. It is easier for people to orientate themselves when the routes are direct. Visual articulations and landmarks can also emphasise the hierarchy of the place.

The site shall have a clear and straight forward urban layout, enabling residents and visitors to easily navigate. It shall contain memorable and recognisable landmark buildings, places and open spaces. Landmarks, gateways and focal points shall be clearly identified in order to create visual links, and a recognisable hierarchy shall be established between places. The street network and active travel routes shall be direct and easy to navigate.

Residential areas shall be designed around a series of nodal points, and variety in the types of articulations shall help them to be more memorable. Landmarks shall be created around gateways and centres by using taller buildings and distinctive architectural elements. The quality of signage at the centres on shops and other non-residential premises shall contribute to the identity and legibility of the areas.

Artwork can also be used throughout the site to help create distinctive character areas. Community buildings such as schools and community facilities shall emphasise the identity of the areas and create focus for community engagement.

A clear wayfinding system shall be established throughout the whole development, especially along the key multi-user active travel routes and linking with

existing Public Rights of Way around the site to promote security and legibility. A range of signposts and public realm elements, such as street furniture and lampposts shall be introduced.



Examples of well-designed signposts

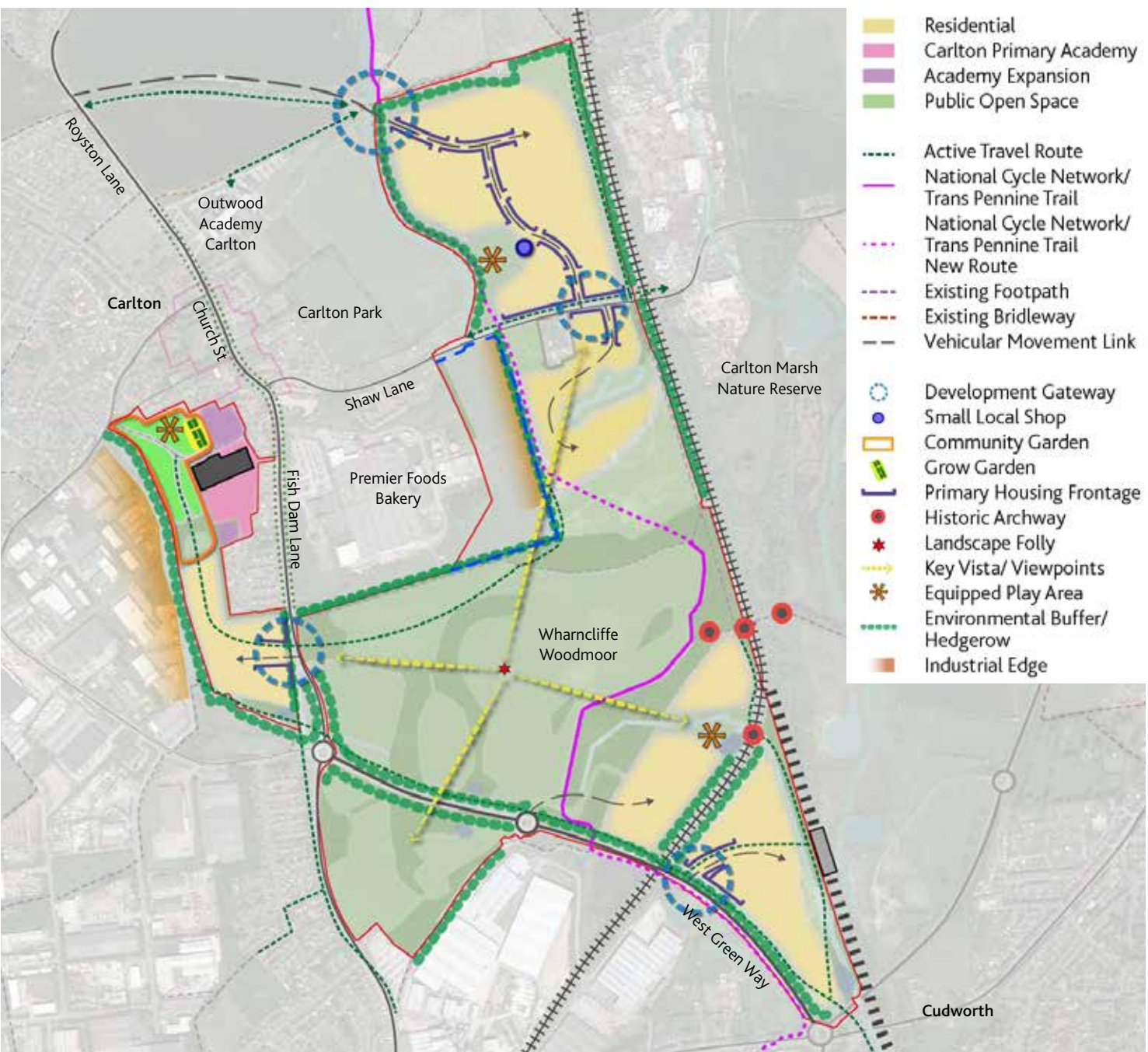


Fig. 36: Established gateways, landmark buildings and visual links, Carlton Placemaking/ Urban Design Strategy Plan (Contains information from Esri)

7.9 ACCESSIBILITY AND PARKING

This design principle ensures sufficient resident and visitor parking that are well integrated in the neighbourhoods, so that cars shall not dominate the streets and be developed in a manner that is easy to orientate.

2. Parking provision

2.1 Policy compliance

The Parking SPD (2019) provides guidance in relation to the level of car parking, including disabled parking, for development land uses. These maximum levels shall be adhered to. Disabled parking design standards are also specified. The level of car parking provision shall be agreed with BMBC through the planning process.

The Parking SPD sets out that for 20mph streets, parking can be longitudinal, echelon or at right angles. The car parking provision shall comprise a mix of curtilage and on-street parking to break up the linear nature of street design and act to reduce vehicle speeds.

2.2 On-street parking

On-street parking shall be incorporated in areas around the local shop or around mid-terrace dwellings within the development. Street trees and SuDS planting can prevent the streets from being dominated by cars. With tree planting and material changes, the proposed on-street parking can make for a better street scene. This type of parking also allows for larger distances between the dwelling and road margin, or the creation of tighter street frontage in certain areas.

2.3 On-plot parking

Parking to the side of plots is a practical way of creating front gardens and distance between plots, usually allowing space for up to two cars. It also allows the properties to be brought forward to create a formal street, potentially broken up by a boundary treatment or planting.

2.4 Integral parking

Proposed dwellings in neighbourhoods of lower density may include integral garages, in which the drive shall be running up to the house frontage. Although this house type does not follow examples in the area, it can intensify a residential parcel due to its width and therefore create a fuller street scene. Certain lower density areas within the development could respond well to this.

2.5 Electric Vehicle Charging

Electric Vehicle charging provision shall be made for all dwellings. The Sustainable Travel SPD sets out the minimum requirements for charging points, which shall be required and must be adhered to. Additional charging points for visitors shall be provided, at a level to be agreed with BMBC through the planning process.

2.6 Cycle Parking

Secure covered cycle parking shall be provided for all dwellings and for school students and staff. The Parking SPD sets out the minimum cycle parking requirements. In addition, short stay cycle parking provision shall be made within the community garden and local shop areas. The level of cycle parking across the site will be agreed with BMBC through the planning process.



Example of designated on-street parking area integrated with interval street trees



Example of on plot integrated parking



Modern home electric vehicle charging infrastructure (Image credit: Ed Harvey)

DESIGN CODE SUMMARY - ACCESSIBILITY AND PARKING

- A site wide strategy for wayfinding signage shall be produced and implemented by developers and in line with any planning conditions imposed by BMBC.
- Along active travel routes, key destinations and distances shall be signposted for both on-site facilities as well as to external amenities such as nearby local centres, Carlton Park and Carlton Marsh Nature Reserve.
- Public art can form part of the wayfinding strategy providing identifiable locations throughout the development.
- Parking provision across the development shall be compliant with the Parking SPD (2019).
- A range of parking provisions including on-street and on plot shall be considered across the development. Density and street scenes shall be considered when designing parking for residential blocks.
- Electric vehicle charging provision shall be made for all dwellings. Additional charging points for visitors to be agreed with BMBC.
- Secure covered cycle parking shall be provided for all dwellings and school students and staff. Short stay cycle parking shall be provided in the community hub and local shop areas.



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APPENDIX 10 – DELIVERY STRATEGY FOR CARLTON MASTERPLAN FRAMEWORK

Barnsley Metropolitan Borough
Council

Carlton Masterplan Framework

Delivery Strategy

Issue Cabinet | 22 October 2021

This report takes into account the particular instructions and requirements of our client.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

Job number 279211-00

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Appendices

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1 Introduction

The purpose of this document is to set out the proposed delivery strategy for the Carlton Masterplan Framework.

It sets out the roles and responsibilities of the various landowners and developers involved in the scheme alongside Barnsley Metropolitan Borough Council (BMBC) as both the Local Planning Authority and Highway Authority.

The following issues are considered:

1. Planning strategy.
2. Phasing strategy.
3. Infrastructure Requirements.
4. Infrastructure Delivery.

2 Planning Strategy

The combined Local Plan allocations (MU2 & MU3) across the Carlton site provide for up to 1977 new homes. Within this allocation, the Masterplan Framework proposes circa 1,500 homes alongside an expansion to the Carlton Primary School.

The Masterplan Framework should provide an increased level of certainty for applicants and allow them to more readily develop proposals. Therefore, it is broadly assumed that full planning applications will be brought forward, notionally covering the areas in the phasing plan at Figure 2.

However, it is recognised that:

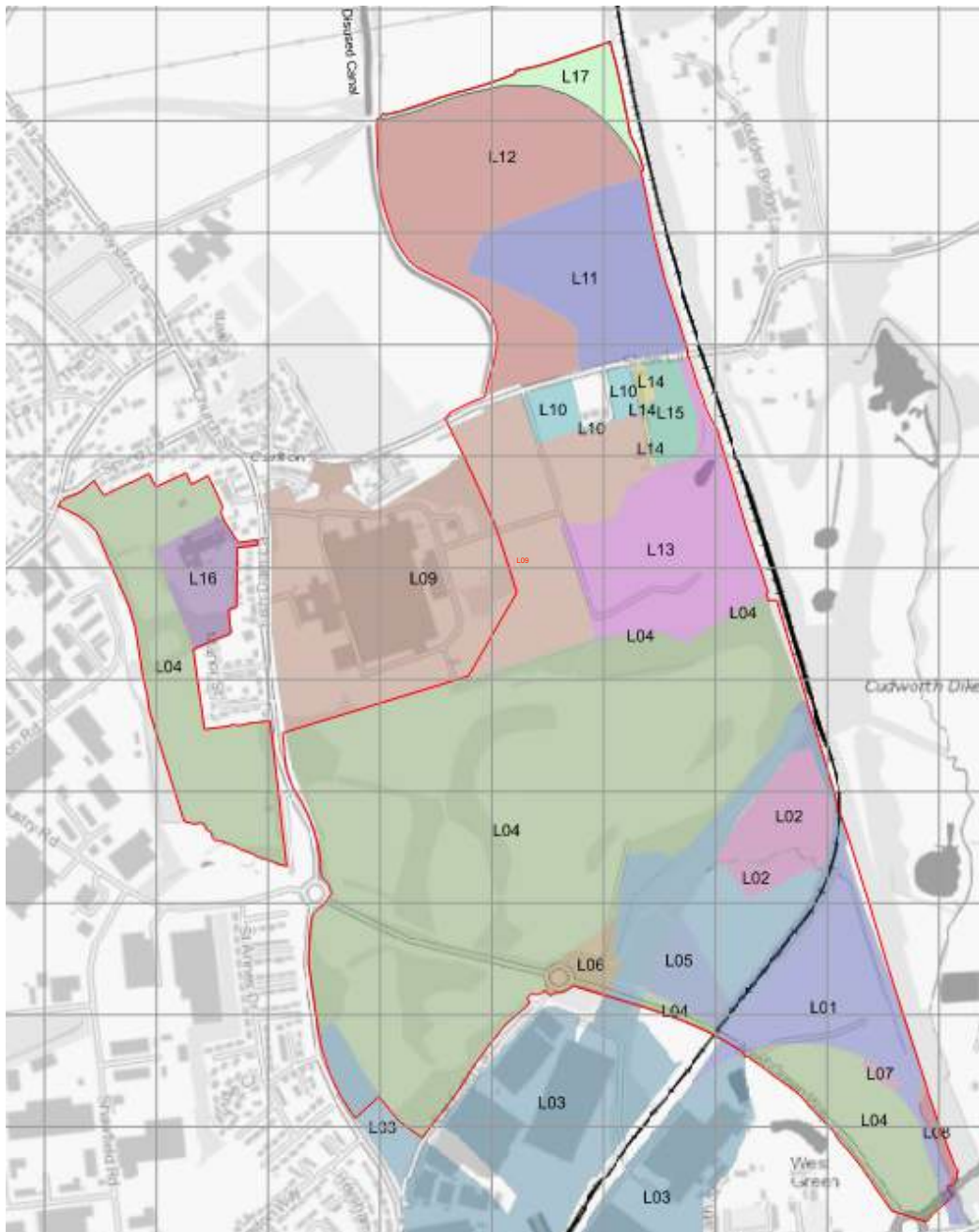
- Some parcels are larger in size, particularly north of Shaw Lane. This may suit an outline or hybrid application.
- With the exception of the MU2 site, there is a need to assemble land to deliver coordinated development. An outline or hybrid application may support developers in achieving sufficient planning certainty to complete land acquisition whilst limiting their initial outlay.
- In some cases, developers may pursue strategies that support them in increasing land value with a view to disposal or entering into a partnering arrangement, or testing the acceptability of certain proposals through the planning process whilst limiting their initial outlay.

Therefore, it can be expected that a combination of both full and outline applications will come forward, with differing degrees of underlying intent to deliver the scheme.

It is expected that outline / hybrid applications will be accompanied by annexes to the Masterplan Framework Design Code, building on that contained in the Masterplan Framework, which will provide further detail including materials palettes, wayfinding strategy etc. for development parcels and infrastructure including highways, landscape and public realm elements. This will ensure consistency across the site as subsequent reserved matters applications are brought forward by different parties for both infrastructure and plot development. The topics and content for these annexes should be agreed between the applicants and the LPA. This is in addition to the Masterplan Framework Compliance Statement that will be required to accompany full or reserved matters applications.

Developers are encouraged to engage with BMBC in their function as Local Planning Authority during preparation of planning applications, through the pre-application process.

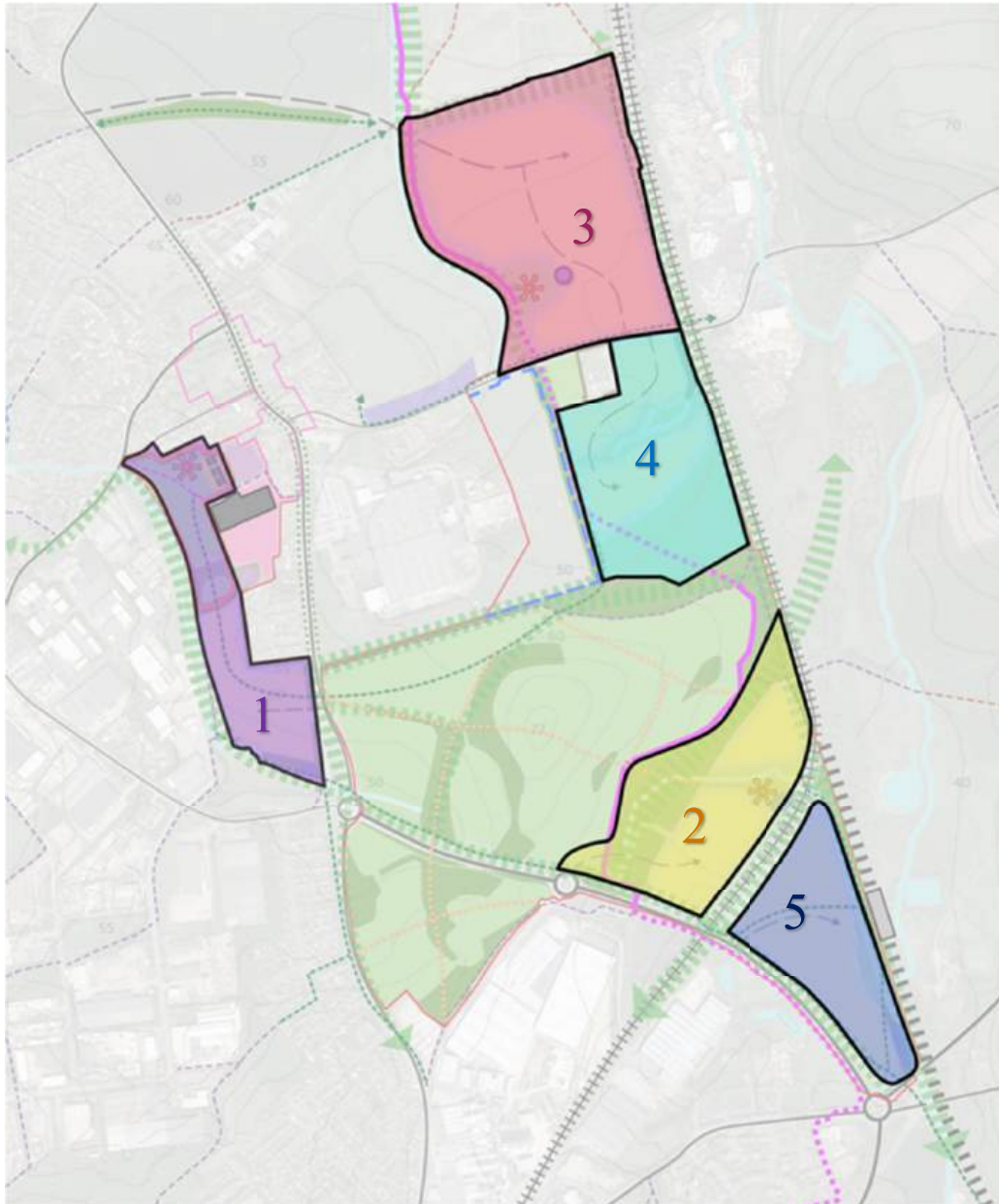
Figure 1: Carlton Land Ownership Parcels



3 Phasing Strategy

It is expected that development of the site will come forward in a series of phases. Illustrative phasing is depicted in Figure 2. It is noted that phases will not necessarily be delivered sequentially, however the delivery of certain phases will be dependent upon the availability of infrastructure networks (e.g. highways, drainage, utilities, etc.) to serve the respective parts of the site.

Figure 2: Illustrative Phasing Strategy



The phasing strategy for the site has been developed as detailed below.

Phase 1

The parcel on MU2 is owned by BMBC. Infrastructure connections can be made to adjacent services and access is to be provided via Fish Dam Lane.

The extension to the primary school adjacent to this parcel on MU2 is to be delivered by the Academy Trust.

Phase 2

This plot is owned by private landowners. Access is to be secured by the existing roundabout on West Green Way. Some services can be connected to from West Green Way and others such as electricity and water will need to be connected to existing services at Pontefract Road Roundabout. Connecting foul sewerage from this site could be difficult and there is the potential to require onsite treatment prior to discharging into the existing watercourse.

Phase 3

Due to congestion on the existing highway network, access needs to be secured off Royston Lane via the northern access road. This access road fits in with BMBC's wider strategic transport aspirations. The business case, alignment and environmental mitigation measures will need to be developed in detail. Services to be connected to existing infrastructure on Shaw Lane and/or Royston Lane.

Phase 4

Based on the level of congestion on the existing highway network it is assumed that this plot will be delivered after Phase 3, once the northern access road has been provided to increase highway network capacity. Services to be connected to existing infrastructure on Shaw Lane.

Phase 5

There is currently a landfill on this plot and therefore it is likely to come forward last. Access is via the existing access off West Green Way. As indicated in the Masterplan Framework land needs to be safeguarded for a railway station.

Some services can be connected to from West Green Way and others such as electricity and water will need to be connected to existing services at Pontefract Road Roundabout. Connecting foul sewerage from this site could be difficult and there is the potential to require onsite treatment prior to discharging into the existing watercourse.

4 Levies & Charges

4.1 Overview

A brief overview of applicable levies and charges that could be used to fund infrastructure is provided below.

4.2 Section 106

Section 106 (“S.106”) allows for funding of smaller impacts caused by development. Examples of Section 106 conditions include access roads to housing estates, small areas of open space and play parks.

4.3 Community Infrastructure Levy

Barnsley has not adopted the Community Infrastructure Levy (CIL) and so no payments will be required from any of the phases.

4.4 Planning White Paper Infrastructure Levy

The ‘Planning for the Future’ White Paper¹ consultation proposes reforms of the planning system to streamline and modernise the planning process.

As part of this there are proposals for CIL and planning obligations to be reformed as a nationally set, value based flat rate charge called ‘the infrastructure levy’. To take effect, this will require a new Planning Bill to be enacted. At the time of writing, there is uncertainty regarding content and timing of the Planning Bill as well as any transitional arrangements but if any phases come forward after the Bill has been enacted and the transitional arrangements have ended, they would be liable to pay the new levy but as an alternative to Section 106 payments.

The levy would:

- Be charged on the final value of a development based on the applicable rate at the point planning permission is granted;
- Be levied at point of occupation;
- Include a value-based minimum threshold below which the levy is not charged. Therefore, if the value of development is below the threshold then no levy would be charged, but where the value is above the threshold, the levy would only be charged on the proportion of the value that exceeded the threshold;
- Apply to all uses.

The levy also allows local authorities to borrow against Infrastructure Levy revenues so that they could forward fund infrastructure.

¹ Planning for the Future – White Paper (MHCLG, August 2020)

The Infrastructure Levy will deliver affordable housing provision and local authorities would be able to use funds raised through the levy to secure affordable housing. This could be secured through in-kind delivery on-site and under this approach a provider of affordable housing could purchase the dwelling at a discount from market rate. The difference between the price at which the unit was sold to the provider and the market price would be offset from the final cash liability to the Levy.

It is currently unknown how on-site facilities such as schools and road infrastructure will be secured through the proposed new Infrastructure Levy.

Where infrastructure is identified as being needed to support the Masterplan Framework it is proposed that any future Infrastructure Levy contributions generated from the Carlton site will be ringfenced for use for this site, and/or will make use of surplus Infrastructure Levy funds generated from elsewhere in the Borough.

5 Infrastructure Requirements

5.1 Overview & Terminology

To deliver the Carlton site, a range of infrastructure provision is required across multiple infrastructure sectors; namely:

- Transport;
- Green infrastructure;
- Public open space;
- Blue infrastructure;
- Utilities;
- Foul sewerage;
- Primary school extension; and
- Small local shop.

In the following sections the following terminology applies:

- The term “developer” is used to denote the legal entity responsible for carrying out development on the site under an approved planning consent.
- The term “utilities” encompasses electricity, potable water and a choice of telecommunications provider.

5.2 General Plot Infrastructure

Some infrastructure elements will be delivered by developers as an intrinsic part of their scheme, as set out in Table 1.

Table 1 General Plot Infrastructure

Infrastructure Sector	General Plot Infrastructure Element	Party Responsible for Delivery
Transport	Site roads that fall within development parcels.	Relevant developer except as set out in Table 2.
	Access junctions from existing roads that enter development parcels.	To be delivered as per requirements in Section 0.
	Improvements to Shaw Lane including Active Travel Route	
	Active travel routes that fall within development parcels, including: - Active Travel Route through MU2 - Active Travel Route along West Green Way - Active Travel Routes through and around parcels in Phase 5 - Diversion of the NCN and TPT through parcels in Phase 4. - Diversion of TPT and NCN at the southern end of parcels in Phase 3.	
	Bus stop infrastructure that falls within development parcels.	
Green Infrastructure	Green Infrastructure	Relevant developer except as set out in Table 2. To be delivered as per requirements in Section 0.
Public Open Space	Public open space.	Relevant developer except as set out in Table 2. To be delivered as per requirements in Section 0.
Blue Infrastructure	Blue infrastructure including Sustainable Drainage Systems	Relevant developer except as set out in Table 2.

Infrastructure Sector	General Plot Infrastructure Element	Party Responsible for Delivery
		To be delivered as per requirements in Section 0.
Utilities	Utility networks required to serve development plots. Note that provision of gas has not been considered in line with the aspiration to achieve net zero carbon development.	Relevant developer, taking account of requirements set out in Section 0.
Foul sewerage	Foul sewerage network required to serve development plots.	Relevant developer, taking account of requirements set out in Section 0.
Primary school	Expansion of existing primary school	Academy Trust. Refer Section 5.3.
Small local shop	Small local shop in line with Local Plan Policy TC5	Developer of parcel ref. L11.

5.3 Common Infrastructure

Certain infrastructure elements will have a wider benefit across the Carlton site and in these cases can be termed “common infrastructure”. A schedule of common infrastructure for Carlton is set out in Table 2.

Table 2 Common Infrastructure

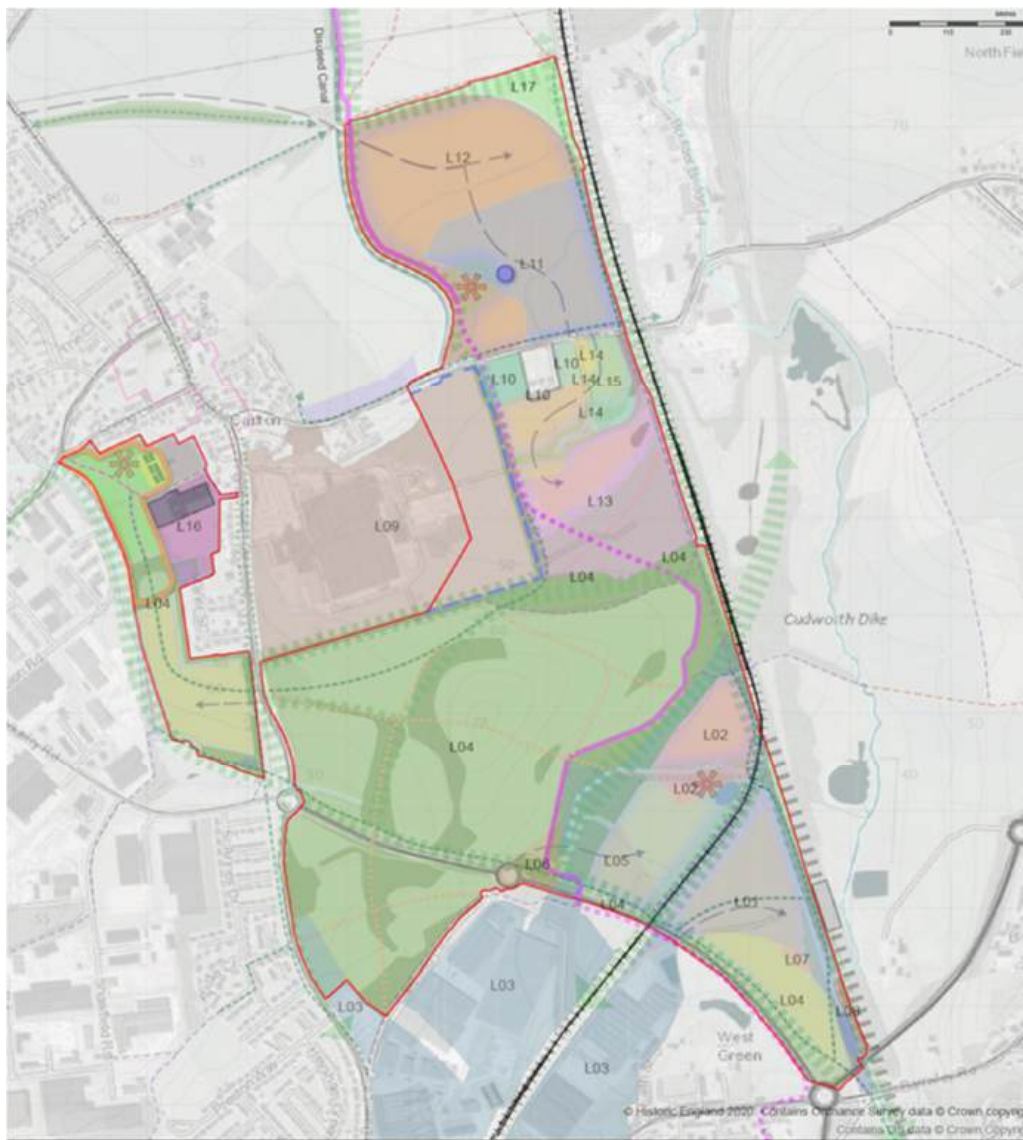
Infrastructure Sector	Ref	Common Infrastructure Element	Party Responsible for Delivery	Funding Arrangement
Transport	T001	Improvements to Shaw Lane to include an active travel provision.	BMBC / Developers	S.106 contributions from developers of Phases 3 and 4 where land parcels border Shaw Lane or S.278 agreements.
	T002	Deliver the northern access road.	BMBC	S.106 contributions from developers of Phases 3 and 4.
	T003	Any other off-site highways works required to make the development acceptable in planning and highways terms	BMBC / Developers	S.106 contributions / S.278 agreements.

Infrastructure Sector	Ref	Common Infrastructure Element	Party Responsible for Delivery	Funding Arrangement
	T004	Improvements to the Active Travel Routes and Recreational Routes through Wharncliffe Woodmoor.	BMBC	S.106. contributions.
	T005	Extension of the TPT and NCN south of the site at West Green Way.	BMBC	S.106 contributions.
	T006	School transport provision	Developers via SYPTE / bus providers	S.106 contributions.
	T007	Improvements to off-site active travel routes.	BMBC	S.106. contributions.
Public Open Space	POS001	Public open space in MU2	BMBC	S.106. Refer Section 6.
	POS002	Improvements to Wharncliffe Woodmoor	BMBC	S.106. Refer Section 6.
	POS003	Improvements to Carlton Park formal recreation area	BMBC	S.106. Refer Section 6.
Primary school	SCH001	Primary school expansion	Academy Trust	S.106. Refer Section 6.

5.4 Specific Infrastructure Delivery Requirements

Specific infrastructure delivery requirements are set out below. These are not necessarily exhaustive and further requirements may be conditioned through the planning process.

Figure 3: Land parcels overlaid on the Masterplan Framework



5.4.1 Phase 1 – L04 Area

Specific requirements to be placed on land parcel ref. L04 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access into parcel L04.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- To provide the Landscape Active Travel Link through the parcel L04, from the community garden and down to Fish Dam Lane.
Reason: to promote active travel as part of the development scheme.
- To provide the wildlife corridor and buffer to the industrial uses as shown in the Masterplan Framework and Design Code.
Reason: to provide visual and acoustic screening and improve ecology and biodiversity.
- It is recognised that the POS provision is a proportionally large part of the parcel area. Therefore, alongside any new housing, the developer of L04 shall deliver the LEAP and access to it as shown on the Masterplan Framework along with landscaping to cover a minimum of 15% of the total parcel area. Further landscaping shall be delivered as and when S.106 comes available through development on other areas of the Carlton site.
Reason: to provide amenity space for site occupants and the local community.
- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach, City Fibre and Virgin Media who have apparatus in the vicinity of the site.
Reason: to ensure opportunity for high-speed fibre broadband connections, provide market choice and promote competition.
- To make available land for the expansion of Carlton Primary School.
Reason: to allow the educational needs of the new development and local community to be met.

5.4.2 Phase 2 - L02 Area

Specific requirements to be placed on land parcel ref. L02 in relation to infrastructure delivery are as follows:

- Prior to the occupation of any dwelling within parcel L02, the active travel route through the parcel as indicated in the Masterplan Framework shall be provided.
Reason: to provide active travel routes for site occupants and the local community.
- To provide a wildlife corridor on the parcel as indicated in the Masterplan Framework.
Reason: to provide uninterrupted corridors for biodiversity.
- Prior to occupation of 25% of dwellings within parcel L02, the public open space including the equipped play area shown on the Masterplan Framework within this parcel shall be completed.
Reason: to provide amenity space for site occupants and the local community.
- The surface water drainage system provided in parcel L02, including outfall to the existing watercourse, shall also cater for the surface water run-off from

parcels L03, L05 and L06 based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcels L02, L03, L05 and L06 in line with the surface water drainage strategy presented in the Masterplan Framework.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developers of parcels L03, L05 and L06.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L02, the developer shall make provision for foul sewerage to parcels L03 and L05 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels L02, L03 and L05 can be provided with foul sewerage.

5.4.3 Phase 2 - L03 Area

Specific requirements to be placed on land parcel ref. L03 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access between parcels L02 and L05 via parcel L03.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- Prior to the occupation of any dwelling within parcel L03, the active travel route through the parcel as indicated in the Masterplan Framework shall be provided.

Reason: to provide active travel routes for site occupants and the local community.

- To retain the areas of significant ecological value and provide a wildlife corridor on the parcel as indicated in the Masterplan Framework.

Reason: to provide uninterrupted corridors for biodiversity.

- In planning, designing and installing the surface water drainage system in parcel L03 the developer shall also cater for the surface water run-off from parcels L05 and L06 based on a maximum permissible surface water runoff rate of 5 l/s / Ha. The developer shall also coordinate with the developer of parcel L02 to convey surface water from L03 to the existing watercourse via L02.

Reason: to ensure that surface water can be drained from parcels L03, L05 and L06 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L03, the developer shall make provision for utility supply to parcels L02 and L05 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels in this phase can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site, and to make available infrastructure to permit provision of these services to parcels L02 and L05. In addition to coordinate with the developer of parcel L06.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L03, the developer shall make provision for foul sewerage to residential dwellings in parcel L05, assuming an upper bound density as set out in the Masterplan Framework. In addition the developer shall coordinate with the developer of parcel L02.

Reason: to ensure that the parcels L02, L03 and L05 can be provided with foul sewerage.

5.4.4 Phase 2 - L05 Area

Specific requirements to be placed on land parcel ref. L05 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access between parcel L03 to the west and north of parcel L05.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- Coordinate with parcel L03 to provide a surface water drainage based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcel L05 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L05, the developer shall make provision for utility supply to parcels L02 and L03 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels in this phase can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site, and shall make available

infrastructure to permit provision of these services to parcels L02 and L03. In addition to coordinating with the developer of parcel L06.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- The surface water drainage system in parcel L05 shall be based on a maximum permissible surface water runoff rate of 5 l/s / Ha. The developer shall also coordinate with the developer of parcel L03.

Reason: to ensure that the parcels L02, L03 and L05 can be provided with surface water.

- In planning, designing and installing the foul sewerage provision to parcel L05, the developer shall coordinate with the developer of parcel L03.

Reason: to ensure that parcel L05 can be provided with foul sewerage.

5.4.5 Phase 2 - L06 Area

Specific requirements to be placed on land parcel ref. L06 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to parcel L02, L03 and L05 off West Green Way via parcel L06.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- The active travel route through the parcel as indicated in the Masterplan Framework shall be provided.

Reason: to provide active travel routes for the local community.

- Coordinate with parcel L03 to provide a surface water drainage system based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcel L06 in line with the surface water drainage strategy presented in the Masterplan Framework.

- Make provision for connecting to existing utilities on West Green Way and at Pontefract Road Roundabout via West Green Way to supply to parcels L02, L03 and L05, for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels in this phase can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site, and shall make available infrastructure to permit provision of these services to parcels L02, L03 and L05.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

5.4.6 Phase 3 - L11 Area

Specific requirements to be placed on land parcel ref. L11 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to Shaw Lane via parcel L11.
Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.
- Make available land to allow improvements to Shaw Lane.
Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.
- To provide the active travel route through the parcel as indicated in the Masterplan Framework.
Reason: to provide active travel routes for the local community.
- To provide a wildlife corridor on and around the parcel as indicated in the Masterplan Framework.
Reason: to provide uninterrupted corridors for biodiversity.
- Prior to occupation of 25% of dwellings within parcel L11 complete the public open space shown on the Masterplan Framework within this parcel, in coordination with the developer of parcel L12.
Reason: to provide amenity space for site occupants and the local community.
- The surface water drainage system provided in parcel L11, including outfall to the existing combined sewer, shall also cater for the surface water run-off from parcel L12 based on a maximum permissible surface water runoff rate of 5 l/s / Ha.
Reason: to ensure that surface water can be drained from parcels L11 and L12 in line with the surface water drainage strategy presented in the Masterplan Framework.
- In planning, designing and installing the utility supply to parcel L11, the developer shall make provision for utility supply to parcel L12 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.
Reason: to ensure that development parcels in this phase can be supplied with utilities.
- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site, and shall make available infrastructure to permit provision of these services to parcel L12.
Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.
- In planning, designing and installing the foul sewerage provision to parcel L11, the developer shall make provision for foul sewerage to parcel L12 for

residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels L11 and L12 can be provided with foul sewerage.

- To provide a small local shop as required by the Local Plan and as indicated in the Masterplan Framework.

Reason: to provide a small local shop for the benefit of the local community and as required by the Local Plan.

5.4.7 Phase 3 - L12 Area

Specific requirements to be placed on land parcel ref. L12 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to parcel L11 and Shaw Lane via parcel L12 including a connection to the proposed northern access road from Royston Lane.
Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.
- Make available land to allow improvements to Shaw Lane.
Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.
- To provide the improved and rerouted NCN and TPT through the parcel L12.
Reason: to rationalise the alignment to permit development to come forward, promote active travel as part of the development scheme and provide active travel links to other users in the area.
- To provide a wildlife corridor on and around the parcel as indicated in the Masterplan Framework.
Reason: to provide uninterrupted corridors for biodiversity.
- Prior to occupation of 25% of dwellings within parcel L12 complete the public open space including the equipped play area shown on the Masterplan Framework within this parcel, in coordination with the developer of parcel L11.
Reason: to provide amenity space for site occupants and the local community.
- Coordinate with parcel L11 to provide a surface water drainage system based on a maximum permissible surface water runoff rate of 5 l/s / Ha.
Reason: to ensure that surface water can be drained from parcel L12 in line with the surface water drainage strategy presented in the Masterplan Framework.
- In planning, designing and installing the utility supply to parcel L12, the developer shall coordinate with the develop of parcel L11.
Reason: to ensure that L12 can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developer of parcel L11.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L12, the developer shall coordinate with the developer of parcel L11.

Reason: to ensure that the parcel L12 can be provided with foul sewerage.

5.4.8 Phase 3 – L17 Area

Specific requirements to be placed on land parcel ref. L17 in relation to infrastructure delivery are as follows:

- This parcel has been identified as an area of potentially significant ecological value. Therefore, development shall not be brought forward unless the developer demonstrates to BMBC through ecological survey and assessment that development is justifiable. Any areas of significant ecological value should be retained and enhanced to provide Biodiversity Net Gain (BNG).

Reason: to protect ecology and biodiversity and provide a wildlife corridor.

5.4.9 Phase 4 - L10 Area

Specific requirements to be placed on land parcel ref. L10 in relation to infrastructure delivery are as follows:

- Make available land to allow improvements to Shaw Lane.

Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.

- A section of this parcel has been identified as an area of potentially significant ecological value. Therefore, development shall not be brought forward unless the developer demonstrates to BMBC through ecological survey and assessment that development is justifiable. Any areas of significant ecological value should be retained and enhanced to provide BNG.

Reason: to protect ecology and biodiversity and provide a wildlife corridor.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

5.4.10 Phase 4 - L14 Area

Specific requirements to be placed on land parcel ref. L14 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to parcel L10 from parcel L15.
Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.
- Make available land to allow improvements to Shaw Lane.
Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.
- Coordinate with parcel L15 to provide a surface water drainage system based on a maximum permissible surface water runoff rate of 5 l/s / Ha.
Reason: to ensure that surface water can be drained from parcel L14 in line with the surface water drainage strategy presented in the Masterplan Framework.
- In planning, designing and installing the utility supply to parcel L14, the developer shall coordinate with the developer of parcel L15.
Reason: to ensure that L14 can be supplied with utilities.
- In planning, designing and installing the foul sewerage provision to parcel L14, the developer shall coordinate with the developer of parcel L15.
Reason: to ensure that the parcel L14 can be provided with foul sewerage.
- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developer of parcel L15.
Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

5.4.11 Phase 4 - L15 Area

Specific requirements to be placed on land parcel ref. L15 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to parcels L09, L10, L13 and L14.
Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.
- Make available land to allow improvements to Shaw Lane.
Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.
- Prior to occupation of 25% of dwellings the public open space shown on the Masterplan Framework within this parcel shall be completed.
Reason: to provide amenity space for site occupants and the local community.
- The surface water drainage system provided in parcel L15, including outfall to the existing combined sewer, shall also cater for the surface water run-off

from parcels L09, L13 and L14 based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcels L09, L13, L14 and L15 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L15, the developer shall make provision for utility supply to parcels L09, L13 and L14, for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels south of Shaw Lane can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site, and shall make available infrastructure to permit provision of these services to parcel L09, L13 and L14.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L14, the developer shall make provision for foul sewerage to parcels L09, L13 and L14 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels south of Shaw Lane can be provided with foul sewerage.

5.4.12 Phase 4 – L09 Area

Specific requirements to be placed on land parcel ref. L09 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access between parcel L13 and L15.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- To provide the improved and rerouted NCN and TPT through the parcel L09.

Reason: to rationalise the alignment to permit development to come forward, promote active travel as part of the development scheme and provide active travel links to other users in the area.

- To retain areas of significant ecological value and provide a wildlife corridor on the parcel as indicated in the Masterplan Framework.

Reason: to provide uninterrupted corridors for biodiversity.

- The surface water drainage system provided in parcel L09 shall also cater for the surface water run-off from parcel L13 based on a maximum permissible surface water runoff rate of 5 l/s / Ha. The developer shall coordinate with the developer of parcel L15.

Reason: to ensure that surface water can be drained from parcels L09 and L13 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L09, the developer shall make provision for utility supply to parcel L15 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that parcel L13 can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site, and shall make available infrastructure to permit provision of these services to parcel L13.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L09, the developer shall make provision for foul sewerage to parcel L13 for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that parcel L13 can be provided with foul sewerage.

5.4.13 Phase 4 - L13 Area

Specific requirements to be placed on land parcel ref. L13 in relation to infrastructure delivery are as follows:

- Make available land to allow improvements to Shaw Lane.
Reason: to provide an active travel corridor for the site occupants and the local community and allow for road safety improvements on Shaw Lane.
- To provide the improved and rerouted NCN and TPT through parcel L13.
Reason: to rationalise the alignment to permit development to come forward, promote active travel as part of the development scheme and provide active travel links to other users in the area.
- To retain areas of significant ecological value and provide wildlife corridors on the parcel as indicated in the Masterplan Framework.
Reason: to provide uninterrupted corridors for biodiversity.
- To complete the public open space shown on the Masterplan Framework within this parcel with the timing of this to be agreed as part of the planning application process.
Reason: to provide amenity space for site occupants and the local community.
- Coordinate with parcel L09 to provide a surface water drainage system based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcel L13 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L13, the developer shall coordinate with the developer of parcel L09.

Reason: to ensure that L09 can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and Zayo who both have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developer of parcel L09.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L13, the developer shall coordinate with the developer of parcel L09.

Reason: to ensure that the parcel L13 can be provided with foul sewerage.

5.4.14 Phase 5 - L01 Area

Specific requirements to be placed on land parcel ref. L01 in relation to infrastructure delivery are as follows:

- To provide highway access off West Green Way to be adopted by the Highway Authority to permit access through to parcel L01 and L07.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- To provide the Landscape Active Travel Link through the parcel L01.

Reason: to promote active travel as part of the development scheme.

- To safeguard land for a railway station and associated infrastructure, ensuring that the design and layout of the residential development accounts for the railway station and minimises noise, air quality and visual impacts while enabling direct access from West Green Way.

Reason: to enable access to rail travel to site occupants and the local community.

- Prior to occupation of 25% of dwellings within this parcel, the public open space shown on the Masterplan Framework within this parcel shall be completed.

Reason: to provide amenity space for site occupants and the local community.

- The surface water drainage system including the discharge into the existing watercourse provided in parcel L01 shall also cater for the surface water run-off from parcels L04 and L07, within this phase of works, based on a maximum permissible surface water runoff rate of 5l/s/Ha.

Reason: to ensure that surface water can be drained from parcels L01, L04 and L07 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L01, the developer shall make provision for utility supply to parcels L04 and L07, for residential dwellings assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels in this phase can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site, and shall make available infrastructure to permit provision of these services to parcel L04 & L07.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L01, the developer shall coordinate with developers of parcels L04 and L07 to make provision for foul sewerage for residential dwellings, assuming an upper bound density as set out in the Masterplan Framework.

Reason: to ensure that development parcels in Phase 5 can be provided with foul sewerage.

5.4.15 Phase 5 – L04 Area

Specific requirements to be placed on land parcel ref. L04 in relation to infrastructure delivery are as follows:

- To provide highway infrastructure for adoption by the Highway Authority to permit access to parcel L07.

Reason: to provide means of access and egress to the development scheme in line with the Masterplan Framework.

- To provide the Landscape Active Travel Link through the parcel L04.

Reason: to promote active travel as part of the development scheme.

- Coordinate with parcel L01 to provide a surface water drainage system based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcel L04 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L04, the developer shall coordinate with the developer of parcel L01.

Reason: to ensure that L04 can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both

have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developer of parcel L01.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L04, the developer shall coordinate with the developer of parcel L01.

Reason: to ensure that the parcel L04 can be provided with foul sewerage.

5.4.16 Phase 5 – L07 Area

Specific requirements to be placed on land parcel ref. L07 in relation to infrastructure delivery are as follows:

- Coordinate with parcel L01 to provide a surface water drainage based on a maximum permissible surface water runoff rate of 5 l/s / Ha.

Reason: to ensure that surface water can be drained from parcel L07 in line with the surface water drainage strategy presented in the Masterplan Framework.

- In planning, designing and installing the utility supply to parcel L07, the developer shall coordinate with the developer of parcel L01.

Reason: to ensure that L07 can be supplied with utilities.

- The developer is encouraged to provide occupiers with a choice of telecommunications operator including Openreach and City Fibre who both have apparatus in the vicinity of the site. In addition the developer shall coordinate with the developer of parcel L01.

Reason: to ensure opportunity for high speed fibre broadband connections, provide market choice and promote competition.

- In planning, designing and installing the foul sewerage provision to parcel L07, the developer shall coordinate with the developer of parcel L01.

Reason: to ensure that the parcel L04 can be provided with foul sewerage.

5.5 Practical Considerations

It is noted that where infrastructure crosses land ownership boundaries, the coordination of this in line and level will need to be ensured through the planning process.

It is recommended that BMBC make reasonable endeavours to coordinate the design of the highway infrastructure with the relevant landowners or developers to provide access to those land parcels.

The site would benefit from an overarching wayfinding strategy produced by BMBC and which can be implemented by developers.

To permit extension of the TPT / NCN on West Green Way BMBC will need to work with landowners to the south of Phase 2 beyond the Masterplan Framework boundary to secure a limited extent of land.

It is noted that there remain risks in terms of how foul and surface water will be discharged from the site, along with how utilities will be provided in a coordinated manner. A coordinated approach to utility and sewerage provision for each Phase would be of benefit to developers. This includes the foul water drainage strategy for the masterplan which highlights the risks of connection for Phases 2 and 5 and the potential for onsite treatment prior to discharging into the existing watercourse.

6 Section 106 Contributions

In the absence of a CIL charging structure and noting that the proposals on the Infrastructure Levy remain at White Paper stage, it is proposed that S.106 contributions will be pooled by BMBC and utilised to fund the common infrastructure elements.

The basis for calculating S.106 contributions is set out below. This applies at the time of writing and it is noted that this may be subject to change in light of changes to legislation or the infrastructure needs that are established in further detail as planning applications come forward.

6.1 Basis for Calculating S.106 Contributions

6.1.1 Transport Infrastructure

T001 (Shaw Lane), T002 (Northern Access) and T003 (Off Site Highway Improvements)

BMBC will bring forward T002 utilising S.106 contributions from Phases 3 and 4. The contributions shall be paid prior to commencement of development and the road completed prior to occupation of the first dwelling. This includes the requirement to cover the cost of land acquisition and business case development, where necessary.

T001 and T003 shall be delivered either by BMBC via S.106 contributions or by respective developers, preferably via S.278 agreements.

Active Travel Routes (T004, T005 & T007)

It is proposed that the contributions set out in Section 5.3 will form part of the Financial Contributions towards Public Transport and Active Travel as set out in the Supplementary Planning Document: Sustainable Travel.²

6.1.2 Public Open Space

Informal Play Space and Informal Landscaped Areas

Where parcels underprovide on Public Open Space, a S.106 contribution will be made to BMBC, as set out in the Supplementary Planning Document: Open Space Provision on New Housing Developments³. Some of the contributions will be applied to delivery of POS001 (Public Open Space in MU2) and POS002 (improvements to Wharncliffe Woodmoor).

² Supplementary Planning Document: Sustainable Travel (BMBC, November 2019).

³ Supplementary Planning Document: Open Space Provision on New Housing Developments (BMBC, May 2019).

Equipped Children's Play Areas

Equipped children's play areas are to be funded by developers and provided within the relevant development parcels as defined in Section 5.

Formal Public Recreation Areas

Financial contributions will be required towards provision of formal public recreation areas including improving the existing provision at Carlton Park, as set out in the Supplementary Planning Document: Open Space Provision on New Housing Developments⁴.

6.1.3 School Provision

Primary School Places

Financial contributions will be required towards the expansion of Carlton Primary Academy.

Secondary School Places

Financial contributions will be required towards secondary school places, as set out in the Supplementary Planning Document: Financial Contributions to Schools⁵.

⁴ Supplementary Planning Document: Open Space Provision on New Housing Developments (BMBC, May 2019).

⁵ Supplementary Planning Document: Financial Contributions to Schools (BMBC, May 2019).

APPENDIX 11 – APPEAL REFERENCE: APP/R4408/W/24/3341097



Appeal Decision

Inquiry held on 6 August 2024

Site visit made on 6 August 2024

by Louise Crosby MA MRTPI

an Inspector appointed by the Secretary of State

Decision date: 5th September 2024

Appeal Ref: APP/R4408/W/24/3341097

Land north of Shaw Lane, Carlton, Barnsley, S71 3HH

- The appeal is made under section 78 of the Town and Country Planning Act 1990 (as amended) against a refusal to grant outline planning permission.
 - The appeal is made by Network Space Developments Limited against the decision of Barnsley Metropolitan Borough Council.
 - The application Ref is 2022/0115.
 - The development proposed is outline planning application for up to 215 dwellings with associated car parking/garages, landscaping, public open space including both equipped and non-equipped areas of play, SUDS and drainage with details of a new vehicular access onto Shaw Lane. All other matters reserved apart from means of access.
-

Decision

1. The appeal is allowed and outline planning permission is granted for up to 215 dwellings with associated car parking/garages, landscaping, public open space including both equipped and non-equipped areas of play, SUDS and drainage with details of a new vehicular access onto Shaw Lane on land north of Shaw Lane, Carlton, Barnsley, S71 3HJ in accordance with the terms of the application, Ref 2022/0115, subject to the conditions in the attached schedule.

Preliminary Matters

2. On Friday 2nd August 2024 the Council confirmed in writing that on reviewing the updated evidence supplied for the appeal, they considered that the planning balance had materially altered and the reasons for refusal had now been overcome. The Council therefore no longer objects to the granting of planning permission. This was subject to planning conditions and a Section 106 agreement.
3. The Council's reasons for refusal related to the matters set out in my main issues below as well as in relation to historic heritage, drainage and ecology. I am mindful however that there are a number of ongoing objections from local residents and organisations. I shall have regard to their concerns in reaching my decision.
4. The Section 106 agreement would provide commuted sums in relation to sustainable travel, off-site formal recreation, primary and secondary education, Site of Special Scientific Interest (SSSI) mitigation and a contribution to the Northern Access Road (NAR). In addition, it would secure 10% affordable housing of which 2.5% would be First Homes. I shall return to this matter again later in my decision.

5. It is agreed between the main parties that the Council do not have a 5 year housing land supply. Whilst they do not agree what the current supply is they do both agree that the under provision should be given substantial weight. The lack of a 5 year supply of deliverable housing land means that there is a presumption in favour of sustainable development.

Main Issues

6. The main issues are:
 - i) whether the proposal would accord with the Carlton Masterplan Framework and Delivery Strategy, including in relation to housing density; and
 - ii) the effect of the proposal on highway safety and whether the development would be designed to encourage sustainable modes of transport.

Policy Background

7. The site is located within a larger area allocated in the adopted Barnsley Local Plan 2019 (LP) under Policy MU3 for mixed use for housing and green space. The policy refers to the production of a phased Masterplan Framework covering the entire site to ensure that development is brought forward in a comprehensive manner.
8. Policy MU3 allows for the provision of 1,683 dwellings across the whole site, of which the appeal site is part. As such the principle of residential development on this site has already been found to be acceptable as part of the local plan examination process.
9. The Carlton Masterplan Framework was adopted by the Council in November 2021 alongside a delivery strategy. These cover site allocations MU3 and MU2, another mixed use site allocation on the opposite side of Fish Dam Lane. Neither are supplementary planning documents, and the latter was not subject to public consultation.
10. Nevertheless, both are material considerations in the determination of this appeal. The delivery strategy places the appeal site, which is known as L11 in the Masterplan Framework, in phase 3. The Masterplan Framework identifies that the delivery of certain phases may be dependent on the availability of infrastructure networks.

Reasons

Whether the proposal would accord with the Carlton Masterplan Framework and Delivery Strategy, including in relation to housing density

11. The Masterplan sets out a Framework for the delivery of the allocation. The proposal would comply with most of the principles, with the main deviations being in relation to the provision of a small local shop and housing density. The proposal would not facilitate the creation of a shop to the north of Shaw Lane, but equally it would not prevent a shop being provided within the wider allocation at some point in the future. This would make better sense once there are more houses and therefore more potential customers.

12. Turning to the matter of housing density, the appeal proposals show a density of 33.4 dwellings per hectare (dph) which is 1.6dph below the minimum of 35 dph set out in the Masterplan. This reduction is negligible, and it does not prevent higher densities being achieved on other parts of the wider allocation. In addition, this density has been reached following consideration of the detailed nature of the developable area of the site and the local character and appearance.
13. The Delivery Strategy advises that the development of this site and the adjacent one (L12) should come forward as the third phase of development of site allocations MU2 and MU3. The reason for this is because of congestion on the existing highway network, access needs to be served off Royston Lane via the NAR. However, the appellant has designed the appeal scheme in such a way that the Council are content that the proposal has been designed to overcome this issue in the short term and that the scheme would not prevent the NAR coming forward in the future. I shall deal with this in more detail below.
14. Overall, whilst the proposal would not strictly adhere to the Masterplan and the Delivery Strategy, the deviations would be limited and of a minor nature and not result in any overall harm. Whilst the Masterplan and Delivery Strategy are important material considerations, they should not be used in a way that is so restrictive it would prevent a policy compliant scheme coming forward. A balanced approach must be taken. Overall, I find that the proposal would be acceptable in this regard.

The effect of the proposal on highway safety and whether the development would be designed to encourage sustainable modes of transport

15. The planning application was accompanied by a detailed Transport Assessment and various supporting documents. Additional illustrative drawings and other helpful information has been submitted as part of the appeal such that the Council have withdrawn their objection to the scheme on highway grounds.
16. Mitigation measures are proposed at the Shaw Lane/Church Lane junction as this is the only part of the study area that showed the development would have a significant effect, without improvements. The mitigation would take the form of an upgrade to the junction by introducing traffic lights. The transport assessment work shows that with the proposed traffic lights, this junction would operate safely and well within the capacity of the development. This work is intended to enable this part of the allocation to be development without a link through to Royston Road, from Shaw Lane.
17. The intended link road set out in the Masterplan is known as the Northern Access Road (NAR) and once built it is intended that it would reduce the amount of traffic from the allocated site using Shaw Lane and instead take it north to Royston Road. The spine road through the appeal site has been designed to a standard that the Council's highway engineers are contend with as the first leg of the NAR. This is combined with a commuted sum towards future works that are necessary, in conjunction with the NAR carrying on through the adjacent site L12 when it is developed.
18. The main parties have worked together in a collaborative manner to secure a package of highway improvements that would allow this important part of the

allocation to proceed in a timely, but safe manner until such time site L12 comes forward, and the complete construction of the NAR is possible.

19. The proposals also include a scheme to improve pedestrian facilities along Shaw Lane which would include some widening of existing footways in places, the provision of a new toucan crossing on Shaw Lane, near the appeal site access point, and the provision of a new crossing point to access the canal towpath (Trans Pennine Trail).
20. In addition, the connection of the appeal site boundary to site L12 would permit the future formation of a direct connection from the appeal site to the Trans Pennine Trail/Canal towpath in due course. This would be of benefit to all users, include horse riders. Consequently, the proposal would accord with LP policy T3 in so far as it expects new development to be located to reduce the need to travel, be accessible to public transport and meet the needs of pedestrians and cyclists and policy T4 in so far as it seeks to ensure new development is designed to provide safe, secure and convenient access and movement and where mitigation is necessary this is dealt with through a financial contribution.

Other Matters

Historic Heritage

21. The Council's sixth reason for refusal relates to historic heritage and in particular the effect of highway improvement works on the setting of Carlton Conservation Area. The appellant has submitted a heritage impact assessment, and it is now agreed between the main parties that the proposal would conserve the setting of the conservation area, subject to the imposition of a planning condition to control the design of the highway improvement works and I agree. As such, the proposal would accord with LP policy D1 which seeks to ensure that development proposals respect heritage and townscape character and HE1 which among other things, supports proposals which conserve and enhance the significance and setting of heritage assets in the Borough.

Ecology

22. The Council's fourth reason for refusal relates to ecology and a lack of evidence to allow for the understanding of the potential effect of the proposed development on the statutorily designated Carlton Marsh (Dearne Valley Wetlands SSSI). During the appeal process the appellant submitted an updated suite of ecological surveys. These confirm that the appeal site is of low ecological interest and neither the pond within the site nor other habitats support protected species.
23. The development would provide more than 10% biodiversity net gains, which could be secured by a planning condition. It is also proposed to create an extensive area of scrub woodland to the west of the development and along the frontage with Shaw Lane and it is agreed between the main parties that this would offer good foraging habitat for species such as Willow Tit (a feature of the SSSI), following completion of the development.
24. The appellant's survey work finds that the proposal would not pose any risk to the SSSI, but as a precautionary approach a mitigation contribution of £40,950 has been agreed, which would be secured by the submitted Section 106

agreement. This would be used to provide multi-use dog bins for 10 years, 'no cycling' signs, 'dogs on leads' signs and around 620m of fencing, at the Dearne Valley Wetlands SSSI.

25. I note that Natural England have confirmed that they no longer have any objections to the scheme subject to mitigation in the form of a Construction Environmental Plan (CEMP) which could be secured through a planning condition. As set out above the Council have withdrawn their objection to the proposal on ecological grounds. I agree that subject to the relevant provisions of the Section 106 agreement and planning conditions, including one to secure a Construction Environmental Management Plan relating to biodiversity and another to require the submission of a Habitat Management and Monitoring Plan the proposal would not result in harm to the SSSI. Consequently, the proposal would accord with LP policy BIO1 in so far as it expects development to conserve and enhance the biodiversity of the Borough by protecting and improving habitats, species, sites of ecological value with regard to designated wildlife sites of international, national and local significance.

Drainage

26. The Council's third reason for refusal relates to surface and foul water drainage proposals for the development and the wider allocation. This matter has now been resolved and the Council are satisfied that these matters can be dealt with by planning conditions if the appeal were to be allowed and I agree. The proposal would therefore accord with LP policies CC1 and CC3 in so far as they promote the use of Sustainable Drainage Systems and reducing flood risk.

Lack of services

27. Several local residents have expressed concern about the lack of local services and the pressure that public services are under already. As set out above the Section 106 agreement would secure contributions towards off-site formal recreation space and primary and secondary education. Service provision will also have been considered as part of the consideration of the allocation at the local plan stage and in the Masterplanning of the wider site allocation. I am satisfied that the service provision to meet the demands of the increase in residents from the proposed development would be acceptable.
28. I understand that the bus stop on Shaw Lane is no longer in use and so existing residents and those from the proposed site would have to walk to Church Lane to catch a bus. This distance is walkable but not ideal and would be likely to result in those people with a car finding driving more convenient. However, once the NAR is complete it is proposed that this would contain bus stops and a bus would travel through the site, linking Royston Road and Shaw Lane. Therefore, this is a short term issue that is not a reason to prevent this part of the wider allocation coming forward.

Remaining matters

29. There are a number of matters raised by local residents that will have been fully considered as part of the local plan examination and Masterplanning process when the appeal site was allocated for development and these include the loss of fields used at present to grow crops, flood risk, increased noise and air pollution as a result of increased vehicular traffic in the area.

Section 106 agreement

30. The parties have completed a Section 106 Agreement which includes a number of obligations to come into effect if planning permission is granted. I have considered these in light of the statutory tests contained in Regulation 122 of The Community Infrastructure Levy (CIL) Regulations 2010.
31. They relate to sustainable travel, off-site formal recreation, primary and secondary education, Site of Special Scientific Interest (SSSI) mitigation and a contribution to the Northern Access Road (NAR) as well as affordable housing provision. The commuted sums secured by the Section 106 agreement are, so far as the public open space and the education contributions are concerned based on formulas and so would be dependent on the final dwelling numbers at the reserved matters stage. The affordable housing is policy compliant. Overall, I find that all of the obligations would be fairly and reasonably related to the development proposed and they pass the statutory tests.

Planning Balance

32. In terms of the Council's reasons for refusal I find that subject to the imposition of conditions and the provisions of the Section 106 agreement the proposal would accord with LP Policy MU3. There would be some very limited conflict with the Masterplan, namely in relation to the provision of a local shop and the density requirements. It would also conflict with the Delivery Strategy in that it would be likely to be built in advance of other phases, but this has been satisfactorily resolved.
33. However, there are no planning permissions for the remainder of the site allocation and permitting development to proceed on this site could provide the catalyst to other sites coming forward. This is particularly important given the Council's reliance on the site allocation to make a significant contribution to its housing land supply, including its 5 year housing land supply. As set out above both parties agree the Council's lack of a 5 year housing land supply carries substantial positive weight. There is no doubt in my mind that the small degree of conflict with the Masterplan and Delivery Strategy is far outweighed by the benefits of this scheme. I conclude that the proposal would accord with the development plan as a whole.

Conditions

34. I have imposed the standard time conditions and a condition to ensure the site is developed in accordance with the submitted red line plan.
35. Several conditions are necessary to ensure the site is accessed in a safe manner and that the traffic generated will not lead to highway safety issues. Development of the scale proposed here can cause damage to existing highways during the construction phase and so a condition is necessary to ensure that if this occurs the repair costs are borne by the developer. A number of conditions are required to ensure that the proposal encourages sustainable modes of transport.
36. To protect existing trees and landscaping and ensure future landscaping is satisfactory, conditions are necessary. Drainage conditions are required to ensure the foul and surface water drainage from the site is effective. To protect the living conditions of residents it is important to control working hours. For

environmental and highway safety reasons a Construction Method Statement is necessary.

37. To accord with Local Plan policies an on-site equipped play area must be provided as part of the development. A condition will ensure this happens in a satisfactory manner. I have made some minor grammatical changes to a few conditions, but they do not affect the substance of the conditions.

Overall Conclusion

38. For the reasons given above the appeal should be allowed.

Louise Crosby

INSPECTOR

APPEARANCES

FOR THE APPELLANT:

Sasha White KC & Anjoli Foster of Counsel, instructed by Mark Iveson of Gateley Legal

He called:

Richard Ellam B(Eng) C(Eng) MIHT of Pell Frischmann

Andrew Rose BA (Hons) MRTPI of Spawforths

FOR THE LOCAL PLANNING AUTHORITY:

Constanze Bell of Counsel, instructed by Barnsley Metropolitan Borough Council Solicitor

She did not call any witnesses.

INTERESTED PARTIES:

Mr and Mrs Tomalik - Local Residents

DOCUMENTS SUBMITTED AT THE INQUIRY

1. Written opening on behalf of the Council
2. Written opening on behalf of the appellant
3. Amended schedule of conditions

DOCUMENT SUBMITTED AFTER THE INQUIRY

4. Signed and dated Section 106 agreement received by e-mail on 22 August 2024

SCHEDULE OF CONDITIONS

- 1) Details of the appearance, landscaping, layout, and scale, "the reserved matters") shall be submitted to and approved in writing by the Local Planning Authority before any development takes place and the development shall be carried out as approved.
- 2) Application for approval of the reserved matters shall be made to the local planning authority not later than three years from the date of this permission.
- 3) The development hereby permitted shall be carried out in accordance with drawing no P3921-SPA -XX-ZZ-M2-A-10-001 Rev A.
- 4) Notwithstanding the details indicated on the submitted drawings no dwellings shall be occupied until a detailed scheme for implementation of the off-site highway improvement works for the Shaw Lane / Church Street / Fish Dam Lane junction has been submitted to and approved in writing by the Local Planning Authority . These works shall also include the potential relocation of bus stops on Shaw Lane approach to the junction and Fish Dam Lane exit from the junction and are to be subject to Road Safety Audits in accordance with DMRB GG119. These works shall be constructed and operational prior to first occupation of any dwellings.
- 5) Upon commencement of development a detailed scheme shall be submitted to and approved in writing by the Local Planning Authority of arrangements which secure the following highway works:
 - i) Provision of site access;
 - ii) Provision of crossing facility on Shaw Lane;
 - iii) Provision of/any necessary alterations to street lighting;
 - iv) Provision of/any necessary alterations to highway drainage;
 - v) Measures to prevent/control parking/loading;
 - vi) Any necessary signing/lining;
 - vii) Any necessary reconstruction/resurfacing.

The works are to be subject to Road Safety Audits in accordance with DMRB GG119 and shall be completed in accordance with the approved details and a timetable to be submitted to and approved in writing by the Local Planning Authority.

- 6) No dwellings shall be occupied on site until the detailed design of off site highway improvements in the form of footway improvements along Shaw Lane between the site access and Church Street / Fish Dam Lane have been submitted to and approved in writing by the Local Planning Authority. The approved scheme of works shall be subject to Road Safety Audits in accordance with DMRB GG119 constructed in accordance with the approved details and a timetable to be submitted to and approved in writing by the Local Planning Authority.

- 7) Visibility splays having the dimensions 2.4m x 160m shall be safeguarded at the junction of the site access and Shaw Lane such that there is no obstruction to visibility and forming part of the adopted highway.
- 8) Detailed plans shall accompany the reserved matters submission which also indicate existing ground levels, finished floor levels of all dwellings and associated structures, road levels and any proposed alterations to ground levels. Thereafter the development shall proceed in accordance with the approved details.
- 9) No development shall be commenced until full engineering, drainage and street lighting and constructional details of the streets proposed for highway adoption have been submitted to and approved in writing by the Local Planning Authority. The development shall, thereafter, be constructed in accordance with the approved details unless otherwise agreed in writing with the Local Planning Authority.
- 10) Before any part of the development is brought into use, that part of the site to be used by vehicles shall be surfaced in a bound permeable material and adequate measures shall be so designed into the proposed access to avoid the discharge of surface water from the site on to the highway.
- 11) Before any dwelling is first occupied the roads and footways shall be constructed to binder course level from the dwelling to the adjoining public highway at Shaw Lane in accordance with details of a completion plan to be submitted and approved in writing by the Local Planning Authority.
- 12) Vehicular and pedestrian gradients within the site shall not exceed 1:12.
- 13) No building or use hereby permitted shall be occupied until pedestrian visibility splays of 2 x 2m to the back edge of the footway / verge shall be provided at the proposed access (or drive). Nothing shall be erected, retained, planted and / or allowed to grow at or above a height of 0.6m to the rear of the footway/ verge which would obstruct the visibility splay. The visibility splay shall be maintained free of obstruction at all times thereafter for the lifetime of the development.
- 14) Prior to the first occupation of the development hereby permitted, parking provision will be in accordance with the standards set out within Barnsley's Parking SPD. Driveways and vehicle parking areas accessed from the approved streets must be properly consolidated and hard surfaced and drained into the site and subsequently maintained in good working order at all times thereafter for the lifetime of the development.
- 15) The gradient of individual vehicular accesses/driveways shall not exceed 1:12 as measured from the edge of adjacent carriageway.
- 16) No works above foundation level of dwellings shall commence on site until a scheme for the parking of bicycles has been submitted to and approved in writing by the Local Planning Authority. The scheme shall be fully implemented before the development is first occupied and thereafter retained for this purpose.

- 17) The driveway length in front of garage(s) shall be at least 6m (5.5m with the use of a roller shutter door) measured from the garage doors to the highway boundary.
- 18) No development shall take place until a survey of the condition of the adopted highway to be used by construction traffic has been submitted to and approved in writing by the Local Planning Authority. The extent of the area to be surveyed must be agreed by the Local Highways Authority prior to the survey being undertaken. The survey must consist of:
 - i) A plan to a scale of 1:1250 showing the location of all defects identified; and
 - ii) A written and photographic record of all defects with the corresponding location references accompanied by a description of the extent of the assessed area and a record of the date, time and weather conditions at the time of survey.

On completion of the development, a second condition survey of the adopted highway shall be carried out to identify defects attributable to the traffic associated with the development. It shall be submitted for the written approval of the Local Planning Authority. Any necessary remedial works shall be completed at the developer's expense in accordance with a scheme to be agreed in writing by the Local Planning Authority.
- 19) Within six months of first occupation a detailed Travel Plan comprising immediate, continuing and long-term measures together with monitoring and reporting of progress to promote and encourage sustainable and active travel shall be prepared, submitted to and approved in writing by the Local Planning Authority. The travel plan shall be implemented in accordance with the measures and monitoring regime set out therein.
- 20) Upon commencement of development, details of the phasing of the development shall be submitted to and approved in writing by the Local Planning Authority. Thereafter the development shall be carried out in accordance with the approved details.
- 21) Prior to occupation of the development hereby permitted, the details of the vehicular crossings over the footway to each dwelling shall be submitted to and approved in writing by the Local Planning Authority and the development shall be carried out in accordance with the approved details. This shall include arrangements for surface water to be intercepted and disposed of separately so that it does not discharge onto the highway.
- 22) No works which affect trees shall be carried out until the following documents in accordance with British Standard 5837:2012 Trees in relation to design, demolition and construction - Recommendations have been submitted to and approved in writing by the Local Planning Authority:
 - i) Arboricultural impact assessment;
 - ii) Tree protective barrier details;
 - iii) Tree protection plan; and
 - iv) Arboricultural method statement.
- 23) Full details of soft landscaping works, including details of the species, positions and planted heights of proposed trees; together with details of

- the position and condition of any existing trees and hedgerows to be retained shall be submitted to and approved in writing by the Local Planning Authority as part of the Reserved Matters approval.
- 24) No development shall take place unless and until full foul and surface water drainage details have been submitted to and approved in writing by the Local Planning Authority. Thereafter no part of the development shall be occupied or brought into use until the approved scheme for that part has been fully implemented. The scheme shall be retained throughout the life of the development unless otherwise agreed in writing with the Local Planning Authority.
- 25) Construction or remediation work comprising the use of plant, machinery or equipment, or deliveries of materials shall only take place between the hours of 0800 to 1800 Monday to Friday and 0900 to 1400 on Saturdays and at no time on Sundays or Public Holidays.
- 26) No development shall take place, including any works of demolition, until a Construction Method Statement has been submitted to, and approved in writing by, the Local Planning Authority. The approved Statement shall be adhered to throughout the construction period.
The Statement shall provide for:
- i) the parking of vehicles of site operatives and visitors;
 - ii) loading and unloading of plant and materials;
 - iii) storage of plant and materials used in constructing the development;
 - iv) the erection and maintenance of security hoarding including decorative displays and facilities for public viewing, where appropriate;
 - v) wheel washing facilities;
 - vi) measures to control the emission of dust and dirt during construction including confirmation of the type of water supply in place for construction (dust management plan);
 - vii) a scheme for recycling/disposing of waste resulting from demolition and construction works;
 - viii) measures to mitigate noise during demolition, earth movements and construction (noise management plan); and
 - ix) details of the siting of the sales cabin, and parking for staff and customers visiting the sales cabin.
- 27) All in curtilage planting, seeding or turfing comprised in the approved details of landscaping shall be carried out on each plot no later than the first planting and seeding season following the occupation of the individual dwellinghouse/s; and a document following completion of the whole development shall be submitted evidencing the implementation of the in-curtilage landscaping scheme. Any trees or plants which die within a period of 5 years from first being planted, are removed, or become seriously damaged or diseased shall be replaced in the next planting season with others of similar size and species.
- 28) All out of curtilage planting, seeding or turfing comprised in the approved details of landscaping shall be carried out in full in accordance with a timetable to be submitted to and approved in writing by the Local Planning Authority upon commencement of development. Thereafter the

- landscaping shall be carried out in accordance with the approved details and timescales.
- 29) A landscape management plan, including long term design objectives, management responsibilities and maintenance schedules for all landscape areas for a minimum of 5 years, shall be submitted to and approved in writing by the Local Planning Authority prior to the occupation of the development or any part thereof, for its permitted use. The approved landscape management plan shall thereafter be carried out in accordance with the approved plan.
- 30) Upon commencement of development full details of the Equipped Play Area, alongside management responsibilities and maintenance schedules and a programme for installation, shall be submitted for approval in writing by the Local Planning Authority. The approved details shall be implemented in accordance with the agreed timetable for installation.
- 31) Notwithstanding the submitted details, no development shall take place (including demolition, ground works and vegetation clearance) until a Construction Environmental Management Plan - Biodiversity (CEMP-B) has been submitted to and approved in writing by the Local Planning Authority. The CEMP-B shall include, but not necessarily be limited to, the following:
- i) Risk assessment of potentially damaging construction activities, including any potential water quality impacts;
 - ii) Identification of 'biodiversity protection zones';
 - iii) An invasive non-native species protocol, where necessary;
 - iv) Practical measures (both physical measures and sensitive working practices) to avoid or reduce impacts during construction (may be provided as a set of method statements);
 - v) The location and timing of sensitive works to avoid harm to biodiversity features (e.g. daylight working hours only starting one hour after sunrise and ceasing one hour before sunset);
 - vi) Use of protective fences, exclusion barriers and warning signs, including advanced installation and maintenance during the construction period;
 - vii) The times during construction when specialist ecologists need to be present on site to oversee works;
 - viii) Details of pre-commencement surveys where necessary for protected species;
 - ix) Responsible persons and lines of communication; and,
 - x) The role and responsibilities on site of an Ecological Clerk of Works (ECow) or similarly competent person(s).
- 32) Notwithstanding the submitted details, prior to first occupation of the site, details of external/internal lighting shall be submitted to and approved in writing by the Local Planning Authority. The details shall be reviewed and produced by a suitably qualified ecologist and clearly demonstrate that lighting will not adversely impact wildlife using key corridors, foraging and commuting features and roosting sites. The details shall include, where necessary the following:

- i) Identification of areas/features on site that are particularly sensitive e.g. breeding, resting, foraging and commuting sites;
 - ii) A drawing showing dark corridors and buffer areas; and
 - iii) A report and drawings showing how and where external lighting will be installed so that it can be clearly demonstrated that areas to be lit will not disturb or prevent species using their territory or having access to breeding sites/resting places, this should include:
 - a) Technical descriptions, design or specification of external lighting to be installed including shields, cowls or blinds where appropriate;
 - b) A description of the luminosity of lights and their light colour;
 - c) A drawing(s) showing the location and where appropriate the elevation and height of the light fixings;
 - d) Methods to control lighting control (e.g. timer operation, Passive Infrared Sensors (PIR)); and
 - e) Lighting contour plans, both horizontal and vertical where appropriate, taking into account hard and soft landscaping.
- 33) Notwithstanding the submitted details, before above ground works commence a scheme for biodiversity enhancement to include the provision of works and/or measures on the site which will secure the delivery of a net gain in biodiversity of at least 10% (supported by a BNG metric) shall be submitted to and agreed in writing with the Local Planning Authority. The approved details thereafter shall be implemented in accordance with the submitted timetable, retained and maintained for their designed purpose in accordance with the approved scheme. The scheme shall include, but not limited to, the following details:
 - i) Description, design and specification of the type of works or measures to be undertaken;
 - ii) Details of materials and construction method to ensure long lifespan of the works or and/or measures to be undertaken; and
 - iii) Drawing(s) showing the location and where appropriate the elevation of the works and/or measures to be installed or undertaken.
- 34) A Habitat Management and Monitoring Plan (HMMP) completed by a qualified ecologist and detailing management to be carried out for a minimum period of 30 years from the date of implementation of the approved biodiversity enhancement scheme will be submitted to and approved by the Local Planning Authority prior to the occupation of the development. The HMMP should follow the template HMMP provided by Natural England and include information on the following:
 - a) Project information, funding and evidence of legal agreements securing the management and monitoring of the approved biodiversity enhancements;
 - b) Summary of Habitat Proposal and Plans, site boundary map, site context map;
 - c) Phasing Strategy – if relevant;
 - d) Roles & Responsibilities:
 - i) Land use summary, site context photographs, site baseline and environmental information checklist,

- ii) Management plan aims and objectives, design principles informed by baseline information;
 - e) Habitat and condition targets, habitat retention and protection measures map;
 - f) Creation, enhancement and management targets and prescriptions;
 - g) Risk register and remedial measures; and
 - h) Monitoring plan for reporting to the Council project progress in years 1, 3, 5, 10, 15, 20, and 30 from the date of implementation and adaptive management.
- 35) Notwithstanding the submitted details, before above ground works commence a scheme for biodiversity enhancement, such as the incorporation of permanent bat roosting feature(s), habitat piles, hedgehog access and nesting opportunities for birds, shall be submitted to and agreed in writing with the Local Planning Authority. The approved details thereafter shall be implemented, retained and maintained for their designed purpose in accordance with the approved scheme. The scheme shall include, but not limited to, the following details:
- i) Description, design or specification of the type of features or measures to be undertaken;
 - ii) Materials and construction to ensure long lifespan of the feature/measure; and
 - iii) A drawing(s) showing the location and where appropriate the elevation of the features or measures to be installed or undertaken.
- 36) Prior to the implementation of the improvements to the junction of Shaw Lane, Fish Dam Lane and Church Street, details of these improvements shall be submitted to and agreed, in writing, by the Local Planning Authority. The improvements shall be designed in accordance with Historic England's 'Streets for All- Advice for Highway and Public Realm Works in Historic Places, 2018', where appropriate. These details shall include the following:
- i) Traffic signs and road markings – which shall be kept to a minimum, where road safety permits, and in accordance with the Traffic Signs Road markings General Directive (TSRGD);
 - ii) Single stage crossings;
 - iii) No pavement edge barriers – avoidance of the use of guard railing and other physical barriers, where possible;
 - iv) Controller - The traffic signal controller will be located at the back of the existing footway and in a suitable safe and convenient location and designed with raised relief panels to deter flyposting; and
 - v) Waiting restrictions and yellow road lining in conjunction with the junction alterations shall be 50mm in width with a 50mm gap in between and shall be painted primrose yellow only.

The approved scheme of works shall be subject to Road Safety Audits and constructed in accordance with the approved details and a timetable to be submitted to and approved in writing by the Local Planning Authority.

END OF CONDITIONS

APPENDIX 12 – INSPECTOR’S REPORT ON BLP EXAMINATION



The Planning Inspectorate

Report to Barnsley Metropolitan Borough Council

by Sarah Housden

an Inspector appointed by the Secretary of State

Date: 14 December 2018

Planning and Compulsory Purchase Act 2004

(as amended)

Section 20

Report on the Examination of the Barnsley Local Plan

The Plan was submitted for examination on 20 December 2016

The examination hearings were held between 16 May 2017 and 25 April 2018

File Ref: PINS/R4408/429/12

Abbreviations used in this report

AA	Appropriate Assessment
AMR	Annual Monitoring Report
AQMA	Air Quality Management Area
CS	Core Strategy
DCLG	Department for Communities and Local Government
DSP	Development Sites and Places Document
DtC	Duty to Cooperate
ELR	Employment Land Report
HMA	Housing Market Area
HRA	Habitats Regulations Assessment
IDP	Infrastructure Delivery Plan
LCR	Leeds City Region
LDS	Local Development Scheme
LP	Local Plan
MM	Main Modification
NP	Neighbourhood Plan
NPPF	National Planning Policy Framework
OAHN	Objective assessment of housing need
OAN	Objective assessment of need
PPG	Planning Practice Guidance
PPTS	Planning Policy for Traveller Sites
SA	Sustainability Appraisal
SAC	Special Area of Conservation
SCI	Statement of Community Involvement
SCR	Sheffield City Region
SCRIF	Sheffield City Region Investment Fund
SNHP	Sub-national household projections
SPA	Special Protection Area
SHELAA	Strategic Housing and Employment Land Availability Assessment
SHMA	Strategic Housing Market Assessment
SPD	Supplementary Planning Document
UDP	Unitary Development Plan
WMS	Written Ministerial Statement

Non-Technical Summary

This report concludes that the Barnsley Local Plan provides an appropriate basis for the planning of the Metropolitan Borough provided that a number of main modifications (**MMs**) are made to it. Barnsley Metropolitan Borough Council (the Council) has specifically requested me to recommend any MMs necessary to enable the plan to be adopted.

The MMs all concern matters that were discussed at the examination hearings. Following the hearings, the Council prepared schedules of the proposed MMs, carried out Sustainability Appraisal of them and updated the Habitats Regulations Assessment. The MMs were subject to public consultation over a six week period. In some cases I have amended their detailed wording and I have recommended their inclusion in the Plan after considering all the representations made in response to consultation on them.

The MMs can be summarised as follows:

- Decreasing the jobs target from 33,000 to 28,840 and the employment land requirement from 307 hectares to 297 hectares;
- Increasing the 2014 – 2033 housing requirement from 20,900 to 21,546 dwellings or 1134 dwellings per year;
- Including villages in the list of locations where new development will be located in Policy LG2;
- Deleting site RSV1 from the plan;
- Deleting site UB16 for employment and allocating it for housing;
- Allocating twelve additional sites for housing development and identifying one additional area for safeguarded land;
- Clarifications and updates to employment, housing and mixed use site policies;
- Updating the housing trajectory to take account of additional allocations, deletions, planning permissions and completions; and
- Revisions to the wording of development management policies for consistency with national guidance, positive preparation and to reflect updated evidence.

Introduction

1. This report contains my assessment of the Barnsley Local Plan ('the plan') in terms of Section 20(5) of the Planning & Compulsory Purchase Act 2004 (the 2004 Act) (as amended). It considers first whether the plan's preparation has complied with the duty to cooperate (DtC). It then considers whether the plan is sound and whether it is compliant with the legal requirements. The National Planning Policy Framework (2012) (NPPF) (paragraph 182) makes it clear that in order to be sound, a Local Plan (LP) should be positively prepared, justified, effective and consistent with national policy.
2. The revised NPPF was published in July 2018. It includes a transitional arrangement in paragraph 214 whereby, for the purpose of examining this plan, the policies in the 2012 NPPF will apply. Unless stated otherwise, references in this report are to the 2012 NPPF. In addition, references to the Planning Practice Guidance (PPG) are to the previous versions of the guidance in place before the revised NPPF.
3. The starting point for the examination is the assumption that the local planning authority has submitted what it considers to be a sound plan. The basis for the examination is the Publication Consultation version (2016), submitted in December 2016. It is the same document as was published for consultation in August 2016 under Regulation 19 of the 2012 Regulations¹. The Council has supplemented the evidence base of the plan in relation to jobs growth and the assessment of housing need during the course of the examination and has identified additional sites for housing development. However, this has not fundamentally changed the spatial strategy and distribution of development in the plan.
4. The plan provides a development strategy and detailed policies and identifies specific sites to deliver the full objectively assessed need for employment and housing development over the plan period to 2033. The capacity of the plan area to meet those needs has been assessed in relation to environmental factors including the Green Belt and infrastructure capacity including transport. It seeks to provide a comprehensive planning framework and delivery will be supported by Supplementary Planning Documents (SPD).
5. The substantive Local Development Scheme (2007) (LDS) covers earlier planning documents including the Core Strategy (2011) (CS) and Development Sites and Places document (DSP). Updates to the LDS were published in 2015 and 2017 and whilst there has been some slippage in timescale, the scope of the plan accords with those documents.
6. Part of the Borough falls within the Peak District National Park which is covered by the Peak District National Park Core Strategy Development Plan Document (2011). Consequently, references to the plan area in this report relate to that part of the Barnsley Metropolitan Borough which is outside the National Park.

¹ The Town and Country Planning (Local Planning)(England) Regulations 2012

The Examination

7. The examination was carried out in four stages. At Stages 1 and 2 the DtC, legal requirements, soundness of the employment and housing objectively assessed need and land requirements, spatial strategy, Green Belt, transport, the environment and the town centre were covered. In August 2017 my interim findings on the Stage 1 and 2 matters concluded that whilst the DtC had been met, the plan's employment and housing strategies were not aligned. I also found that the plan's approach to the villages was not based on up-to-date evidence and not positively prepared.
8. Following consideration of the options presented to it, the Council decided to proceed with the examination and undertake further work to address the soundness issues identified. Pending the completion of that work, the soundness of the employment and housing site allocations proposed as part the submitted plan were considered at the Stage 3 hearings in December 2017.
9. The Council's further work revised the plan's economic strategy, reducing the jobs target from 33,000 to 28,840 and increasing the housing requirement from 20,900 to 21,546 to align with the revised jobs target. In order to meet the increased figure and address the shortfall in the delivery of some housing sites identified following the Stage 3 hearing sessions, additional housing sites were proposed including in villages. The additional evidence produced on the employment and housing land requirement, additional proposed housing sites and Sustainability Appraisal (SA) were subject to public consultation from 29 January to 12 March 2018 alongside the Matters, Issues and Questions on the remaining Main Matters. The Stage 4 hearing sessions considered all the responses received.

Main Modifications

10. In accordance with section 20(7C) of the 2004 Act the Council requested that I should recommend any main modifications (MMs) necessary to rectify matters that make the plan unsound and thus incapable of being adopted. My report explains why the recommended MMs, all of which relate to matters that were discussed at the examination hearings, are necessary. The MMs are referenced in bold in the report in the form **MM** and are set out in full in the Appendix.
11. Following the examination hearings, the Council prepared a schedule of proposed MMs and carried out SA and Habitats Regulations Assessment (HRA). The MMs schedule was subject to public consultation from 13 July to 28 August 2018. For the avoidance of doubt, the proposed modifications which were referenced as 'MAIN' in the consultation document (MC1) have been referenced as MMs within the Appendix to this report. I have taken account of the consultation responses in my conclusions and in this light I have made some amendments to the detailed wording of the MMs where necessary for consistency or clarity. None of the amendments significantly alters the content of the MMs as published for consultation or undermines the participatory processes and SA that has been undertaken. Where necessary I have highlighted these amendments in the report.

12. The Council has published 'additional modifications' alongside the MMs which are modifications that do not materially affect the policies in the plan². The Council is accountable for these changes and they do not fall within the scope of the examination.

Consultation

13. Consultation leading up to the submission of the plan took place over a number of stages including on the DSP document. The examination has been conducted in stages including a period of consultation on additional evidence and sites. I acknowledge that the process has the potential to be confusing, particularly for those who become engaged in the later stages of the examination.
14. However the Council has taken steps to explain the process, respond to queries and has carried out full and widespread consultation on the plan before its submission, as part of the examination consultation and most recently on the MMs. The scope of the consultation on the work produced in response to my interim findings was necessarily broad and a wide range of representations were received, many of which were followed up through discussion at the Stage 4 hearing sessions. A wide range of representations have been submitted at each stage of consultation and I am satisfied that the consultation processes gave representors adequate opportunities to express their views.
15. It has been contended that in preparing the plan the Council has breached the 'Gunning' principle that consultation should be undertaken at a time at which it can genuinely influence decision making. This is argued primarily in connection with discussions between the Council and the agents/promoters for Site MU1 and the timing of the Green Belt review and submission of bids to the SCRIF for infrastructure funding, in particular for the Claycliffe Road link. I deal with these matters in relation to the specific issues raised later in my report.
16. Overall, I am satisfied that the consultation was undertaken in accordance with the 2012 Regulations and the Council's Statement of Community Involvement (SCI) (2006) and the SCI Update (2015).

Policies Map

17. The Council must maintain an adopted Policies Map which illustrates geographically the application of the policies in the adopted development plan. When submitting a LP for examination, the Council is required to provide a submission Policies Map showing the changes to the adopted Policies Map that would result from the proposals in the submitted LP. The submission plan's Policies Map is the 'Policies Map Publication Draft 2016'.
18. The Policies Map is not defined in statute as a development plan document (DPD) and so I do not have the power to recommend MMs to it. However, a number of the published MMs to the plan's policies require further

² S23(3)(b) of the 2004 Planning & Compulsory Purchase Act

corresponding changes to be made to the Policies Map and its key. Those further changes were published for consultation alongside the MMs.

19. When the plan is adopted, in order to comply with the legislation and give effect to the plan's policies, the Council will need to update the adopted Policies Map to include all the changes in the document entitled 'Policies Map Publication Draft 2016' and the further changes included in the document 'Proposed Main Modifications Policies Map Changes' published alongside the MMs.

Sustainability Appraisal

20. The SA work undertaken is contained in the Local Plan SA Publication (2016), SA Addendum Post Examination Hearings (December 2017), SA Site Assessment Addendum (January 2018) and Proposed Main Modifications SA (July 2018).
21. Throughout the documents, a consistent framework of eighteen objectives which were developed following scoping and consultation have been used to assess the plan. They are appropriate to its circumstances and to the national and local context. SA of the plan's policies and allocations has been undertaken at the same level of detail as that of the reasonable alternatives and the reasons for selecting particular policy approaches and site allocations and rejecting others are clear. Specific representations on the SA work conducted during the examination are dealt with in the relevant sections of this report.
22. Overall, I conclude that the SA work undertaken in connection with the plan is adequate.

Habitats Regulations Assessment

23. Part of the Peak District Moors Special Protection Area (South Pennine Moors Phase 1) (SPA) and Special Area of Conservation (SAC) are within the Peak District National Park area of the Borough and are therefore outside the plan area. A precautionary approach has been adopted and in consultation with Natural England, a 5km 'buffer zone' was established to ensure that development in proximity to the SPA and SAC would not have an adverse effect on the integrity of these sites.
24. HRA, including appropriate assessment (AA) of the submitted plan, was carried out together with HRA of additional sites and the MMs. Four policies were subject to AA where a likely significant effect on the SPA and SAC could not be ruled out. These effects included increased disturbance from recreation activity and air pollution from traffic associated with new housing distributed in accordance with the spatial strategy in Policy LG2 and the potential loss of habitat for SPA birds from development on three sites in or close to the buffer. The results of the AA are outlined in relation to Policy LG2 and the specific sites.
25. The MMs HRA report does not re-assess the plan as a whole and AA of the MMs has been undertaken only where a likely significant effect could not be ruled out. Overall, and having regard to the mitigation identified and the various MMs recommended, I conclude the plan's policies and proposals taken

forward to AA would not have an adverse effect on the integrity of the SPA and SAC either alone or in combination with other plans and projects. Having taken account of the judgement of the Court of Justice of the European Union issued on 12 April 2018³, I concur with the Council's conclusion that the HRA report is legally compliant.

Assessment of Duty to Co operate

26. Section 20(5)(c) of the 2004 Act requires that I consider whether the Council complied with any duty imposed on it by section 33A in respect of the Plan's preparation. The statutory DtC applies where there are 'strategic matters' which would have a significant impact on at least two planning areas.
27. Regular engagement with adjoining local planning authorities and prescribed bodies has taken place on all strategic matters from an early stage in plan preparation, as documented in the Council's DtC Statement and its Addendum. Barnsley is a single Housing Market Area (HMA) and the Council is seeking to provide for all of its own identified housing and other development needs within the plan area. The DtC process has established that adjoining authorities have no scope to accommodate any of Barnsley's housing need. Adjoining authorities are at different stages of plan preparation and in some instances their own development needs have not yet been fully assessed, but at the present time there is no evidence to suggest that they are able to accommodate any part of Barnsley's housing need. In addition, no neighbouring authority has made a formal request to the Council to accommodate any unmet housing need from outside the plan area.
28. Cumulative increases in traffic levels along the A635 which runs between the M1 and A1/(M) is a strategic matter which affects Doncaster Metropolitan Borough, in particular the communities of Hickleton and Marr to the east of Goldthorpe. Co-operation has resulted in mitigation measures being incorporated within specific site allocations and ongoing liaison to co-ordinate funding bids for highway improvements. Co-operation on renewable energy in relation to landscape protection has also resulted in mitigation measures within policies.
29. Barnsley lies within both the Leeds City Region (LCR) and Sheffield City Region (SCR). Regular engagement has taken place resulting in joint commissioning of evidence bases and joint approaches including the SCR Common Approach to the Green Belt Review. Whilst future governance arrangements for the SCR remain unclear this has not undermined the process of cooperation in relation to Barnsley's contribution to the economic strategies of both the LCR and SCR. Overall I am satisfied that where necessary the Council has engaged constructively, actively and on an on-going basis in the preparation of the plan and the DtC has been met.

Assessment of Soundness

30. The plan will replace the saved policies in the UDP and the CS. Together with the Joint Waste Plan (2012), it will form the development plan for the plan

³ Case C323/17 People over Wind, Peter Sweetman v Coillte Teoranta

area. The submitted plan does not explain this or identify the existing policies that will be superseded and **MM3** and **MM127** are necessary to rectify this and to ensure that the plan complies with the 2012 Regulations⁴.

Main Issues

31. Taking account of the representations, the written evidence and the discussions at the hearing sessions, I have identified ten main issues upon which the soundness of the plan depends. Under these headings my report deals with the main matters of soundness and it does not respond to every point raised in representations.

Issue 1 – Is the employment land requirement soundly based and does the plan set out a positively prepared strategy for employment and the economy that is justified, effective and consistent with national policy?

The Functional Economic Area

32. Barnsley lies within the wider functional economic areas of the SCR and LCR. Travel to work patterns demonstrate strong cross boundary movement with 36% of Barnsley residents in employment commuting outside the Borough for work and approximately 23% of jobs being filled by workers from outside the area⁵. Having regard to the plan's objective for more jobs to support improvements to job density, the plan area represents the most appropriate basis to assess the objectively assessed need (OAN) for employment.

Employment OAN and Employment Land Requirement

33. The Jobs and Business Plan 2014 – 2017 (2014) and Employment and Skills Strategy (2016) seek to improve the Borough's economic prosperity. Jobs growth will also contribute to the SCR Strategic Economic Plan which aims to bolster the private sector and create 70,000 new jobs and 6,000 new businesses from 2014 - 2024, of which 7,500 jobs are apportioned to Barnsley. The LCR Strategic Economic Plan (2016) seeks to create an additional 36,000 jobs by 2036. The need for more jobs is supported by a wide range of evidence submitted to the examination.
34. Allied to the plan's objective to increase job density is the need to create more businesses and improve skills and training. Whilst the number of young people not in education, employment or training has diminished significantly, education attainment levels continue to lag behind national and city region averages⁶. The English Indices of Deprivation (2015) ranks Barnsley as being the 39th most deprived local authority (of 326) based on indicators relating to economic activity, health, skills and enterprise activity.
35. The submitted plan's jobs target was for 33,000 new workplace jobs or 27,778 Full Time Equivalent (FTE). This included a 'baseline' figure of 12,555

⁴ Regulation 8(5) of the Town and Country Planning (Local Planning)(England) Regulations 2012

⁵ 2011 Census

⁶ Employment and Skills Strategy: More and Better Jobs (2016)

jobs based on Regional Econometric Modelling (REM) and 17,558 'additional' jobs to be secured through Council and partner interventions with the remainder accounted for by REM assumptions for additionality. In response to my interim findings, the Council re-assessed the jobs target based on the proportion of B1(a)(b)(c), B2 and B8 uses that could reasonably be expected to come forward on the proposed employment sites and the number of jobs created.

36. B1(a) office floorspace comprised 8% of the total take-up of employment floorspace from 2005 to 2015, with the remainder being taken up by other B1, B2 and B8 uses. The availability and proximity of office accommodation in Sheffield and Leeds, the office to residential conversion schemes that have taken place in Barnsley town centre and the trend for home based working indicate that the low take up of office floorspace is likely to continue. In contrast, the demand for industrial floorspace particularly logistics and warehousing in South Yorkshire is more buoyant. Barnsley's strategic location on the M1, the availability of a local labour supply in the Borough and the Council's education and skills strategy represent realistic opportunities to secure a greater proportion of jobs in that sector.
37. Whilst there is an inherent degree of uncertainty in economic forecasting, the proposed reduction in the proportion of B1(a) office use and increase in the proportion of B8 to inform the jobs target and employment land requirement reflects current market conditions and realistic opportunities. It is also consistent with the NPPF's advice that plan preparation should be based on a clear understanding of economic markets operating in and across the area.
38. The Employment Land Review (2016) (ELR) identifies an objectively assessed need for 291 hectares of employment land. Assumptions on plot ratios and job densities for the different employment Use Classes expected to be accommodated on the allocated sites appear reasonable and robust. A 30% allowance for choice and flexibility is justified and comparable with assumptions made in adjoining authorities.
39. The requirement figure also incorporates a replacement allowance of 95 hectares (5 hectares per year) over the plan period. This compares with historical losses of 8 hectares per year lost to housing over the CS period of 2004/05 to 2011/12. This rate declined following the adoption of the CS in 2011 which included greater protection for employment land. Whilst the reduced figure of 5 hectares per year has been criticised for 'inflating' the employment land requirement, there is no evidence before me to substantiate a replacement figure of 2 hectares per year as proposed in representations. The ELR identifies the need for well-located sites that serve the needs of modern industry and many of the existing employment sites do not meet the requirements of the manufacturing and logistics sector which is expected to comprise a significant proportion of the Class B Uses. I conclude that the replacement allowance is justified.
40. Policy E1 of the submitted plan allocated 'around' 300 hectares of employment land whilst Policy E2 identified 307 hectares within the main settlements. The Council's position was that the over-supply against the OAN of 291 hectares was to accommodate Site D1 at Goldthorpe to provide a well distributed portfolio of sites.

41. As submitted, Policies E1 and E2 do not reflect the revised jobs target and are unsound. Based on the assumptions underpinning the land requirement and having regard to the de-allocation of employment site UB16 and reduction in site HOY1, which are dealt with elsewhere in this report, the employment land requirement in Policies E1 and E2 should be 297 hectares. I am satisfied that the marginal over supply compared with the OAN of 291 hectares is justified to support a range of well distributed sites. To reflect the changes to the jobs target and employment land requirement, **MM14**, **MM15** and **MM16** are necessary. I have amended **MM14**, **MM15** and **MM16** to sensibly round down the employment land requirement to a whole figure, 297 hectares.
42. Policy E2 sets out the distribution and amount of allocated employment land by settlement. The overall total should not be viewed as a target or maximum ceiling and **MM16** is also necessary to indicate that the distribution figures are approximate. In the interests of clarity, **MM16** also updates the distribution figures in response to the changes to Sites N1, UB16 and HOY1 which are dealt with in Issue 4 and confirms that the employment use on Site MU1 is included within the provision figure for Urban Barnsley.

Conclusion on Issue 1

43. Subject to the MMs proposed, the plan's strategy for employment and the economy including the employment land requirement is soundly based.

Issue 2 - Is the housing requirement figure soundly based and does the plan set out a positively prepared strategy for housing that is justified, effective and consistent with national policy?

Objectively Assessed Need for Housing (OAHN)

Housing Market Area

44. Household moves display a strong degree of self-containment within the Borough, above the 70% threshold set out in the PPG. On this basis, there is no substantive evidence to challenge the conclusion of the Strategic Housing Market Assessment (2014) (2014 SHMA) that the Borough represents an appropriate basis for assessing housing need. Whilst the 2014 SHMA included those parts of the Borough falling within the National Park, no quantifiable housing needs were identified within that area and the 2014 SHMA represents an accurate assessment of need for the plan area.

Demographic starting point and adjustments

45. The 2014 SHMA identified a baseline dwelling requirement of 806 dwellings per year based on the 2012 Department of Communities and Local Government (DCLG) sub-national household projections (SNHP).
46. However, the PPG advises local planning authorities to use the most up-to-date data to assess housing need and the submitted plan is not sound in this respect. To remedy this, the SHMA Update (March 2017) (2017 SHMA) was undertaken and in response to my interim findings, a further update to take

account of 2016-Mid Year Estimates and revised economic modelling was supplied in the Demographic Forecasts⁷ report.

47. Informed by the 2014-based DCLG SNHP, the 2017 SHMA identifies a baseline requirement of 880 dwellings per year over the 19 year plan period. In accordance with the advice in the PPG, a number of alternative trend scenarios were developed based on different migration and household formation rate assumptions. The use of a 10 year migration trend from 2005/06 to 2014/15 which takes account of fluctuations in economic cycles and unattributable population change is a robust and appropriate approach. A recovery in household formation rates in the younger age groups (15 – 44) also represents an appropriate adjustment and results in an increase in the baseline demographic need to 1088 dwellings per year. Based on the evidence, this represents an appropriate starting point on which to base any further uplift.

Market signals

48. The 2014 SHMA considered the need for adjustments in response to a range of market signals including house prices, affordability ratios, vacancy rates and overcrowding. These indicate limited pressure on the housing market and no uplift is proposed in response to those factors. This is a reasonable approach to take where an uplift for jobs growth increases the OAHN above the demographic requirement as detailed below.

Affordable housing

49. In accordance with the PPG, the 2017 SHMA considers whether an increase in the housing requirement could help to deliver the number of affordable homes required. Taking account of newly arising needs and the existing backlog it identifies an annual net shortfall of 292 affordable dwellings per year if the backlog of need is cleared over 10 years.
50. Based on the contribution that could be expected from outstanding permissions and proposed plan allocations and the percentage requirements set out in Policy H8, the overall supply of affordable dwellings would be approximately 2584 or 136 dwellings per year. This represents a shortfall of 156 dwellings per year against the 292 requirement. However, if the backlog is addressed over the plan period, the requirement would be 82 dwellings per year.
51. I consider that an uplift to the OAHN to support increased delivery of affordable housing as a proportion of open market schemes and enabling the need to be addressed over a shorter time frame is not justified for two principal reasons. Firstly, the Council is taking proactive steps to secure the delivery of affordable homes through a number of initiatives including direct delivery using the Homes England Grant, its own direct delivery arm Met Barnsley and partnership working with registered providers. These demonstrate a realistic prospect for supplementing the provision secured as a percentage of open market development through Policy H8. Secondly, the

⁷ Barnsley Demographic Forecasts (October 2017) Edge Analytics

uplift required would also necessitate delivery of around 1400 dwellings per year, compared with an annual average of 893 over the 10 year period 2004/05 to 2013/14. This would not be realistic as an annual average delivery rate to be achieved over the entire plan period and would therefore not be deliverable.

Jobs growth

52. The plan's revised jobs target of 28,840 should feature within the OAHN. The 'Demographic Forecasts' report models three scenarios against different assumptions on commuting ratios and economic activity rates to establish the number of workers required to support the 28,840 jobs. The 'Policy On' scenario⁸ results in an OAHN for the Borough of 1134 dwellings per year, marginally above the housing requirement figure of 1100 in the submitted plan. I consider that the figure of 1134 dwellings per year is robust and justified for two main reasons.
53. Firstly, it assumes that the commuting ratio of 1.25 based on the 2011 Census would continue throughout the plan period rather than fall to the previous assumption of 1.19 made in the 2014 SHMA. Whilst this does create some tension with one of the plan's economic aims for greater self-containment, it does reflect the reality that initiatives for improved transport connections, particularly rail, could support existing rates of commuting to adjoining areas for work, particularly to the SCR and LCR.
54. Secondly, based on Experian economic activity rates used in the REM forecasting model, it assumes an improvement in the aggregate economic activity rate in the 16 – 89 age group from 61% (2016) to 66.2% by 2033. This has been challenged by representors who consider the Office for Budget Responsibility (OBR) economic activity rates to represent a more realistic forecast, leading to a higher level of population growth and housing need to support the planned jobs.
55. I note that 'blended' OBR and Experian rates have been applied to assess OAHN for Leeds. However, the combination of planned jobs growth, the Council's employment and skills strategy and wider public policy initiatives including changes to the state pension age and more flexible working arrangements lead me to conclude that there is a realistic prospect of improvements to economic participation rates by the working age population. In short, the use of the REM Experian based model is appropriate to the circumstances of Barnsley.
56. I have had regard to arguments that the OAHN should be higher and lower than 21,546 but I consider that the figure is based on robust evidence and a reasonable set of assumptions in accordance with the PPG and is justified having regard to the circumstances of the Borough.

⁸ As referred to in 'Updating the Demographic Evidence' (March 2017) and 'Demographic Forecasts' (October 2017) reports Edge Analytics

Housing requirement

57. The plan seeks to meet the OAHN in full subject to consideration of environmental capacity including the Green Belt which I deal with elsewhere in my report. This accords with the NPPF which indicates that LPs should use their evidence base to ensure that the plan meets the full, objectively assessed needs for market and affordable housing in the HMA as far as is consistent with the NPPF's policies.
58. Policy H1 of the submitted plan sets out a housing requirement of 20,900 dwellings or 1100 per year. Informed by the SA Addendum of different growth options, the OAHN is 21,546 dwellings or 1134 dwellings per year. Policy H1 of the submitted plan is therefore unsound. A number of changes are necessary to ensure that the housing requirement reflects the updated OAHN of 21,546 dwellings, an increase of 646 dwellings over the plan period. To ensure that the plan has been positively prepared to meet OAHN in full and that the housing requirement is justified, **MM31** is necessary.
59. The revised NPPF states that, other than in exceptional circumstances, a new standard methodology should be used to determine local housing needs. For Barnsley the local housing need figure is 898 dwellings per year for the period 2016 - 2026, lower than the 1134 figure on which the plan is based. However, the plan is being examined against the 2012 NPPF. As set out in the PPG, the standard figure provides the minimum starting point for assessing the number of homes needed in an area. Changing economic conditions which would include the jobs growth envisaged in the plan are a circumstance where a higher figure than the standard method should be considered.

Housing mix, choice and windfall development

60. The 2014 SHMA assesses the need for specialist forms of housing including families, older people, people with support needs, homeless and minority ethnic households. Provision, including for adaptable homes, will be secured through Policy H7 and whilst no specific 'quotas' are identified in the policy, the supporting text makes clear that development proposals should be informed by needs identified in the SHMA. Policy D1 (Design) will also contribute to delivering accessible and adaptable homes.
61. Based on the current low demand for self build and custom homes, the plan does not make specific provision for this within the site policies or within the housing policies.
62. Development on unallocated 'windfall' sites is covered by Policies H5 and H6. Policy H6 which deals with proposals on large sites (more than 0.4 hectares) does not make provision for the development of sites in villages and restricts windfall sites to previously developed land only. To ensure consistency with the approach to villages as proposed to be modified in **MM13** and to replace the reference to 'previously developed land' with 'part previously developed land', **MM76** is required. Whilst it has been argued that this approach is unnecessarily restrictive, the priority given to development on brownfield sites accords with the NPPF which indicates that policies should seek to make

effective use of land including through the re-use of previously developed land.

Affordable housing

63. Policy H8 sets out the requirement for the delivery of affordable housing as a proportion of open market development on sites of 15 or more dwellings. Different percentages of 10%, 20% and 30% apply according to geographical location and reflecting the broad differences in the viability of development across the Borough identified in two viability studies. These were undertaken to establish whether a CIL charge would be viable but demonstrated that the percentages set out in Policy H8 would support a reasonable rate of return to a willing landowner. As such, the percentages sought are justified and the policy is sufficiently flexible to deal with individual scheme viability.
64. Policy H8 also supports exception sites for affordable housing. As submitted, the wording of the policy would preclude schemes from coming forward within the built up area of villages that are inset from the Green Belt which is unnecessarily restrictive. In order to ensure that Policy H8 is positively prepared and sets out suitable mitigation measures, **MM78** is necessary. For consistency with national policy, **MM78** also ensures that Policy H8 includes reference to providing some market housing where it will facilitate the provision of additional affordable housing by improving scheme viability.
65. There are pockets of low market demand within the plan area and Policy H9 supports housing regeneration within those areas. So that the policy has been positively prepared, it is necessary to clarify the geographical areas included and **MM79** secures that together with minor wording changes.

Gypsies and travellers

66. The Barnsley Gypsy and Traveller and Travelling Showpersons' Accommodation Assessment (GTAA) (2015) identified an overall need for 33 pitches to 2034, 15 of which would be required in the five year period 2014/15 to 2018/19. The GTAA did not identify any need for travelling showpersons' accommodation.
67. In order to meet the five year requirement, the submitted plan allocated 10 new pitches on site TRAV013A and 8 pitches as an extension to an existing site at Brierley (site AC46). A robust assessment of alternative sites was carried out to inform site selection. Since the GTAA was published, planning permission has been granted for three permanent pitches and five pitches have been brought back into use at the Ings site following flood alleviation works, reducing the overall requirement within the five year period to seven.
68. The Planning Policy for Traveller Sites (PPTS) indicates that traveller sites are inappropriate development in the Green Belt and should not be approved except in very special circumstances. Site AC46 is a permanent Gypsy and Traveller site washed over by the Green Belt and as a former walled garden it is already enclosed from the wider countryside. The additional eight pitches proposed in the plan would be contained within the existing site boundaries and would not diminish the openness of the wider Green Belt. The site would remain washed over by Green Belt as shown on the Policies Map. Having regard to the overall need for gypsy and traveller sites identified in the GTAA

and that the proposal is for an extension to an existing site, I conclude that the proposed site allocation is justified and soundly based.

69. Due to uncertainty about the deliverability of Site AC46 during the course of the examination, an increase in the pitch numbers at site TRAV013A from 10 to 11 was proposed by the Council. Notwithstanding that the site owner has confirmed the availability of Site AC46, one additional pitch at Site TRAV013A would provide additional choice and flexibility in supply and **MM81** is necessary to increase the number of pitches from 10 to 11.
70. Policy GT1 provides appropriate and comprehensive criteria to assess planning applications for gypsy, traveller and travelling showpersons' pitches and transit sites that may come forward in the plan period. Some minor wording clarifications and updates are necessary to ensure that Policy GT1 is positively prepared and consistent with national policy and these would be secured through **MM80**.
71. Overall, I am satisfied that the plan's housing policies as proposed to be modified will support a mix and choice of housing on both allocated and windfall sites and would not preclude consideration of executive housing through the planning application process. No further modifications are necessary for soundness in this regard.

Conclusion on Issue 2

72. Overall and subject to the MMs proposed, the plan's strategy for housing including the OAHN, housing requirement and delivering an appropriate choice and mix of homes is based on a robust and objective assessment of needs and is soundly based.

Issue 3 – Are the plan's vision and objectives appropriate and would the settlement hierarchy, spatial strategy and distribution of development be soundly based?

Vision and objectives

73. The plan's vision and objectives seek to improve economic prosperity and the quality of life of residents, reflecting the aims of the Council's adopted economic, housing and other strategies. Whilst the target for jobs growth in the 'Jobs and Business Plan 2014 - 2017' has been reviewed during the course of the examination, the plan's objectives remain relevant to addressing the economic, social and environmental challenges facing the Borough. To be consistent with the NPPF's core principle to conserve and enhance the natural environment, the objectives should seek to achieve wider environmental outcomes in addition to achieving net gains in biodiversity and **MM1** and **MM2** will ensure that the plan's objectives are consistent with the NPPF in this regard and reflect the updated jobs target and housing requirement.
74. Whilst Policy SD1 reflects a positive approach to achieving sustainable development, the policy as submitted is inconsistent with the NPPF and **MM8** is necessary. I have amended **MM8** to delete the text that duplicates NPPF paragraph 14.

Settlement hierarchy

75. The identification of Urban Barnsley as a single category within the settlement hierarchy is a logical and coherent approach. Whilst it encompasses different settlements and communities with distinct identities, it constitutes the main built up area around the town centre with opportunities to accommodate development in sustainable locations. For clarity, the main settlements in Urban Barnsley should be listed in the hierarchy and **MM4** achieves that. The larger settlements are included and there is no justification to add smaller locations including Redbrook and Lower Barugh.
76. The Principal Towns include separate settlements with their own identity and characteristics. However, in recognition of the links between them and to support existing services and facilities, their inclusion within the Principal Towns is appropriate and justified. Hence the inclusion of Hoyland Common within Hoyland Principal Town is soundly based as is the inclusion of Darfield within Wombwell and there is no justification for them to be listed as separate locations within the settlement hierarchy.
77. Hunshelf is not identified as a village within the updated Settlement Assessment nor is Dunford Bridge which straddles the National Park boundary. For clarity, they should be deleted from the settlement hierarchy for which **MM4** is necessary.

Spatial strategy

78. The plan's spatial strategy is articulated through Policy LG2 and the settlement hierarchy which gives priority to new development in Urban Barnsley and the Principal Towns of Cudworth, Wombwell, Hoyland, Goldthorpe, Penistone and Royston reflecting their size, wide range of services and accessibility by a range of transport modes.
79. As submitted, Policy LG2 did not identify villages as locations for new development unless consistent with Green Belt policy or if necessary for the viability of the settlement and to meet a local need. However, the definition of 'local need' and the mechanism for assessing viability at a settlement level are not specified. The Settlement Assessments underpinning the approach dated from 2003 and 2007. My interim findings concluded that the submitted plan had not been positively prepared in relation to villages and that the approach as set out in Policy LG2 was unsound.
80. To address this, the Council updated the Settlement Assessments with some alterations to the criteria and scoring process to reflect up-to-date circumstances. The update has been criticised in representations, in particular the scores attributed to some village facilities and the connections to Barnsley town centre. Planning judgements have to be made in an exercise of this nature but overall I am satisfied that the assessment is based on a reasonable set of criteria and consistent scoring process and provides a more robust evidence base on which to base the plan's approach to villages.
81. Based on the findings of the Settlement Assessment, ten additional housing sites were proposed in villages which were identified to have a wider range of services and facilities with the potential to contribute to sustainable patterns of development. My conclusions on the soundness of those proposed

additional housing allocations are outlined in Issue 5 but in summary, seven of the sites in villages have been taken forward as MMs to the plan.

82. In accordance with the spatial strategy in Policy LG2, the priority for new development will continue to be Urban Barnsley and the Principal Towns, with 5% of the housing requirement directed to villages. This would be achieved through site allocations in addition to windfall sites which would be assessed against Policies H5 and H6. So that the plan has been positively prepared, Policy LG2 should include villages in the list of locations where new development will be permitted and **MM13** is necessary. Updates to the supporting text to Policy LG2 and the key diagram are also required to explain the more positive approach to villages and would be achieved by **MM6** and **MM7**.
83. For clarity and consistency with the settlement hierarchy, the separate settlements within Goldthorpe Principal Town should be named in Policy LG2 and **MM13** achieves that. For the avoidance of doubt, further references to Goldthorpe in this report include the Dearne towns of Thurnscoe and Bolton upon Dearne. Hoyland Principal Town includes Elsecar and **MM5** will ensure that its historical significance is highlighted in the spatial strategy.
84. Whilst representations support a higher proportion of new housing development being directed to the villages, the MMs represent a proportionate response to the interim findings. The development identified for the villages will ensure a more even distribution of development across the plan area including in strong market locations. The delivery of affordable housing will be supported through other mechanisms including through exception sites and Neighbourhood Plans, in addition to being delivered as a proportion of open market housing through the application of Policy H8 (Affordable Housing).
85. The SA of the submitted plan tested reasonable alternatives for the spatial strategy against the SA objectives, including options for dispersing new development more widely across the Borough and a new settlement. The settlement pattern within the Borough, the location of rail and road networks, public transport and environmental constraints all limit the number of reasonable alternative strategies. Based on the assessment of these alternatives and the need for a more positive approach to the villages which would not significantly alter the overall spatial strategy, Policy LG2 as proposed to be modified in **MM13** is justified.
86. The spatial strategy in Policy LG2 also provides an appropriate framework for the preparation of Neighbourhood Plans, including those underway for Oxspring and Penistone.

Distribution of development

87. Policy H2 sets out the distribution of new housing development broadly reflecting the spatial strategy in Policy LG2. So that the plan has been positively prepared and is justified, Policy H2 should reflect the approach to the villages as proposed to be modified in **MM13**, the latest position with regard to the yield from proposed site allocations and the most recent information on planning permissions and **MM32** secures the necessary

changes. I have corrected a typo in paragraph 9.5 to delete Policy LG1 and insert Policy LG2.

88. The distribution of new housing is expressed as definitive percentages within Policy H2. This would be unnecessarily restrictive and the policy is unsound in this regard. To ensure that Policy H2 has been positively prepared, **MM32** is required so that the distribution is expressed as an approximate percentage rather than a target or maximum ceiling.
89. Through the HRA, Policies LG2 and H2 were screened as having a likelihood of a significant effect due to a small indirect risk from increased recreational pressure on adjacent open areas including SPA/SAC sites. A range of mitigation measures were identified through Appropriate Assessment to ensure that development in proximity to the SPA/SAC would not result in an adverse effect on the integrity of protected sites, including the application of plan policies to safeguard biodiversity, provision of greenspace within new development and managing recreation activity at visitor destinations through the Peak District National Park Management Plan and the Rights of Way Improvement Plan⁹.

Conclusion on Issue 3

90. Subject to the MMs identified, the plan's vision and objectives are justified and appropriate to the circumstances of the plan area and the spatial strategy, settlement hierarchy and distribution of development are soundly based.

Issue 4 – Whether or not there is a need in principle to release land from the Green Belt to meet development needs and whether or not exceptional circumstances exist to add land to the Green Belt?

Overview

91. Currently, approximately 77% of the Borough is within the South Yorkshire Green Belt. Its functions include maintaining the separation between settlements within Urban Barnsley and between the town and surrounding Principal Towns, protecting the Borough's wider countryside and focusing development within more sustainable locations. However, the current boundary is tightly drawn around the existing settlements which are identified as a priority for development in Policy LG2. Together with the overall extent of the Green Belt within the Borough, this means that the supply and suitability of land to meet longer term development needs outside the Green Belt is restricted.
92. Policy CSP34 of the CS made provision for a localised Green Belt review with small adjustments to the boundary to be included within the DSP document. However, the need for more significant changes to meet employment needs was also referenced in the CS. The plan has been prepared in the context of the 2012 NPPF which indicates that every effort should be made objectively to identify and then meet the housing, business and other development needs of

⁹ Rights of Way Improvement Plan for Derbyshire 2007 – 2012 Derbyshire County Council

an area and respond positively to wider opportunities for growth. Significant changes to the Green Belt boundaries are proposed in the plan together with the removal of approximately 654 hectares of land for employment and housing development, greenspace and for safeguarded land. This is approximately 2.2% of the Borough's Green Belt.

93. The decision to undertake a Green Belt review was informed by a wide range of evidence including SA and the 2013 Strategic Housing and Land Availability Assessment (SHLAA) which was updated by the 2016 Strategic Housing and Employment Land Availability Assessment (SHELAA). The potential capacity of non-Green Belt housing sites within Urban Barnsley and the Principal Towns which are the principal locations for new development was assessed as 6100 dwellings with planning permission and 8994 on sites identified in the plan outside the Green Belt. The shortfall of approximately 6000 dwellings established that there was an insufficient supply of housing sites to meet objectively assessed need for housing without development of Green Belt land.
94. One of the Green Belt purposes set out in the NPPF is to assist urban regeneration by encouraging the recycling of derelict and urban land. The supply of previously developed land has diminished as former colliery and associated sites have been progressively restored and redeveloped. Approximately 12% of the housing sites and 9.5% of employment sites are on previously developed land and the site selection methodologies prioritise the use of previously developed land over greenfield. The Council published its Brownfield Land Register in August 2017 in advance of the Government's deadline. The Regulations require the identification of sites for housing rather than employment. It lists brownfield sites with potential for housing but a number already have planning permission and will already be included within the calculations of land supply for the plan period. The evidence demonstrates that the plan has sought to maximise the use of previously developed land.
95. The scope for maximising housing densities to minimise the amount of Green Belt release necessary to meet the housing requirement has also been considered. Policy H7 already seeks a density of 40 dwellings per hectare within Urban Barnsley and the Principal Towns. Whilst town centre sites or apartment schemes may have scope for higher densities to be achieved, there is no scope for an overall increase in the density figure set out in Policy H7.
96. The plan seeks to meet the employment OAN, OAHN and other development requirements in full and to identify sufficient deliverable sites to meet that need. Through the DtC it has been demonstrated that, at the present time, there is no scope for that need to be met within neighbouring authorities which are within different HMAs. Drawing matters together, there is a compelling case in principle to release land from the Green Belt to meet the objectively assessed need for development. This is, however, subject to exceptional circumstances being demonstrated for the alteration of Green Belt boundaries to justify the removal of specific sites from the Green Belt for development, a matter which I deal with in Issue 5.

Green Belt Review

97. The ARUP Green Belt review follows the SCR Common Approach and interprets the five purposes of the Green Belt in paragraph 80 of the NPPF. Notwithstanding the indication in the Green Belt review that there are no historic towns in Barnsley, I am satisfied that the contribution of the General Areas around Penistone to its setting and key views towards the Penistone Conservation Area which contribute to its character and appearance and landscape setting have been fully assessed as part of the review.
98. The Green Belt review followed a 3 stage process of assessing 114 General Areas around the settlements in the settlement hierarchy, including for completeness, villages inset from the Green Belt. General Areas were delineated by strongly defined boundary features and size variations do not undermine the robustness of the exercise. General Areas considered to be fulfilling the purposes of the Green Belt to a moderate degree or weaker (scoring 15 or less) were assessed for relevant site based constraints and any resultant land parcels were re-appraised against the five Green Belt purposes.
99. That there have been challenges to the scores attributed to the contribution of different General Areas to Green Belt purposes is almost inevitable given that a degree of planning judgement is involved. Importantly, the methodology incorporates a narrative alongside the scoring process which provides a 'sense check' particularly where anomalies, inconsistencies or errors may have occurred and it is important that the review is read as a whole. A number of representors also consider that the review was not sufficiently 'fine grained' in that smaller parcels within more strongly performing General Areas were not identified as resultant parcels to be taken forward through the site selection methodology.
100. The overall aims of the Green Belt Review are to identify land for removal which would cause least harm to Green Belt purposes and to identify new, permanent and defensible boundaries which are logical, robust and soundly based. The disaggregation of smaller parcels for assessment within strongly performing General Areas would undermine their integrity and the overall contribution that they make to Green Belt purposes. The Green Belt review is one component of a wider site assessment and selection process to identify a supply of suitable and deliverable sites to meet the Borough's employment and housing needs.
101. In that context, I consider that the Green Belt Review is fit for purpose and provides an appropriate basis for sites to be identified for removal for more detailed consideration through the employment and housing site selection methodologies.

Green Belt additions

102. A number of minor alterations to the Green Belt boundary are proposed to reflect changes in physical features, planning permissions, cartographic errors and minor adjustments to create more defensible boundaries including in conjunction with the release of larger sites from the Green Belt. The changes which were illustrated in the Green Belt Background Paper are shown on the Policies Map. I find these alterations to be logical and appropriate. Two larger additions are proposed.

103. Land south of Broadwater Estate, Bolton upon Dearne – the area was designated as safeguarded land and washlands on the UDP Proposals Map and is proposed to be included within the Green Belt in the submitted plan.
104. The site has been assessed through the site selection methodology. Approximately half of the site falls within Flood Zone 1 but the remainder is within Flood Zones 2 and 3 and the site has significant ecological value associated with the wetland and river Dearne corridor along the southern boundary. When viewed from the PROW running from the rear of the dwellings to the south of Broadwater, the site forms an integral part of the open and undulating land separating Bolton upon Dearne from Wath upon Dearne which is visible in long distance views to the south.
105. Whilst flood risk and biodiversity do not constitute the exceptional circumstances necessary to justify the alteration of the Green Belt boundary, they represent a significant constraint to development and the site would not be effective in meeting longer term development needs. The existing Green Belt boundary to the west of the site follows the River Dearne. Due to the allocation of site H67 to the west, the Green Belt boundary would be fragmented and would become a less defensible boundary to prevent further encroachment of the built up area of Bolton upon Dearne to the south. The rear boundary of existing development to the south of Broadwater would create a more cohesive and defensible Green Belt boundary to prevent further encroachment of the built up area to the south. I conclude that exceptional circumstances have been demonstrated to justify the alteration of the Green Belt boundary as shown on the Policies Map to include the site within the Green Belt. Problems with anti-social behaviour and vandalism are matters that should be dealt with under other legislation.
106. Land west of Fitzwilliam Street, Elsecar – this area was designated as safeguarded land on the UDP Proposals Map. As submitted, part of the area was identified as a housing allocation (site H2) with the remainder proposed to be included within the Green Belt. Based on the findings of the Historic Area Assessment¹⁰ (2017), the site (together with Site H2) falls within a larger area that makes a significant contribution to the understanding of Elsecar as a planned industrial village within the wider Wentworth Estate and to the understanding of the early coal mining and iron working industry in the area. Development of the safeguarded land could prejudice further investigation of the surviving buildings and buried remains.
107. As a consequence of the deletion of site H2 which is dealt with elsewhere in this report, a further alteration of the Green Belt boundary is proposed to follow the rear of the existing development to the south of Foundry Street together with the watercourse and wooded area to the west. Modification of the Policies Map to show these alterations has been prepared and consulted on by the Council (Map Change 25).

¹⁰ Historic Area Assessment: Land to the west of Elsecar Historic England Project 7532, ArchHeritage 2017

108. Without this change the Green Belt boundary as submitted would be in an arbitrary position and not sufficiently robust to prevent the extension of the built up area to the south. The revised position would provide a stronger and more defensible boundary to prevent encroachment of the existing built up area into open countryside. The HAA represents a material change in the understanding of the site's contribution to the historic significance of Elsecar. Overall, I conclude that exceptional circumstances have been demonstrated to justify the inclusion of the area within the Green Belt and the alteration of the Green Belt boundary as shown on Policies Map Change 25.

Green Belt policies

109. Policy GB2 deals with the extension and alteration of existing buildings in the Green Belt. As submitted, the wording to avoid any 'harmful impact' on openness is inconsistent with the fundamental aim of Green Belt policy set out in paragraph 79 of the NPPF to keep land 'permanently open'. So that the plan is consistent with national policy, **MM108** is necessary to address this and clarify how development proposals will be assessed having regard to character and appearance. Similarly, Policy GB3 deals with the change of use and conversion of buildings in the Green Belt and so that the plan will be effective, **MM109** is necessary to provide additional clarification on how development proposals will be assessed having regard to character and appearance.
110. Policies GB4 and GB5 deal with permanent and temporary agricultural workers dwellings and in order to ensure that the plan will be effective, **MM110** and **MM111** are necessary to provide additional clarification on how the character and appearance of proposals will be assessed.

Safeguarded land

111. The NPPF indicates that where necessary (my emphasis) areas of safeguarded land between the urban area and the Green Belt can be identified to meet longer term development needs stretching well beyond the plan period. It also indicates that safeguarded land is not allocated for development and that planning permission for permanent development should only be granted following a LP review.
112. Having regard to the extent of the Green Belt and the boundaries around Urban Barnsley and the Principal Towns which are the more sustainable locations for development, the identification of safeguarded land is appropriate to the circumstances of the plan area and necessary in the terms of the NPPF. The identification of safeguarded land will help to ensure that Green Belt boundaries will remain permanent and will not need to be altered in the long term.
113. After deducting the supply likely to come forward on windfall sites, the Council's approach is to identify sufficient safeguarded land to supply 5 years' worth of the annual housing requirement for delivery after the plan period. In the absence of any national guidance on the amount of safeguarded land that should be identified, this is a pragmatic and reasonable approach.
114. In the submitted plan the table accompanying Policy GB6 lists thirty three areas of safeguarded land which are shown on the Policies Map. Twenty five

safeguarded areas have been carried forward from the UDP and eight additional areas are proposed to be removed from the Green Belt for safeguarded land – SAF5, SAF6, SAF7, AC33, H79, H85, AC42 and AC41. Through the housing site selection methodology they were found to perform less favourably compared with the allocated sites and/or had deliverability issues which would be unlikely to be resolved within the plan period. The safeguarded sites proposed to be removed from the Green Belt all relate to resultant parcels (or part thereof) within the Green Belt review and for ease of reference I deal with the exceptional circumstances justifying their release at a site level in Issue 5.

115. Some of these safeguarded areas were proposed for additional housing sites during the examination consultation together with four additional safeguarded areas. My conclusion following the Stage 4 hearings was that the exceptional circumstances did not exist to justify the alteration of the Green Belt boundary for additional safeguarded areas EC2, EC7 and CA2a. In the interests of fairness I sought views on that position as part of the MMs consultation but I have seen no further evidence to justify coming to a different conclusion. As a consequence, only EC4 is justified as an additional safeguarded site to meet longer term development needs at Shafton and I deal with that in Issue 5.
116. The approach to the release of safeguarded land set out in Policy GB6 is inconsistent with national policy. For consistency with paragraph 85 of the NPPF, the word 'replacement' of the plan in Policy GB6 should be replaced with 'review' for which **MM113** is necessary. **MM114** is necessary to clarify that the development of safeguarded land will be assessed against normal planning considerations. The NPPF does not provide for the development of safeguarded land in 'exceptional circumstances' as indicated in the supporting text to Policy GB6 and for soundness, **MM115** secures its deletion.
117. The table of safeguarded land accompanying Policy GB6 should be updated and **MM112** achieves that.

Conclusion on Issue 4

118. Subject to the MMs outlined, I conclude that there is a compelling case in principle for the release of land from the Green Belt to meet the objectively assessed need for employment and housing and for additional safeguarded land. This is, however, subject to exceptional circumstances being demonstrated for the alteration of Green Belt boundaries to justify the removal of specific sites from the Green Belt for development, a matter dealt with in Issue 5. Exceptional circumstances have been demonstrated to add land to the Green Belt. In addition, the Green Belt boundary alterations to rectify anomalies, errors and reflect updated circumstances are appropriate and soundly based.

Issue 5 - Are the employment, mixed use and housing allocations positively prepared, justified and effective and where necessary have exceptional circumstances been demonstrated to justify releasing land from the Green Belt for the uses proposed including safeguarded land?

Site Selection

119. The development sites selected for assessment draw on robust evidence including the ELR, SHELAA and Green Belt review. A three stage assessment process was used taking account of a range of factors including the effect on infrastructure, landscape character, the historic environment, flood risk, infrastructure and deliverability. The employment and housing site selection methodologies are based on comprehensive, logical and robust criteria that are consistent with the SA objectives.
120. The process has been informed by relevant technical evidence, SA and the need to locate development in sustainable locations in accordance with the spatial strategy in Policy LG2. That there have been some challenges to the scoring of specific criteria for individual sites is inevitable given that an element of planning judgement is involved. However, I am satisfied that the reasons for selecting allocated sites and rejecting others are clear and the conclusions reached are reasonable ones.
121. Planning applications will be subject to assessment against all relevant plan policies. The site allocation policies identify specific constraints and requirements for mitigation to guide and inform plan users and development proposals. The larger sites require a 'phased masterplan' but without further details of what would be required from applicants. For effectiveness, **MM11** is required to clarify what a masterplan framework should include and the requirement for public consultation. The latter point would include full public engagement and no further clarification is necessary on this point.

Housing Density

122. Policy H7 includes a density requirement of 40 dwellings per hectare. The overall net density of permissions granted since adoption of the CS has declined from 45 dwellings per hectare (dph) (2004 to 2012) to 33 dph (2004 – 2012) reflecting the more 'risk averse' forms of development proposed since the recession. However, 40 dph reflects the average density achieved over the longer time frame. It is a realistic figure to work towards and will help secure sustainable patterns of development within Urban Barnsley and the Principal Towns.
123. As submitted, Policy H7 is not sufficiently flexible to accommodate circumstances where lower densities may be appropriate to reflect form and character nor does it provide any guidance for development in villages and the use of the word 'about' 40 dph creates uncertainty. These matters would be addressed through **MM77** which is also necessary to clarify that the figure relates to net densities and will ensure that Policy H7 is justified and deliverable.

Employment Allocations

124. As submitted, Policy E3 does not provide any useful guidance on the employment allocations. **MM17** is necessary to delete it and update the supporting text to confirm that Site MU1 contributes to the employment land supply.

Urban Barnsley

125. Site UB1 – As an expansion of the existing Birthwaite Business Park, no additional infrastructure or mitigation measures are required. Birthwaite Hall is a Grade 2 listed building and as a designated heritage asset its setting should be safeguarded as part of any layout. So that the site policy will be effective in this regard, **MM18** is necessary.
126. Site UB7 – The site is a resultant parcel within General Area DOD3 which the Green Belt review concluded was moderately fulfilling Green Belt purposes. I concur with its findings that Higham Lane, the M1 and existing built form of Capitol Park would form permanent and defensible boundaries to the Green Belt and would check the unrestricted sprawl of Dodworth. Development would be viewed in conjunction with the existing buildings at Capitol Park. Representations from the site promoter indicate good prospects for delivery.
127. Alternative sites have been assessed and discounted. The employment OAN cannot be accommodated without release of land from the Green Belt and the exceptional circumstances exist to justify an alteration to the Green Belt boundary to remove the site for development.
128. Site UB16 – This UDP employment allocation was carried forward into the submitted plan. The NPPF at paragraph 22 indicates that policies should avoid the long term protection of sites allocated for employment use. Based on the findings of the ELR and the Barnsley Employment Land Report¹¹ (2016) I am satisfied that there is no reasonable prospect of the site being used for employment. The site is not required to meet the employment OAN and there is a current outline planning application for housing. To ensure that the plan is deliverable and consistent with national policy, **MM19** is necessary to delete UB16 for employment. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 57).

Principal Towns

129. Sites HOY1, HOY3 & HOY5, Hoyland – These sites are resultant parcels within General Areas HN4, HN6 and HN11 all of which were concluded to be moderately fulfilling Green Belt purposes within the Green Belt review. They are within a cluster of employment sites around M1 Junction 36 and Hoyland which will be supported by the SCRIF. I concur with the conclusions of the Green Belt review that the presence of surrounding development and road infrastructure results in a high level of containment and the areas relate closely to the existing built up area of Hoyland. Having regard to my

¹¹ Barnsley Local Plan Evidence Employment Land (April 2016) Mott McDonald and Colliers International

conclusions in Issue 4, exceptional circumstances have been demonstrated to justify an alteration to the Green Belt boundary to remove these sites for development.

130. The employment and housing sites in Hoyland should be developed in a co-ordinated and comprehensive manner through production of a masterplan framework to address cumulative infrastructure and other requirements. So that the site policies have been positively prepared, **MM21**, **MM22** and **MM25** are necessary to update the requirements for Sites HOY1, HOY2 and HOY5 including landscaping on site boundaries and an amendment to the site boundary of HOY1 to enable part of the existing Sports Club to be retained and the re-location of sports facilities within the site boundary to a location within Hoyland Principal Town. Modification of the Policies Map to clarify the site boundaries of HOY1 and HOY5 has been prepared and consulted on by the Council (Map Changes 32 and 50).
131. Sites HOY3 and HOY4 lie to the north of the Dearne Valley Parkway and will be developed separately from the larger sites in Hoyland. A masterplan framework is not justified for these smaller sites and **MM23** and **MM24** are necessary to remove this requirement from the respective site policies.
132. Site RSV1, Goldthorpe – The site falls within General Area DE6 which the Green Belt review concluded to have a fundamental role in safeguarding the countryside from encroachment and protecting an essential gap between Goldthorpe and Darfield and the Dearne Towns and Wath upon Dearne. No resultant parcels were identified. My interim findings concluded that in the absence of any further evidence, the exceptional circumstances to justify the alteration of the Green Belt boundary to remove the site from the Green Belt had not been demonstrated and its identification as a 'reserve' employment site was not soundly based. I have seen no further evidence to justify coming to a different conclusion.
133. Site D1 will provide additional employment land to the east of the Borough and site RSV1 is not required to meet the employment OAN. Future needs would be addressed through a plan review, including mitigation measures to address local impacts. Site RSV1 should be deleted from the plan for which **MM30** is necessary. Modification of the Policies Map to show this alteration has been prepared and consulted on by the Council (Map Change 59).
134. Policy E4 sets out the circumstances under which site RSV1 would be considered for development and is no longer relevant. **MM29** is necessary to delete it.
135. Site D1, Goldthorpe – The site is a smaller area within General Area DE6 and the Green Belt review findings are outlined above. Its location to the west of the built up area of Goldthorpe and adjacent to the existing ALDI distribution depot relates closely to the existing built up area. The western boundary of the site would be approximately 1.1 km from the A6195 and with the deletion of site RSV1, there would be an adequate separation between development on the site and the A6195 to prevent the coalescence of the built up areas of Goldthorpe and Darfield.
136. The site is within the Priority Growth Area in the SCR LEP where economic indicators support the need for jobs growth and its allocation will ensure a

distribution of employment sites in accordance with the spatial strategy. The existing UDP employment allocations in Goldthorpe are limited in size and no other additional suitable sites were identified through the site selection methodology. Having regard to my conclusions in Issue 4, exceptional circumstances have been demonstrated to justify an alteration to the Green Belt boundary to remove the site for development.

137. A number of site specific impacts have been raised in representations including the cumulative impact of additional traffic on the A635 in terms of highway capacity and air quality. Although the Highway Authority is satisfied that a safe access onto the A635 can be achieved, the cross boundary impacts in terms of air quality and specific proposals for the A635 will continue to be addressed through the DtC. Transport assessments will be required in conjunction with any planning application for the site.
138. The proximity of Old Moor Nature Reserve which has been identified as a candidate SSSI has been raised in representations together with the importance of site D1 for habitat connectivity. The implications for habitat connectivity would be addressed through the application of Policy BIO1. Initial surveys conducted by the Council have not identified the presence of Golden Plover but a precautionary approach is required and the necessity for site surveys and mitigation should be identified within the site policy.
139. Billingley village lies approximately 0.5km to the north of site D1. Development proposals should have regard to the requirement to preserve or enhance the character or appearance of Billingley Conservation Area including outward views of the open countryside to the south which contribute to its setting and thereby to its significance.
140. As submitted, site policy D1 is not positively prepared in respect of identifying and mitigating the site specific impacts outlined above. **MM20** will address this by requiring a masterplan framework to deal with the matters outlined above.
141. Site P2, Penistone – Despite being within General Area PEN1 which the Green Belt review concluded was strongly fulfilling Green Belt purposes, the review concluded that the river Don would form a strong physical feature and that the area to the east of Kirkwood Beck could be considered for 'consolidation' for employment purposes.
142. The site relates closely to the built up area of Penistone and to existing employment sites to the south and north of Sheffield Road and would be contained by the road to the south, the river to the north and an area of woodland to the east. Other than existing employment sites, no other suitable employment sites in Penistone were identified through the site selection process. The employment OAN cannot be met on land outside the Green Belt. Having regard to my conclusion in Issue 4, the exceptional circumstances exist to justify the alteration of the Green Belt boundary to remove the site for employment development.

Other locations

143. Site N1, Tankersley – Planning permission has been granted for employment development on an area to the north-west of the park designated as green

space on the Policies Map. To ensure that the site policy has been positively prepared, **MM26** is necessary to increase the size of the site allocation to reflect the planning permission and to secure appropriate mitigation for the loss of greenspace. Modification of the Policies Map to show this change has been prepared and consulted on by the Council (Map Change 29).

144. Sites N2 and N5, Houghton – Both sites are undeveloped parcels within existing employment areas. To ensure that the plan has been positively prepared, **MM27** and **MM28** are necessary to highlight flood risk within the wording of the site policy for N2 and require the retention of habitats of ecological value for site N5.

Mixed use allocations

145. Policy Mixed Use Sites 1 does not provide any useful guidance to plan users on the mixed use allocations and is not effective. **MM82** is necessary to delete it from the plan.
146. Site MU1 - The site covers approximately 122 hectares and is allocated for 1700 dwellings, 43 hectares of employment land, community facilities including a primary school and new road - the Claycliffe road link. Although much of the area is now farmland, historically it accommodated four opencast coal mines. It forms a resultant parcel (UB2a) within the Green Belt review. The SA and employment and housing site selection methodologies which I have found to be robust have also informed the allocation of Site MU1.
147. The conclusion of the Green Belt review that General Area UB2 is weakly fulfilling Green Belt purposes and the score attributed to it are disputed in representations. It is clear that the area maintains not only the physical separation between former mining settlements but their identity as different communities. As acknowledged in the Green Belt review, the area contains a PROW network, contributes to visual amenity and supports biodiversity assets.
148. Views from within and towards the site are strongly influenced by the edges of the built up areas of Higham and Barugh Green to the west and Gawber and Pogmoor to the east. Whilst in a cutting, the M1 is a substantial man made feature which together with the commercial development around Junction 37 contributes to the sense of being within an urban area. Based on this, I concur with the findings of the Green Belt review that the area has a strong functional relationship with the existing built form of Urban Barnsley and that the M1 and railway line would create strong boundaries to prevent further encroachment of the built up area to the west.
149. The site selection methodology resulted in a lower score for site MU1 compared with other sites in Urban Barnsley. However, the need for employment land in strategic locations throughout the Borough to accommodate the sectors identified in the Jobs and Business Plan is clearly demonstrated in the ELR and Barnsley Employment Land Report. The site is in a sustainable location on the edge of Urban Barnsley and services and facilities including public transport and the location of employment uses alongside new housing offer sustainability benefits in terms of reducing the need to travel. The need for employment and housing land to meet objectively assessed needs cannot be met without the release of land from

the Green Belt. Exceptional circumstances have been demonstrated to justify the alteration of the Green Belt boundary to remove the site for development.

150. The scale and nature of the 'other uses' referred to in site policy MU1 in the submitted plan is unclear. Town centre uses would be subject to the sequential test but for clarity and effectiveness, the site policy should state that other retail uses will be restricted to small scale convenience retailing in line with Policy TC5 of the plan and **MM83** achieves that. Community facilities are those that will serve residents and employees of the development and for clarity, **MM83** is also necessary to make that clear within the supporting text to site policy MU1.
151. Details of the activities associated with the former mining use have been submitted in representations. Building construction will require piled foundations. To ensure that the site policy will be effective, **MM83** is necessary to strengthen its requirements to deal with ground conditions and contamination and the necessary works should be secured through a phasing plan which will form part of the masterplan framework.
152. Whilst the biodiversity value of the site is clearly appreciated by local residents, there are no national or local biodiversity designations and the Council's assessments did not identify habitats or species of high biodiversity value. The site policy appropriately includes reference to avoiding impacts on Redbrook Pastures Local Wildlife Site to the east. Policy BIO1 would require any development proposals to conserve and enhance biodiversity and the site policy includes a requirement to create and retain existing wildlife corridors and retain existing features including hedgerows, the watercourse and woodland. These features would need to be incorporated into any masterplan framework and I consider this is a satisfactory approach.
153. Residents have expressed concerns about noise and disturbance arising from the location of employment uses in proximity to existing housing and the potential for harm to living conditions during the construction and operational phases. The masterplan framework and determination of planning applications in accordance with Policy GD1 would ensure that the impact of the proposed uses on living conditions is assessed as part of any planning application. Subject to an adequate separation between the commercial and residential uses and appropriate mitigation measures, I see no reason why a suitable layout could not be achieved to avoid significant harm to living conditions.
154. The existing PROWs across the site which connect different communities are a distinctive feature and an important beneficial use of the Green Belt and should be incorporated within the layout of development for Site MU1. The general requirements for masterplan frameworks as set out in **MM11** include the protection of existing PROWs. Whilst acknowledging that ground alterations will provide challenges to the alignment of PROW routes across site MU1, I see no justification to alter the specific requirement identified in the site policy. The provision of publicly accessible open space which could form part of the green infrastructure network should feature within the site policy as a specific requirement and **MM83** achieves that.
155. Delivery timescales have been adjusted through the examination process and the projected start date of 2020/21 and yield of 1500 dwellings in the plan

period represent a realistic assessment. It is anticipated that the employment land would be developed in full by the end of the plan period. There is nothing to indicate that the additional costs associated with remediation and piling would undermine viability, particularly in this stronger market location.

156. The highway impacts of site MU1 have been modelled. The site policy includes a requirement for a link road connecting Higham Common Road to the A635 Barugh Green Road in the vicinity of Claycliffe Business Park. The road would fulfil a strategic and local function, providing an alternative route between M1 Junction 37 and the employment areas at Claycliffe and serving new development on site MU1. Subject to careful design and landscaping to facilitate accessibility by walking and cycling, I see no reason why the link road could not be successfully assimilated into the site layout.
157. The Infrastructure Delivery Plan to 2033 (IDP) identifies the off-site junctions on the local road network where further mitigation measures will be necessary. The timing of funding bids to the SCRIF has also lead to concerns about pre determination, including in relation to the Claycliffe Road link and Dodworth Road/Pogmoor Road junction improvement and roundabout. The scheme was identified in the IDP to deal with existing congestion as well as providing capacity for future growth and detailed design work has progressed during the course of the examination. A planning application for the scheme has been made by the Highway Authority and will be subject to a formal process of public consultation and scrutiny.
158. The provision of a primary school, employment and local facilities would reduce the need to travel and facilitate sustainable modes of transport including walking and cycling. The capacity of local roads to accommodate development prior to the construction of the link road is a matter for more detailed assessment as part of the masterplan framework and any planning application. Overall, having regard to the site policy requirements and highway improvements identified in the IDP, I conclude that the impact on the strategic and local highway network would not be severe. In coming to that view I have had regard to the views of Highways England that subject to mitigation and/or localised capacity improvements, development proposed in the plan can be accommodated without adverse impact on the strategic road network.
159. The plan provides the appropriate framework for the more detailed masterplan to be prepared and for the development of planning applications. At a plan level, I am satisfied that sufficient information has been demonstrated to establish that the site allocation is soundly based.
160. Drawing matters together, I conclude that the exceptional circumstances have been demonstrated to justify the alteration of the Green Belt boundary in this location to remove the site and allocate it for the uses proposed. The site policy incorporates a number of important requirements which will be detailed in the subsequent masterplan framework and planning applications. Accordingly subject to the various modifications in **MM83** outlined above, the allocation of site MU1 is soundly based.
161. Site AC12 – The site is a resultant parcel (UB8a) within General Area UB8 which was found to be moderately fulfilling Green Belt purposes in the Green Belt review. The parcel is enclosed by the Manor Bakery factory to the north,

Fish Dam Lane to the west and the Transpennine Trail on the former railway line to the east which would provide a strong boundary to assist in safeguarding the countryside to the east from encroachment and would maintain the separation between Carlton and Cudworth.

162. In order to achieve a safe access onto the local highway network, the main access road will pass through Wharnccliffe Woodmoor which is located to the west of site AC12. To ensure that any potential losses of green space are mitigated and retain beneficial uses, **MM84** is required to indicate within the site policy that compensatory provision will be required.
163. **MM84** is also necessary to list the areas of important habitat that are required to be retained. Any proposal would be assessed against Policy BIO1 of the plan and whilst concerns have been expressed about the effect on habitat connectivity and biodiversity, I conclude that the site policy as proposed to be modified provides a suitable framework to secure the necessary mitigation including appropriate buffers to watercourses. De-culverting Carlton Beck and other watercourses would be a significant additional infrastructure requirement and in the absence of further details of cost and implications for the site is not justified.
164. The site policy represents an appropriate framework to address the mitigation necessary through a more detailed masterplan framework, work on which has been commissioned by the Council. Whilst this indicates good prospects for delivery, Site H44 lies immediately to the south east of AC12 and the sites should be combined as one allocation so that the trajectory is based on a realistic and achievable rate of delivery. So that the plan has been positively prepared, **MM38** is necessary to delete site policy H44 and **MM84** secures the necessary modifications to site policy AC12 including an increase in site capacity to approximately 1683 dwellings. The projected start date of 2021/22 is realistic. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 30). Finally, for consistency with national policy development should be avoided within flood zones 2 and 3 and **MM84** rectifies that omission within the site policy.
165. The other mixed use site policies AC11 and AC16 in Urban Barnsley and AC40 in Wombwell include appropriate criteria and mitigation to secure a satisfactory form of development and are soundly based.
166. The site policies make clear where provision towards primary education is required and Policy ED1 and the duplicated education policies are superfluous and not justified. For effectiveness, **MM85** secures their deletion and minor changes to the retained explanatory text.

Housing allocations

167. The submitted plan includes over 90 housing site allocations. At stage 4 of the examination, additional housing sites were proposed by the Council to meet the increased housing requirement and address the identified shortfall in delivery on some sites and subject to public consultation. My conclusions on the soundness of those sites are outlined below but in summary, ten additional housing are included as MMs in the Appendix.

168. For the avoidance of doubt, I have considered further only those allocations which raise specific issues in respect of soundness including sites proposed to be released from the Green Belt, those where MMs are necessary to ensure soundness and sites that are proposed to be altered or deleted. I have considered all the representations made at the Regulation 19 stage and at the hearing sessions and where no reference is made I am satisfied that the site allocations are soundly based.
169. Policy GD1 sets out the criteria that will be used to assess development proposals including those submitted on allocated sites. For effectiveness, reference to all surface water bodies should be included in Policy GD1 and **MM10** achieves that. For clarity and effectiveness, **MM9** is necessary to explain that proposals will be assessed against all other relevant policies in the plan. With the addition of this supporting text, Policy H3 becomes superfluous and for clarity **MM33** secures its deletion.
170. Policy H4 outlines how other uses on allocated sites would be assessed but the use of the term 'will be developed mainly for housing' (my emphasis) creates uncertainty. For clarity, **MM75** is necessary to delete the word 'mainly' together with other minor clarifications.

Urban Barnsley

171. Site H83 – The site is a resultant parcel (MPW3a) within General Area MPW3 which was found to be moderately fulfilling Green Belt purposes in the Green Belt review. I concur with its findings that Bloomhouse Lane and Woolley Colliery Road would create strong permanent boundaries to the Green Belt to assist in safeguarding the more open and undulating countryside to the north from encroachment.
172. The development would relate closely to the existing built up area of Darton and Mapplewell and would be viewed in conjunction with development on the adjoining site allocation (H20). The site policy sets out appropriate mitigation measures. On this basis, and having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
173. Site AC1 – The site is part of a resultant parcel (MPW3b) comprising two areas of land separated by an area of greenspace within General Area MPW3 which was found to be moderately fulfilling Green Belt purposes in the Green Belt Review. I concur with its findings that Bloomhouse Lane and Woolley Colliery Road would create strong and permanent boundaries to the Green Belt and removing areas of previously developed land within MPW3b would facilitate the recycling of derelict land.
174. The development would reduce the separation between Darton/Mapplewell and Woolley Colliery Grange which is in Wakefield Borough but would be on previously developed land and would be viewed in conjunction with new housing at the Woolley Colliery site. The site policy sets out appropriate mitigation measures and having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
175. Site AC2 – The site is a resultant parcel (MPW6a) within General Area MPW6 which was found to be moderately fulfilling the purposes of the Green Belt. When viewed from Darton Lane, the area between road and the trees and

vegetation along the PROW on the former railway line to the south is well contained and relates closely to the existing built up area. This accords with the findings of the Green Belt review that the former railway line would provide a stronger more defensible boundary to prevent the extension of the built up area into the river valley which is an important open space separating different settlements within Urban Barnsley. On this basis, and having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.

176. Site H13 – Concerns have been raised about the effects on biodiversity, including on the Littleworth Park Nature Reserve which is a candidate Local Wildlife Site and the potential impact on bats. There are no national or local designations on the site itself or survey results which lead me to conclude that the development would have a significant adverse effect on wildlife. Any proposed development would be required by Policy BIO1 of the plan to conserve biodiversity and drainage and contamination would be addressed under Policies GD1, CC1 and CL1. **MM35** is necessary to confirm access arrangements within the site policy and secure a wildlife buffer strip on the common boundary with Littleworth Park as part of any development. I consider that this is a satisfactory approach.
177. Site H19 – The site lies immediately to the west of the M1 and partly within an Air Quality Management Area (AQMA). The site policy includes appropriate mitigation measures to address noise and disturbance and the net site area and yield take account of the need to avoid development within the AQMA. However, for effectiveness the site policy should make clear that development should be avoided on that part of the site within the AQMA and **MM36** achieves that.
178. Site H28 – Part of the site is a former school. So that the plan has been positively prepared, **MM37** is necessary to ensure that existing habitats are retained or compensatory measures are provided for any losses.
179. Site H57 is in proximity to Monk Bretton Cross and to ensure that its setting will be conserved in line with the NPPF's approach to designated heritage assets, **MM39** is required.
180. Site H72 – The site is within a resultant parcel (UB14a) within General Area UB14 which the Green Belt review concluded was moderately fulfilling Green Belt purposes.
181. The submitted plan proposed 77 dwellings on the site but it occupies a steep hillside and due to the cost of ground works, viability would be significantly compromised. It is therefore not deliverable in the terms of paragraph 47, footnote 11 of the NPPF. There are no exceptional circumstances to justify alterations to the Green Belt boundary in this location and the site will remain within the Green Belt. **MM40** is necessary to delete site H72 for housing. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 31).
182. Site H73 – The submitted plan proposed 154 dwellings on this site which comprises small field parcels between Mount Vernon Road and Upper Sheffield Road. When viewed from the PROW which runs through the site, the ongoing agricultural use creates a striking and attractive contrast with the built up

areas around it. Whilst a 'buffer' area was identified on the Policies Map to safeguard the designated heritage assets of Elmhirst Farmhouse and Darley Hall, due to the extent of the site area the proposed development would still encroach upon their setting and would be harmful to their significance as designated heritage assets.

183. I conclude that the exceptional circumstances do not exist to justify altering the Green Belt boundary to remove the whole of the site from the Green Belt as shown on the submitted Policies Map. However, the boundary to the south of Mount Vernon Crescent would create a strong and defensible Green Belt boundary to check any further encroachment of the built up area to the south and safeguard the setting of designated heritage assets and would enable a smaller area to be removed for development.
184. For consistency with national policy and deliverability, **MM41** is necessary to allocate a reduced site area for approximately 42 dwellings and to include reference within the site policy for the need to safeguard all nearby designated heritage assets together with retention of the distinctive roadside wall. Whilst representations support the retention of the site within the Green Belt, exceptional circumstances have been demonstrated to alter the boundary and the reduced site allocation is soundly based. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 23).

Cudworth

185. Sites H74 & H75 – Both sites are within a resultant parcel (CUD2b) within General Area CUD2 which the Green Belt review concluded was moderately fulfilling Green Belt purposes. I concur with its findings that the A628 Cudworth bypass would create a strong and defensible boundary to the Green Belt to prevent encroachment of the built up area of Cudworth into the countryside to the north. Areas of green space and the cemetery which are existing beneficial uses would be retained.
186. The development of both sites would relate closely to the existing built up area of Cudworth and would be adjacent to Site H87. The site policies appropriately require a masterplan to ensure a comprehensive form of development and to ensure that the plan will be effective. **MM45, MM46** and **MM47** are necessary to clarify the scope of the masterplan and cross reference it within the requirements for site H87. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
187. Site H76 - The site is a resultant parcel (CUD2c) within General Area CUD2 which the Green Belt review concluded was moderately fulfilling Green Belt purposes. I concur with its findings that the A628 Cudworth bypass would create a strong and defensible boundary to the Green Belt to contain the built up area of Cudworth and maintain the separation between it and Weetshaw to the north-west. The site policy sets out appropriate mitigation measures. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
188. Site H39 is in Cudworth and so that the site policy will be effective, **MM44** is necessary to indicate that development should avoid areas of flood risk.

Goldthorpe

189. Site H84 - The site forms a resultant parcel (DE1a) within General Area DE1 which the Green Belt review concluded was moderately fulfilling Green Belt purposes. I concur with its findings that the disused railway line would create a strong and defensible boundary to check any further extension of the built up area of Thurnscoe to the south. Whilst there would be some reduction in the separation between Thurnscoe and Goldthorpe, the site relates closely to the built up area of Thurnscoe and with appropriate layout and landscaping a sympathetic form of development can be achieved. The site policy appropriately requires a masterplan and to ensure that this will be comprehensive in approach, **MM50** is necessary. On this basis, and having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
190. Site AC26 is to the east of Bolton upon Dearne and forms the later phase of an existing development. To secure effective mitigation for adjoining habitats and designated heritage assets **MM48** is required and will ensure that the plan is effective. So that the plan will be effective and deliverable, **MM49** is required to reduce the indicative yield of Site H67 to the west of Bolton upon Dearne to enable areas of biodiversity to be retained and confirm access arrangements via site D1.

Hoyland (including Elsecar)

191. A number of sites are proposed for housing development in Hoyland and for ease of reference the sites are grouped together.
192. Sites H77 and AC29 - These sites form part of a resultant parcel (HN11a) which comprises General Area HN11 which the Green Belt review concluded was moderately fulfilling Green Belt purposes. Although within the Dearne Valley Green Heart Nature Improvement Area which creates amenity value, when viewed from the A6195 the parcel is highly contained by existing development to the west and by the Dearne Valley Parkway and proposed housing allocation H16 to the south. The remainder of the resultant parcel is proposed as employment site HOY5 and green space and urban fabric reflecting its existing functions.
193. So that the requirement for a masterplan framework for sites H77 and AC29 in conjunction with site H16 is clear, **MM51** and **MM59** are required. To safeguard the rural setting of the listed Hoyland Lowe Stand, dwelling heights at the eastern edge of the site should be restricted to single storey and the area identified as 'undevelopable due to heritage' should be expanded. **MM59** achieves that and will ensure that the site policy is effective. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 24).
194. I have had regard to representations that dwelling heights and the limits of the undevelopable area should be determined through the detailed layout for the site, but the site allocation as proposed to be modified provides greater clarity on deliverability. I have amended **MM59** to remove the requirement for the improvement and maintenance of Hoyland Lowe Stand which is outside the site boundary.

195. For consistency and effectiveness, the requirement for a masterplan framework should be included within the site policy for site H16 and duplicated text within the policy should be deleted and **MM57** is required. The boundary between site H16 and HOY5 should be clarified and modification of the Policies Map has been prepared and consulted on by the Council (Map Change 32). Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove these sites from the Green Belt.
196. Sites AC30 and AC31 – The Green Belt Review concluded that General Area HN4 was moderately fulfilling Green Belt purposes. Site AC30 falls within a resultant parcel (HN4b) which is contained by the M1 to the west and by the A6135 Sheffield Road to the north-east. Site AC31 is a resultant parcel (HN4c) which is contained by existing development to the north. The operational railway line to the south-east would provide a strong and permanent Green Belt boundary to maintain the separation between Hoyland and the small settlement of Harley to the south-east (within Rotherham Borough).
197. For effectiveness, **MM52** and **MM53** are necessary to clarify the requirement for a masterplan framework for the development of sites AC30 and AC31 in conjunction with sites H7, H8 and H45. Skiers Wood Local Wildlife Site is in close proximity to sites AC31 and H45 and in response to representations I have amended site policies AC31 and H45 to require a suitable buffer to this area. For consistency and effectiveness, the requirement for a masterplan framework should also be included in site policies H7, H8 and H45 and **MM55**, **MM56** and **MM58** achieve that. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove these sites from the Green Belt.
198. Site 877 is adjacent to the M1 and to ensure that the plan has been positively prepared, **MM61** is necessary to confirm that development should not be located in the AQMA.
199. Site H2 – Based on the findings of the Historic Area Assessment¹² (2017), the site falls within a larger area that makes a significant contribution to the understanding of Elsecar as a planned industrial village within the wider Wentworth Estate and to the understanding of the early coal mining and iron working industry in the area. As the development of Site H2 in its entirety could prejudice further investigation of the surviving buildings and buried remains, the allocation is not soundly based and **MM54** is necessary to delete it.
200. The site should be designated as urban fabric with the extent of the heritage constraint identified and any future proposals would be assessed having regard to Policy HE1 in the plan which seeks to safeguard heritage assets.
201. The proposed alteration of the Green Belt boundary to follow the rear of the existing development to the south of Foundry Street together with the

¹² Historic Area Assessment: Land to the west of Elsecar Historic England Project 7532, ArchHeritage 2017

watercourse and wooded area to the west would provide a logical and defensible boundary to prevent encroachment into open countryside. Modification of the Policies Map to show these alterations has been prepared and consulted on by the Council (Map Change 25).

202. Whilst representations support the allocation of additional land in Hoyland, sufficient sites have been identified to meet objectively assessed needs for employment and housing together with areas of safeguarded land.

Penistone

203. Site AC34 - The site falls within a resultant parcel PEN8a within General Area PEN8 found to be moderately fulfilling Green Belt purposes in the Green Belt review. I concur with its findings that Huddersfield Road, Halifax Road and the operational railway line would form strong and permanent boundaries to the Green Belt to the north of Penistone.
204. Part of Site AC34 has planning permission for 11 dwellings and **MM63** is necessary to reduce the site yield to 32 dwellings to reflect the capacity of the remaining undeveloped area. So that the plan will be deliverable, **MM63** is also required to ensure that development is not located within Flood Zones 2 and 3. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.
205. Sites H81 and H82 – Also within resultant parcel PEN8a, the west, north and east boundaries of the sites correspond with the revised Green Belt boundary as described above. Representations indicate a number of concerns in relation to development on these sites including the impact on landscape character. The sites form a transition between the main built up area and the open moorland landscape rising to the north and new development will represent a significant change. However, I see no reason why a sensitively designed development with appropriate landscaping could not be achieved and this would ensure that the landscape setting and character of Penistone is safeguarded. The site policy includes appropriate mitigation measures in this regard.
206. Westhorpe Works located between Sites H81 and H82 is subject to a buffer zone and development within prescribed distances of the site is not permitted in accordance with the license granted by the Health and Safety Executive. This has been accounted for in the yield of both sites and further detailed consideration of the position of roads and buildings in relation to the buffer zone will be undertaken through the planning application process. So that site H81 will be deliverable and consistent with H82, I have amended **MM64** so that the site policy includes reference to the need for an appropriate buffer around Westhorpe Works. That site is designated as urban fabric on the Policies Map and any future development proposals would be assessed in accordance with Policy H6.
207. Through the HRA, sites H81 and H82 were screened in as having a likelihood of a significant effect in terms of their potential for providing over wintering feeding ground for Golden Plover. Through the AA, mitigation measures were identified to ensure that the proposals would not result in an adverse effect on the integrity of protected species and **MM64** and **MM65** are also required to ensure that the appropriate mitigation measures are incorporated within both

site policies. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove these sites from the Green Belt.

Wombwell/Darfield

208. Site AC39 - The Green Belt review concluded that General Area DAR3 was moderately fulfilling Green Belt purposes and resultant parcel DAR3a is contained by the existing built up area to the north, a wooded area to the west and Netherwood Road/Pitt Street to the south. Site AC39 is a smaller portion of DAR3a and its capacity reflects access constraints. When viewed from Pitt Street, development would relate closely to the built up area and would be contained by a defined field boundary to the west. The designation of part of the remaining parcel for green space reflects its use as allotments. The rest of the area is identified as safeguarded land (AC41) to meet longer term development needs, subject to consideration of access issues.
209. In order to ensure that the plan will be effective and is consistent with national policy, development should not take place on those parts of site AC39 within flood zones 2 and 3 and **MM67** is required to clarify that within the site policy. Having regard to my conclusions in Issue 4, exceptional circumstances exist to remove this site from the Green Belt.

Royston

210. Site H11 – part of the site has planning permission. So that the allocation is deliverable, **MM66** is required to reflect the dwelling capacity of the remaining undeveloped area and clarify the development requirements which include provision of a primary school, the site for which will be determined through a planning application. Modification of the Policies Map to delete the area identified for the primary school and incorporate it within the site area and to show the site as a mixed use site has been prepared and consulted on by the Council (Map Change 5).

Additional housing sites

211. The SA Site Assessment Addendum of the additional sites has been criticised in representations with particular reference to the significant positive effect attributed to Objective SP4 (Housing) and minor positive effect for Objective SP8 (Community). Although supported by relevant technical evidence, the assessments involve planning judgement. Reasonable conclusions have been reached and the SA acknowledges where residual minor negative effects exist including in relation to the delivery of objective EP16 (landscape character) and that each of the sites generate at least one minor negative effect on the SA objectives. The effects identified in the SA have resulted in specific mitigation measures being incorporated within the site policies and the SA work undertaken to inform the identification of additional sites is adequate. HRA of the additional sites was also undertaken and the findings for site EC8 are reported below.

Urban Barnsley

212. Site 460 – This is a brownfield site within a sustainable location in Urban Barnsley and occupied by a former hospital and could accommodate approximately 74 dwellings. This additional site is necessary to ensure that

the plan has been positively prepared and **MM42** is required to allocate the site and include appropriate measures to retain existing vegetation and safeguard the setting of nearby designated heritage assets. Modification of the Policies Map to show this change has been prepared and consulted on by the Council (Map Change 35).

213. Site UB16 – The site is proposed to be deleted as an employment site in **MM19**. It is close to existing services and facilities and public transport corridors and would therefore be a sustainable location for new housing. It would make use of under used land and the submission of an outline planning application for 230 dwellings demonstrates a good prospect for delivery.
214. In order that the plan has been positively prepared and is consistent with national policy, **MM34** is necessary to allocate the site for housing instead of employment, delete the first bullet of site policy UB16 which is no longer relevant and ensure reference is made to safeguarding nearby designated heritage assets. Modification of the Policies Map to show these changes has been prepared and consulted on by the Council (Map Change 57). The indicative site yield reflects the current planning application and having regard to site constraints and necessary mitigation, there is no justification to increase the indicative yield to approximately 300 dwellings.

Cudworth

215. Site EC3 - The site was within the Green Belt on the submitted Policies Map. It is within a resultant parcel (CUD11a) within General Area CUD11 which was found to be moderately fulfilling Green Belt purposes in the Green Belt review. The disused railway line would form a strong and defensible boundary to the east and north which would assist in preventing encroachment of the built up area of Shafton into the more open and undulating countryside to the north. The site could be developed in conjunction with the adjoining site H22 and relates closely to the built up area of Shafton. Having regard to my conclusions in relation to Issue 4, exceptional circumstances have been demonstrated to alter the Green Belt boundary to remove the site from the Green Belt. The existing allotments would be retained and designated as green space. The yield of site H22 should be reduced to reflect infrastructure constraints including pylons which run across the site.
216. Allocation of this additional site is necessary to ensure that the plan has been positively prepared and **MM43** is required to allocate and incorporate site EC3 within site H22 and include appropriate measures to retain existing vegetation and features. The identification of the remainder of CUD11a as safeguarded land (EC4) to meet longer term development needs is justified and would be achieved through **MM112**. Modification of the Policies Map has been prepared and consulted on by the Council (Map Change 37).

Hoyland

217. Site EC5 – The site was proposed as safeguarded land in the submitted plan (SAF7). It is a resultant parcel (HN4a) within General Area HN4 which was found to be moderately fulfilling Green Belt purposes in the Green Belt review. The A635 Sheffield Road and disused tip to the south would create a strong and permanent boundary to the Green Belt to prevent any further encroachment of the built up area of Hoyland to the south and west.

APPENDIX 13 – LANDSCAPE AND VISUAL IMPACT TECHNICAL NOTE



WEST GREEN RECYCLING, CUDWORTH
LANDSCAPE AND VISUAL IMPACT Technical Note
JULY 2025



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1.0 INTRODUCTION

- 1.1 The Appeal Site is located on the north-eastern side of West Green Way between the settlements of Cudworth, Lundwood and Carlton, within the administrative boundary of Barnsley Metropolitan Borough Council.
- 1.2 The site (contained within the red line at (see site plan in statement of case) ('Appeal Site'), which is in industrial use is occupied by the Appellant's company (E J Lidster (Sales) Ltd). Additional land within the Appellant's ownership is contained within the blue line at Figure 1, Appendix 2 and includes storage, including storage unrelated to the waste recycling. I refer to the Appellant's overall land, including the Appeal Site, as the 'Wider Site' in this report.
- 1.3 Although the majority of the Appeal Site is laid to concrete, its northwestern extent and the access track (leading from West Green Way) is unmade, compacted ground, sitting atop a hardcore base. Within this area, waste material is stored in spoils before being treated. The site measures approximately 1.51 hectares in area.
- 1.3 The Council's decision notice refusing planning permission for the Appeal Scheme included the following;

Reason for Refusal

- 1 *The proposed development introduces significant new development that appears to be required to facilitate the intensification of the existing use on the site. This is contrary to the mixed-use allocation policy MU3, General Development Policy GD1 and the adopted Carlton Masterplan Framework in that the proposal is not for residential development, is not ancillary to the housing elements and would not provide a service or other facility for local residents and would frustrate the Council's strategic objectives for the application site and the wider allocation. It is also contrary to the NPPF policy which requires the strategic policies of Local Plans to identify land to provide a minimum of five years' worth of housing against their housing requirement or local housing need and has the potential to undermine the delivery of the Local Plan.*
- 2 *The development is at odds with the Local Plan (2019), the Joint Waste Plan (2012), the Carlton Masterplan Framework and the NPPF (2024) which seek to ensure that developments function well, add to the overall quality of the area, are visually attractive, sympathetic to local character, establish a strong sense of place, and create safe, inclusive and accessible places that promote health and well-being. The development has resulted in incongruous features that have an unacceptable visual impact in the landscape because of their height, scale, design and prominence and lack of existing or proposed landscaping to relieve their impact and is considered to be contrary to*



Local Plan policies GD1 and D1, Joint Waste Plan policies WCS4 and WCS6 and NPPF policy at para 135.

- 3 *The development conflicts with Local Plan policies GD1 (General Development) and Poll1 (Pollution Control and Protection) which seek to ensure that development is compatible with neighbouring land and will not significantly prejudice the future use of neighbouring land or adversely affect the potential development of a wider area of land; and will not cause unacceptable levels of noise, dust or other pollution to local residents. The visual impact on surrounding land and the likelihood of noise and dust unacceptably affecting the living conditions and residential amenity of future residents results in conflict with these Local Plan policies.*
 - 4 *The applicant has failed to respond to the request to submit further information relating to the aggregate storage bays and a quarantined/rejected load bay shown on the amended proposed site plan. In the absence of this information, it is not possible to conclude that these elements would be of satisfactory appearance and use and the proposal is therefore considered to be in conflict with Local Plan policies GD1 and D1, Joint Waste Plan policies WCS4 and WCS6 and NPPF policy at para 135.*
- 1.4 This Landscape and Visual Effects technical note will consider matters relating to the landscape design of the Appeal Site and the landscape and visual effects of the proposed development on the surrounding landscape and visual baseline and amenity.

QUALIFICATIONS AND EXPERIENCE

- 1.5 My name is Carl Taylor. I hold a Bachelor of Arts degree with Honours in Landscape Architecture and a Graduate Diploma in Landscape Architecture. I am a Member of the Landscape Institute and a Chartered Landscape Architect. I have approximately 30 years experience as a practicing landscape architect within both Public and Private organisations. I have provided evidence at Inquiry previously for both Local Authorities, Mineral Authorities and Private Developers assessing the impacts of a broad range of projects which have included Industrial and commercial development and warehousing, residential developments, wind farms, and biomass power generation.
- 1.6 I am currently a Director of TPM Landscape, Chartered Landscape Architects and have experience in the field of landscape and visual assessment and Townscape Assessment (TVIA) and urban design generally with the practice currently working on multiple city centre and urban residential schemes across the UK.
- 1.7 I was initially instructed by the Appellant's company in July 2024 to consider landscape matters pertinent to the site and have been involved continuously since, promoting the site through the planning application. I am therefore fully familiar with the site for the purposes of preparing evidence.



- 1.8 TPM Landscape has worked over many years designing landscapes for commercial and residential development and have worked with many large developers across the whole of the UK. I have been a Director of the firm from its establishment in 2001 and have led the development of both landscape and visual assessment and residential Master planning during this time.
- 1.9 Whilst I am instructed by Green Waste Recycling I recognise that in providing evidence my duty is to provide my impartial professional view to the Inspectorate irrespective of by whom I am instructed. I am aware that my professional duty is to the Inspectorate irrespective of by whom I am instructed and confirm that the evidence I have prepared has been done so in a manner consistent with the Code of Conduct of my profession with due diligence and is truthful, representing my honestly held professional view, irrespective of by whom I am instructed.

EXPERT WITNESS DECLARATION

- 1.10 After exercising due diligence in my inquiries as to relevant facts, I believe that the facts I have stated in this Statement are true and I confirm that I have had proper regard to the relevant principles as to the preparation and presentation of expert evidence at a planning appeal.

Signed:

Dated: 21-07-2025

2.0 THE STUDY AREA AND APPEAL SITE

- 2.1 The Appeal Site is located to the north of West Green Way and to the west of the disused railway line forming a roughly triangular piece of land between road and railway. The settlement of Cudworth lies to the east of the proposal site on elevated ground above the surrounding landscape. The settlement of West Green lies to the immediate south and west and includes the substantial Ardagh industrial complex
- 2.2 The land within the study area and site is largely made up of rough grassland and regenerating scrub woodland over land that is clearly regenerated industrial land and spoil heaps from the coal industry. These have been restored to woodland and parkland and in some areas are open to public use as recreational space. Industrial activity and industrial storage, both on the site and within the study area is common



place and is a clear character component of the landscape. Settlement is also present throughout and mostly concentrated within the West Green and Cudworth.

- 2.3 The West Green Way and Cudworth parkway form significant road routes. A disused rail line runs south to north past the sites eastern boundary and is a heavily wooded physical and visual barrier across this landscape, a well used path route along this line connects walking routes in the north to the settlement areas to the south.
- 2.4 The Appeal Site itself is occupied by the Appellant's E J Lidster (Sales) Ltd's waste recycling facility which comprise of storage and machinery pertinent to the business of recycling components from the construction industry.
- 2.5 Generally, the character of the area is that of a well populated urban environment, with a clear history of heavy industrial use and a landscape that has been transformed and remade by human intervention.
- 2.6 Visually the Appellants Wider Site and study area sits within an urban environment with both commercial and residential development and transport routes a key part of the baseline. A wider landscape of woodland and open parkland growing out from the restoration of former industrial uses is also a dominant feature. The operational railway to the north; the disused rail line to the east and scrub vegetation over other areas of open ground screen this wider area from the surrounding countryside to the north and east. This screening also provides a visual and physical divide between the Phase 5 area of the MU3 development (within which the Wider Site including Appeal Site is located) and other phases of the MU3 development masterplan.

3.0 DEVELOPMENT PROPOSALS

- 3.1 The appeal seeks retrospective planning permission for the installation of an aggregate wash plant; erection of a store, erection of an enclosure for external pipework and the erection of a substation; laying of concrete slabs; and construction of boundary treatments. The plant is made up of a number of components including a washing system, filter presses and tanks/silos.
- 3.2 The Appellant is also proposing to clad the exterior of the structure housing the filter presses. For full details of the proposals see the design and access statement and drawings accompanying the application. Further information is indicated in the plan in the Statement of Case.
- 3.3 The filter presses (x2) are mounted on a raised platform, which is supported by a long, rectangular, steel frame. The raised platform is accessed via external stairs. The filter presses' supporting structure has a height to ridge of 10.56m, a length of 40m, and a width of 5.12m. The Scrubtec element of the washing system at its highest reaches 9.15m and has a length of 25.51m, whilst the Aggretec element of



the washing system at its highest reaches 7.65m and has a length of 46.21m. The store is a single storey structure occupying an approximate footprint of 23.1m² with a height of 3.2m to ridge. The enclosure for the external pipework associated with the filter presses is a single storey structure occupying an approximate footprint of 22.6m² with a height of 2.7m to ridge. The substation is a single storey structure occupying an approximate footprint of 14.4m² with a height of 2.7m to ridge. A concrete pad covers the majority of the site. In addition to the concrete pads, the Appellant has constructed walling along the majority of the site's boundaries using pre-cast concrete blockwork. The blocks are designed to slot together and are stacked four high (to reach a height of approximately 2.4m).

4.0 RELEVANT LANDSCAPE PLANNING POLICIES

NATIONAL CONTEXT

National Planning Policy Framework

4.1 Paragraph 131 NPPF

The creation of high quality, beautiful and sustainable buildings and places is fundamental to what the planning and development process should achieve. Good design is a key aspect of sustainable development, creates better places in which to live and work and helps make development acceptable to communities. Being clear about design expectations, and how these will be tested, is essential for achieving this. So too is effective engagement between applicants, communities, local planning authorities and other interests throughout the process.

4.2 Paragraph 132

Plans should, at the most appropriate level, set out a clear design vision and expectations, so that applicants have as much certainty as possible about what is likely to be acceptable. Design policies should be developed with local communities so they reflect local aspirations, and are grounded in an understanding and evaluation of each area's defining characteristics...

- 4.3 The Council has engaged with its responsibilities under Paragraph 132 in its production of the Carlton Masterplan Framework Design Code (Arup Gillespies Nov 2021). This sets out a masterplan vision for allocated developments sites to the north east of Barnsley which include the Appeal Site.

This Masterplan Framework forms part of a wider programme of work to bring forward regeneration and economic growth across Barnsley, including Carlton.

The framework (Carlton Masterplan) will serve to coordinate sustainable development across a number of land parcels and ownerships and integrate with



surrounding landscape and existing communities. (1.1 page 4 Carlton Framework Masterplan)

- 4.4 The Appeal Site lies within the allocation area MU3 at the southern extent of the Masterplan area (Phase 5). The Framework Masterplan seeks to deliver housing development alongside educational buildings and open space. Alongside the proposal for housing a railway link and station is also indicated adjacent to the Appeal Site area. This part of the Masterplan is shown as the likely last of the phases (5) through which the Masterplan will be delivered. The area of the plan that the Appeal Site lies within is identified as the West Green Quarter.
- 4.5 The Carlton Masterplan, following on from the guidance of the NPPF, (through paragraphs 130-135) imagines development across the area of the Appeal Site as being deliverable, possible and sustainable. The form of the development in the Masterplan happens to be residential and rail/travel built form, but the overall principle of further development on the site is confirmed.
- 4.6 The Appeal Site is of course not an undeveloped or open site but one which has an established industrial operation across the majority of its area. When considering the appeal proposals the key questions dealt with in this report relate to the landscape and visual effects over this established industrial landscape and the setting within which this sits and the Council asserts the prejudice of the appeal proposals to future residential development as part of MU3 development. It is the difference between the lawful, existing site operation and the appeal proposals that is at the heart of whether they are harmful to the objectives and purposes of the NPPF and in turn to other policies and objectives of the Local Plan.
- 4.7 The key questions relate to the local character and existing baseline and how the proposed development and design relate to this. No part of the NPPF seeks to suggest that the design of industrial facilities cannot satisfy the requirements of section 12 of the Framework. Further guidance on how these design expectations are to be understood and managed is found in paragraphs 133-135 of the NPPF and within the National Design Guidance and National Model Design Code.
- 4.8 **Paragraph 133 and 134 NPPF and National Design Guidance**
To provide maximum clarity about design expectations at an early stage, all local planning authorities should prepare design guides or codes consistent with the principles set out in the National Design Guide and National Model Design Code, and which reflect local character and design preferences.

Design guides and codes can be prepared at an area-wide, neighbourhood or site specific scale, and to carry weight in decision-making should be produced either as part of a plan or as supplementary planning documents. Landowners and developers



may contribute to these exercises, but may also choose to prepare design codes in support of a planning application for sites they wish to develop.....

all guides and codes should be based on effective community engagement and reflect local aspirations for the development of their area, taking into account the guidance contained in the National Design Guide and the National Model Design Code. These national documents should be used to guide decisions on applications in the absence of locally produced design guides or design codes.

4.9 **Paragraph 135**

Planning policies and decisions should ensure that developments:

- a) will function well and add to the overall quality of the area, not just for the short term but over the lifetime of the development;*
- b) are visually attractive as a result of good architecture, layout and appropriate and effective landscaping;*
- c) are sympathetic to local character and history, including the surrounding built environment and landscape setting, while not preventing or discouraging appropriate innovation or change (such as increased densities);*
- d) establish or maintain a strong sense of place, using the arrangement of streets, spaces, building types and materials to create attractive, welcoming and distinctive places to live, work and visit;*
- e) optimise the potential of the site to accommodate and sustain an appropriate amount and mix of development (including green and other public space) and support local facilities and transport networks; and*
- f) create places that are safe, inclusive and accessible and which promote health and well-being, with a high standard of amenity for existing and future users; and where crime and disorder, and the fear of crime, do not undermine the quality of life or community cohesion and resilience.*

4.10 The National Design Guide introduces ten characteristics through which good design can be built:

- Context – enhances the surroundings.
- Identity – attractive and distinctive.
- Built form – a coherent pattern of development.
- Movement – accessible and easy to move around.
- Nature – enhanced and optimised.
- Public spaces – safe, social and inclusive.
- Uses – mixed and integrated.
- Homes and buildings – functional, healthy and sustainable.
- Resources – efficient and resilient.
- Lifespan – made to last.



- 4.11 The context of the proposals (bullet 1 of the ten characteristics) are a key aspect of the Appeal Site proposals and will be expanded upon further within this document which will seek to show that the proposals are appropriate and:

based on a sound understanding of the features of the site and the surrounding context, using baseline studies as a starting point for design; integrated into their surroundings so they relate well to them; influenced by and influence their context positively; and responsive to local history, culture and heritage. (National Design Guidance page 10)

- 4.12 The appearance and built form of the proposals are concerned with their function and use and their wider contribution to the sustainable economy of the area and the wider sustainability of the recycling works that take place there. The appearance of such industrial facilities and plant is typical of any heavy industry operation where the core architectural forms and appearance are utilitarian and industrial and speak to the function of the site and operation.
- 4.13 The proposals are for a heavy industry use and as such offer nothing with regards to public spaces or housing. The fact that these functional buildings and non structures, such as storage mounds, would not ordinarily be described as attractive, distinctive or beautiful does not diminish the importance of their contribution to industry nor their coherent form and function of their appearance.
- 4.14 This document will seek to set out clearly for the Inspector the context and landscape and visual baseline against which these judgements should be made and will look, following this explanation, to explore how the proposals comply with both the NPPF paragraph 135 and more widely with the National and Local visual and landscape policy requirements associated with the Appeal Site and the Carlton Masterplan Area.

LOCAL CONTEXT – BARNSELEY LOCAL PLAN (adopted 2017)

4.15 Policy GD1 General Development

Proposals for development will be approved if:

- There will be no significant adverse effect on the living conditions and residential amenity of existing and future residents;
- They are compatible with neighbouring land and will not significantly prejudice the current or future use of the neighbouring land;
- They will not adversely affect the potential development of a wider area of land which could otherwise be available for development and safeguards access to adjacent land;
- They include landscaping to provide a high quality setting for buildings, incorporating existing landscape features and ensuring that plant species and the way they are



planted, hard surfaces, boundary treatments and other features appropriately reflect, protect and improve the character of the local landscape;

- Any adverse impact on the environment, natural resources, waste and pollution is minimised and mitigated;
- Adequate access and internal road layouts are provided to allow the complete development of the entire site for residential purposes, and to provide appropriate vehicular and pedestrian links throughout the site and into adjacent areas;
- Any drains, culverts and other surface water bodies that may cross the site are considered;
- Appropriate landscaped boundaries are provided where sites are adjacent to open countryside;

4.16 The reasons for refusal claim the proposals fail Policy GD1 suggesting that: *The development has resulted in incongruous features that have an unacceptable visual impact in the landscape because of their height, scale, design and prominence and lack of existing or proposed landscaping to relieve their impact (reason for refusal 2).* This statement will show that the proposals **do not** result in an unacceptable level of either visual or landscape effect/harm on the existing landscape baseline, and that the proposals comply with the policy in this regard. It will further demonstrate that existing landscaping measures have been introduced that mitigate these effects.

4.17 The reasons for refusal also claim the appeal proposals fail to comply with allocation policy MU3, the proposals being contrary to the mixed use outlined within the Carlton Framework Masterplan. This will be explored in more detail under the discussion of the Masterplan document and Policy MU3, but essentially the position seems contradictory to other aims and objectives of both the NPPF and the Local Plan. Critically the planning status of the site as being a legally operating, owned and occupied place of employment appears not to be recognised by either the Masterplan document or Policy MU3. Both are predicated on the Appeal Site being available for the development of residential and transport uses as identified for the West Green Quarter, a position which does not recognise the established, legitimate use for employment the site currently enjoys.

4.18 **POLICY D1 Design**

Expects development to be of high-quality design and will be expected to respect, take advantage of, and reinforce the distinctive, local character and features of Barnsley.

Development is expected to be of high quality design and will be expected to respect, take advantage of and reinforce the distinctive, local character and features of Barnsley, including:

- *Landscape character, topography, green infrastructure assets, important habitats, woodlands and other natural features;*
- *Views and vistas to key buildings, landmarks, skylines and gateways; and*



- *Heritage and townscape character including the scale, layout, building styles and materials of the built form in the locality.*

LOCAL PLAN SECTION 10 – SITE MU3

- 4.19 As has been previously described the Appeal Site lies within an allocated area for development identified as MU3 within the Local Plan and expanded upon within the Carlton Masterplan Framework. The Appeal Site lies within the southern quarter of this masterplan area known as the West Green Quarter. It is scheduled as Phase 5 within this development strategy document with a railway line and station adjacent and 288 new homes within Phase 5 (which includes both the Appeal Site and the neighbouring Council land).
- 4.20 The first half of the document establishes the opportunities and constraints for the Masterplan area. Section 3.5 shows the wider setting of the Masterplan area and by extension the Appeal Site. The document identifies the urban character influences that surround the masterplan area and that fall within the study area of the Appeal Site. Of the 16 urban sites and character influences 4 are identified as industrial. The photographs on page 15 confirm that this includes large and visually prominent industrial structures and buildings.
- 4.21 The landscape analysis continues over the page at 3.6. The Appeal Site is identified as land that is potentially contaminated and/or unstable. The established recycling business on the Appeal Site is not identified or acknowledged.
- 4.22 Although the industrial use of the existing Appeal Site is not acknowledged by the document it is clear that the setting and context of the MU3 sites (shown within the Framework Masterplan) is a heavily urbanised, industrialised and settled landscape where remaining areas of open space are subject to issues relating to former industrial uses in the mining and manufacturing industries.
- 4.23 The Reasons for refusal suggest the appeal proposals are contrary to MU3 but for this to be the case it would seem logical that MU3, as linked to the masterplanning exercise that supports it (the Carlton Masterplan Framework), should have taken account of the existing and established industrial uses on the site. It remains unexplored previously as to whether industrial use and residential housing could be combined in the West Green Quarter successfully, which I carry out in my assessment in this report.

OTHER POLICIES OF NOTE

POLICY L1

- 4.24 expects development to retain and enhance the character and distinctiveness of the individual Landscape Character area in which it is located. As per the Landscape Character Assessment for Barnsley Borough 2002, the site is located within the North East Barnsley Settled Arable Slopes Landscape Character Area.



POLICY NE1 BIO DIVERSITY AND GEOLOGICAL RESOURCES

- 4.25 The site lies adjacent to a Local Nature reserve and this policy seeks to ensure these areas are preserved and enhanced

5.0 LANDSCAPE ASSESSMENT

- 5.1 The refused planning application for the appeal proposals (ref 2023/0758) was accompanied by a landscape and visual impact assessment which considered the effects (both landscape and visual) of the proposals. This assessment was considered in relation to the difference between the established use of the site and the site operating with the new equipment. The LVIA did not consider any future effects of the proposals on future MU3 developments as expressed in the Framework Masterplan. This is considered within this report referencing both the existing baseline and potential future development.

The Wider Landscape

- 5.2 The Appeal Site lies within the National Character Area 38 Nottinghamshire, Derbyshire and Yorkshire Coalfields (NCA). Relevant extracts from the NCA are as follows:

The character of the study area has many characteristics that appear within the NCA description with the focus of the description often on areas that also go to the description of the study area. The key characteristics of particular note include:

- *A mixed pattern of built-up areas, industrial land, pockets of dereliction and farmed open country.*
- *Small, fragmented remnants of pre-industrial landscapes and more recent creation of semi-natural vegetation*
- *A strong cultural identity arising from a history of coal mining, steel making and other heavy industry*
- *Widespread influence of transport routes, including canals, roads and railways, with ribbon developments*
- *An extensive network of multi-user trails on former railway lines and canal towpaths, such as the Trans Pennine Trail.*

- 5.3 *This is a settled and industrialised landscape that has undergone large change over recent centuries, leaving its mark on the modern landscape of the site and study area. Nationally the landscape of the study area is part of this wider story of industrialisation, urban and industrial expansion and its latter day demise with a return to, in places, semi natural landscapes. Recreational access across the study*



area matches that of the NCA with the Trans Pennine Trail being a connecting route between the local and National landscapes (extract from LVIA Page14). The landscape effects of the proposals on this NCA are assessed as -Negligible

The Local Landscape

- 5.4 At a Local level the landscape of the Appeal Site and its surroundings are described within the Barnsley Borough Landscape Character Assessment. The site lies within character area C2 Lower Dearne Lowland River Floor with a further character area D1 North East Barnsley Settled Arable slopes surrounding this lowland valley landscape and providing the setting for the remainder of the study area.
- 5.5 The character of these two areas combined creates the landscape baseline for the Appeal Site and is a lowland, flat valley landscape surrounded by rising slopes. These local landscape continue to exhibit the character expressed at National Level of a landscape that has undergone fundamental changes over the past centuries leaving behind a post industrialised landscape that is now maturing as a part regenerative natural space and one where settlement and modern industries continue to play a dominant role in defining the character.
- 5.6 The proposals will bring a noticeable change across an area of established industrial activity and within a wider landscape setting where industry and industrialisation has continued to shape and dominate the fundamental appearance and functionality of the landscape.
- 5.7 There will be some visual change from locations from the highway close to the proposal site and a much smaller visual effect from elevated vantage points around the wider landscape. The overall visual character of this area is judged not to be significantly altered through the proposals as:
- a) the site has established elements of industrial activity which are visually prominent and contribute to the existing baseline; and
 - b) the proposals when visible are almost always seen against a backdrop of existing large scale industry and settlement.
- 5.8 In addition the capacity of this landscape to accept substantial change appears to have been tested through the allocation of land that includes the proposal site for housing development.
- 5.9 This is in contrast to the higher sensitivity and low capacity the published character assessment (Character Assessment for Barnsley Borough 2002) places over the study area, an assessment that, even though reviewed in 2016, appears not to be supported by my analysis of the landscape in 2024 nor the allocation for housing in 2019 across a large proportion of these landscape character areas, and the entirety of the proposal site.



- 5.10 My own view regarding the assessment of sensitivity is that this is clearly a landscape which has undergone substantial and ongoing change which has included significant industrialisation and reclamation. The presence of this industry, both past and present, is ever present throughout both this character area and the adjoining character areas and as a consequence across the study area of the LVIA (dated July 2024) as a whole, (which was submitted as part of the planning application 2023/0758 (LVIA)). There is no part of the landscape that does not appear as man made or altered with even areas of natural beauty being wholly created through the reclamation of land from previous uses.
- 5.11 I believe this assessment is supported and underlined by the baseline assessment work of the Carlton Masterplan Framework. Within this document the context of the Masterplan Area is broadly in line with the study area considered for the LVIA assessment. As discussed in (paragraphs of this report 4.20) The Masterplan Framework identifies urban character areas throughout the area and this includes prominent industrial facilities, many of which are visually dominating in the landscape, including large built form and structures.
- 5.12 The Susceptibility and Sensitivity to change of the Masterplan Framework appears to be in part considered through the constraints and opportunities assessment and identifies areas of the landscape to be retained and enhanced as public open space areas (Wharnccliffe Woodmoor and Carlton Marsh Nature Reserve). Outside of this, land is considered able to accommodate substantial levels of development, suggesting a low level of susceptibility to change. Although the Masterplan Framework deals almost exclusively with residential proposals, the overall appraisal of the Appeal Site within the West Gate Quarter would suggest at least a low-medium level of susceptibility and sensitivity to the level and nature of the change brought by the Appeal proposals.
- 5.13 The landscape does not appear as clearly separate from the surrounding higher land around the valley floor and intervisibility between the two character areas is intermittent but regular.
- 5.14 This landscape, within the study area, appears to have demonstrated a continuing capacity to change and does not contain any elements or characteristics that are not a direct results of this. In the LVIA I assess the susceptibility to be medium-low with a low-moderate value and with a medium-low sensitivity and some capacity for further change. The review I have undertaken as part of the preparation for this appeal and further consideration of the Council's position and its own evidence base (in the form of policy MU3 and the Carlton Masterplan Framework) I believe support this conclusion.



- 5.15 The highest landscape effect recorded is Slight-Moderate adverse for area C2 which contains the proposal site. This is not a notable level of effect and one which appears in character with the wider landscape of regenerating industrial land, industry and housing.
- 5.16 If in the future the MU3 development phase 5 is built out over the land outside of the Appeal Site (including the Wider Appeal Site) then there will clearly be further change to the baseline brought about by the Appeal proposals. If residential development were to be brought forward on the adjoining Council land to the south of the appeal site it would introduce an urban character, removing any aspect of open, naturally regenerating land as far as the boundary with the West Green Way. The value and susceptibility would arguably be lower reflecting a landscape that is both urban and industrial in character and one that has an increased ability to absorb change. The sensitivity may remain as medium-low acknowledging the potential conflict between the existing industrial site of the Appellant and the new residential use. This is included in the assessment below.

6.0 VISUAL ASSESMENT

- 6.1 The study area was assessed as part of the LVIA that supported the appeal planning application and included a visual assessment of receptors that surround the site and may have some intervisibility with the Appeal Site and the proposals.
- 6.2 The site itself is not undeveloped and prior to the proposals being erected contained established industrial workings that include large material storage mounds and machinery. These elements also form part of the visual baseline.

Mid to Long Distance Views

- 6.3 The Appeal Site lies within a lowland landscape with maturing regenerative vegetation and rolling hills and spoil heaps that create strong visual cover. Distance views are only possible from occasional areas over elevated land, typically across permissive paths crossing former mine spoil heaps that have been reclaimed as natural parkland. Views of the proposals from these locations are always in the context of wider, often panoramic views, that include the large scale industrial Ardagh plan and settlement at Cudworth and West Green.

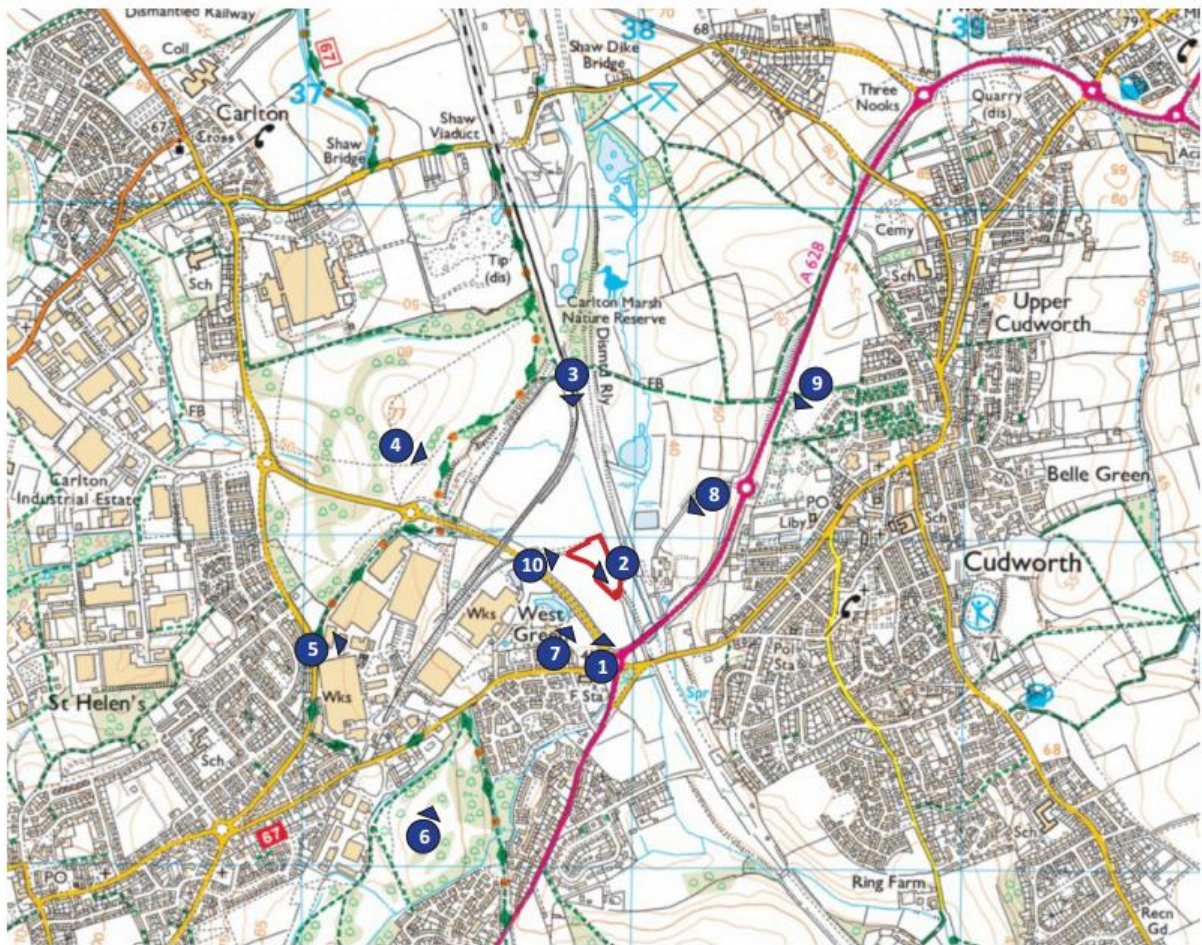


Figure 1LVIA view locations

6.4 Residential Properties

Residential properties to the immediate north and south of the proposal site will experience largely negligible effects with the highest effect recorded as slight adverse. Generally the proposals are not visible from residential areas

- 6.5 If in the future the MU3 development phase 5 is built out over the land outside of the Appeal Site (including the Wider Appeal Site) then there may be new residential visual receptors that may experience change. If residential development were to be brought forward on the adjoining Council land to the south of the appeal site it would introduce residential housing with the potential for new residents to experience views of the Appeal proposals. Whilst not considered necessary for concluding the appeal proposal to be acceptable in visual terms, or the fallback position of the waste facility without the appeal planning and machinery, if it turned out that the existing waste facility were to co-exist with future residential development on the Council land to the south west and the Council considered it necessary at the time, additional landscape mitigation could be secured by the Council when approving the future housing, for example,



under the 'agent of change principle', that would further mitigate any impact on the neighbouring future residential. Mitigation proposals such as landscape buffer zones; landscape mounding; and landscape screen planting could all be employed to reduce and remove any identified visual effects. The low lying topography of the immediate surroundings to the Appeal site across the MU3 land would suggest that a combination of these mitigation methods could provide a strong landscape buffer between the site and the Appeal proposals and remove any significant or notable visual effects that might be experienced from within the new housing areas (if the Council determined it were necessary at the time of approved the new housing).

- 6.6 Other phases of the MU3 masterplan to the north would benefit from the substantial existing vegetation and landscaped buffer that is formed by the railway line. The low lying topography of the MU3 development areas and the intervening topography and vegetation of Wharcliffe Woodmoor remove any intervisibility between them and the Appeal Site and proposals.

6.7 **Footpaths Users**

Pedestrian receptors range from highway footpaths to public rights of way and include a number of permissive routes and routes across open, reclaimed parkland. The largest effects are Slight-Moderate adverse, effects that are less than notable or significant. The proposals are glimpsed from occasional vantage points along these routes that circle the proposal site and are always views experienced within the context of a wider landscape that has large scale industrial development and residential forms within them..

6.8 **Vehicle Users**

No vehicle users will experience notable change and generally views are transient with the largest change to views from a section of the West Green Way directly opposite the proposal site. The existing established works on the site are also visible and prominent with the spoil mounds of material to be recycled a noticeable local feature visible from these locations. As with other affected views, the changes to the proposal site are always seen in the wider visual context of large industrial development and residential and urban buildings throughout this landscape.

7.0 **OFFICER'S REPORT AND REFUSAL**

- 7.1 The Officer considers the planning history of the site at (page 4) and acknowledges that the site benefits from two previous planning approvals permitting use of the land for screening and crushing and the processing and storage of inert waste and recycled products, and the erection of a sub station. The report includes a plan of the approved operations on the site together with the boundary wall and mitigation planting of a hedgerow and native planting at the sites southern boundary.



- 7.2 At (page 8) the officer sets out what the development will be expected to comply with in terms of local plan policy.
- 7.3 Under Principle of Development (page 13) the officer considers the development *complicated*, acknowledging that this is a long standing waste recycling facility on a site that has been removed from Green Belt and allocated for housing as part of a mixed use allocation.
- 7.4 The officer then goes on to make several unsubstantiated statements. The first is that the applicant has *no intention of relocating his existing business to allow the site to be redeveloped for housing (page 31 para 1 under principle of development)* It follows from this logic that the proposals cannot comply with policy MU3.
- 7.5 The masterplan document that accompanies the policy makes no reference to the acknowledged lawful use of the site for recycling, its relocation or how the Appeal Site and Phase 5 of the MU3 development is to be delivered having regard to the existence of the existing business. As the proposals lie within the last phase (5) of the masterplan and the timeline for the whole delivery of the masterplan is yet to be determined, it seems reasonable to suggest that any conflict with either the lawful use with or without the appeal proposal plant and machinery, would not have any immediate effect on the delivery of Policy MU3. Contrary to the officers assertion, it is our instruction that the Appellant is not averse to discussions with regards to the relocation of their business at the appropriate time subject to agreeing a reasonable timeline and recompense aligned with a realistic programme for the delivery of the masterplan under MU3.
- 7.6 Under Visual Amenity (page 14) the officer suggests that the form and appearance of the proposals are *significantly higher than any of the authorised equipment*. And that they will not be screened by the boundary landscape as the previous approved works were. This is factually incorrect as the large and visually prominent storage mounds are part of the current lawful working operations of the site and would continue to be prominent regardless of whether the appeal proposals are approved. The proposals may be visually more prominent than the existing operation within the context of the site and its immediate surroundings but the key question when assessing the harm, and the consequent impact upon planning policy requirements, is who experiences these changes and from where. This is typically discussed with reference to the nature of the receptors (ie who sees the change) and the extent of this change. From this comes an understanding of the level of visual effect and whether this is notable or significant in scale.
- 7.7 The Council do not question the locations from where the representative views for the LVIA have been taken, nor do they suggest other locations where greater visual effects or different receptors might occur.

- 7.8 The officer claims that the LVIA confirms that visual impacts within 300m of the Appeal Site are *significant* (page 14). This is factually incorrect as the term itself is used primarily for the description of effects within an Environmental Impact Assessment and is not a defined term of the LVIA. For non EIA assessments the preferred terminology is notable, ie. Denoting a threshold level of effect beyond which the impacts (in this case visual impacts) are notable. For both EIA and LVIA work the threshold is typically a Moderate adverse level of effect. The LVIA considers 10 representative views from around the site (see figure 1) the assessed visual effects are found in the LVIA at table (figure 2) and reproduced below

Table 2 - SUMMARY OF VISUAL EFFECTS					
View	Hierarchy of Importance	Sensitivity	Change to view (Impact)	Visual Effect	
				Year 1 pre-mitigation	Year 15 with mitigation
1	Local	Low-Medium	Low-Medium	Slight-Moderate adv	Slight-Moderate adv
2	Local	Medium	Low	Slight-Moderate adv	Slight-Moderate adv
3	Local	Medium	None	None	None
4	Local	High-Medium	Low-Negligible	Slight adv	Slight adv
5	Local	Low-Medium	Negligible	Negligible	Negligible
6	Local	High-Medium	Low	Slight/Moderate adv	Slight/Moderate adv
7	Local	Medium	Low-Negligible	Slight adv	Slight adv
8	Local	Low	Negligible	Negligible	Negligible
9	Local	High	Low-Negligible	Slight-Moderate-Slight adv	Slight-Moderate-Slight adv
10	Local	Low	Medium	Slight-Moderate adv	Slight-Moderate adv

Figure 2 Visual Effects Summary Table (LVIA)

- 7.9 None of the visual effects are above Slight-Moderate adverse and are below the threshold where the impacts could be described as notable or significant. Even at close range receptors such as the permissive path along the disused rail line is enclosed by woodland with no views of the site until the viewer is directly adjacent to the boundary.
- 7.10 The officer seems to acknowledge that views from distance are not notable and often the site is not seen. A suggestion that landscape mitigation could have reduced the effects of the proposals visual impact is noted and is addressed in the following section under Mitigation. (page 14 paras 3 and 4 under Visual Amenity)
- 7.11 The officer opposes the proposals on the grounds that *the proposal as a whole will result in incongruous features that have an unacceptable visual impact in the landscape because of their height, scale, design, prominence in the landscape and lack of existing landscaping to relive their impact.*
- 7.12 This conclusion fails to acknowledge, or refute through an opposing assessment, the findings of the LVIA that accompanied the appeal proposals application. This found that:



The proposals would introduce a combination of machinery plant, hard standing, structures and buildings to further develop and make more efficient, the existing recycling business operating on the site. These changes, although noticeable, would be set within a site that has existing workings, industrial activity and large and prominent material spoil heaps. In the context of the wider landscape these changes would be visible only from locations immediately adjacent to the site or else from occasional locations on elevated routes around the study area.

Both landscape and visual effects are assessed as not being notable/significant and being below a moderate adverse level. The proposal site is also part of a longer term masterplan and vision which would see a large area, including and surrounding the site, being developed for housing. This development allocation strongly suggests a landscape that can accommodate substantial change without harm and one that is capable of absorbing the change brought through the proposals without significant adverse effects over the landscape character and visual amenity of the area.

- 7.13 The officer fails to report the conclusions of the LVIA accurately and fails to acknowledge the obvious urban and industrial context within which the Appeal Site sits. This context is explored in some detail in the masterplan framework document, highlighting a number of large industrial facilities within and around the masterplan area and the Appeal Site. The LVIA dated July 2024 did not assess the potential effects over the future masterplan areas, but this report does address this matter and the Council related reasons for refusal.

8.0 MITIGATION

- 8.1 The lawful use of the site includes boundary landscape areas planted to offer mitigation screening to the site alongside the concrete wall. This has been partially successful but has some gaps in places where the original native hedgerow planting has not full established.
- 8.2 The future development of phase 5 of the MU3 masterplan could conceivably move forward through the development of the Council land to the south west of the Appeal Site and Wider Appeal site controlled by the Appellant. Whilst not considered necessary for concluding the appeal proposal to be acceptable in visual terms, or the fallback position of the waste facility without the appeal planning and machinery, if this were to occur, and the Council considered it necessary at the time, additional mitigation measures such as landscape bunding; landscape screen planting; and a landscape buffer between developments could realistically reduce and remove potential landscape and visual effects from the Appeal proposals over these future development areas. These measures could be secured by the Council at the time of approving the neighbouring residential development, for example, under the 'agent of change principle' that would further mitigate any impact.



- 8.3 Existing topography and vegetation barriers prevent any intervisibility between other areas of the MU3 masterplan with no mitigation required.

9.0 SUMMARY AND CONCLUSION

- 9.1 This appeal seeks retrospective planning permission for the installation of an aggregate wash plant; erection of a store, erection of an enclosure for external pipework and the erection of a substation; laying of concrete slabs; and construction of boundary treatments. The plant is made up of a number of components including a washing system, filter presses and tanks/silos
- 9.2 The Appeal Site as part of the Appellant's Wider Site benefits from lawful use of the Wider Site for waste recycling and the storage with existing mitigation planting along its boundaries.
- 9.3 The Appeal Site lies within an allocated residential led, mixed use development area, identified within the Carlton Masterplan Framework, as part of the last phase of work that will see substantial new housing and associated developments across the open landscapes to the east of Carlton.
- 9.4 The existing site and operation is lawful and, therefore, not subject to the policies supporting the masterplanning of the Appeal Site and surrounding west green quarter as it pre-dates the policy (MU3) and the masterplan. The masterplanning exercise fails to take into account or consider the constraints of the existing lawful operation. Following from this the appeal proposals cannot be seen to frustrate the strategic objectives of the Council to deliver this masterplan area:
- The appeal proposals seek to remain within the same working areas as the existing operations but utilise more modern and efficient equipment to better their existing business. The MU3 housing could be constructed without any additional significant/notable impact in landscape and visual terms than the existing lawful use. Therefore, the appeal proposal are acceptable.
 - The appeal proposals will benefit from the existing mitigation planting to the boundaries with the added benefits that the boundary wall would be increased in height;
 - The Appeal Site lies within phase 5 of the planned works, the last phase of the development of the masterplan. There appears time for the site to continue to usefully operate for a lengthy period of time until the eventual relocation of the business to enable the masterplan to be fully delivered. Contrary to the Council officer's assertion in their Committee Report, it is our instruction that the Appellant is not averse to discussions with regards to the relocation of their business at the appropriate time subject to agreeing a



reasonable timeline and recompense aligned with a realistic programme for the delivery of the masterplan under MU3;

- Furthermore, whilst not considered necessary in my view as noted above, even if the waste recycling facility were to co-exist with future Phase 5 MU3 development on the Council land to the south west of the Appeal Site and Wider Appeal site controlled by the Appellant and the Council considered it necessary at the time, additional mitigation measures such as landscape bunding; landscape screen planting; and a landscape buffer between developments would realistically reduce and remove potential landscape and visual effects from the Appeal proposals over these future development areas. These could be secured by the Council at the time of approving the neighbouring residential development, for example, under the 'agent of change principle' to further mitigate any impact.

- 9.5 The appeal proposals do not lead to any notable or significant landscape or visual impacts. The Council's case stating the opposite position to this is factually incorrect and is not supported by any contrary assessment work or explanation as to where and to whom the impacts that they identify occur. The report to committee contains a completely subjective opinion relating to the level of effect and impacts on views and visual receptors without stating the detail of the receptors and people that would be affected. In fact the appeal proposals, although large and industrial in nature, are not visually prominent from locations where people experience the landscape or townscape (for example see views 1 and 7 from the edge of settlement). Views are restricted to the highway and glimpses from more elevated routes where the context is always a landscape dominated by existing industry and man made landscape of past industrial use.
- 9.6 The judgement regarding the level of visual effect and impact should also consider the lawful use of the site which includes the storage of recycled materials. It is the difference between the existing baseline, that includes these large storage mounds and other recycling operations and the appeal proposals that is the change to be assessed. The site is not a greenfield site and the change is the addition of recycling plant and machinery as set against the existing baseline of a lawful industrial site with machinery and storage mounds that were (are) visible in the local landscape. When assessed against these criteria and utilising a methodology which follows the latest guidance (GLVIA3) both landscape and visual effects are found to be less than notable (below moderate adverse) and in my opinion and experience acceptable for granting planning permission.
- 9.7 The appeal proposals are not incongruous, either in the context of the landscape, (which is an entirely man made landscape with industry at its heart) or visual amenity. The surrounding landscape is defined by its historic industrial use and its current industrial and employment sites.



- 9.8 From a landscape and visual perspective and from a design and strategic masterplanning perspective, I believe the Appeal Site does comply with Local Plan and National Policy and that a sensible route forward can be found to enable the continual use of the site for valuable waste recycling while at the same time planning a longer term future for the site as housing for when it eventually comes forward at some point in the future which is currently uncertain and apparently a lengthy way off and, in any event, even if the residential development comes forward beforehand, consideration of the Appellant's fallback position justifies the grant of the planning permission.

**APPENDIX 14 – LETTER DATED 21.07.24 FROM NOISE CONSULTANT AS
ADDENDUM TO NOISE IMPACT ASSESSMENT**



To whom it may concern

Re: Section 78 Appeal relating to refusal of Planning Application 2023/0758 for the site of West Green Recycling, West Green Way, Monk Bretton, Barnsley, S71 5SN.

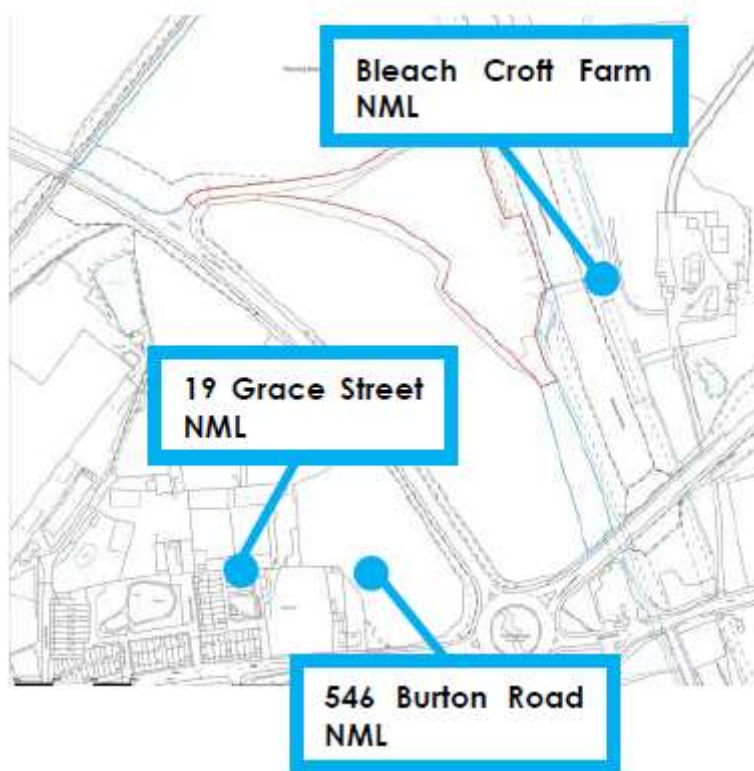
I conducted the noise assessment for the West Green Recycling plant. The initial assessment was conducted in 2023, and my resulting Noise Impact Assessment report dated October 2023 was submitted with planning application 2023/0758, which is now the subject of the appeal by Mr Eric Lidster. This was revised on 06 December 2024.

At this point in time, the Council had yet to clarify its approach to the planning application and, hence, the noise receptors surveyed related to existing potentially sensitive noise receptors.

I have been asked to comment on the potential noise impact of a residential housing development on the Council owned land (part of Phase 5 in the Allocation MU3) to the south-west of the appeal site (between the appeal site and West Green Way).

The dominant background sound level within Allocation MU3 will be from road traffic noise on the A628 trunk road to the South and West Green Way to the south-west. During the initial noise assessment, background sound level monitoring was conducted at a number of locations for existing noise receptors. However, the most representative existing residential receptor is located at Grace Street as shown on the plan below of the receptors surveyed in the Noise Impact Assessment report dated 23 October 2023 (fig.2 at para 3.3).

Figure 2: Noise monitoring locations



The collation of this survey data has provided me with a reasonable data base to understand the noise environment in the locality of the appeal development for the purposes of forming a professional judgement, based on my expertise and experience, on the noise impacts associated to the development, albeit that survey data has not been obtained from the Council owned land.

The background sound level of the Council land forming part of Phase 5 of the Allocation MU3 south west of the appeal site is likely to be higher as it is closer to West Green Way. Therefore, further background sound level monitoring would be required in order to precisely establish the background levels at this location.

However MU3 is closer to the dominant noise source of road traffic noise on the A628 and West Green Way trunk roads than the existing most representative receptor on Grace Street. As the background sound levels are likely to be higher, (see above) , in my professional judgement, the current plant machinery and operations at the West Green Recycling facility can be operated not to exceed the likely background sound level (based on my understanding of the noise environment in the locality and with the implementation of noise control measures) without causing any significant adverse effect on residents (if constructed in the future) on the neighbouring Council land to the south west of the appeal site.

Furthermore, I am aware that the use of the land for waste management and storage is a long standing use. I am also aware that, prior to the appeal proposal plant and machinery being installed, the appellant's wider site, including the waste management facility and storage, already included noise sources from a mobile crusher, mobile trommel screen, hydraulic pecker, excavator and HGV movements.

Although I am of the view that the current plant, machinery and operations at the West Green Recycling facility can be operated not to exceed the likely background sound level as noted above, the impact of the appeal proposal needs to be considered on the basis of whether there is likely to be in any additional material noise from the appeal plant and machinery above background noise levels, when compared to the fallback position of the Appellant's company operating in a similar manner to before the appeal proposal plant and machinery were installed. Even in the unlikely event that the current plant, machinery and operations at the West Green Recycling facility were materially audible above the likely background noise level at this location (which is primarily dominated by road traffic noise from A628 and West Green Way trunk roads), in my professional judgement, there is unlikely to be any significant adverse effect on residential development (if constructed in the future) on the neighbouring Council land to the south west of the appeal site over and above the impact of the fallback position without the appeal plant and machinery in place, having regard to the fact that the pre-existing noise sources included mobile crusher, mobile trommel screen, hydraulic pecker, excavator and HGV movements.

However, additional noise control measures will be required. These may include noise insulation inside the enclosures of some plant/machinery, using a buffer zone and an area of the existing landscaping along the western/southwestern boundary.

Yours Sincerely

A handwritten signature in blue ink, appearing to read 'Andrew Green', with a stylized, cursive script.

Andrew Green (Director)

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APPENDIX 14 A– NOISE IMPACT ASSESSMENT REVISED DECEMBER 2024



Mr E.J. Lidster

West Green Recycling, West Green Way, Barnsley, S71 5SN

Environment Agency Permit Application N° EPR/BB3702UV/V002

R24.1826-2-AG

Noise Impact Assessment



spireenvironmental.co.uk

Mr E.J. Lidster

West Green Recycling, West Green Way, Barnsley, S71 5SN

Environment Agency Permit Application No EPR/BB3702UV/V002

R24.1826-2-AG

Noise Impact Assessment

06 December 2024

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DOCUMENT ISSUE RECORD

Revision	Date of issue	Status	Author
-	23/10/2023	Issue	Andy Green BSc(Hons), MSc, MIOA
-	06/12/2024	Updated criteria	Andy Green BSc(Hons), MSc, MIOA

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EXECUTIVE SUMMARY

Spire Environmental Consultants Limited have been appointed by Caulmert Limited on behalf of Mr E.J. Lidster to undertake an environmental noise assessment for an Environment Agency permit for the operation of an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.

The noise assessment of the proposed aggregate recycling plant has been combined with the current permitted operation of the hydraulic pecker, mobile crusher, mobile trommel screen, and mobile plant operating at the site, to give the overall combined noise levels of site operations at the West Green Recycling site.

Background sound level surveys have been undertaken at 19 Grace Street, 546 Burton Road and Bleach Croft Farm. The noise levels of the proposed aggregate washing plant and existing hydraulic pecker, mobile crusher, mobile trommel screen and associated mobile plant have been predicted and assessed against BS 4142:2014 + A1 2019.

The rating levels do not exceed the background sound levels, therefore the proposed operations are at the low impact level in accordance with the BS 4142:2014 + A1 2019 standard.

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Figure 3: 19 Grace Street Background Noise Level Over Site Operational Periods (all data)

Figure 4: 19 Grace Street Background Noise Level Over Site Operational Periods
(wind speed < 5m/s)

Figure 5: 546 Burton Road Background Noise Level Over Site Operational Periods (all data)

Figure 6: 546 Burton Road Background Noise Level Over Site Operational Periods
(wind speed < 5m/s)

Figure 7: Bleach Croft Farm Background Noise Level Over Site Operational Periods (all data)

Figure 8: Bleach Croft Farm Background Noise Level Over Site Operational Periods
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APPENDICES

APPENDIX A: Glossary of terms

APPENDIX B: Measured Background Noise Levels

APPENDIX C: Noise Sources

APPENDIX D: Noise Prediction Contours

APPENDIX E: Weather Data

1. INTRODUCTION

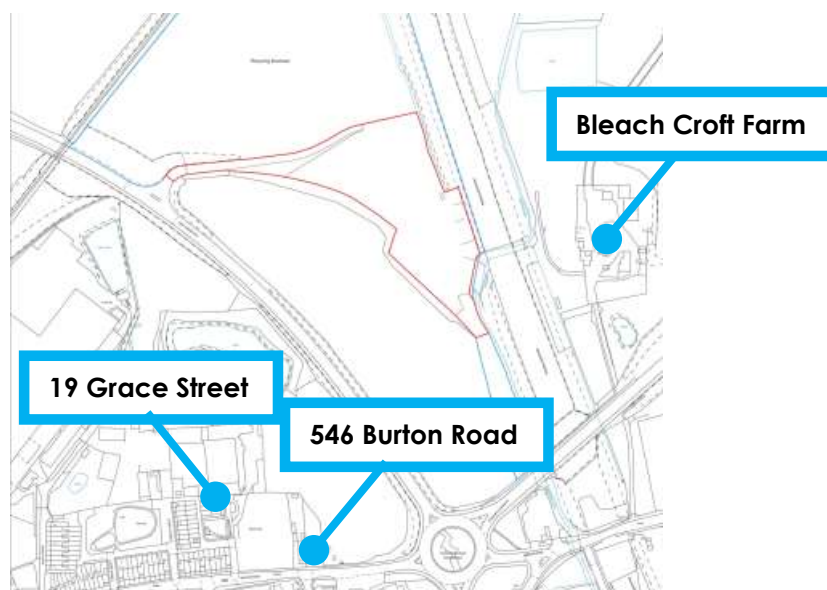
Appointment & Background

- 1.1 Spire Environmental Consultants Limited have been appointed by Caulmert Limited on behalf of Mr E.J. Lidster to undertake an environmental noise assessment for an Environment Agency permit to operate an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.
- 1.2 Monitoring of the existing background sound levels was conducted for a continuous period between 27 September and 04 October 2023 at locations representative of the closest residential receptors at 19 Grace Street, 546 Burton Road and Bleach Croft Farm. The noise measurements were taken with type 1 tripod mounted sound level meters at a height of 1.5m above the ground.
- 1.3 This report is necessarily technical in nature, so to assist the reader, a glossary of acoustic terminology can be found in **Appendix A**.

Site Setting

- 1.4 The location of the aggregate recycling site is shown within the red line in the centre of **Figure 1** (below). The closest residential receptors at 19 Grace Street, 546 Burton Road and Bleach Croft Farm are also shown below.

Figure 1: Location plan



2. BS 4142:2014 + A1:2019 Methods for Rating and Assessing Industrial and Commercial Sound

2.1 BS 4142 provides methodology for rating and assessing sound associated with both industrial and commercial premises. The purpose of the standard is outlined in the opening section where it states that the method is appropriate for the consideration of:

- Sound from industrial and manufacturing processes;
- Sound from fixed installations which comprise mechanical and electrical plant and equipment;
- Sound from the loading and unloading of goods and materials at industrial and/or commercial premises; and
- Sound from mobile plant and vehicles that is an intrinsic part of the overall sound emanating from premises or processes, such as that from forklift trucks, or that from train movements on or around an industrial and/or commercial site.

2.2 The standard is based around the premise that the significance of the noise impact of an industrial/commercial facility can be derived from the numerical subtraction of the background sound level (not necessarily the lowest background level measured, but the typical background of the receptor) from the measured/calculated rating level of the specific sound level under consideration. This comparison will enable the impact of the specific sound level to be concluded based upon the premise that typically "the greater this difference, the greater the magnitude of the impact". The difference is then considered as follows:

- A difference of around +10 dB or more is likely to be an indication of a **significant adverse impact**, depending on the context.
- A difference of around +5dB is likely to be an indication of an **adverse impact**, depending on the context.
- The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a **low impact**, depending on the context.

- 2.3 BS 4142 further states that “where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact”, depending on the context.
- 2.4 The standard further qualifies the assessment protocol by outlining conditions to the comparative assessment and stating that “not all adverse impacts will lead to complaints and not every complaint is proof of an adverse impact”. This therefore implies that all sites should be assessed on their own merits and specifics.
- 2.5 The standard quantifies the typical reference periods to be used in the assessment of noise, namely:
- Typical daytime 07:00 – 23:00 1-hr assessment period
 - Typical night-time 23:00 – 07:00 15-min assessment period
- 2.4 The standard also outlines methods for defining appropriate “character corrections” Within the rating levels to account for tonal and impulsive qualities along with other sound characteristics and/or intermittency. These are:
- a. The Subjective Method
 - b. The Objective Method
 - c. The Reference Method
- 2.7 It is noted in the standard that where multiple features are present, the corrections should be added in a linear fashion to the specific level.

Level of perceptibility	Tonal correction dB	Impulsivity correction dB	Correction for other sound characteristics dB	Intermittency correction dB
No perceptibility	+0	+0	Where neither tonal nor impulsive but clearly identifiable +3	If intermittency is readily identifiable +3
Just perceptible	+2	+3		
Clearly perceptible	+4	+6		
Highly perceptible	+6	+9		

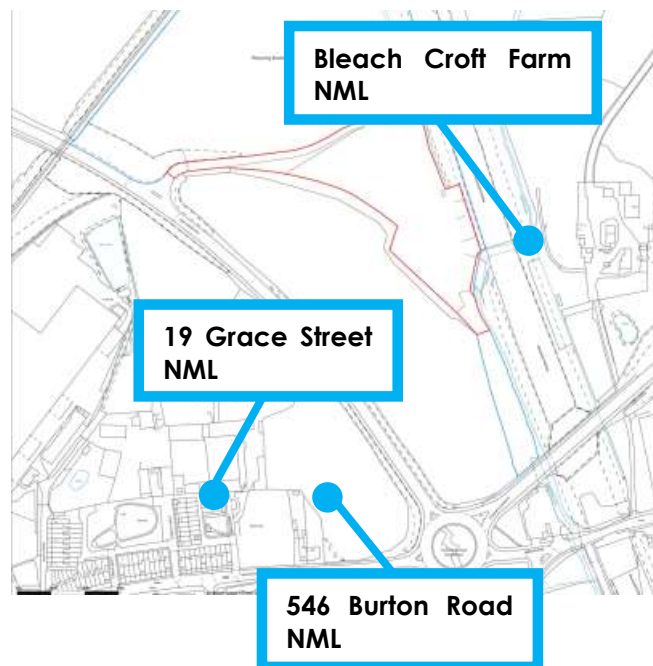
Table 1: BS 4142 character corrections

3. ENVIRONMENTAL NOISE SURVEY

Environmental Noise Survey Methodology

- 3.1 The existing background sound levels were measured at locations representative of the noise climate at the closest residential receptors.
- 3.2 At Bleach Croft Farm, environmental noise monitoring was conducted on the vehicle access road to the west of this property. At 19 Grace Street, the noise monitoring was conducted in the rear garden. At 546 Burton Road environmental noise monitoring was conducted on agricultural land to the rear of this property. The monitoring locations are shown in **Figure 2** (below).
- 3.3 The noise monitoring was conducted using type 1 tripod mounted sound level meters at a height of 1.5m from the ground, in free-field locations.

Figure 2: Noise monitoring locations



Measurement Equipment

- 3.4 The noise surveys were undertaken using Class 1 sound level meters. Calibration checks were undertaken prior to and upon completion of the surveys. No significant calibration drift was found to have occurred. All laboratory calibration (biennial for the sound level meters and annual for the calibrator) was up-to-date at the time. The equipment used for the survey is summarised in **Table 2** below.

Table 2: Noise monitoring equipment

Equipment	Manufacturer	Serial Number	Calibration due Date
Sound Level Meters	Cirrus	G056773	14 October 2024
		G301768	14 October 2024
		G061905	08 February 2024
Acoustic Calibrator		55186	14 October 2023

Meteorological Conditions

- 3.5 Representative weather conditions obtained from Leeds Bradford Airport for the survey period are shown in **Table 3** (below).

Date	Temperature (°C)		Average Wind		Precipitation
	Maximum	Minimum	Speed (m/s)	Direction	
27 September	17.2	10.0	5.0	Variable	Light Rain
28 September	15.0	12.8	5.7	SW/SE/S	Light Rain
29 September	16.1	11.1	5.8	SW/W	None
30 September	13.9	8.9	3.1	Variable	Light Rain
1 October	17.8	12.2	3.1	SW	Light Rain
2 October	15.0	8.9	2.4	Variable	Light Rain
3 October	13.9	8.9	6.0	SW	Light Rain
4 October	16.1	11.1	6.4	SW	Light Rain

Table 3 – Weather conditions during the survey periods

- 3.6 During the survey periods, the temperature was between 8.9 and 17.8 °C. The average wind speed was between 2.4 and 4.9 m/s. The wind direction was from the south, south east, south west and a variable direction. There was light rain for seven days of the survey period. The full weather data shown is shown in **Appendix E**.

19 Grace Street Measured daytime levels

- 3.7 A Summary of the measured noise levels, recorded during the daytime period at 19 Grace Street are shown in **Table 4** (below). The full results are shown in **Appendix B**.

Survey Period	dB LAeq,1h (16h)	dB LA90,1h (16h)	*dB LAmax,f,1h (16h)
# Wednesday 27 September	45.5 – 68.9 (59.4)	41.0 – 50.8 (46.9)	65.4 – 85.1 (85.1)
Thursday 28 September	40.4 – 66.5 (56.9)	36.2 – 43.6 (41.7)	57.5 – 91.6 (91.6)
Friday 29 September	46.2 – 76.9 (65.5)	40.7 – 46.8 (43.8)	66.2 – 101.2 (101.2)
Saturday 30 September	45.5 – 59.8 (54.6)	41.2 – 49.9 (44.7)	64.0 – 89.4 (89.4)
Sunday 1 October	44.8 – 50.0 (46.9)	35.8 – 44.0 (40.8)	61.9 – 85.3 (85.3)
Monday 2 October	46.0 – 50.9 (48.6)	38.3 – 44.5 (42.9)	67.4 – 81.6 (81.6)
Tuesday 3 October	43.3 – 52.9 (48.3)	40.3 – 46.8 (44.2)	59.9 – 81.3 (81.3)

*Maximum obtained over survey period
 # Over 11-hour period

Table 4 19 Grace Street daytime noise monitoring summary

- 3.8 During the daytime period (07:00 – 23:00 hours), the measured ambient noise level was between 40.4 and 76.9 LAeq,1h. The corresponding background noise level during this period was between 35.8 and 50.8 LA90,1h. During the daytime (16-hour period), the ambient noise level was between 46.9 and 65.5 LAeq,16h. The corresponding background noise level was between 40.8 and 46.9 LA90,16h. The noise climate was influenced by road traffic noise, reversing alarms from the glass manufacturing plant to the west and bird song. Site operations were inaudible.
- 3.9 The measured ambient noise levels were influenced by the intermittent operation of a vibrating plate in the garden of this property between 13:00 and 14:00 hours on Wednesday 27 September, between 11:00 and 12:00 hours on Thursday 28 September and between 08:00 and 09:00 on Friday 29 September.

19 Grace Street Measured night-time levels

- 3.10 A Summary of the measured noise levels, recorded during the night-time periods are shown in **Table 5** (below). The full results are shown in **Appendix B**.

Survey Period	dB LAeq,1h (8h)	dB LA90,1h (8h)	*dB LAmax,f,1h(8h)
Wednesday 27 – Thursday 28 September	41.1 – 48.9 (45.4)	37.4 – 43.1 (40.1)	53.2 – 71.7 (71.7)
Thursday 28 – Friday 29 September	35.6 – 45.4 (41.2)	28.2 – 42.6 (34.7)	47.2 – 67.2 (67.2)
Friday 29 – Saturday 30 September	38.2 – 44.8 (41.8)	31.2 – 40.9 (37.1)	50.8 – 65.8 (65.8)
Saturday 30 September – Sunday 1 October	40.8 – 49.7 (46.1)	32.9 – 39.3 (36.2)	61.4 – 72.8 (72.8)
Sunday 1 – Monday 2 October	37.3 – 46.5 (42.7)	29.7 – 42.8 (36.6)	58.0 – 73.0 (73.0)
Monday 2 – Tuesday 3 October	43.1 – 50.2 (47.8)	36.9 – 44.9 (39.8)	60.0 – 75.8 (75.8)
Tuesday 3 – Wednesday 4 October	39.7 – 47.5 (43.4)	35.6 – 43.3 (38.6)	58.1 – 66.8 (66.8)

*Maximum obtained over survey period

Table 5 19 Grace Street night-time noise monitoring summary

- 3.11 During the night-time period (23:00 – 07:00 hours), the measured ambient noise level was between 35.6 and 50.2 LAeq,1h. The corresponding background noise level during this period was between 28.2 and 44.9 LA90,1h. During the night-time (8-hour period), the ambient noise level was between 41.2 and 47.8 LAeq,8h. The corresponding background noise level was between 34.7 and 40.1 LA90,8h. The noise climate was influenced by road traffic noise.

546 Burton Road Measured daytime levels

- 3.12 A Summary of the measured noise levels, recorded during the daytime period at the 19 Grace Street are shown in in **Table 6** (below). The full results are shown in **Appendix B**.

Survey Period	dB L _{Aeq,1h} (16h)	dB L _{A90,1h} (16h)	*dB L _{Amax,f,1h} (16h)
# Wednesday 27 September	46.9 – 56.1 (53.9)	41.2 – 52.8 (49.2)	63.3 – 81.0 (81.0)
Thursday 28 September	47.9 – 53.1 (51.7)	39.3 – 48.0 (45.8)	64.8 – 77.8 (77.8)
Friday 29 September	49.2 – 54.5 (52.4)	39.9 – 49.1 (46.0)	65.0 – 76.4 (76.4)
Saturday 30 September	50.3 – 56.2 (53.2)	43.6 – 52.2 (47.2)	66.6 – 81.2 (81.2)
Sunday 1 October	49.1 – 54.0 (52.0)	39.8 – 47.6 (44.3)	62.6 – 83.5 (83.5)
Monday 2 October	51.8 – 56.3 (54.7)	41.6 – 52.0 (48.7)	65.3 – 80.6 (80.6)
Tuesday 3 October	48.3 – 54.9 (53.5)	38.9 – 50.3 (47.0)	65.6 – 81.7 (81.7)

*Maximum obtained over survey period

Over 11-hour period

Table 6 546 Burton Road daytime noise monitoring summary

- 3.13 During the daytime period (07:00 – 23:00 hours), the measured ambient noise level was between 46.9 and 56.3 L_{Aeq,1h}. The corresponding background noise level during this period was between 38.9 and 52.8 L_{A90,1h}. During the daytime (16-hour period), the ambient noise level was between 51.7 and 54.7 L_{Aeq,16h}. The noise climate was influenced by road traffic noise, reversing alarms from the glass manufacturing plant to the west and bird song. Site operations were inaudible.

546 Burton Road Measured night-time levels

- 3.14 A Summary of the measured noise levels, recorded during the night-time periods are shown in **Table 7** (below). The full results are shown in **Appendix B**.

Survey Period	dB LAeq,1h (8h)	dB LA90,1h (8h)	*dB LAmax,f,1h(8h)
Wednesday 27 – Thursday 28 September	43.1 – 50.1 (47.1)	35.5 – 43.1 (39.6)	58.1 – 67.9 (67.9)
Thursday 28 – Friday 29 September	42.5 – 53.4 (48.3)	28.5 – 45.2 (34.8)	58.2 – 70.5 (70.5)
Friday 29 – Saturday 30 September	43.2 – 51.4 (47.2)	29.7 – 42.0 (35.3)	59.9 – 70.2 (70.2)
Saturday 30 September – Sunday 1 October	43.6 – 49.4 (46.8)	29.7 – 40.7 (35.0)	61.4 – 78.8 (78.8)
Sunday 1 – Monday 2 October	44.9 – 53.7 (49.8)	29.0 – 45.2 (36.0)	63.7 – 78.1 (78.1)
Monday 2 – Tuesday 3 October	44.8 – 54.7 (51.0)	33.4 – 47.8 (39.0)	62.0 – 71.5 (71.5)
Tuesday 3 – Wednesday 4 October	43.8 – 52.6 (47.9)	32.8 – 44.4 (36.4)	62.0 – 72.2 (72.2)

*Maximum obtained over survey period

Table 7 546 Burton Road night-time noise monitoring summary

- 3.15 During the night-time period (23:00 – 07:00 hours), the measured ambient noise level was between 42.5 and 54.7 LAeq,1h. The corresponding background noise level during this period was between 28.5 and 47.8 LA90,1h. During the night-time (8-hour period), the ambient noise level was between 46.8 and 51.0 LAeq,8h. The corresponding background noise level was between 34.8 and 39.6 LA90,8h. The noise climate was influenced by road traffic noise.

Bleach Croft Farm Measured daytime levels

- 3.16 A Summary of the measured noise levels, recorded during the daytime period at the 19 Grace Street are shown in in **Table 8** (below). The full results are shown in **Appendix B**.

Survey Period	dB LAeq,1h (16h)	dB LA90,1h (16h)	*dB LAmax,f,1h (16h)
# Wednesday 27 September	46.6 – 50.2 (48.4)	42.1 – 45.8 (43.6)	59.9 – 74.0 (74.0)
Thursday 28 September	39.8 – 46.8 (44.8)	33.9 – 41.3 (39.6)	58.5 – 69.7 (69.7)
Friday 29 September	40.7 – 48.8 (45.3)	35.0 – 43.7 (40.0)	56.1 – 83.4 (83.4)
Saturday 30 September	43.2 – 53.8 (48.8)	36.3 – 47.1 (40.5)	62.0 – 83.8 (83.8)
Sunday 1 October	38.7 – 46.8 (43.3)	32.6 – 41.1 (36.7)	54.9 – 80.5 (80.5)
Monday 2 October	43.8 – 50.5 (47.5)	37.8 – 44.4 (41.0)	58.9 – 82.8 (82.8)
Tuesday 3 October	41.0 – 49.0 (46.2)	34.4 – 45.0 (41.3)	61.1 – 80.9 (80.9)

*Maximum obtained over survey period

Over 11-hour period

Table 8 Bleach Croft Farm daytime noise monitoring summary

- 3.17 During the daytime period (07:00 – 23:00 hours), the measured ambient noise level was between 38.7 and 53.8 LAeq,1h. The corresponding background noise level during this period was between 32.6 and 47.1 LA90,1h. During the daytime (16-hour period), the ambient noise level was between 43.3 and 48.8 LAeq,16h. The corresponding background noise level was between 36.7 and 43.6 LA90,16h. The noise climate was influenced by road traffic noise dogs barking and bird song. Site operations were inaudible.

Bleach Croft Farm Measured night-time levels

- 3.18 A Summary of the measured noise levels, recorded during the night-time periods are shown in **Table 9** (below). The full results are shown in **Appendix B**.

Survey Period	dB LAeq,1h (8h)	dB LA90,1h(8h)	*dB LAmax,f,1h(8h)
Wednesday 27 – Thursday 28 September	38.9 – 49.4 (45.4)	32.7 – 42.9 (37.0)	54.5 – 70.9 (70.9)
Thursday 28 – Friday 29 September	33.5 – 46.9 (40.4)	28.1 – 37.5 (31.3)	47.7 – 77.4 (77.4)
Friday 29 – Saturday 30 September	34.0 – 44.7 (38.8)	28.3 – 34.9 (30.9)	48.3 – 70.1 (70.1)
Saturday 30 September – Sunday 1 October	36.3 – 48.9 (42.8)	29.6 – 36.1 (32.4)	51.6 – 78.2 (78.2)
Sunday 1 – Monday 2 October	34.3 – 43.7 (39.7)	28.2 – 38.1 (31.4)	54.3 – 78.0 (78.0)
Monday 2 – Tuesday 3 October	39.0 – 50.4 (44.9)	31.2 – 40.4 (35.2)	61.0 – 82.1 (82.1)
Tuesday 3 – Wednesday 4 October	35.5 – 45.4 (40.1)	29.7 – 39.4 (32.4)	57.1 – 73.8 (73.8)

*Maximum obtained over survey period

Table 9 Bleach Croft Farm night-time noise monitoring summary

- 3.19 During the night-time period (23:00 – 07:00 hours), the measured ambient noise level was between 33.5 and 50.4 LAeq,1h. The corresponding background noise level during this period was between 28.1 and 42.9 LA90,1h. During the night-time (8-hour period), the ambient noise level was between 38.8 and 45.4 LAeq,8h. The corresponding background noise level was between 30.9 and 37.0 LA90,8h. The noise climate was influenced by road traffic noise.

Sensitive receptor	Grid references	
	X (Easting)	Y (Northing)
19 Grace Street	437735	408665
546 Burton Road	437819	408612
Bleach Croft Farm	438065	408877

Table 10 Sensitive receptor grid references

4. NOISE ASSESSMENT

Introduction

- 4.1 This noise assessment has been provided in support of an Environment Agency permit application N° EPR/BB3702UV/V002.

Noise Sources

- 4.2 At the aggregate recycling facility, a hydraulic pecker, mobile crusher, mobile trommel screen and associated mobile plant were operating. These are shown in pictures 1 – 3 (below).



Pictures 1 – 3 (left to right) Kleeman mobile crusher/MDS M412 mobile trommel/hydraulic pecker

- 4.3 Noise measurements of the existing plant were undertaken on Wednesday 4 October 2023 using a class 1 sound level meter, mounted on a tripod at a height of 1.5m from the ground. These noise measurements are shown in **Table 11** (below).
- 4.4 An aggregate washing plant is also proposed to be operating at the site. The measured noise level has been obtained from manufacturers data. This is also shown in **Table 11** (below).

Plant type	Measured noise level dB(A)
Kleeman impact crusher loaded by excavator @ 10m	87.5
MDS M412 mobile trommel loaded by excavator @ 5m	88.2
Excavator with Toku hydraulic pecker attachment @ 5m	90.1
Aggregate wash plant @ 10m	73.0
6-Wheeled HGV @ 10m	73.0

Table 11 Measured noise levels of existing and proposed plant

Operating Hours

4.5 The operating hours of the site are as follows:

- Monday to Friday 07:00 – 18:00 hours
- Saturday 07:00 – 15:00 hours
- No operations on Sundays or Bank Holidays

19 Grace Street background sound levels

4.6 The frequency of the background sound level ($L_{A90,1h}$) recorded in the rear garden of 19 Grace Street during the site operating hours (07:00 – 18:00 hours) Monday to Friday and (07:00 – 15:00) hours on Saturday. These periods are shown in **Figure 3** (all data) and **Figure 4** (wind speeds < 5 m/s) below. Recorded background sound levels were between 41 and 52 $L_{A90,1h}$ (all data) and 41 and 49 $L_{A90,1h}$ (wind speeds < 5 m/s). However, the most frequently recorded background sound level was 45 $L_{A90,1h}$ (all data) recorded for 15 times (26%) and 44 $L_{A90,1h}$ (wind speeds < 5 m/s) which was recorded 8 times (38%). This is most representative of the noise climate at this location.

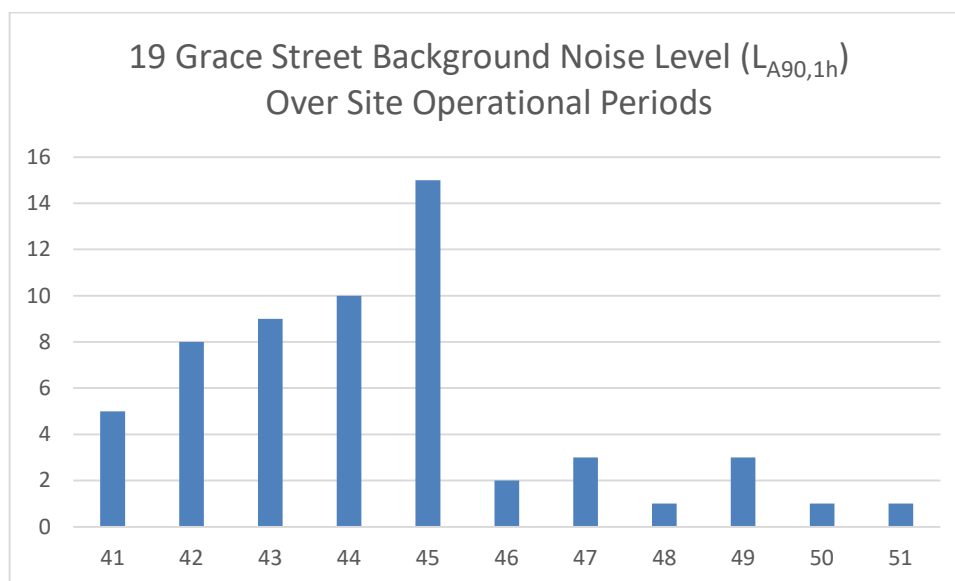


Figure 3 19 Grace Steet background noise levels over site operational periods (all data)

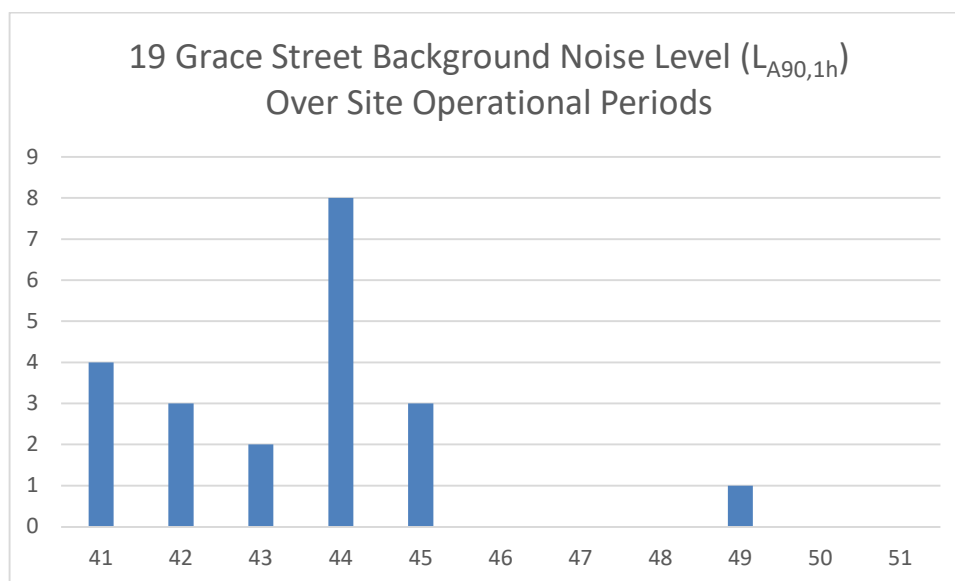


Figure 4 19 Grace Steet background noise levels over site operational periods (wind speed < 5 m/s)

546 Burton Road background sound levels

- 4.7 The frequency of the background sound level ($LA_{90,1h}$) recorded in the rear garden of 546 Burton Road during the site operating hours (07:00 – 18:00 hours) Monday to Friday and (07:00 – 15:00) hours on Saturday. These periods are shown in **Figure 5** (all data) and **Figure 6** (wind speeds < 5 m/s) below. Recorded background sound levels were between 45 and 53 $LA_{90,1h}$ (all data) and 45 and 52 $LA_{90,1h}$ (wind speeds < 5 m/s). However, the most frequently recorded background sound level was 47 $LA_{90,1h}$ (all data) recorded for 14 times (25%) and 51 $LA_{90,1h}$ (wind speeds < 5 m/s) which was recorded 5 times (24%). In order to present a worst case scenario, the lowest background sound level of 47 $LA_{90,1h}$ will be used in the noise assessment.

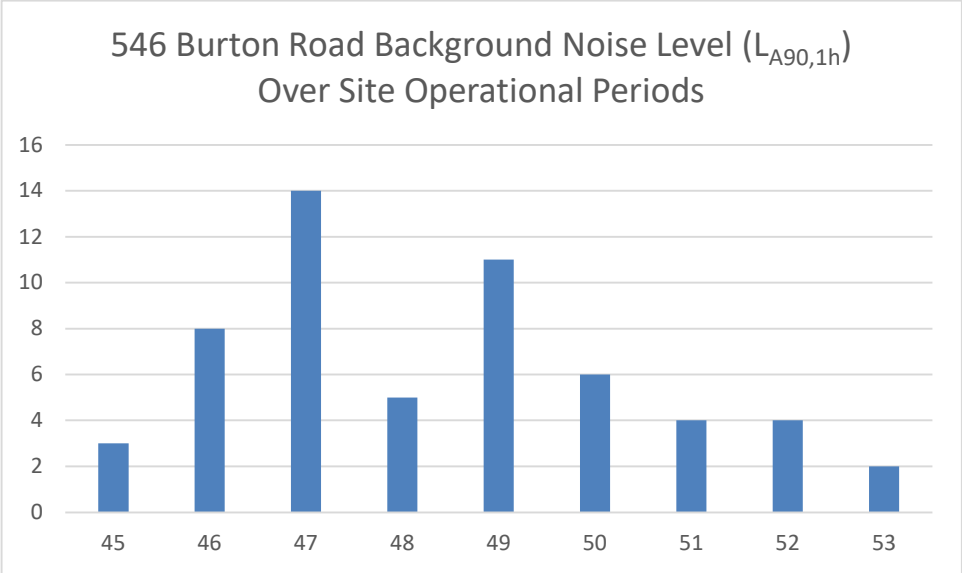


Figure 5 546 Burton Road background noise levels over site operational periods (all data)

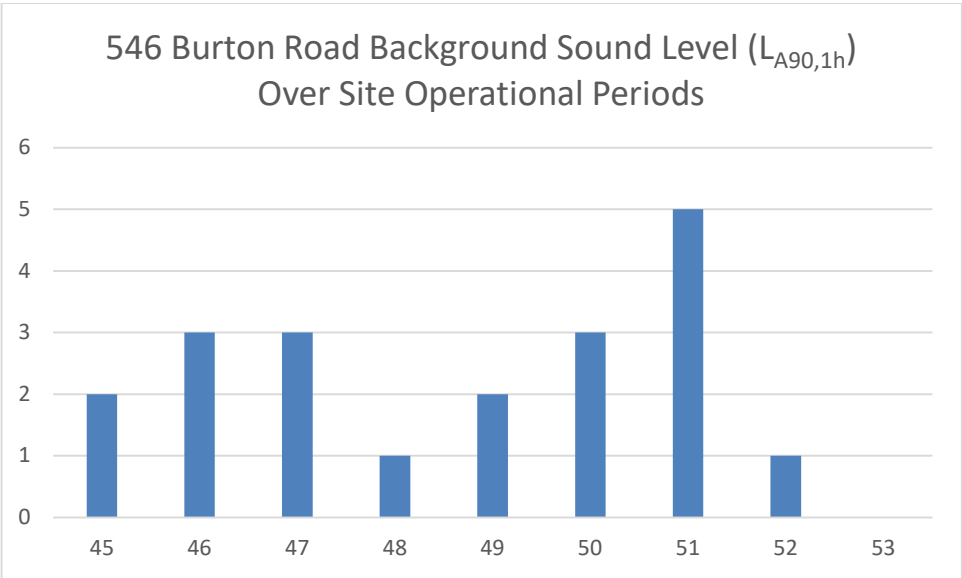


Figure 6 546 Burton Road background noise levels over site operational periods (wind speed < 5 m/s)

Bleach Croft Farm background sound levels

- 4.8 The frequency of the background sound level ($L_{A90,1h}$) recorded close to the vehicle access road of Bleach Croft Farm during the site operating hours (07:00 – 18:00 hours) Monday to Friday and (07:00 – 15:00) hours on Saturday. These periods are shown in **Figure 7** (all data) and **Figure 8** (wind speeds < 5 m/s) below. Recorded background sound levels were between 36 and 46 $L_{A90,1h}$ (all data) and 36 and 44 $L_{A90,1h}$ (wind speeds < 5 m/s). However, the most frequently recorded background sound level was 43 $L_{A90,1h}$ (all data) recorded for 14 times (25%) and 42 $L_{A90,1h}$ (wind speeds < 5 m/s) which was recorded 4 times (19%). In order to present a worst case scenario, the lowest background sound level of 42 $L_{A90,1h}$ will be used in the noise assessment.

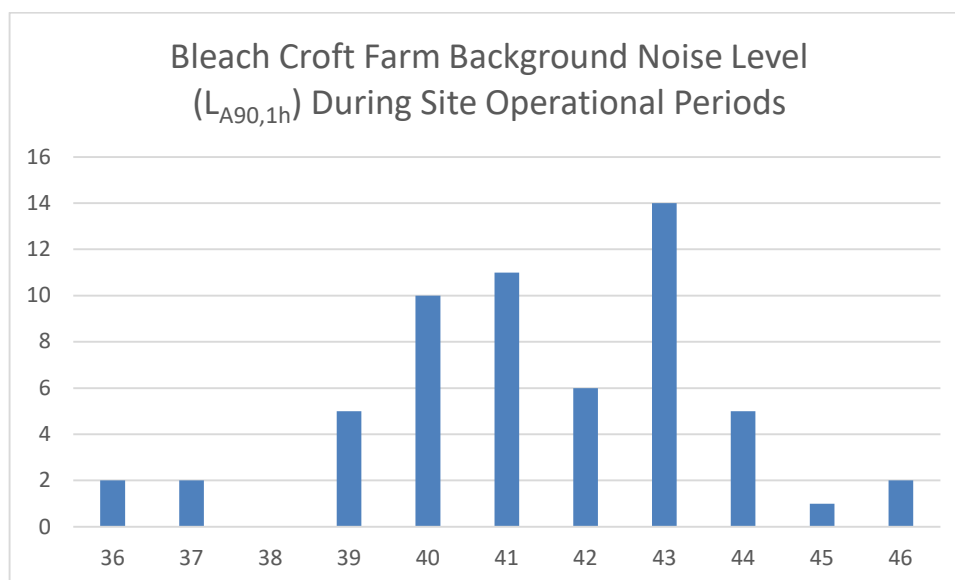


Figure 7 Bleach Croft Farm background noise levels over site operational periods (all data)

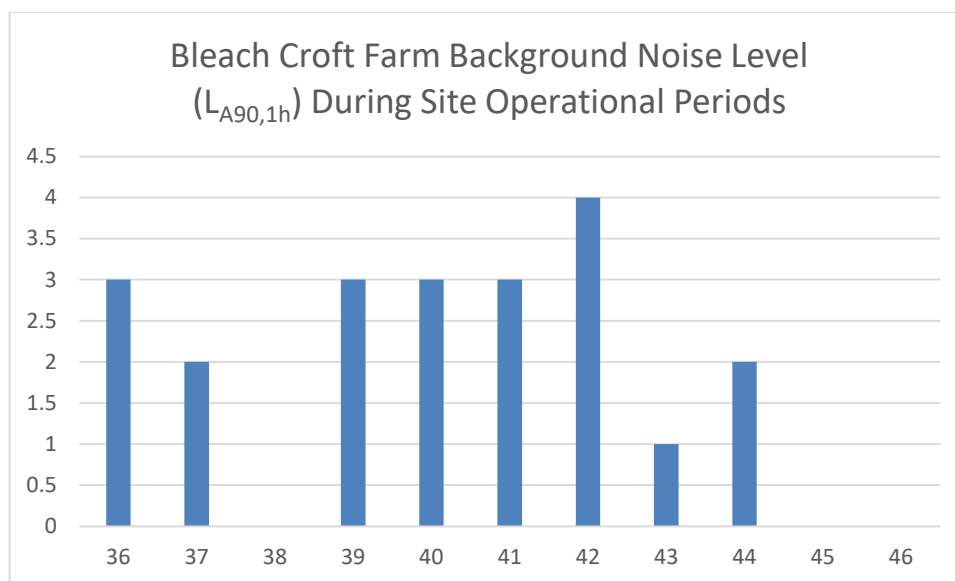


Figure 8 Bleach Croft Farm background noise levels over site operational periods (wind speed < 5 m/s)

Background Assessment

- 4.9 The noise assessment will use the most frequently occurring background sound levels recorded at each receptor during the site operational periods. Existing site operations were inaudible at the closest noise sensitive receptors; therefore they are representative of the existing background noise levels at these locations.
- 4.10 At the closest noise receptors at 19 Grace Street, 546 Burton Road and Bleach Croft Farm, the most frequently occurring background noise levels during the site operational periods were 44, 47 and 42 L_{A90,1h}. These levels will be used as the baseline levels in the noise assessment.

BS 4142 Noise Assessment

- 4.11 The noise assessment has been conducted using IMMI noise prediction software in accordance with ISO 9613-2:2024. The noise sensitive receptors and plant noise locations are shown in **Appendix C**.
- 4.12 The noise assessment will use the most frequently occurring background sound levels recorded at each receptor during the site operational periods. Existing site operations were inaudible at the closest noise sensitive receptors; therefore they are representative of the existing background noise levels at these locations.
- 4.13 Bleach Croft Farm is located at the base of a former railway embankment of approximately 15 m in height. The attenuation from this embankment has been included in the noise predictions for Bleach Croft Farm.

- 4.14 The attenuation from an existing 5m high soil bund to the west of the site (picture 4 below) has been included in the noise prediction model.



Picture 4 West Green Way – Aggregate washing plant & soil bund on south western boundary

- 4.15 The operation of the crushing and screening plant was inaudible at the closest noise sensitive receptors. The aggregate washing plant was not operating during the survey period as it was undergoing construction. However, as the crushing and screening plants are the dominant noise source, a character correction has not been applied to the specific noise level.

Description	19 Grace Street	546 Burton Road	Bleach Croft Farm
Specific noise level	44 LAeq,1h	43 LAeq,1h	38 LAeq,1h
Acoustic correction	0	0	0
Rating Level	44	43	38
Background sound level	44 LA90,1h	47 LA90,15m	42 LA90,15m
Excess over background	0	- 4	- 4
BS 4142 impact	Low impact	Low impact	Low impact

Table 12 Noise prediction summary

- 4.16 The combined operation of the hydraulic pecker, crushing plant, trommel plant, aggregate wash plant and HGV movements has been assessed in accordance with BS 4142:2014 + A1:2019. This is shown in **Table 12**.
- 4.17 The rating levels at the closest noise sensitive receptors are equal to the background sound level at 19 Grace Street and 4 dB below the background sound level at 546 Burton Road and Bleach Croft Farm.

5. CONCLUSIONS

- 5.1 Spire Environmental Consultants Limited has been appointed by Caulmert on behalf of Mr E.J. Lidster, to undertake an environmental noise assessment for the operation of an aggregate washing plant at West Green Recycling, West Green Way, Barnsley, S71 5SN.
- 5.2 Background sound level surveys were undertaken at locations representative of the closest residential properties. The surveys, and subsequent assessment work, have been undertaken in accordance with current standards and guidance.
- 5.3 A detailed noise assessment has been undertaken to determine the noise impact of the aggregate washing plant and operation of a hydraulic pecker, mobile crusher, mobile trommel screen and HGV movements.
- 5.4 A BS 4142:2014 + A1 2019 assessment has been conducted. The rating levels do not exceed the background sound levels at the closest noise sensitive receptors. Therefore, the standard indicates this is at the low impact level.

APPENDICES

APPENDIX A: Glossary of Terms

Noise

Noise is defined as unwanted sound. Human ears are able to respond to sound in the frequency range 20 Hz (deep bass) to 20,000 Hz (high treble) and over the audible range of 0 dB (the threshold of perception) to 140 dB (the threshold of pain). The ear does not respond equally to different frequencies of the same magnitude but is more responsive to mid-frequencies than to lower or higher frequencies. To quantify noise in a manner that approximates the response of the human ear, a weighting mechanism is used. This reduces the importance of lower and higher frequencies, in a similar manner to the human ear.

Furthermore, the perception of noise may be determined by a number of other factors, which may not necessarily be acoustic. In general, the impact of noise depends upon its level, the margin by which it exceeds the background level, its character and its variation over a given period of time. In some cases, the time of day and other acoustic features such as tonality or impulsiveness may be important, as may the disposition of the affected individual. Any assessment of noise should give due consideration to all of these factors when assessing the significance of a noise source.

The most widely used weighting mechanism that best corresponds to the response of the human ear is the 'A'-weighting scale. This is widely used for environmental noise measurement, and the levels are denoted as dB(A) or L_{Aeq} , L_{A90} etc., according to the parameter being measured.

The decibel scale is logarithmic rather than linear, and hence a 3 dB increase in sound level represents a doubling of the sound energy present. Judgement of sound is subjective, but as a general guide a 10 dB(A) increase can be taken to represent a doubling of loudness, whilst an increase in the order of 3 dB(A) is generally regarded as the minimum difference needed to perceive a change under normal listening conditions.

Acoustic Terminology

Term	Description
dB (decibel)	The scale on which sound pressure level is expressed. Sound pressure level is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and a reference pressure (2×10^{-5} Pa).
dB(A)	A-weighted decibel. This is a measure of the overall level of sound across the audible spectrum with a frequency weighting (i.e., 'A' - weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
$L_{Aeq,T}$	L_{Aeq} is defined as the notional steady sound level which, over a stated period of time (T), would contain the same amount of acoustical energy as the A - weighted fluctuating sound measured over that period.
L_{Amax}	L_{Amax} is the maximum A - weighted sound pressure level recorded over the period stated. L_{Amax} is sometimes used in assessing environmental noise where occasional loud noises occur, which may have little effect on the overall L_{Aeq} noise level but will still affect the noise environment. Unless described otherwise, it is measured using the 'fast' sound level meter response.
L_{10} and L_{90}	If a non-steady noise is to be described, it is necessary to know both its level and the degree of fluctuation. The L_n indices are used for this purpose, and the term refers to the level exceeded for n% of the time. Hence L_{10} is the level exceeded for 10% of the time, and the L_{90} is the level exceeded for 90% of the time.
Free-field Level	A sound field determined at a point away from reflective surfaces other than the ground with no significant contributions due to sound from other reflective surfaces. Generally, as measured outside and away from buildings.
Façade Level	A sound field determined at a distance of 1m in front of a large sound reflecting object such as a building façade.

APPENDIX B: Measured Background Noise Levels

Table B1: 19 Grace Street Wednesday 27/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
27/09/2023 12:00:00	1-hour	52.0	74.8	53.4	48.3
27/09/2023 13:00:00	1-hour	68.9	85.1	58.3	49.2
27/09/2023 14:00:00	1-hour	53.1	81.5	54.2	48.6
27/09/2023 15:00:00	1-hour	53.3	78.5	54.7	49.4
27/09/2023 16:00:00	1-hour	55.4	76.7	56.3	50.8
27/09/2023 17:00:00	1-hour	58.4	80.2	62.7	50.0
27/09/2023 18:00:00	1-hour	50.3	69.1	52.0	47.7
27/09/2023 19:00:00	1-hour	48.5	67.7	50.5	45.2
27/09/2023 20:00:00	1-hour	47.3	65.4	49.3	43.3
27/09/2023 21:00:00	1-hour	46.5	66.3	48.5	42.8
27/09/2023 22:00:00	1-hour	45.5	66.5	47.5	41.0
Over survey period		59.4	*85.1	53.4	46.9

*Maximum over survey period

Table B2: 19 Grace Street Wednesday 27/09/2023 – Thursday 28/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
27/09/2023 23:00:00	1-hour	48.1	71.7	49.9	42.2
28/09/2023 00:00:00	1-hour	48.9	69.6	50.8	43.1
28/09/2023 01:00:00	1-hour	44.6	61.0	47.1	40.0
28/09/2023 02:00:00	1-hour	41.1	63.2	42.7	37.4
28/09/2023 03:00:00	1-hour	45.0	67.5	45.2	38.8
28/09/2023 04:00:00	1-hour	42.3	62.1	43.5	39.0
28/09/2023 05:00:00	1-hour	42.4	53.2	44.3	39.3
28/09/2023 06:00:00	1-hour	43.9	68.4	45.0	41.1
Over survey period		45.4	*71.7	46.1	40.1

*Maximum over survey period

Table B3: 19 Grace Street Thursday 28/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
28/09/2023 07:00:00	1-hour	45.2	62.8	46.7	42.8
28/09/2023 08:00:00	1-hour	45.6	69.7	46.8	43.6
28/09/2023 09:00:00	1-hour	44.7	70.4	45.9	41.7
28/09/2023 10:00:00	1-hour	44.1	68.0	45.3	41.4
28/09/2023 11:00:00	1-hour	64.7	91.6	70.1	42.1
28/09/2023 12:00:00	1-hour	66.5	89.6	70.5	42.0
28/09/2023 13:00:00	1-hour	46.3	66.6	47.7	42.0
28/09/2023 14:00:00	1-hour	47.0	67.1	47.8	42.9
28/09/2023 15:00:00	1-hour	46.3	74.8	47.1	42.4
28/09/2023 16:00:00	1-hour	47.6	71.3	47.9	42.6
28/09/2023 17:00:00	1-hour	46.4	66.2	47.3	42.8
28/09/2023 18:00:00	1-hour	46.6	66.5	47.9	43.1
28/09/2023 19:00:00	1-hour	45.1	63.7	46.7	42.0
28/09/2023 20:00:00	1-hour	45.6	68.1	46.7	41.2
28/09/2023 21:00:00	1-hour	43.4	67.1	43.8	38.3
28/09/2023 22:00:00	1-hour	40.4	57.5	42.5	36.2
Over survey period		56.9	*91.6	49.4	41.7

*Maximum over survey period

Table B4: 19 Grace Street Thursday 28/09/2023 – Friday 29/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
28/09/2023 23:00:00	1-hour	41.6	65.3	42.0	35.8
29/09/2023 00:00:00	1-hour	37.4	67.2	39.1	31.6
29/09/2023 01:00:00	1-hour	35.8	47.2	38.0	31.5
29/09/2023 02:00:00	1-hour	35.6	61.8	38.3	28.2
29/09/2023 03:00:00	1-hour	36.6	57.0	40.0	29.8
29/09/2023 04:00:00	1-hour	40.5	51.1	42.9	36.7
29/09/2023 05:00:00	1-hour	44.3	63.7	45.8	41.2
29/09/2023 06:00:00	1-hour	45.4	65.9	46.8	42.6
Over survey period		41.2	*67.2	41.6	34.7

*Maximum over survey period

Table B5: 19 Grace Street Friday 29/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
29/09/2023 07:00:00	1-hour	51.0	79.8	48.6	44.2
29/09/2023 08:00:00	1-hour	76.9	98.6	79.3	46.8
29/09/2023 09:00:00	1-hour	66.9	101.2	63.4	45.0
29/09/2023 10:00:00	1-hour	61.1	88.2	57.2	43.2
29/09/2023 11:00:00	1-hour	46.4	66.2	48.0	43.4
29/09/2023 12:00:00	1-hour	47.1	70.3	48.7	43.7
29/09/2023 13:00:00	1-hour	48.8	76.9	49.1	43.2
29/09/2023 14:00:00	1-hour	53.7	78.8	55.6	46.5
29/09/2023 15:00:00	1-hour	53.7	80.3	55.1	44.9
29/09/2023 16:00:00	1-hour	48.6	73.8	49.8	44.7
29/09/2023 17:00:00	1-hour	49.4	75.0	49.9	44.6
29/09/2023 18:00:00	1-hour	51.2	71.1	55.2	43.7
29/09/2023 19:00:00	1-hour	51.0	68.2	55.4	43.0
29/09/2023 20:00:00	1-hour	46.2	68.7	46.3	41.6
29/09/2023 21:00:00	1-hour	48.6	69.1	49.5	40.7
29/09/2023 22:00:00	1-hour	48.3	67.8	49.6	41.1
Over survey period		65.5	*101.2	53.8	43.8

*Maximum over survey period

Table B6: 19 Grace Street Friday 29/09/2023 – Saturday 30/09/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
29/09/2023 23:00:00	1-hour	43.3	61.0	44.8	40.9
30/09/2023 00:00:00	1-hour	42.0	59.5	43.8	39.6
30/09/2023 01:00:00	1-hour	41.0	57.2	42.7	38.3
30/09/2023 02:00:00	1-hour	40.8	65.3	41.9	37.9
30/09/2023 03:00:00	1-hour	38.2	54.2	40.8	31.2
30/09/2023 04:00:00	1-hour	38.5	50.8	41.2	31.2
30/09/2023 05:00:00	1-hour	42.1	51.2	44.5	37.0
30/09/2023 06:00:00	1-hour	44.8	65.8	47.0	40.3
Over survey period		41.8	*65.8	43.4	37.1

*Maximum over survey period

Table B7: 19 Grace Street Saturday 30/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
30/09/2023 07:00:00	1-hour	45.8	64.0	47.9	41.2
30/09/2023 08:00:00	1-hour	45.5	64.3	47.2	41.3
30/09/2023 09:00:00	1-hour	52.4	81.5	51.6	41.7
30/09/2023 10:00:00	1-hour	59.0	89.0	57.1	41.3
30/09/2023 11:00:00	1-hour	50.6	76.8	49.5	42.9
30/09/2023 12:00:00	1-hour	57.9	81.7	59.8	44.7
30/09/2023 13:00:00	1-hour	51.8	73.5	54.3	44.4
30/09/2023 14:00:00	1-hour	49.0	68.4	50.7	45.4
30/09/2023 15:00:00	1-hour	53.3	80.8	55.8	46.4
30/09/2023 16:00:00	1-hour	59.8	89.4	58.5	49.9
30/09/2023 17:00:00	1-hour	57.3	81.0	60.1	48.5
30/09/2023 18:00:00	1-hour	57.2	77.5	61.1	48.9
30/09/2023 19:00:00	1-hour	52.1	73.1	53.7	47.8
30/09/2023 20:00:00	1-hour	49.7	68.9	51.3	44.8
30/09/2023 21:00:00	1-hour	47.0	70.8	48.6	43.1
30/09/2023 22:00:00	1-hour	47.3	70.4	48.4	42.1
Over survey period		54.6	*89.4	53.5	44.7

*Maximum over survey period

Table B8: 19 Grace Street Saturday 30/09/2023 – Sunday 01/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
30/09/2023 23:00:00	1-hour	43.5	61.4	45.8	39.3
01/10/2023 00:00:00	1-hour	42.2	64.6	44.1	36.5
01/10/2023 01:00:00	1-hour	40.8	63.8	43.2	33.8
01/10/2023 02:00:00	1-hour	41.7	67.2	43.0	32.9
01/10/2023 03:00:00	1-hour	47.9	71.1	44.2	36.2
01/10/2023 04:00:00	1-hour	49.5	72.8	50.9	35.2
01/10/2023 05:00:00	1-hour	49.7	70.6	54.1	37.1
01/10/2023 06:00:00	1-hour	42.6	66.9	44.5	38.3
Over survey period		46.1	*72.8	46.2	36.2

*Maximum over survey period

Table B9: 19 Grace Street Sunday 01/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
01/10/2023 07:00:00	1-hour	45.2	66.4	46.8	39.9
01/10/2023 08:00:00	1-hour	44.9	65.1	47.2	39.6
01/10/2023 09:00:00	1-hour	46.1	73.6	47.7	42.4
01/10/2023 10:00:00	1-hour	47.0	70.5	48.4	42.8
01/10/2023 11:00:00	1-hour	47.5	84.4	47.5	42.6
01/10/2023 12:00:00	1-hour	50.0	71.6	52.6	44.0
01/10/2023 13:00:00	1-hour	46.0	61.9	47.6	42.3
01/10/2023 14:00:00	1-hour	49.4	85.3	48.0	41.8
01/10/2023 15:00:00	1-hour	46.5	70.4	48.0	42.2
01/10/2023 16:00:00	1-hour	44.8	63.1	46.8	40.4
01/10/2023 17:00:00	1-hour	46.0	66.9	47.3	40.6
01/10/2023 18:00:00	1-hour	46.6	69.9	47.9	41.1
01/10/2023 19:00:00	1-hour	47.0	67.7	47.2	40.8
01/10/2023 20:00:00	1-hour	46.9	67.2	47.2	41.0
01/10/2023 21:00:00	1-hour	46.6	65.4	47.8	35.8
01/10/2023 22:00:00	1-hour	45.0	65.4	44.3	36.0
Over survey period		46.9	*85.3	47.6	40.8

*Maximum over survey period

Table B10: 19 Grace Street Sunday -01/10/2023 – Monday 02/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{Afmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
01/10/2023 23:00:00	1-hour	39.6	61.8	42.2	33.3
02/10/2023 00:00:00	1-hour	39.8	61.0	41.4	35.3
02/10/2023 01:00:00	1-hour	40.2	63.1	42.3	36.2
02/10/2023 02:00:00	1-hour	37.3	59.7	40.1	29.7
02/10/2023 03:00:00	1-hour	43.4	73.0	44.3	34.4
02/10/2023 04:00:00	1-hour	42.3	59.4	44.3	39.0
02/10/2023 05:00:00	1-hour	44.7	58.0	46.6	41.8
02/10/2023 06:00:00	1-hour	46.5	65.2	48.2	42.8
Over survey period		42.7	*73.0	43.7	36.6

*Maximum over survey period

Table B11: 19 Grace Street Monday 02/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
02/10/2023 07:00:00	1-hour	47.9	67.4	49.2	44.5
02/10/2023 08:00:00	1-hour	49.6	80.6	49.7	43.7
02/10/2023 09:00:00	1-hour	50.9	74.9	51.3	44.4
02/10/2023 10:00:00	1-hour	48.7	71.7	48.8	42.5
02/10/2023 11:00:00	1-hour	46.5	72.0	48.0	42.3
02/10/2023 12:00:00	1-hour	46.0	67.7	47.2	41.6
02/10/2023 13:00:00	1-hour	48.2	69.9	51.1	41.4
02/10/2023 14:00:00	1-hour	48.7	81.6	50.7	43.6
02/10/2023 15:00:00	1-hour	48.1	75.4	49.3	44.3
02/10/2023 16:00:00	1-hour	48.4	75.8	49.6	43.5
02/10/2023 17:00:00	1-hour	48.0	73.4	49.2	43.8
02/10/2023 18:00:00	1-hour	49.3	77.0	51.9	43.8
02/10/2023 19:00:00	1-hour	49.6	69.8	52.8	43.7
02/10/2023 20:00:00	1-hour	50.8	77.1	53.6	43.4
02/10/2023 21:00:00	1-hour	48.3	70.3	51.6	41.6
02/10/2023 22:00:00	1-hour	44.9	74.4	47.5	38.3
Over survey period		48.6	*81.6	50.1	42.9

*Maximum over survey period

Table B12: 19 Grace Street Monday 02/10/2023 – Tuesday 03/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
02/10/2023 23:00:00	1-hour	50.0	72.9	53.6	40.7
03/10/2023 00:00:00	1-hour	48.4	75.8	52.5	37.8
03/10/2023 01:00:00	1-hour	46.6	73.3	48.9	37.6
03/10/2023 02:00:00	1-hour	39.9	60.0	41.6	36.9
03/10/2023 03:00:00	1-hour	43.1	65.9	43.8	39.2
03/10/2023 04:00:00	1-hour	50.2	74.3	47.4	38.0
03/10/2023 05:00:00	1-hour	46.9	61.8	48.5	43.5
03/10/2023 06:00:00	1-hour	49.4	72.4	51.2	44.9
Over survey period		47.8	*75.8	48.4	39.8

*Maximum over survey period

Table B13: 19 Grace Street Tuesday 03/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
03/10/2023 07:00:00	1-hour	49.7	68.9	51.4	46.8
03/10/2023 08:00:00	1-hour	49.2	72.7	50.6	46.3
03/10/2023 09:00:00	1-hour	52.9	81.3	56.0	45.6
03/10/2023 10:00:00	1-hour	48.7	70.3	50.2	44.9
03/10/2023 11:00:00	1-hour	48.2	68.0	50.3	44.8
03/10/2023 12:00:00	1-hour	47.7	61.9	49.6	44.8
03/10/2023 13:00:00	1-hour	48.9	77.1	50.8	45.3
03/10/2023 14:00:00	1-hour	49.3	72.0	50.7	45.5
03/10/2023 15:00:00	1-hour	47.8	65.6	49.4	45.0
03/10/2023 16:00:00	1-hour	47.8	64.5	49.7	44.9
03/10/2023 17:00:00	1-hour	48.2	73.8	49.0	45.2
03/10/2023 18:00:00	1-hour	47.2	74.3	48.4	44.4
03/10/2023 19:00:00	1-hour	45.2	62.4	46.5	42.6
03/10/2023 20:00:00	1-hour	44.1	59.9	46.0	40.8
03/10/2023 21:00:00	1-hour	43.3	62.5	44.8	40.7
03/10/2023 22:00:00	1-hour	46.2	68.8	45.0	40.3
Over survey period		48.3	*81.3	49.3	44.2

* Maximum over survey period

Table B14: 19 Grace Street Tuesday 03/10/2023 – Wednesday 04/10/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
03/10/2023 23:00:00	1-hour	43.7	66.8	43.4	38.8
04/10/2023 00:00:00	1-hour	41.4	62.4	42.9	38.4
04/10/2023 01:00:00	1-hour	41.0	63.6	42.2	37.7
04/10/2023 02:00:00	1-hour	40.2	58.4	42.2	36.7
04/10/2023 03:00:00	1-hour	39.7	58.1	41.6	35.6
04/10/2023 04:00:00	1-hour	41.3	60.4	43.5	36.3
04/10/2023 05:00:00	1-hour	45.6	60.2	48.0	41.9
04/10/2023 06:00:00	1-hour	47.5	66.1	49.1	43.3
Over survey period		43.4	*66.8	44.1	38.6

*Maximum over survey period

Table B15: 546 Burton Road Wednesday 27/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
27/09/2023 12:00:00	1-hour	53.8	74.4	55.9	49.6
27/09/2023 13:00:00	1-hour	54.9	81.0	56.8	50.7
27/09/2023 14:00:00	1-hour	55.0	70.7	57.1	51.6
27/09/2023 15:00:00	1-hour	55.3	74.4	57.2	51.9
27/09/2023 16:00:00	1-hour	56.1	79.8	57.6	52.7
27/09/2023 17:00:00	1-hour	55.7	75.2	57.3	52.8
27/09/2023 18:00:00	1-hour	54.8	71.9	56.5	51.5
27/09/2023 19:00:00	1-hour	52.6	65.2	54.8	48.8
27/09/2023 20:00:00	1-hour	50.1	65.3	52.4	46.0
27/09/2023 21:00:00	1-hour	48.5	64.9	51.0	43.9
27/09/2023 22:00:00	1-hour	46.9	63.3	49.9	41.2
Over survey period		53.9	*81.0	55.1	49.2

*Maximum over survey period

Table B16: 546 Burton Road Wednesday 27/09/2023 – Thursday 28/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAFmax	dB LA10,T	dB LA90,T
Night-time					
27/09/2023 23:00:00	1-hour	47.1	66.4	49.7	42.0
28/09/2023 00:00:00	1-hour	47.8	62.2	50.8	42.5
28/09/2023 01:00:00	1-hour	46.1	58.1	49.9	38.7
28/09/2023 02:00:00	1-hour	43.1	62.9	46.1	35.5
28/09/2023 03:00:00	1-hour	44.9	61.0	48.2	36.8
28/09/2023 04:00:00	1-hour	45.1	60.8	48.7	37.9
28/09/2023 05:00:00	1-hour	48.5	67.9	51.2	40.0
28/09/2023 06:00:00	1-hour	50.1	67.7	53.2	43.1
Over survey period		47.1	*67.9	49.7	39.6

*Maximum over survey period

Table B17: 546 Burton Road Thursday 28/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
28/09/2023 07:00:00	1-hour	52.2	71.2	54.8	47.0
28/09/2023 08:00:00	1-hour	51.3	67.0	53.8	47.1
28/09/2023 09:00:00	1-hour	51.6	68.5	54.3	45.6
28/09/2023 10:00:00	1-hour	52.5	72.0	54.8	45.2
28/09/2023 11:00:00	1-hour	52.0	72.8	54.7	46.0
28/09/2023 12:00:00	1-hour	53.1	77.8	55.5	45.9
28/09/2023 13:00:00	1-hour	52.2	64.8	55.0	46.6
28/09/2023 14:00:00	1-hour	52.5	68.7	54.9	47.0
28/09/2023 15:00:00	1-hour	52.2	76.2	54.3	47.1
28/09/2023 16:00:00	1-hour	51.4	72.0	53.3	46.7
28/09/2023 17:00:00	1-hour	52.3	71.0	53.9	47.9
28/09/2023 18:00:00	1-hour	52.7	75.1	54.2	48.0
28/09/2023 19:00:00	1-hour	50.5	68.3	52.6	46.4
28/09/2023 20:00:00	1-hour	50.6	65.4	53.1	45.3
28/09/2023 21:00:00	1-hour	48.7	66.7	51.3	42.2
28/09/2023 22:00:00	1-hour	47.9	65.6	51.4	39.3
Over survey period		51.7	*77.8	53.9	45.8

*Maximum over survey period

Table B18: 546 Burton Road Thursday 28/09/2023 – Friday 29/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAFmax	dB LA10,T	dB LA90,T
Night-time					
28/09/2023 23:00:00	1-hour	45.6	63.0	49.2	36.2
29/09/2023 00:00:00	1-hour	44.2	61.8	48.3	31.2
29/09/2023 01:00:00	1-hour	42.5	58.2	46.0	30.4
29/09/2023 02:00:00	1-hour	45.2	65.9	49.6	28.5
29/09/2023 03:00:00	1-hour	46.6	64.9	50.4	29.6
29/09/2023 04:00:00	1-hour	48.0	64.6	52.4	36.0
29/09/2023 05:00:00	1-hour	50.2	63.2	54.0	41.3
29/09/2023 06:00:00	1-hour	53.4	70.5	56.6	45.2
Over survey period		48.3	*70.5	50.8	34.8

*Maximum over survey period

Table B19: 546 Burton Road Friday 29/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
29/09/2023 07:00:00	1-hour	54.4	68.5	57.2	48.7
29/09/2023 08:00:00	1-hour	54.5	70.5	56.9	49.1
29/09/2023 09:00:00	1-hour	52.8	68.4	55.5	47.7
29/09/2023 10:00:00	1-hour	51.6	67.2	54.5	46.0
29/09/2023 11:00:00	1-hour	52.0	69.4	54.6	47.0
29/09/2023 12:00:00	1-hour	52.2	65.0	54.9	47.1
29/09/2023 13:00:00	1-hour	51.9	70.7	54.5	46.1
29/09/2023 14:00:00	1-hour	53.0	75.1	55.2	47.1
29/09/2023 15:00:00	1-hour	52.6	76.4	55.0	47.9
29/09/2023 16:00:00	1-hour	52.2	75.2	54.2	47.2
29/09/2023 17:00:00	1-hour	53.0	74.2	55.2	46.9
29/09/2023 18:00:00	1-hour	53.0	67.7	55.7	46.6
29/09/2023 19:00:00	1-hour	52.5	74.0	55.5	44.7
29/09/2023 20:00:00	1-hour	50.2	67.7	54.0	41.6
29/09/2023 21:00:00	1-hour	50.6	76.4	53.6	42.1
29/09/2023 22:00:00	1-hour	49.2	70.3	52.9	39.9
Over survey period		52.4	*76.4	55.0	46.0

*Maximum over survey period

Table B20: 546 Burton Road Friday 29/09/2023 – Saturday 30/09/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
29/09/2023 23:00:00	1-hour	46.1	70.2	48.6	38.2
30/09/2023 00:00:00	1-hour	44.0	59.9	47.8	35.7
30/09/2023 01:00:00	1-hour	44.1	62.3	46.8	33.9
30/09/2023 02:00:00	1-hour	43.2	62.7	46.0	33.3
30/09/2023 03:00:00	1-hour	45.5	63.1	48.9	29.7
30/09/2023 04:00:00	1-hour	45.9	63.7	50.0	30.7
30/09/2023 05:00:00	1-hour	49.6	62.6	53.8	38.5
30/09/2023 06:00:00	1-hour	51.4	66.2	55.2	42.0
Over survey period		47.2	*70.2	49.6	35.3

*Maximum over survey period

Table B21: 546 Burton Road Saturday 30/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
30/09/2023 07:00:00	1-hour	53.0	67.1	56.3	44.5
30/09/2023 08:00:00	1-hour	53.0	72.0	55.6	46.6
30/09/2023 09:00:00	1-hour	52.8	70.7	55.2	46.9
30/09/2023 10:00:00	1-hour	52.0	71.3	54.5	45.7
30/09/2023 11:00:00	1-hour	52.6	71.4	55.4	46.2
30/09/2023 12:00:00	1-hour	51.7	74.0	52.7	44.9
30/09/2023 13:00:00	1-hour	51.7	69.9	53.6	46.2
30/09/2023 14:00:00	1-hour	52.0	66.6	54.1	47.9
30/09/2023 15:00:00	1-hour	52.5	70.2	54.6	48.1
30/09/2023 16:00:00	1-hour	54.9	81.2	56.2	49.7
30/09/2023 17:00:00	1-hour	55.7	69.5	57.8	51.2
30/09/2023 18:00:00	1-hour	56.2	72.1	58.1	52.2
30/09/2023 19:00:00	1-hour	54.3	69.7	56.4	49.8
30/09/2023 20:00:00	1-hour	51.8	67.0	54.5	47.0
30/09/2023 21:00:00	1-hour	51.0	70.7	53.7	44.9
30/09/2023 22:00:00	1-hour	50.3	67.8	53.5	43.6
Over survey period		53.2	*81.2	55.1	47.2

*Maximum over survey period

Table B22: 546 Burton Road Saturday 30/09/2023 – Sunday 01/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
30/09/2023 23:00:00	1-hour	48.1	65.3	51.4	40.7
01/10/2023 00:00:00	1-hour	49.4	78.8	50.5	36.8
01/10/2023 01:00:00	1-hour	44.5	65.0	48.4	32.9
01/10/2023 02:00:00	1-hour	43.6	68.2	46.6	29.7
01/10/2023 03:00:00	1-hour	44.2	62.1	47.6	32.1
01/10/2023 04:00:00	1-hour	44.9	61.4	48.9	32.2
01/10/2023 05:00:00	1-hour	48.0	65.0	51.9	38.1
01/10/2023 06:00:00	1-hour	47.8	68.0	51.8	37.2
Over survey period		46.8	*78.8	49.6	35.0

*Maximum over survey period

Table B23: 546 Burton Road Sunday 01/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
01/10/2023 07:00:00	1-hour	50.3	66.1	53.9	41.3
01/10/2023 08:00:00	1-hour	51.7	68.7	55.3	43.8
01/10/2023 09:00:00	1-hour	53.8	69.7	57.0	47.6
01/10/2023 10:00:00	1-hour	51.5	71.3	54.3	46.1
01/10/2023 11:00:00	1-hour	53.0	72.3	55.2	46.6
01/10/2023 12:00:00	1-hour	52.4	75.4	54.5	47.1
01/10/2023 13:00:00	1-hour	54.0	83.5	55.6	46.2
01/10/2023 14:00:00	1-hour	51.5	71.9	54.2	45.0
01/10/2023 15:00:00	1-hour	52.8	79.1	54.2	45.2
01/10/2023 16:00:00	1-hour	51.7	73.1	54.1	44.6
01/10/2023 17:00:00	1-hour	51.2	65.8	54.2	43.9
01/10/2023 18:00:00	1-hour	53.4	78.7	55.7	45.2
01/10/2023 19:00:00	1-hour	51.8	75.9	55.0	42.6
01/10/2023 20:00:00	1-hour	51.8	69.0	55.3	43.1
01/10/2023 21:00:00	1-hour	50.1	62.6	54.1	40.6
01/10/2023 22:00:00	1-hour	49.1	66.6	52.9	39.8
Over survey period		52.0	*83.5	54.7	44.3

*Maximum over survey period

Table B25: 546 Burton Road Monday 02/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
02/10/2023 07:00:00	1-hour	55.4	75.0	58.0	49.8
02/10/2023 08:00:00	1-hour	55.0	70.2	57.4	50.4
02/10/2023 09:00:00	1-hour	56.3	72.9	58.5	52.0
02/10/2023 10:00:00	1-hour	54.8	67.9	57.5	50.0
02/10/2023 11:00:00	1-hour	55.3	69.3	57.9	50.9
02/10/2023 12:00:00	1-hour	55.6	77.9	58.0	50.8
02/10/2023 13:00:00	1-hour	55.0	80.0	56.5	47.2
02/10/2023 14:00:00	1-hour	54.3	71.2	56.7	49.4
02/10/2023 15:00:00	1-hour	55.0	68.8	57.6	50.8
02/10/2023 16:00:00	1-hour	54.5	74.9	56.5	48.9
02/10/2023 17:00:00	1-hour	55.8	69.2	58.1	51.4
02/10/2023 18:00:00	1-hour	55.5	80.6	57.9	49.8
02/10/2023 19:00:00	1-hour	54.0	71.1	56.9	47.2
02/10/2023 20:00:00	1-hour	52.5	65.3	55.8	45.6
02/10/2023 21:00:00	1-hour	52.1	70.2	55.4	43.7
02/10/2023 22:00:00	1-hour	51.8	72.9	55.4	41.6
Over survey period		54.7	*80.6	57.1	48.7

*Maximum over survey period

Table B24: 546 Burton Road Sunday -01/10/2023 – Monday 02/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
01/10/2023 23:00:00	1-hour	48.3	65.2	52.5	35.9
02/10/2023 00:00:00	1-hour	45.5	63.7	49.0	32.6
02/10/2023 01:00:00	1-hour	44.9	65.9	48.3	31.7
02/10/2023 02:00:00	1-hour	45.7	64.8	49.2	29.0
02/10/2023 03:00:00	1-hour	49.4	78.1	52.3	34.7
02/10/2023 04:00:00	1-hour	50.5	68.7	54.1	36.6
02/10/2023 05:00:00	1-hour	51.8	70.4	55.3	42.3
02/10/2023 06:00:00	1-hour	53.7	69.8	56.9	45.2
Over survey period		49.8	*78.1	52.2	36.0

*Maximum over survey period

Table B25: 546 Burton Road Monday 02/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
02/10/2023 07:00:00	1-hour	55.4	75.0	58.0	49.8
02/10/2023 08:00:00	1-hour	55.0	70.2	57.4	50.4
02/10/2023 09:00:00	1-hour	56.3	72.9	58.5	52.0
02/10/2023 10:00:00	1-hour	54.8	67.9	57.5	50.0
02/10/2023 11:00:00	1-hour	55.3	69.3	57.9	50.9
02/10/2023 12:00:00	1-hour	55.6	77.9	58.0	50.8
02/10/2023 13:00:00	1-hour	55.0	80.0	56.5	47.2
02/10/2023 14:00:00	1-hour	54.3	71.2	56.7	49.4
02/10/2023 15:00:00	1-hour	55.0	68.8	57.6	50.8
02/10/2023 16:00:00	1-hour	54.5	74.9	56.5	48.9
02/10/2023 17:00:00	1-hour	55.8	69.2	58.1	51.4
02/10/2023 18:00:00	1-hour	55.5	80.6	57.9	49.8
02/10/2023 19:00:00	1-hour	54.0	71.1	56.9	47.2
02/10/2023 20:00:00	1-hour	52.5	65.3	55.8	45.6
02/10/2023 21:00:00	1-hour	52.1	70.2	55.4	43.7
02/10/2023 22:00:00	1-hour	51.8	72.9	55.4	41.6
Over survey period		54.7	*80.6	57.1	48.7

*Maximum over survey period

Table B26: 546 Burton Road Monday 02/10/2023 – Tuesday 03/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
02/10/2023 23:00:00	1-hour	50.4	65.4	54.0	41.5
03/10/2023 00:00:00	1-hour	48.9	66.8	52.6	36.4
03/10/2023 01:00:00	1-hour	49.0	69.2	52.2	35.7
03/10/2023 02:00:00	1-hour	44.8	62.5	47.3	33.4
03/10/2023 03:00:00	1-hour	47.5	62.0	51.6	35.6
03/10/2023 04:00:00	1-hour	50.5	71.5	54.4	36.7
03/10/2023 05:00:00	1-hour	54.1	69.7	57.7	44.5
03/10/2023 06:00:00	1-hour	54.7	65.6	57.9	47.8
Over survey period		51.0	*71.5	53.5	39.0

*Maximum over survey period

Table B27: 546 Burton Road Tuesday 03/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
03/10/2023 07:00:00	1-hour	54.5	70.6	57.0	49.4
03/10/2023 08:00:00	1-hour	54.6	70.6	57.0	50.3
03/10/2023 09:00:00	1-hour	54.9	65.6	57.9	49.4
03/10/2023 10:00:00	1-hour	54.8	71.1	57.8	48.7
03/10/2023 11:00:00	1-hour	54.5	70.9	57.5	49.0
03/10/2023 12:00:00	1-hour	53.8	66.9	56.6	49.0
03/10/2023 13:00:00	1-hour	53.7	65.8	56.2	49.6
03/10/2023 14:00:00	1-hour	53.5	68.9	56.1	48.8
03/10/2023 15:00:00	1-hour	54.4	80.0	56.7	49.3
03/10/2023 16:00:00	1-hour	54.6	78.3	56.5	49.1
03/10/2023 17:00:00	1-hour	52.7	67.1	55.1	48.4
03/10/2023 18:00:00	1-hour	54.1	81.7	55.4	46.8
03/10/2023 19:00:00	1-hour	52.8	80.2	54.3	43.8
03/10/2023 20:00:00	1-hour	49.9	68.9	52.9	41.5
03/10/2023 21:00:00	1-hour	48.7	71.4	51.8	40.1
03/10/2023 22:00:00	1-hour	48.3	70.2	51.8	38.9
Over survey period		53.5	*81.7	55.7	47.0

* Maximum over survey period

Table B28: 546 Burton Road Tuesday 03/10/2023 – Wednesday 04/10/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
03/10/2023 23:00:00	1-hour	44.8	68.8	48.1	35.9
04/10/2023 00:00:00	1-hour	44.5	62.8	48.1	35.1
04/10/2023 01:00:00	1-hour	43.8	62.0	46.7	33.8
04/10/2023 02:00:00	1-hour	44.9	62.7	47.9	32.8
04/10/2023 03:00:00	1-hour	46.3	62.6	50.6	33.3
04/10/2023 04:00:00	1-hour	47.8	68.3	51.8	35.2
04/10/2023 05:00:00	1-hour	49.8	67.8	53.1	40.9
04/10/2023 06:00:00	1-hour	52.6	72.2	55.7	44.4
Over survey period		47.9	*72.2	50.3	36.4

*Maximum over survey period

Table B29: Bleach Croft Farm Wednesday 27/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
27/09/2023 12:00:00	1-hour	46.6	63.7	49.0	42.2
27/09/2023 13:00:00	1-hour	47.3	65.1	49.6	43.4
27/09/2023 14:00:00	1-hour	47.7	66.1	49.5	43.6
27/09/2023 15:00:00	1-hour	47.9	63.4	50.2	44.3
27/09/2023 16:00:00	1-hour	49.4	64.2	51.6	45.6
27/09/2023 17:00:00	1-hour	50.2	67.5	52.6	45.8
27/09/2023 18:00:00	1-hour	49.4	74.0	51.5	44.6
27/09/2023 19:00:00	1-hour	48.5	61.6	51.5	43.1
27/09/2023 20:00:00	1-hour	48.2	59.9	51.0	42.3
27/09/2023 21:00:00	1-hour	48.3	68.8	51.2	42.1
27/09/2023 22:00:00	1-hour	47.8	61.0	51.1	42.1
Over survey period		48.4	*74.0	50.8	43.6

*Maximum over survey period

Table B30: Bleach Croft Farm Wednesday 27/09/2023 – Thursday 28/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
27/09/2023 23:00:00	1-hour	49.4	63.3	52.3	42.9
28/09/2023 00:00:00	1-hour	48.7	59.7	51.9	42.3
28/09/2023 01:00:00	1-hour	46.1	62.6	49.1	36.6
28/09/2023 02:00:00	1-hour	38.9	54.8	42.0	32.7
28/09/2023 03:00:00	1-hour	41.4	56.5	44.3	33.3
28/09/2023 04:00:00	1-hour	39.8	54.5	42.8	34.2
28/09/2023 05:00:00	1-hour	40.4	62.7	42.9	35.6
28/09/2023 06:00:00	1-hour	44.9	70.9	45.1	38.1
Over survey period		45.4	*70.9	46.3	37.0

*Maximum over survey period

Table B31: Bleach Croft Farm Thursday 28/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
28/09/2023 07:00:00	1-hour	44.5	68.7	46.4	40.4
28/09/2023 08:00:00	1-hour	44.3	69.7	45.8	40.8
28/09/2023 09:00:00	1-hour	44.7	66.1	46.0	39.2
28/09/2023 10:00:00	1-hour	44.1	67.0	45.3	39.1
28/09/2023 11:00:00	1-hour	46.5	69.2	47.4	39.9
28/09/2023 12:00:00	1-hour	45.6	66.0	48.0	40.5
28/09/2023 13:00:00	1-hour	45.5	68.3	48.0	40.1
28/09/2023 14:00:00	1-hour	45.5	66.4	47.4	41.3
28/09/2023 15:00:00	1-hour	44.4	59.8	46.5	40.7
28/09/2023 16:00:00	1-hour	46.8	68.6	47.9	41.2
28/09/2023 17:00:00	1-hour	45.6	61.6	47.5	41.3
28/09/2023 18:00:00	1-hour	45.4	66.1	47.5	41.0
28/09/2023 19:00:00	1-hour	43.6	58.5	46.0	39.6
28/09/2023 20:00:00	1-hour	43.6	64.1	45.7	37.9
28/09/2023 21:00:00	1-hour	43.0	66.7	43.8	35.9
28/09/2023 22:00:00	1-hour	39.8	60.3	42.9	33.9
Over survey period		44.8	*69.7	46.4	39.6

*Maximum over survey period

Table B32: Bleach Croft Farm Thursday 28/09/2023 – Friday 29/09/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
28/09/2023 23:00:00	1-hour	40.3	64.0	41.4	33.1
29/09/2023 00:00:00	1-hour	35.5	47.7	39.3	29.3
29/09/2023 01:00:00	1-hour	33.5	48.7	36.7	28.9
29/09/2023 02:00:00	1-hour	37.7	59.7	40.1	28.1
29/09/2023 03:00:00	1-hour	35.0	54.0	39.1	28.5
29/09/2023 04:00:00	1-hour	36.3	57.2	39.1	30.6
29/09/2023 05:00:00	1-hour	39.3	50.8	41.8	34.7
29/09/2023 06:00:00	1-hour	46.9	77.4	45.8	37.5
Over survey period		40.4	*77.4	40.4	31.3

*Maximum over survey period

Table B33: Bleach Croft Farm Friday 29/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
29/09/2023 07:00:00	1-hour	45.5	67.1	45.9	40.4
29/09/2023 08:00:00	1-hour	45.9	74.8	47.0	40.5
29/09/2023 09:00:00	1-hour	47.1	68.6	48.4	42.8
29/09/2023 10:00:00	1-hour	48.8	83.4	47.3	41.0
29/09/2023 11:00:00	1-hour	46.7	62.5	48.5	43.2
29/09/2023 12:00:00	1-hour	47.0	62.9	49.2	42.5
29/09/2023 13:00:00	1-hour	44.1	56.9	46.6	40.4
29/09/2023 14:00:00	1-hour	43.4	66.7	45.1	40.4
29/09/2023 15:00:00	1-hour	46.2	66.2	47.7	43.7
29/09/2023 16:00:00	1-hour	45.3	56.1	47.0	42.7
29/09/2023 17:00:00	1-hour	44.8	68.8	45.6	39.9
29/09/2023 18:00:00	1-hour	43.6	66.2	45.6	39.2
29/09/2023 19:00:00	1-hour	42.7	66.3	44.5	37.4
29/09/2023 20:00:00	1-hour	40.7	61.5	42.9	35.9
29/09/2023 21:00:00	1-hour	40.7	56.4	43.5	35.3
29/09/2023 22:00:00	1-hour	43.7	71.4	43.7	35.0
Over survey period		45.3	*83.4	46.6	40.0

*Maximum over survey period

Table B34: Bleach Croft Farm Friday 29/09/2023 – Saturday 30/09/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
29/09/2023 23:00:00	1-hour	38.0	56.3	40.7	33.5
30/09/2023 00:00:00	1-hour	37.6	51.6	40.9	31.7
30/09/2023 01:00:00	1-hour	34.5	51.7	37.8	29.4
30/09/2023 02:00:00	1-hour	34.0	48.3	37.3	29.2
30/09/2023 03:00:00	1-hour	34.7	48.4	38.6	28.4
30/09/2023 04:00:00	1-hour	34.8	63.8	38.0	28.3
30/09/2023 05:00:00	1-hour	38.7	55.9	42.0	32.1
30/09/2023 06:00:00	1-hour	44.7	70.1	45.5	34.9
Over survey period		38.8	*70.1	40.1	30.9

*Maximum over survey period

Table B35: Bleach Croft Farm Saturday 30/09/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
30/09/2023 07:00:00	1-hour	49.7	70.8	50.6	37.3
30/09/2023 08:00:00	1-hour	45.3	69.1	46.9	36.3
30/09/2023 09:00:00	1-hour	43.2	62.0	45.8	36.7
30/09/2023 10:00:00	1-hour	45.6	69.1	46.0	36.4
30/09/2023 11:00:00	1-hour	47.0	72.0	46.0	38.7
30/09/2023 12:00:00	1-hour	47.2	68.5	46.7	39.2
30/09/2023 13:00:00	1-hour	46.0	68.9	46.6	39.7
30/09/2023 14:00:00	1-hour	45.8	66.2	47.8	41.0
30/09/2023 15:00:00	1-hour	48.2	70.0	50.5	43.3
30/09/2023 16:00:00	1-hour	51.5	76.0	52.7	47.1
30/09/2023 17:00:00	1-hour	52.7	81.3	54.5	45.4
30/09/2023 18:00:00	1-hour	53.8	83.8	55.3	45.9
30/09/2023 19:00:00	1-hour	49.6	79.9	50.5	44.5
30/09/2023 20:00:00	1-hour	47.6	78.1	48.7	40.8
30/09/2023 21:00:00	1-hour	44.7	78.8	46.4	38.4
30/09/2023 22:00:00	1-hour	44.0	76.4	46.1	37.0
Over survey period		48.8	*83.8	48.8	40.5

*Maximum over survey period

Table B36: Bleach Croft Farm Saturday 30/09/2023 – Sunday 01/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
30/09/2023 23:00:00	1-hour	40.5	73.0	43.6	34.2
01/10/2023 00:00:00	1-hour	37.7	51.6	41.3	31.9
01/10/2023 01:00:00	1-hour	40.2	62.0	42.2	31.2
01/10/2023 02:00:00	1-hour	36.3	60.2	39.2	29.6
01/10/2023 03:00:00	1-hour	37.0	69.0	39.7	31.1
01/10/2023 04:00:00	1-hour	43.2	78.2	44.6	31.0
01/10/2023 05:00:00	1-hour	48.9	77.0	51.3	36.1
01/10/2023 06:00:00	1-hour	42.0	74.7	43.2	34.3
Over survey period		42.8	*78.2	43.1	32.4

*Maximum over survey period

Table B37: Bleach Croft Farm Sunday 01/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
01/10/2023 07:00:00	1-hour	41.2	63.5	44.6	34.5
01/10/2023 08:00:00	1-hour	42.9	63.8	45.6	34.5
01/10/2023 09:00:00	1-hour	43.6	69.7	46.4	36.4
01/10/2023 10:00:00	1-hour	44.3	60.9	46.6	39.3
01/10/2023 11:00:00	1-hour	44.3	67.4	46.2	39.2
01/10/2023 12:00:00	1-hour	46.8	80.5	47.4	41.1
01/10/2023 13:00:00	1-hour	45.2	78.8	46.1	39.1
01/10/2023 14:00:00	1-hour	42.9	76.6	44.5	38.3
01/10/2023 15:00:00	1-hour	43.5	62.6	45.5	38.0
01/10/2023 16:00:00	1-hour	44.7	69.6	45.4	37.6
01/10/2023 17:00:00	1-hour	43.0	63.2	45.4	38.1
01/10/2023 18:00:00	1-hour	42.5	58.0	45.2	37.2
01/10/2023 19:00:00	1-hour	41.7	63.0	44.1	35.2
01/10/2023 20:00:00	1-hour	40.6	58.5	43.7	33.9
01/10/2023 21:00:00	1-hour	39.6	63.6	42.6	32.6
01/10/2023 22:00:00	1-hour	38.7	54.9	41.9	32.6
Over survey period		43.3	*80.5	45.1	36.7

*Maximum over survey period

Table B38: Bleach Croft Farm Sunday -01/10/2023 – Monday 02/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
01/10/2023 23:00:00	1-hour	38.8	57.5	42.0	30.4
02/10/2023 00:00:00	1-hour	40.4	78.0	43.3	28.7
02/10/2023 01:00:00	1-hour	34.9	52.0	37.2	28.4
02/10/2023 02:00:00	1-hour	34.3	61.4	37.7	28.2
02/10/2023 03:00:00	1-hour	37.2	54.4	41.0	29.7
02/10/2023 04:00:00	1-hour	38.4	54.3	42.0	31.5
02/10/2023 05:00:00	1-hour	41.8	56.3	44.9	36.1
02/10/2023 06:00:00	1-hour	43.7	60.5	46.4	38.1
Over survey period		39.7	*78.0	41.8	31.4

*Maximum over survey period

Table B39: Bleach Croft Farm Monday 02/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
02/10/2023 07:00:00	1-hour	47.5	82.3	48.9	41.7
02/10/2023 08:00:00	1-hour	46.9	65.2	49.3	41.0
02/10/2023 09:00:00	1-hour	48.0	67.7	49.0	41.8
02/10/2023 10:00:00	1-hour	44.9	59.8	47.3	40.4
02/10/2023 11:00:00	1-hour	46.5	63.2	48.3	43.5
02/10/2023 12:00:00	1-hour	43.8	60.5	46.0	39.5
02/10/2023 13:00:00	1-hour	44.3	58.9	47.2	38.7
02/10/2023 14:00:00	1-hour	45.5	65.1	47.9	41.0
02/10/2023 15:00:00	1-hour	46.8	64.0	49.3	42.3
02/10/2023 16:00:00	1-hour	47.3	76.8	48.8	44.4
02/10/2023 17:00:00	1-hour	46.9	69.2	48.7	42.2
02/10/2023 18:00:00	1-hour	48.8	82.8	48.9	40.5
02/10/2023 19:00:00	1-hour	50.4	81.5	50.5	40.4
02/10/2023 20:00:00	1-hour	50.5	82.5	51.1	40.6
02/10/2023 21:00:00	1-hour	48.8	77.3	49.2	40.0
02/10/2023 22:00:00	1-hour	45.6	78.3	46.1	37.8
Over survey period		47.5	*82.8	48.5	41.0

*Maximum over survey period

Table B40: Bleach Croft Farm Monday 02/10/2023 – Tuesday 03/10/2023 Night-time period

Start time & date	Period (T)	dB L _{Aeq,T}	dB L _{AFmax}	dB L _{A10,T}	dB L _{A90,T}
Night-time					
02/10/2023 23:00:00	1-hour	50.4	82.1	49.9	40.4
03/10/2023 00:00:00	1-hour	43.7	76.0	45.8	34.3
03/10/2023 01:00:00	1-hour	45.1	78.9	46.4	34.2
03/10/2023 02:00:00	1-hour	39.7	80.1	40.3	31.2
03/10/2023 03:00:00	1-hour	39.0	72.1	41.1	31.7
03/10/2023 04:00:00	1-hour	40.4	75.2	42.7	32.5
03/10/2023 05:00:00	1-hour	42.5	71.8	45.5	37.3
03/10/2023 06:00:00	1-hour	45.3	61.0	48.1	39.9
Over survey period		44.9	*82.1	45.0	35.2

*Maximum over survey period

Table B41: Bleach Croft Farm Tuesday 03/10/2023 Daytime period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Daytime					
03/10/2023 07:00:00	1-hour	46.9	66.3	48.8	43.0
03/10/2023 08:00:00	1-hour	45.7	66.6	47.4	42.5
03/10/2023 09:00:00	1-hour	48.5	80.9	49.2	42.6
03/10/2023 10:00:00	1-hour	46.5	66.0	48.4	42.2
03/10/2023 11:00:00	1-hour	46.2	61.3	48.8	42.7
03/10/2023 12:00:00	1-hour	46.8	61.1	48.8	43.4
03/10/2023 13:00:00	1-hour	48.2	61.4	50.7	45.0
03/10/2023 14:00:00	1-hour	49.0	79.4	49.4	43.3
03/10/2023 15:00:00	1-hour	46.8	74.9	48.7	43.3
03/10/2023 16:00:00	1-hour	46.7	62.8	48.6	43.3
03/10/2023 17:00:00	1-hour	46.6	63.8	48.7	42.5
03/10/2023 18:00:00	1-hour	45.5	63.4	47.1	41.6
03/10/2023 19:00:00	1-hour	42.3	58.2	44.3	38.6
03/10/2023 20:00:00	1-hour	41.3	61.7	44.0	36.4
03/10/2023 21:00:00	1-hour	42.0	75.1	43.5	35.9
03/10/2023 22:00:00	1-hour	41.0	62.1	42.5	34.4
Over survey period		46.2	*80.9	47.4	41.3

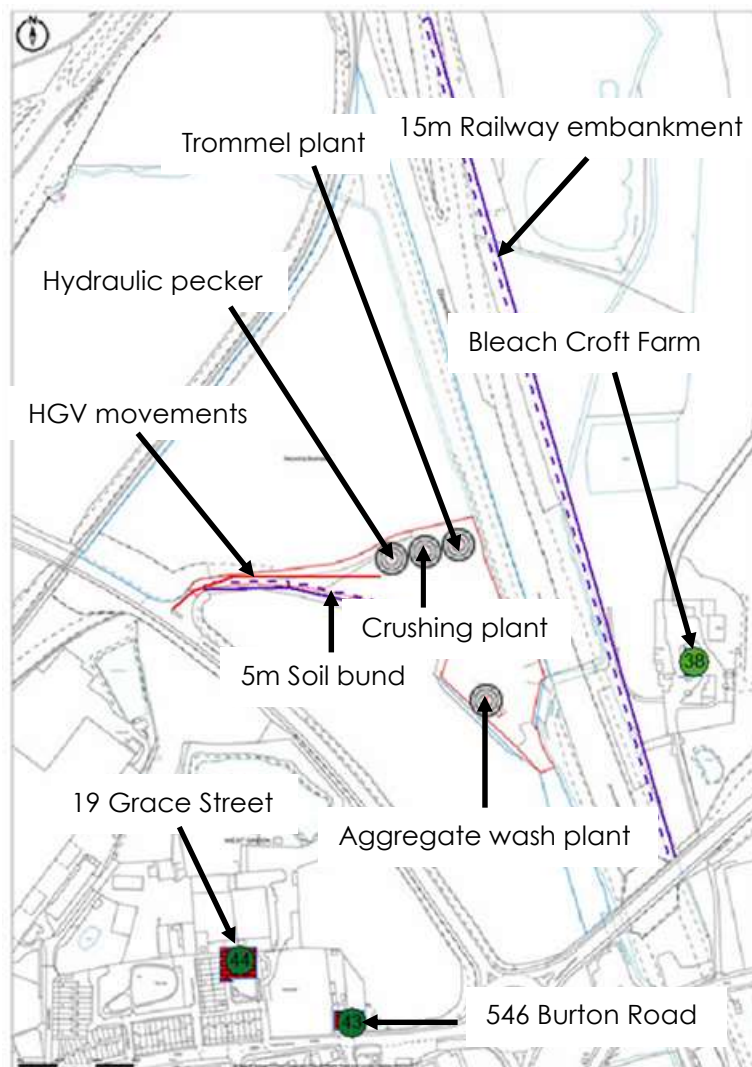
* Maximum over survey period

Table B42: Bleach Croft Farm Tuesday 03/10/2023 – Wednesday 04/10/2023 Night-time period

Start time & date	Period (T)	dB LAeq,T	dB LAfmax	dB LA10,T	dB LA90,T
Night-time					
03/10/2023 23:00:00	1-hour	37.6	58.9	40.3	31.7
04/10/2023 00:00:00	1-hour	37.5	66.2	40.7	30.8
04/10/2023 01:00:00	1-hour	35.5	68.1	37.5	29.7
04/10/2023 02:00:00	1-hour	36.6	63.9	40.1	29.8
04/10/2023 03:00:00	1-hour	36.2	57.1	39.9	29.9
04/10/2023 04:00:00	1-hour	38.1	61.8	41.7	31.2
04/10/2023 05:00:00	1-hour	42.1	56.9	44.8	36.9
04/10/2023 06:00:00	1-hour	45.4	73.8	46.7	39.4
Over survey period		40.1	*73.8	41.5	32.4

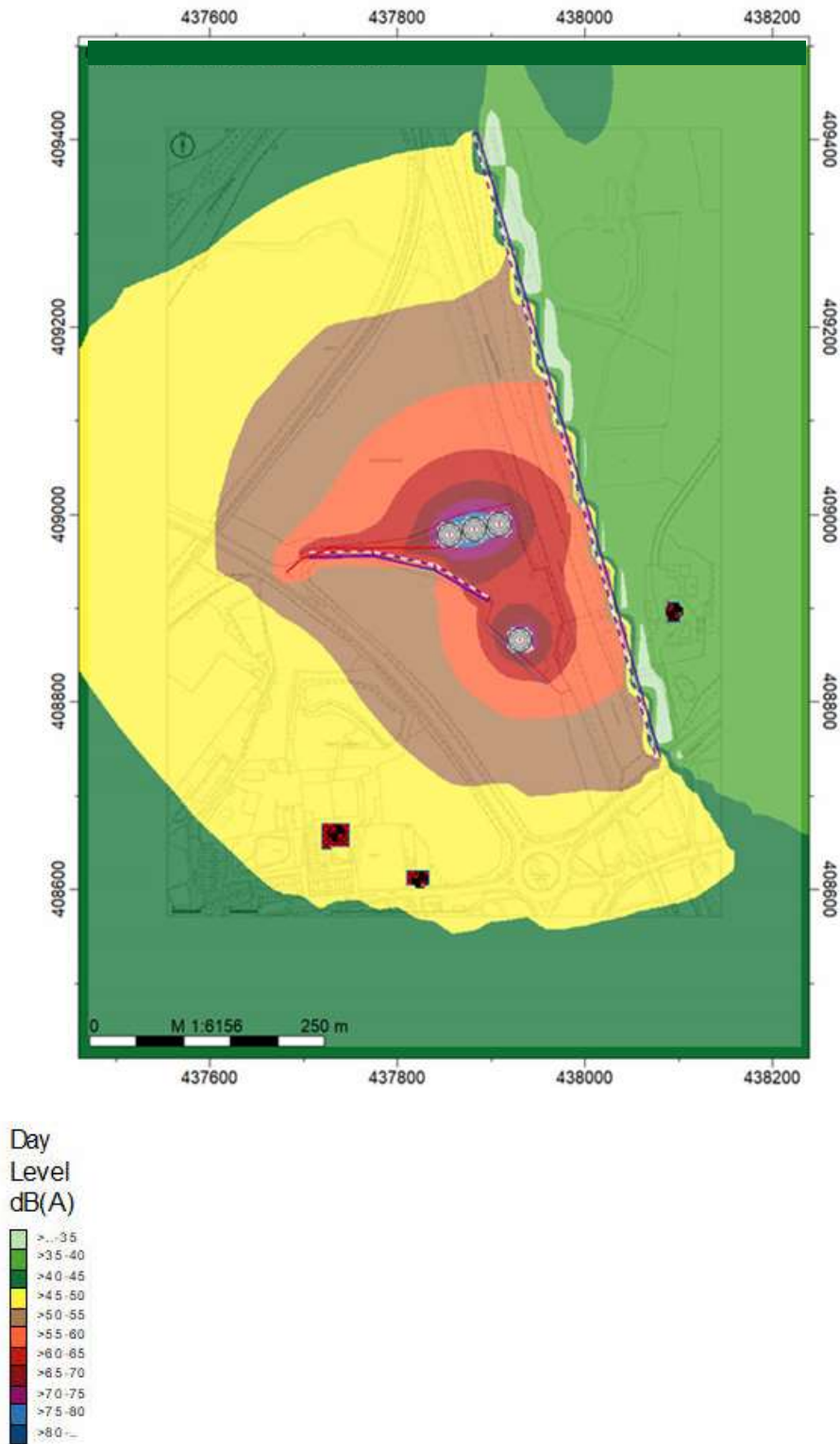
*Maximum over survey period

APPENDIX C: Noise Sources



Noise sources	Grid references	
	X (Easting)	Y (Northing)
Aggregate wash plant	437929	408853
Hydraulic pecker	437861	408980
Crushing plant	437869	408986
Trommel plant	437884	408994
HGV movements	437718	408959

APPENDIX D: Noise Contour Plan



APPENDIX E: Weather Data

E1: 27 September 2023

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	12.2	3.1	SW	Fair
12:50 AM	11.1	2.2	S	Fair
1:20 AM	11.1	2.2	WSW	Fair
1:50 AM	11.1	3.6	SW	Fair
2:20 AM	11.1	4.0	W	Fair
4:20 AM	11.1	1.3	S	Fair
4:50 AM	11.1	1.3	SE	Fair
5:20 AM	10.0	0.9	VAR	Fair
5:50 AM	11.1	0.9	VAR	Fair
6:20 AM	10.0	2.2	SE	Fair
6:50 AM	10.0	1.3	SE	Fair
7:20 AM	10.0	1.3	ENE	Fair
7:50 AM	11.1	3.1	SSE	Fair
8:20 AM	12.2	3.1	SSE	Fair
8:50 AM	12.2	3.1	SE	Fair
9:20 AM	13.9	4.0	SE	Fair
9:50 AM	15.0	5.8	SE	Fair
10:20 AM	15.0	4.5	SE	Fair
10:50 AM	13.9	4.5	SE	Fair
11:20 AM	13.9	5.8	SE	Partly Cloudy
11:50 AM	15.0	4.0	SE	Partly Cloudy
12:20 PM	15.0	5.4	SE	Mostly Cloudy
12:50 PM	15.0	4.5	SE	Light Rain
1:20 PM	15.0	4.5	ESE	Light Rain
1:50 PM	15.0	3.1	ESE	Light Rain
2:20 PM	15.0	4.0	ESE	Light Rain
2:50 PM	15.0	5.4	ESE	Light Rain
3:20 PM	15.0	5.4	ESE	Light Rain
3:50 PM	16.1	6.3	ESE	Light Rain
4:20 PM	16.1	6.7	ESE	Partly Cloudy
4:50 PM	16.1	6.7	SE	Partly Cloudy
5:20 PM	17.2	9.4	SE	Partly Cloudy / Windy
5:50 PM	16.1	7.2	SE	Mostly Cloudy

E1: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	17.2	8.0	SE	Light Rain
6:50 PM	16.1	7.6	SSE	Light Rain
7:20 PM	16.1	8.9	SSE	Light Rain
7:50 PM	16.1	7.6	S	Partly Cloudy
8:20 PM	16.1	6.3	SSE	Partly Cloudy
8:50 PM	16.1	7.6	S	Partly Cloudy
9:20 PM	16.1	8.0	S	Partly Cloudy
9:50 PM	16.1	9.4	SSW	Light Rain Shower / Windy
10:20 PM	15.0	9.8	SSW	Light Rain / Windy
10:50 PM	15.0	11.2	SSW	Light Rain / Windy

E2: 28 September 2023

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	13.9	8.9	SW	Light Rain Shower
12:50 AM	13.9	8.0	SW	Light Rain Shower
1:20 AM	13.9	7.2	SW	Light Rain
1:50 AM	13.9	6.7	SW	Light Rain
2:20 AM	13.9	8.9	SW	Mostly Cloudy
4:20 AM	13.9	9.4	SW	Partly Cloudy / Windy
4:50 AM	13.9	7.6	SW	Partly Cloudy
5:20 AM	13.9	7.2	SW	Partly Cloudy
5:50 AM	13.9	8.0	WSW	Partly Cloudy
6:20 AM	13.9	5.4	SW	Partly Cloudy
6:50 AM	13.9	5.4	SSW	Mostly Cloudy
7:20 AM	13.9	5.8	SW	Mostly Cloudy
7:50 AM	13.9	5.4	SSW	Mostly Cloudy
8:20 AM	13.9	5.8	SW	Mostly Cloudy
8:50 AM	13.9	6.3	SW	Mostly Cloudy
9:20 AM	13.9	6.7	SW	Mostly Cloudy
9:50 AM	13.9	6.3	SSW	Mostly Cloudy
10:20 AM	13.9	5.8	SW	Partly Cloudy
10:50 AM	13.9	5.8	SW	Partly Cloudy
11:20 AM	13.9	6.7	SW	Partly Cloudy
11:50 AM	13.9	5.4	SSW	Partly Cloudy
12:20 PM	15.0	6.7	SW	Partly Cloudy
12:50 PM	15.0	4.0	SSW	Partly Cloudy
1:20 PM	15.0	4.5	SSW	Partly Cloudy
1:50 PM	15.0	6.7	SSW	Partly Cloudy
2:20 PM	13.9	4.5	S	Partly Cloudy
2:50 PM	15.0	5.8	SSW	Partly Cloudy
3:20 PM	13.9	5.8	SSW	Partly Cloudy
3:50 PM	13.9	4.5	S	Fair
4:20 PM	13.9	6.3	S	Light Rain
4:50 PM	13.9	3.1	SSW	Light Rain
5:20 PM	12.8	4.0	S	Partly Cloudy
5:50 PM	13.9	8.9	SW	Light Rain Shower

E2: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	12.8	5.4	S	Fair
6:50 PM	12.8	4.5	SSE	Fair
7:20 PM	12.8	5.4	S	Fair
7:50 PM	12.8	3.6	SSE	Light Rain
8:20 PM	12.8	4.5	S	Light Rain
8:50 PM	12.8	4.0	S	Light Rain
9:20 PM	12.8	4.0	S	Light Rain
9:50 PM	12.8	3.1	S	Light Rain
10:20 PM	12.8	3.1	S	Light Rain
10:50 PM	12.8	3.1	S	Partly Cloudy

E3: 29 September 2023

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	12.8	3.6	SW	Mostly Cloudy
12:50 AM	12.8	2.7	SW	Partly Cloudy
1:20 AM	12.8	2.7	SW	Partly Cloudy
1:50 AM	12.8	3.6	WSW	Partly Cloudy
2:20 AM	11.1	4.5	W	Fair
4:20 AM	11.1	4.5	WSW	Fair
4:50 AM	11.1	4.5	WSW	Fair
5:20 AM	11.1	5.8	WSW	Fair
5:50 AM	11.1	4.0	WSW	Fair
6:20 AM	11.1	3.6	WSW	Fair
6:50 AM	11.1	3.1	WSW	Fair
7:20 AM	12.2	3.1	WSW	Partly Cloudy
7:50 AM	12.2	4.0	WSW	Partly Cloudy
8:20 AM	12.8	4.5	W	Partly Cloudy
8:50 AM	13.9	6.3	W	Partly Cloudy
9:20 AM	13.9	5.8	W	Partly Cloudy
9:50 AM	15.0	7.2	W	Partly Cloudy
10:20 AM	13.9	6.7	WSW	Partly Cloudy
10:50 AM	15.0	7.6	WSW	Partly Cloudy
11:20 AM	15.0	9.8	WSW	Light Rain Shower / Windy
11:50 AM	15.0	8.9	W	Light Rain Shower
12:20 PM	15.0	9.4	W	Partly Cloudy / Windy
12:50 PM	13.9	7.2	W	Light Rain Shower
1:20 PM	13.9	8.0	W	Partly Cloudy
1:50 PM	15.0	7.2	WSW	Partly Cloudy
2:20 PM	15.0	9.8	WSW	Light Rain Shower / Windy
2:50 PM	16.1	9.4	WSW	Light Rain Shower / Windy
3:20 PM	15.0	7.6	WSW	Partly Cloudy
3:50 PM	15.0	8.0	WSW	Partly Cloudy
4:20 PM	15.0	5.8	W	Partly Cloudy
4:50 PM	13.9	6.3	WSW	Partly Cloudy
5:20 PM	13.9	5.4	WSW	Partly Cloudy
5:50 PM	12.8	4.5	WSW	Partly Cloudy

E3: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	12.2	3.6	WSW	Fair
6:50 PM	12.2	4.0	SW	Fair
7:20 PM	12.2	5.4	WSW	Fair
7:50 PM	12.2	6.3	WSW	Fair
8:20 PM	12.2	5.4	WSW	Fair
8:50 PM	12.2	6.3	W	Fair
9:20 PM	12.2	7.2	W	Fair
9:50 PM	12.2	7.6	W	Fair
10:20 PM	12.2	5.4	WSW	Fair
10:50 PM	12.2	3.6	WSW	Fair

E4: 30 September 2023

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	12.2	5.4	WSW	Fair
12:50 AM	12.2	5.8	WSW	Fair
1:20 AM	12.2	5.4	WSW	Fair
1:50 AM	12.2	2.2	W	Fair
2:20 AM	12.2	2.2	SSW	Fair
4:20 AM	10.0	2.2	S	Fair
4:50 AM	10.0	1.3	S	Fair
5:20 AM	10.0	2.2	S	Fair
5:50 AM	10.0	3.6	SSW	Fair
6:20 AM	8.9	3.1	S	Fair
6:50 AM	8.9	3.1	S	Fair
7:20 AM	10.0	2.7	SSW	Fair
7:50 AM	8.9	2.2	SSW	Fair
8:20 AM	8.9	0.4	VAR	Fair
8:50 AM	10.0	3.1	S	Partly Cloudy
9:20 AM	11.1	1.3	S	Partly Cloudy
9:50 AM	12.8	0.9	VAR	Fair
10:20 AM	12.2	0.9	VAR	Fair
10:50 AM	12.8	0.9	VAR	Fair
11:20 AM	12.8	2.2	SSW	Partly Cloudy
11:50 AM	12.8	2.2	S	Partly Cloudy
12:20 PM	13.9	2.7	S	Partly Cloudy
12:50 PM	13.9	2.2	SE	Fair
1:20 PM	13.9	2.2	SSE	Fair
1:50 PM	13.9	3.1	S	Partly Cloudy
2:20 PM	13.9	2.7	SSW	Light Rain
2:50 PM	13.9	2.2	S	Light Rain
3:20 PM	12.8	2.2	S	Light Rain
3:50 PM	12.8	3.1	SSE	Light Rain
4:20 PM	12.8	3.1	SSE	Light Rain
4:50 PM	12.2	6.3	SSW	Light Rain
5:20 PM	11.1	4.0	SSW	Light Rain
5:50 PM	11.1	2.7	S	Light Rain

E4: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	10.0	4.0	ESE	Light Rain
6:50 PM	10.0	3.6	SE	Light Rain
7:20 PM	10.0	4.5	SE	Light Rain
7:50 PM	11.1	5.8	SE	Light Rain
8:20 PM	11.1	5.8	SSE	Light Rain
8:50 PM	11.1	5.4	SSE	Light Rain
9:20 PM	11.1	4.5	SE	Light Rain
9:50 PM	11.1	5.4	SSE	Light Rain
10:20 PM	12.2	3.1	SE	Light Rain
10:50 PM	12.2	2.7	SE	Fog

E5: 01 October 2024

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	12.8	2.2	VAR	Fog
12:50 AM	13.9	2.2	S	Mist
1:20 AM	13.9	0.9	VAR	Mist
1:50 AM	15.0	0.4	VAR	Mist
2:20 AM	13.9	0.4	VAR	Mostly Cloudy
4:20 AM	15.0	2.2	VAR	Mostly Cloudy
4:50 AM	16.1	4.0	SSW	Light Rain
5:20 AM	16.1	4.0	SSW	Light Rain
5:50 AM	16.1	4.5	SSW	Light Rain
6:20 AM	16.1	4.5	SW	Light Rain
6:50 AM	16.1	4.5	SSW	Light Rain
7:20 AM	16.1	3.1	SW	Light Rain
7:50 AM	16.1	4.0	SW	Light Rain
8:20 AM	16.1	3.1	SW	Light Rain
8:50 AM	16.1	2.7	SSW	Light Rain
9:20 AM	16.1	2.2	SW	Light Rain
9:50 AM	17.2	2.2	SW	Mostly Cloudy
10:20 AM	17.2	3.6	SW	Mostly Cloudy
10:50 AM	17.2	4.0	SW	Mostly Cloudy
11:20 AM	17.2	4.0	SSW	Light Rain
11:50 AM	17.2	3.6	SW	Light Rain
12:20 PM	17.2	3.1	SW	Light Rain
12:50 PM	17.2	3.1	SW	Partly Cloudy
1:20 PM	17.8	4.0	SW	Partly Cloudy
1:50 PM	17.8	3.1	SW	Partly Cloudy
2:20 PM	17.8	4.5	SW	Partly Cloudy
2:50 PM	17.8	3.6	SW	Showers in the Vicinity
3:20 PM	17.8	4.5	WSW	Partly Cloudy
3:50 PM	17.2	3.6	SW	Light Rain
4:20 PM	17.2	4.5	WSW	Light Rain
4:50 PM	16.1	3.6	W	Light Rain Shower
5:20 PM	17.2	3.1	W	Showers in the Vicinity
5:50 PM	17.2	3.1	WSW	Partly Cloudy

E5: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	15.0	1.3	SSW	Partly Cloudy
6:50 PM	15.0	2.2	WSW	Partly Cloudy
7:20 PM	13.9	0.9	SW	Partly Cloudy
7:50 PM	13.9	2.7	WSW	Fair
8:20 PM	13.9	2.7	WSW	Fair
8:50 PM	13.9	2.7	W	Fair
9:20 PM	13.9	4.0	W	Fair
9:50 PM	12.8	2.7	WSW	Fair
10:20 PM	12.8	2.2	W	Fair
10:50 PM	12.2	2.2	WSW	Fair

E6: 02 October 2024

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	12.2	4.0	W	Fair
12:50 AM	12.2	2.7	W	Fair
1:20 AM	12.2	2.7	WSW	Fair
1:50 AM	12.2	2.7	WSW	Fair
2:20 AM	12.2	3.1	WSW	Fair
4:20 AM	11.1	2.2	W	Fair
4:50 AM	12.2	3.1	SW	Fair
5:20 AM	12.2	3.1	SW	Fair
5:50 AM	12.2	3.6	WSW	Fair
6:20 AM	11.1	2.7	WSW	Fair
6:50 AM	11.1	2.2	WSW	Fair
7:20 AM	11.1	2.2	WSW	Fair
7:50 AM	11.1	2.2	SW	Fair
8:20 AM	11.1	0.4	VAR	Fair
8:50 AM	11.1	2.2	SW	Fair
9:20 AM	12.2	2.7	WSW	Fair
9:50 AM	12.2	2.7	WSW	Fair
10:20 AM	12.8	2.7	WSW	Partly Cloudy
10:50 AM	12.8	2.7	SW	Partly Cloudy
11:20 AM	13.9	2.2	WSW	Partly Cloudy
11:50 AM	13.9	2.2	SW	Partly Cloudy
12:20 PM	13.9	2.7	W	Partly Cloudy
12:50 PM	13.9	2.2	SW	Partly Cloudy
1:20 PM	13.9	2.2	SSW	Partly Cloudy
1:50 PM	15.0	2.7	SW	Partly Cloudy
2:20 PM	13.9	3.1	SW	Partly Cloudy
2:50 PM	13.9	3.1	SSW	Fair
3:20 PM	13.9	2.7	SSW	Fair
3:50 PM	13.9	2.2	SW	Fair
4:20 PM	13.9	2.7	SW	Light Rain
4:50 PM	13.9	2.2	SW	Light Rain
5:20 PM	12.8	1.3	WSW	Light Rain
5:50 PM	12.8	3.1	SW	Light Rain

E6: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	11.1	1.3	WNW	Light Rain
6:50 PM	11.1	3.6	NW	Light Rain
7:20 PM	10.0	2.7	WNW	Rain
7:50 PM	10.0	2.7	WNW	Light Rain
8:20 PM	10.0	1.3	NW	Light Rain
8:50 PM	8.9	0.9	WNW	Light Rain
9:20 PM	10.0	1.3	NNW	Light Rain
9:50 PM	8.9	0.9	VAR	Rain
10:20 PM	8.9	2.2	NW	Rain
10:50 PM	8.9	2.2	WNW	Light Rain

E7: 03 October 2024

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	8.9	3.1	W	Light Rain
12:50 AM	8.9	2.7	W	Light Rain
1:20 AM	10.0	4.0	W	Light Rain
1:50 AM	10.0	3.1	WSW	Fair
2:20 AM	8.9	5.4	WSW	Fair
4:20 AM	8.9	4.5	WSW	Fair
4:50 AM	8.9	4.5	WSW	Light Rain
5:20 AM	10.0	5.8	WSW	Light Rain
5:50 AM	10.0	6.3	WSW	Partly Cloudy
6:20 AM	10.0	3.1	WSW	Partly Cloudy
6:50 AM	10.0	3.1	WSW	Partly Cloudy
7:20 AM	11.1	5.4	WSW	Partly Cloudy
7:50 AM	11.1	6.7	WSW	Rain Shower
8:20 AM	10.0	7.6	WSW	Light Rain Shower
8:50 AM	11.1	5.8	W	Showers in the Vicinity
9:20 AM	11.1	6.3	W	Partly Cloudy
9:50 AM	12.2	7.6	W	Partly Cloudy
10:20 AM	12.8	8.9	W	Partly Cloudy
10:50 AM	12.8	8.0	W	Partly Cloudy
11:20 AM	13.9	9.8	W	Partly Cloudy / Windy
11:50 AM	12.8	8.0	WSW	Light Rain Shower
12:20 PM	12.8	8.0	WSW	Light Rain Shower
12:50 PM	12.8	7.6	WSW	Light Rain Shower
1:20 PM	12.8	7.6	WSW	Light Rain Shower
1:50 PM	12.8	6.7	W	Showers in the Vicinity
2:20 PM	12.8	9.4	W	Showers in the Vicinity
2:50 PM	12.8	7.6	W	Showers in the Vicinity
3:20 PM	12.8	6.7	W	Light Rain Shower
3:50 PM	12.8	6.3	W	Light Rain Shower
4:20 PM	12.8	6.3	WSW	Light Rain Shower
4:50 PM	12.8	8.0	WSW	Light Rain Shower
5:20 PM	12.8	5.8	WSW	Partly Cloudy
5:50 PM	12.2	7.2	W	Light Rain Shower

E7: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
6:20 PM	12.2	5.4	WSW	Showers in the Vicinity
6:50 PM	12.2	5.4	WSW	Light Rain Shower
7:20 PM	12.2	5.4	WSW	Partly Cloudy
7:50 PM	12.2	5.4	WSW	Partly Cloudy
8:20 PM	12.2	5.4	WSW	Partly Cloudy
8:50 PM	11.1	5.8	WSW	Partly Cloudy
9:20 PM	11.1	4.0	WSW	Fair
9:50 PM	11.1	4.5	WSW	Fair
10:20 PM	12.2	4.5	WSW	Partly Cloudy
10:50 PM	11.1	3.6	SSW	Partly Cloudy

E8: 04 October 2024

Time	Temperature °C	Wind speed m/s	Direction	Climate
12:20 AM	11.1	3.6	SSW	Partly Cloudy
12:50 AM	11.1	3.1	SSW	Partly Cloudy
1:20 AM	11.1	3.6	SSW	Light Rain
1:50 AM	11.1	3.6	SSW	Partly Cloudy
2:20 AM	12.2	2.7	SW	Partly Cloudy
4:20 AM	11.1	4.5	SW	Light Rain Shower
4:50 AM	11.1	5.8	WSW	Showers in the Vicinity
5:20 AM	11.1	6.7	WSW	Partly Cloudy
5:50 AM	11.1	7.2	WSW	Light Rain Shower
6:20 AM	11.1	6.3	SW	Partly Cloudy
6:50 AM	11.1	5.4	WSW	Showers in the Vicinity
7:20 AM	11.1	6.3	WSW	Partly Cloudy
7:50 AM	11.1	4.5	SW	Partly Cloudy
8:20 AM	11.1	4.5	SW	Partly Cloudy
8:50 AM	11.1	6.3	SW	Partly Cloudy
9:20 AM	12.2	7.2	SW	Partly Cloudy
9:50 AM	12.2	6.3	WSW	Fair
10:20 AM	12.2	6.3	SW	Fair
10:50 AM	12.8	7.2	SW	Fair
11:20 AM	12.8	7.6	SW	Partly Cloudy
11:50 AM	12.8	8.0	WSW	Partly Cloudy
12:20 PM	13.9	7.6	WSW	Partly Cloudy
12:50 PM	15.0	7.6	SW	Partly Cloudy

E8: Continued

Time	Temperature °C	Wind speed m/s	Direction	Climate
1:20 PM	15.0	5.8	SW	Partly Cloudy
1:50 PM	15.0	7.6	WSW	Partly Cloudy
2:20 PM	15.0	9.8	WSW	Partly Cloudy / Windy
2:50 PM	15.0	10.7	WSW	Partly Cloudy / Windy
3:20 PM	15.0	9.4	WSW	Partly Cloudy / Windy
3:50 PM	16.1	10.3	WSW	Partly Cloudy / Windy
4:20 PM	15.0	9.8	WSW	Partly Cloudy / Windy
4:50 PM	15.0	8.9	WSW	Partly Cloudy
5:20 PM	13.9	6.7	WSW	Partly Cloudy
5:50 PM	13.9	6.3	SW	Partly Cloudy
6:20 PM	13.9	6.3	WSW	Mostly Cloudy
6:50 PM	12.8	6.7	SW	Light Rain
7:20 PM	12.8	6.7	SW	Light Rain
7:50 PM	12.8	5.4	SW	Mostly Cloudy
8:20 PM	12.8	5.8	SW	Mostly Cloudy
8:50 PM	12.8	5.4	WSW	Mostly Cloudy
9:20 PM	12.8	5.8	SW	Mostly Cloudy
9:50 PM	12.8	5.4	WSW	Light Rain
10:20 PM	12.8	5.8	SW	Mostly Cloudy
10:50 PM	12.8	5.8	WSW	Mostly Cloudy



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APPENDIX 15 – CURRENT WASTE PERMIT

DOCUMENT 4 (Exhibit EJL1)

THE LICENSE ENTRY


Department for Environment Food & Rural Affairs


[Data Services Platform](#)


Environment Agency

Public Registers

[Home](#)
[About public registers](#)
[API reference](#)

[Home](#) > [Search Waste Operations](#) > Result From Environmental Permitting Regulations – Waste Operations For England

Permit BB3702UV

Request documents

Permit number	BB3702UV
Waste Management Licence No.	60546
Pre-EA Permit Ref	60546
Licence Holder Name	SEALQUEST LIMITED

Site

Site name	Land At Junction Of Pontefract Road And Burton Road
Site type	SR2022 No 1: Non-hazardous waste physical treatment facility
Site Grid Reference	SE3800008700
Easting	438000
Northing	408700

Status

Status Description	Effective
Issued Date	31/01/1994
Transfer Date	31/01/1994
Date Effective	31/01/1994

APPENDIX 16 – SOUTH YORKSHIRE WASTE NEEDS ASSESSMENT

South Yorkshire Waste Planning Authorities

(Barnsley Metropolitan Borough Council, Doncaster Metropolitan Borough Council, Rotherham Metropolitan Borough Council, and Sheffield City Council)

Waste Needs Assessment (2021-2041)

April 2022



Prepared by the Minerals and Waste Planning Services for Northamptonshire (North Northamptonshire Council)

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Executive summary

The South Yorkshire Waste Planning Authorities of Barnsley Metropolitan Borough Council, Doncaster Metropolitan Borough Council, Rotherham Metropolitan Borough Council, and Sheffield City Council have produced a joint Waste Needs Assessment that covers the whole of the South Yorkshire sub-region.

Jointly, the Waste Planning Authorities of South Yorkshire currently¹ produce just under 3 million tonnes per annum (Mtpa) of various types of waste, this includes around 0.590 million tonnes (Mt) of municipal waste (20%); 0.877 Mt of commercial and industrial waste (30%); 1.319 Mt of construction, demolition, and excavation waste² (45%); and 0.161 Mt of hazardous waste (5%). Forecasts indicate that waste arisings could increase to just over 3.5 Mtpa by 2041.

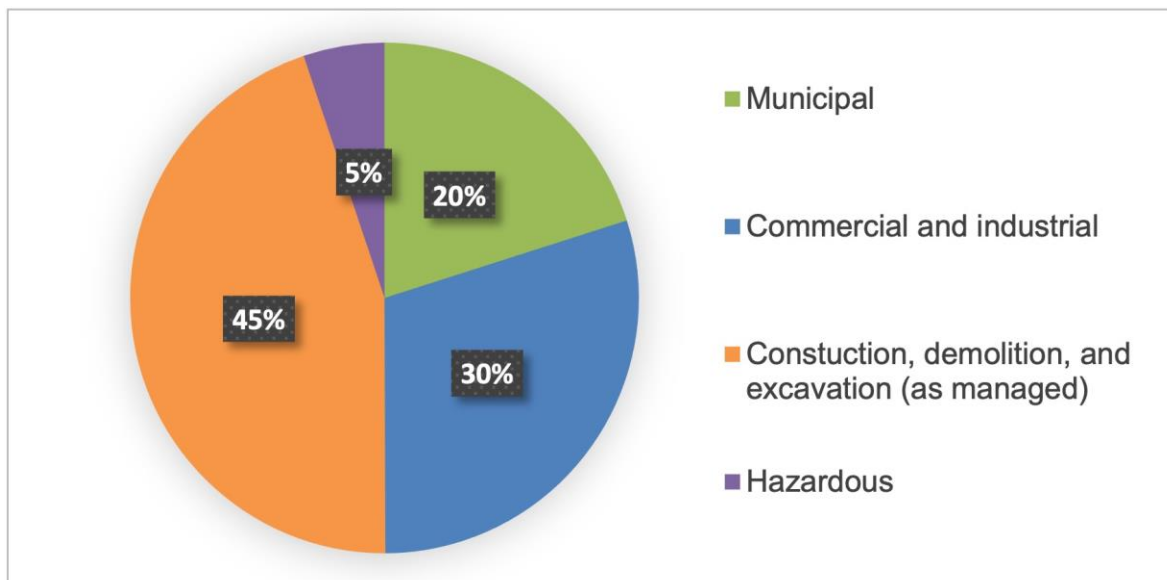


Figure ES1: Estimated waste arisings for South Yorkshire 2021 (million tonnes)

Non-hazardous waste produced in South Yorkshire is currently managed via a range of management methods, achieving a total recovery rate of around 93%. Management methods and approximate rates include: processing of waste in preparation for reuse or recycling (including inert recycling) 37%; treatment (including energy recovery, chemical/physical treatment, etc.) 26%; soil treatment 3%; inert recovery 23%; non-hazardous landfill (including stable non-reactive hazardous waste) 6%; and hazardous recycling and recovery 5%. Inert landfill, incineration with no energy recovery, and hazardous landfill were all less than 1%.

¹ Refers to estimates for 2021 arisings – based on data 2016 to 2020.

² CD&E waste shown are as managed. A significant proportion of total arisings managed on-site or at exempt sites.

Forecasts indicate that South Yorkshire could achieve a total recovery rate of over 95% by 2030.

A significant amount of residues from treatment processes are also produced from facilities located within South Yorkshire, from treatment of waste arising from both South Yorkshire and from waste imported into South Yorkshire (estimated at just over 0.300 Mt and 0.400 Mt respectively for 2020).

South Yorkshire does not produce low-level radioactive waste from the nuclear industry³. A very small amount of low-level radioactive waste is produced from the non-nuclear industry from South Yorkshire⁴. In addition, agricultural waste and wastewater are also produced.

Of total waste arising⁵ attributed to South Yorkshire, around a third was exported to other Waste Planning Authorities. The majority of which was received at facilities for treatment and recovery, disposal (mainly non-hazardous (including stable non-reactive hazardous waste landfill), and processing in preparation for reuse and recycling (including composting and inert recycling).

Waste management facilities within South Yorkshire reported receiving a significant amount of waste imported from other Waste Planning Authorities; around three times that exported from South Yorkshire, meaning that the South Yorkshire Waste Planning Authorities are a net importer of waste. The main management methods of waste imported into South Yorkshire included materials recycling, physical treatment, energy recovery, and inert recovery. Not all waste can be managed within the boundary of the Waste Planning Authority from within which it arises due to contractual arrangements and other factors such as the need for specific treatment processes (e.g. hazardous wastes). There will normally be some movement of waste into and out of Waste Planning Authorities; this is reflected by the position of seeking net self-sufficiency. With a broader movement of Waste Planning Authorities also seeking to increase their waste management capacity in line with net self-sufficiency movements are expected to reduce in the future, although some movements will still occur.

Waste arisings forecast up to 2041 and future needs (incorporating relevant targets) are summarised in Table ES1 and Figure ES2. In addition, some residual waste will be produced as an output from waste treatment processes. This means that there may be a need for additional capacity to push these residual wastes up the waste management hierarchy, but also a need for some disposal to landfill

3 UK Radioactive Waste Inventory 2019 <https://ukinventory.nda.gov.uk/the-2019-inventory/2019-site-data/>

4 A survey undertaken by the Department of Energy and Climate Change (DECC) in 2008, Data Collection on Solid Low Level Radioactive Waste from the Non-nuclear Sector, indicated that South Yorkshire produced 31.33m³ of low activity low level radioactive waste from the non-nuclear industry.

5 Total waste arisings = waste received to facilities within South Yorkshire (i.e. arising from South Yorkshire and managed within South Yorkshire) + waste removed from South Yorkshire (i.e. arising from South Yorkshire exported to other Waste Planning Authorities for management).

(albeit the least preferred option) where further recovery of such residues is not possible.

Overall, South Yorkshire is making good progress towards achieving net self-sufficiency for waste management. Existing facilities provide for more than sufficient capacity with regards to net self-sufficiency for preparation for reuse and recycling, treatment and energy recovery, and soil treatment over the reporting period, and inert recycling up to 2025. When viewed in terms of total arisings and existing capacity South Yorkshire currently provides waste management capacity that exceeds total arisings; the majority of this capacity is associated with facilities for preparation for reuse and recycling, and treatment and energy recovery.

Capacity gaps have been identified for composting, inert recycling, inert recovery, and non-hazardous (including stable non-reactive hazardous wastes) landfill, as well as hazardous recovery and treatment and hazardous landfill.

There is potential, dependant on the scale of the individual facilities and processes employed, for the following facilities to be provided within the South Yorkshire area: composting (or other biological treatment processes), inert recycling, and inert recovery associated with restoration (e.g. colliery or mineral extraction sites). In addition, given the significant amounts of residues arising from treatment processes (from facilities located within South Yorkshire), facilities for further recovery and treatment of residues (arising as outputs from treatment processes) may support the waste management hierarchy and further diversion of waste from landfill.

The appropriateness of South Yorkshire to accommodate extensions to existing non-hazardous landfill or additional capacity for hazardous recovery and treatment would need to be determined on a site by site basis and in compliance with adopted development management policies. Given current trends within the waste management sector (rationalisation of assets and market responses to demand for disposal) some of the future needs for such capacity is likely to continue to be met at facilities outside of the South Yorkshire area, i.e. through the continued export of waste to other Waste Planning Authority areas. No strategic or Duty to Co-operate matters have been identified in relation to the principle or continuation of such movements. Ongoing monitoring of waste movements particularly for disposal to non-hazardous landfill (including residues) and continued working with relevant Waste Planning Authorities regarding strategic waste planning matters will be necessary to ensure that wastes are managed, and that any necessary capacity planned for, appropriately.

Table ES1: Summary of waste arisings and future needs up to 2041 (million tonnes per annum)

			Indicative total waste management capacity needs				
			2021	2026	2031	2036	2041
Total waste arisings			2.890	3.230	3.375	3.481	3.592
Non-hazardous waste management							
Preparing for reuse and recycling	Materials recycling	Forecast arisings	0.785	0.876	0.933	0.984	1.026
		Existing capacity	1.784	1.784	1.784	1.784	1.784
		Capacity gap	0.999	0.908	0.851	0.800	0.758
	Composting	Forecast arisings	0.105	0.109	0.114	0.119	0.123
		Existing capacity	0.086	0.086	0.086	0.086	0.086
		Capacity gap	-0.019	-0.023	-0.028	-0.033	-0.037
	Inert recycling	Forecast arisings	0.204	0.247	0.259	0.260	0.260
		Existing capacity	0.312	0.188	0.188	0.158	0.158
		Capacity gap	0.108	-0.060	-0.072	-0.102	-0.102
Treatment and other forms of recovery	Treatment and energy recovery ^A	Forecast arisings	0.736	0.775	0.816	0.862	0.909
		Existing capacity	1.702	1.702	1.702	1.702	1.702
		Capacity gap	0.966	0.927	0.886	0.840	0.793
	Soil treatment	Forecast arisings	0.062	0.075	0.079	0.079	0.079
		Existing capacity	0.210	0.210	0.210	0.128	0.128
		Capacity gap	0.147	0.134	0.130	0.048	0.048
Other recovery	Inert recovery ^B	Forecast arisings	0.643	0.797	0.845	0.845	0.845
		Existing capacity	0.800	0.285	0.045	0.045	0.045
		Capacity gap	0.157	-0.512	-0.800	-0.800	-0.800
Non-hazardous waste disposal							
Disposal - Non-hazardous landfill		Forecast arisings	0.192	0.177	0.150	0.143	0.147
		Existing capacity	0.300	0.200	0.200	0.000	0.000
		Capacity gap	0.108	0.023	0.050	-0.143	-0.147
Hazardous waste management							
Recovery and treatment		Forecast arisings	0.140	0.152	0.161	0.172	0.185
		Existing capacity	0.154	0.154	0.154	0.154	0.154
		Capacity gap	0.014	0.002	-0.007	-0.018	-0.031
Disposal - Hazardous landfill		Forecast arisings	0.015	0.011	0.012	0.013	0.014
		Existing capacity	0.000	0.000	0.000	0.000	0.000
		Capacity gap	-0.015	-0.011	-0.012	-0.013	-0.014

A - Treatment and energy recovery refer to Anaerobic Digestion, Energy from Waste, and other physical/chemical treatment processes.

B - Available data indicates that, within South Yorkshire, inert waste that may elsewhere be disposed of to inert landfill is recovered through deposit of inert waste to land for beneficial purposes such as restoration of mineral extraction sites with extant planning permission. Updated data was not available for one inert recovery site and so the existing capacity may be slightly more than in the table above. Work is ongoing to address this data gap. In addition, inert materials will be required for engineering and restoration of non-hazardous landfill sites (estimated at 0.070 Mtpa up to 2025, 0.110 Mtpa 2025-2027, and 0.030 Mtpa 2028-2033); further reducing inert recovery capacity gaps.

A small amount of waste (<1%) is disposed of through incineration without energy recovery and at restricted landfill (associated with a specific industrial process and not receiving other waste types, located within the factory curtilage).

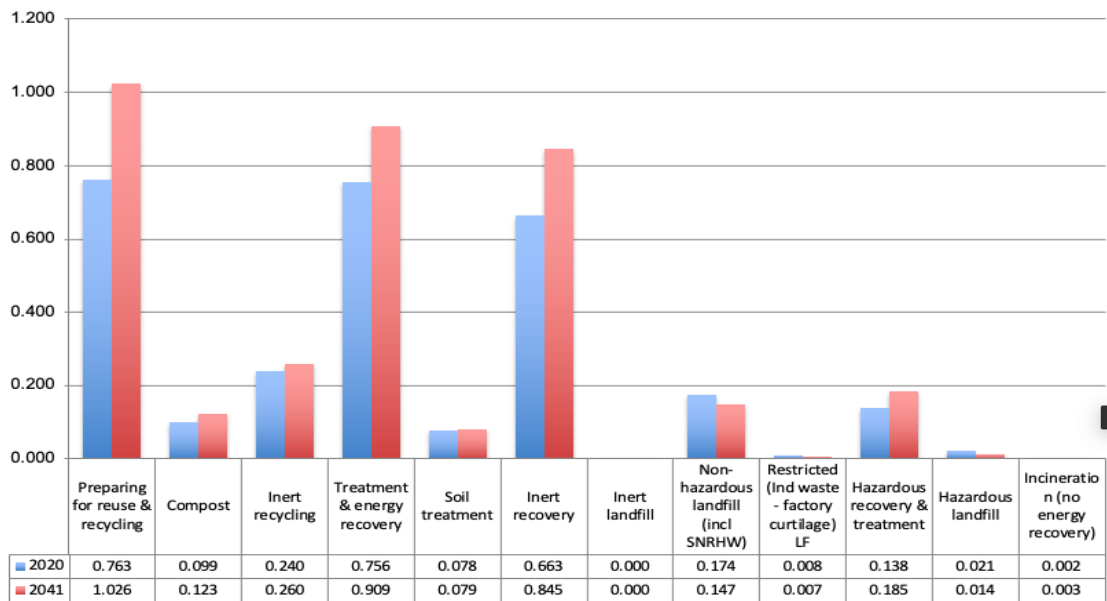


Figure ES2: Comparison of management methods for waste arisings from within South Yorkshire 2020 and 2041 (million tonnes)

Waste planning context

National and European policy

1. The National Planning Policy Framework (NPPF) was published July 2021 and although it does not specifically address waste matters, it does influence waste planning and related matters. Detailed waste planning policies are set out in the National Planning Policy for Waste (NPPW), published in October 2014. The NPPW is to be read in conjunction with the NPPF, the National Waste Management Plan for England, and National Policy Statements (NPS) for wastewater and hazardous waste. Our Waste, Our Resources: A Strategy For England was published in December 2019 and sets out the national strategy for continuing to make step-changes towards achieving sustainable waste management by preserving material resources through the minimisation of waste, promoting resource efficiency and moving towards a circular economy.
2. The Environment Act 2021⁶ received Royal Assent on 9 November 2021, and addresses waste and resource efficiency (Part 3). The Act empowers the Secretary of State (SoS) to set long-term targets in respect of any matter which relates to the natural environment or people's enjoyment of the natural environment. Within this general power, the SoS must set legally binding 'long-term' (15 year +) targets on at least one matter within each 'priority area'. Four priority areas are identified, including resource efficiency and waste reduction. Previously, the Government had stated that the Environment Bill would support achievement of a 65% recycling target for municipal waste by 2035. The Act also introduces extended producer responsibility (EPR) in particular for packaging waste, but with potential to include other products, that will see producers being made to account for the cost of managing products at the end of their life, and incentivising product durability, repairability, and recyclability.
3. In relation to the preparation of plans the NPPW requires Waste Planning Authorities (WPAs) to ensure that the planned provision of new capacity and its spatial distribution is based on robust analysis of best available data and information, and an appraisal of options. Spurious precision should be avoided. In addition, Local Plans should identify sufficient opportunities to meet the identified needs of their area for the management of waste streams and in doing so:
 - drive waste management up the waste hierarchy;
 - recognise the need for a mix of types and scale of facilities, and that adequate provision must be made for waste disposal (including for residues from treated wastes);
 - identify tonnages and percentages of waste requiring different types of management over the reporting period;

⁶ Environment Act 2021

- consider the extent to which existing operational facilities would satisfy any identified need;
 - consider wider waste management needs; and
 - work collaboratively (with other WPA's through the Duty to Cooperate) to provide a suitable network of facilities to deliver sustainable waste management.
 - Local Plans, should also identify sites and/or areas for waste management facilities and in doing so:
 - identify the broad type(s) of facility that would be appropriate;
 - take account of the proximity principle (particularly regarding disposal and the recovery of municipal waste) and recognise the role of catchment areas in securing economic viability;
 - consider opportunities for on-site waste management;
 - consider a broad range of locations including industrial sites, and consider opportunities to co-locate waste management facilities together and with complementary activities; and
 - give priority to the reuse of previously-developed land, sites identified for employment uses, and redundant agricultural and forestry buildings and their curtilages.
4. The NPPW⁷ also sets out criteria against which the identification of sites/areas for waste management facilities should be assessed.
 5. In relation to the wider policy context the Waste Framework Directive (WFD) (2008/98/EC) sets out the concept of the waste hierarchy (prevention, preparation for reuse, recycling, other recovery e.g. energy recovery, and disposal), proximity principle and self-sufficiency. It also requires that waste is recovered or disposed of without endangering human health or causing harm to the environment. Article 28 of the WFD, concerning Waste Management Plans, requires an assessment of how the current waste management (including treatment and disposal) capacities will shift over time in response to the closure of existing waste management facilities and the need for additional waste installation infrastructure. The UK Waste Regulations 2011 transposes the WFD to UK law.
 6. The Landfill Directive (99/31/EEC) aims to prevent or reduce as far as possible negative effects on the environment from the landfilling of waste, and setting targets for the reduction of biodegradable municipal waste going to landfill.

South Yorkshire Waste Planning Context

7. Barnsley Metropolitan Borough Council, Doncaster Metropolitan Borough Council, Rotherham Metropolitan Borough Council, and Sheffield City Council are the WPA

⁷ [NPPW, refer to Appendix B: Locational Criteria](#)

for the administrative areas that make up the sub-region of South Yorkshire⁸. The existing Barnsley, Doncaster, and Rotherham (BDR) Joint Waste Plan was adopted in 2012 and covers the period up to 2026. The Sheffield Core Strategy addresses waste planning matters within Sheffield and prepared separately to the BDR Joint Waste Plan. The Sheffield Core Strategy was adopted 2009 and covers the period up to 2026.

8. The NPPF requires Local Plans to be kept up-to-date, the National Planning Policy Guidance (NPPG) states that most Local Plans are likely to require updating in whole or in part at least every five years.
9. The waste arisings and future capacity needs identified through the existing WLP were based on the best available data and methodology, policy requirements, and targets relevant at the time of production. Rolling the adopted waste forecasts forward would be unlikely to be found sound as these do not capture recently released data and other information, may not comply with current policy requirements (including targets), and do not reflect changes in local circumstance and emerging trends.
10. Preparation or review of any Waste Local Plan (WLP) will require an updated evidence base to inform and support the plan-making process, including a Waste Needs Assessment (WNA). The WNA will form one of the key evidence documents to support such a review and will be updated as necessary through the plan-making process in order to reflect any updated or new data/information (as relevant). Other evidence base documents will, where necessary be produced, reviewed, and updated to reflect local circumstance and emerging trends, and to more closely align with national policy, guidance, and strategies.
11. South Yorkshire has a Joint Municipal Waste Management Strategy (MWMS)⁹, however this document only covered the period up to 2021. The Joint MWMS includes targets of increasing recycling by 10kg per household by 2021, and reducing household waste by 2kg per household each year, year-on-year until 2021. Given that the baseline reporting year for this WNA is 2020 and that the date of preparation of the model and report is 2021/22 these targets were not able to be incorporated. Preparation of an updated Joint MWMS is likely to commence in the near future. The aims (and existing contracts underpinning these) and targets of the Joint MWMS, will be incorporated into this WNA as appropriate.

Waste Needs Assessment

12. The purpose of this WNA is to:
 - provide an up-to-date picture for South Yorkshire of – the amount of waste currently generated (arisings), the amount of waste anticipated to arise over the reporting period (up to 2041) and existing waste management capacity;

⁸ Herein referred to as South Yorkshire or the WPA area.

⁹ South Yorkshire Joint MWMS <http://www.bdronline.co.uk/what-are-we-doing/south-yorkshire-municipal-waste-management-strategy-1/1>

- identify South Yorkshire's future management needs (and the extent to which existing capacity satisfy identified future needs) and identify the broad type(s) of facility(ies) that may be required to manage waste appropriately and facilitate delivery of net self-sufficiency;
 - give consideration to wider waste management needs (where relevant); and
 - identify and discussing strategic waste movements and any potential Duty-to-Cooperate matters that should be addressed throughout plan-preparation.
13. WPAs should plan for the sustainable management of waste produced within their administrative area including: municipal waste (also referred to as Local Authority Collected Waste, LACW); commercial and industrial (C&I) waste; construction, demolition, and excavation (CD&E) waste; hazardous waste; radioactive wastes; agricultural waste; and wastewater.
14. The format and broad matters addressed through this report are outlined below:
- [Current waste arisings](#) – Identifies current waste arisings for waste streams, including methodology and data sources.
 - [Forecasting waste arisings over the reporting period](#) – Identifies waste forecasts for waste streams by management method over the reporting period (up to 2041) incorporating relevant targets. Methodology and data sources used will also be identified.
 - [Waste management capacity](#) – Identifies the existing waste management capacity and the capacity required to manage waste appropriately to achieve relevant targets and deliver net self-sufficiency (including future needs). Methodology and data sources used will also be identified.
 - [Waste movements](#) – Identifies waste movements into and out of the WPA area as well as those considered strategic in nature and the identification of any Duty to Co-operate (DtC) matters. Consideration of wider waste management needs. Methodology and data sources used will also be identified.
 - [Conclusion](#) – Overview of the assessment outcomes and summary tables for waste arisings, forecasts and capacity needs.
15. This WNA was prepared for the WPAs of South Yorkshire by the Minerals and Waste Planning Services for Northamptonshire (North Northamptonshire Council).
[Regional Waste Technical Advisory Board and South Yorkshire Mayoral Combined Authority](#)
16. South Yorkshire is located within the Yorkshire and the Humber region¹⁰, the regional Waste Technical Advisory Body (WTAB) is not currently active. Sheffield, which is part of the South Yorkshire sub-region, is one of the largest settlements in the Yorkshire & Humber region. The Barnsley, Doncaster, Rotherham, and Sheffield WPAs that make up South Yorkshire account for around a quarter of the Yorkshire & Humber population.

¹⁰ Herein referred to as Yorks & Humber.

17. The South Yorkshire Mayoral Combined Authority's 20-year Strategic Economic Plan 2021-2041 (SEP), sets out an ambitious blueprint to drive the region's recovery from COVID-19 and transform South Yorkshire's economy and society for people, businesses and places; delivering a stronger, greener, and fairer economy.
18. Growing the local economy and alongside this providing the necessary new housing, infrastructure, and supporting services and facilities will bring challenges, including the generation and management of waste. In this context, the SEP aims to help deliver high-quality built and natural environments that will contribute to an improved quality of life and wellbeing, intrinsic to which is building a zero-carbon future.
19. Whilst this will be delivered across the region, the SEP also identifies a number of key growth areas where infrastructure investment packages will be developed, including: Advanced Manufacturing Innovation District; Town Centres of Barnsley, Rotherham, Doncaster, and Sheffield city Centre; Doncaster Unity; Goldthorpe in the Dearne Valley; and Doncaster Sheffield Airport.
20. In line with national policy and guidance¹¹, and current practice of WTABs and WPAs throughout England, this WNA will seek to identify the indicative future capacity needs based on the principle of net self-sufficiency. Wider waste management needs and strategic movements will also be taken into consideration as appropriate.

Methodology

21. This WNA has been prepared in line with the requirements set out in the NPPW and national guidance. The NPPG sets out guidance regarding how WPAs should identify the need for new waste management facilities, assess existing waste management capacity, forecast waste arisings over the reporting period, data sources, and monitoring and planning for London's waste (refer NPPG, Waste, paragraphs 022 to 044 www.gov.uk/guidance/waste).
22. Detail regarding the methodology applied to this WNA and how national guidance has been taken into account is set out under relevant sections of this report.
23. This WNA examines waste arisings, forecasts, and future waste management needs for the major waste streams of municipal, C&I, CD&E, and hazardous wastes. Consideration will also be given (to the extent possible) to residues arising from treatment of wastes, radioactive waste, agricultural waste, and wastewater.

Reporting period, data sources, and reporting

24. The reporting period for this WNA is from 01 January 2020 to 31 December 2041.

11 NPPG, Waste: Do the self-sufficiency and proximity principles require each waste planning authority to manage all of its own waste? Though this should be the aim, there is no expectation that each local planning authority should deal solely with its own waste to meet the requirements of the self-sufficiency and proximity principles. Paragraph: 007 Reference ID: 28-007-20141016
 What should Local Plans deliver? The Local Plan relating to waste should identify sufficient opportunities to meet the identified needs of an area for the management of waste. Paragraph: 011 Reference ID: 28-011-20141016

25. Data sources for each waste stream are set out under relevant sections of this report with a reference list in Appendix 4.
26. The common baseline used for the municipal, C&I, CD&E, and hazardous waste streams is 2020. It should be noted that where data for 2020 was not available (e.g. national waste statistics) the most recent data was used and where possible extrapolated forward to provide an estimate of arising's as at 2020. This was not possible for some waste streams, in particular radioactive and agricultural waste. Data sources and reporting years are detailed for each waste stream under the relevant section(s) in this report.
27. Periods for data reported through this WNA are based on calendar years. Data for municipal waste is reported for financial years, whereas data reported through industry returns and surveys for other waste streams are generally for calendar years. For the purpose of this WNA the data will be taken to be on calendar year basis, that is data for the year 2020/21 will be taken as 2020; doing so will not significantly alter the results as three-quarters of the 2020/21 dataset is captured in 2020.
28. Data is reported in million tonnes (Mt) or million tonnes per annum (Mtpa), rounded to the nearest 1,000 tonnes to avoid spurious precision. The exception being hazardous wastes which is rounded to the nearest 500 tonnes as these wastes are produced in lesser amounts. For this reason, there may be some minor discrepancies where figures in text and tables of the report are totalled (i.e. numbers may not add exactly to totals shown or to 100%).
29. Forecasts of waste arisings and capacity needs (including management methods) for the major waste streams and for total waste arisings are reported over the reporting period at five-year intervals (i.e. baseline arisings reported for 2020, with forecast arisings and capacity needs reported for 2021, 2026, 2031, 2036, and 2041).

Current waste arisings

Municipal waste

30. Municipal waste is also referred to as Local Authority Collected Waste (LACW), and generally consists of household waste and any other wastes collected from Household Waste Recycling Centres (HWRCs)¹², commercial or industrial premises, and waste resulting from the clearance of fly-tipped materials and litter. Household waste makes up the majority of municipal waste, for South Yorkshire household waste typically accounts for over 90% of municipal waste.
31. Data for municipal waste is collected and reported by waste collection and disposal authorities being Barnsley Metropolitan Borough Council, Doncaster Metropolitan

¹² Also referred to as civic amenity sites.

Borough Council, Rotherham Metropolitan Borough Council, and Sheffield City Council. This data is collated nationally through the WasteDataFlow database which is maintained by the Department for Environment, Food, and Rural Affairs (Defra). Defra also publish this information through the data.gov.uk website, refer to LACW Management Statistics¹³. Data for this waste stream is up-to-date and accurate.

32. This method accords with the national policy and guidance¹⁴ and is reflective of methodology applied to recent WNAs in surrounding regional and WPA areas. This approach provides for a consistent approach whilst giving consideration to local circumstance.
33. Municipal waste generated within South Yorkshire and current management methods are summarised in the table below. The baseline for municipal waste is 2020.

Table 1: Municipal waste arisings and management, 2020 (million tonnes)

South Yorkshire		0.590
Barnsley		0.116 (20%)
Doncaster		0.154 (26%)
Rotherham		0.111 (19%)
Sheffield		0.208 (35%)
Preparation for reuse and recycling	Materials recycling	0.154 (26%)
	Composting	0.080 (14%)
Treatment and energy recovery		0.346 (59%)
Disposal to non-hazardous landfill (including stable non-reactive hazardous wastes, SNRHW)		0.008 (1%)

34. Management of municipal waste for each authority is undertaken through commercial contracts. Residual municipal waste management for the BDR area is contracted to Renewi, and expires mid 2040; with potential to extend to 2045. Management processes provided under the contract include processing in preparation for recycling, anaerobic digestion (AD), and Mechanical Biological Treatment (MBT) at the BDR Waste Treatment Facility located at Bolton Road, Manvers in Rotherham. Refuse derived fuel (RDF) produced from the MBT is transported to the Enfinium Ferrybridge Energy from Waste (EfW) EF1 & EF2 plants located near Knottingley, West Yorkshire where it is used in energy recovery. For Sheffield, municipal waste management is contracted to Veolia with the contract expiring 2038. Sheffield's municipal waste management includes processing in preparation for recycling with residual municipal waste used in energy recovery at the Sheffield Energy Recovery Facility (ERF) located at Bernard Road in Sheffield. A summary of the contracts and processes involved is set out in Appendix 1.
35. A very small amount (less than 1%) of municipal waste was disposed of at non-hazardous (stable non-reactive hazardous waste, SNRHW) landfill, as such all

13 LACW Management Statistics

14 NPPG, Waste, What are the potential sources of information of waste data to inform the preparation of Local Plans? Paragraph: 035 Reference ID: 28-035-20141016

waste disposed of has been captured as non-hazardous landfill (including SNRHW).

36. Management methods were derived from the Defra LACW Management Statistics, WasteDataFlow database, and council contract information and records.

Commercial and industrial (C&I) waste

37. C&I waste is defined as ‘waste from premises used mainly for trade, business, sport, recreation or entertainment’ (Environmental Protection Act 1990 s5.75(7)). It will generally consist of a wide range of wastes (such as mixed wastes, mineral wastes, chemical wastes, metals, discarded equipment, animal, and vegetable waste including food waste, healthcare waste, and others) and contains a high proportion of recyclable materials.

Environment Agency waste operator return databases

38. Waste collected from businesses is subject to commercial contracts, and although waste collection companies collect data for their own operational purposes, this information is not available to WPAs. Waste operator returns are submitted to the EA through the Duty of Care system with the information collated through the Waste Data Interrogator (WDI) and Incinerator Returns databases, maintained by the EA¹⁵.
39. C&I waste is reported through the EA databases under Basic waste category: ‘household, industrial, and commercial (HIC) waste’. HIC data originating from South Yorkshire¹⁶ was extracted from the EA databases reporting on industry returns for the most recent five years (i.e. 2016 to 2020¹⁷). Up to, and including 2018, the WDI and Incinerator Returns databases were separate. Waste captured as arising from South Yorkshire from both the WDI and Incinerator Returns databases were added together for years preceding 2019. From 2019 onwards the WDI includes waste received at facilities previously captured through the Incinerator Returns database.
40. Total arisings derived from the EA databases are often referred to ‘as managed’ indicating that the databases capture only that part of the waste arisings that are managed through permitted waste management facilities. However, with respect to informing the preparation of Local Plans the as managed waste arisings provide a good indication of the waste management capacity that needs to be provided for when considering waste planning matters; as such the use of as managed figures derived from the EA databases is fit-for-purpose.

¹⁵ These databases are referred to as the EA waste operator return databases, or EA databases.

¹⁶ Total ‘as managed’ arisings (from the EA databases) are derived by adding together the waste received to facilities within South Yorkshire (identified as originating from South Yorkshire), and waste received at facilities within other WPA’s (identified as originating from South Yorkshire) – i.e. wastes arising from and managed within South Yorkshire plus waste arising from South Yorkshire exported for management elsewhere. Results can then be filtered or cleansed as necessary. Where reference to South Yorkshire means the WPAs of South Yorkshire and waste identified as origin ‘Not codeable - South Yorkshire’.

¹⁷ Referred to as WDI 2016/2017/2018/2019/2020 according to the year that returns were reported.

41. Each record includes a descriptor of the type of waste using the European Waste Code (EWC), these codes were used to filter the returns from the WDI to identify C&I waste. The following waste types were removed from the WDI dataset extracted for South Yorkshire: mining and quarrying wastes (Chapter 01), construction and demolition wastes (Chapter 17) – these wastes are accounted for through CD&E waste; municipal wastes (Chapter 20) – accounted for through municipal waste; digestate from AD that can be used as soil conditioner (EWC 190604 and 190606); landfill leachate (EWC 190703) – treated on-site/specialist waste water plant; sludges from treatment of urban waste water – accounted for through waste water studies and is treated as sludge treatment centres operated by the relevant utilities companies (EWC 190805); and outputs from waste management processes that are unlikely to undergo further treatment or that are an output product such as Refuse Derived Fuels (RDF) (refer EWC Chapter 19¹⁸) – accounted for through residual waste estimates, discussed further below.
42. Outputs from waste management processes that are likely to be further treated include EWC sub-chapter 1912 (e.g. 191201 paper and cardboard, 191202 ferrous metals, etc.). These wastes were retained as they are most likely waste that has been processed through an intermediate (transfer) facility or Materials Recycling Facility (MRF) and re-classified according to the specific waste type. Such wastes may be suitable for treatment rather than going for disposal and so should be scoped in. Trommel fines reported as arisings within South Yorkshire (including from waste imported), classified as EWC 191212, account for an average (2018 to 2020) of 0.414 Mtpa; of this around a quarter was recycled or otherwise recovered and three-quarters was disposed of to non-hazardous landfill (predominantly within the Yorkshire & Humber region). Although disposal to non-hazardous landfill is the main management route for residual wastes, the amount recovered is increasing over time, this demonstrates that there is the potential for further recovery. A significant amount of this is likely to have originated from outside of South Yorkshire, however, has been produced as a residual waste (e.g. from processing at MRFs of waste imported to South Yorkshire from other WPAs) at facilities located within South Yorkshire. The required capacity to manage such wastes may not have previously been captured and so these wastes are considered within the scope of this WNA over the reporting period but are not included in the arisings forecasts or indicative capacity needs. Forecasts of residual waste arisings and potential management methods are prepared separately and are discussed in the relevant sections of this WNA, refer to 'Residual arisings' (paragraphs 131 to 139) and 'Future needs' (paragraphs 177 to 189). This approach will help to ensure that the scope of the WNA is broadly representative.
43. Residual outputs from waste management processes and output products such as Refuse Derived Fuels (RDF) that were identified as originating from South Yorkshire were included in calculations for capacity requirements but not in waste arising forecasts as this waste type is an output or residual waste produced from treatment processes. Including these wastes would result in compounding

18 Analysis of EWC Chapter 19 wastes were undertaken for each year with residual waste unlikely to undergo further treatment removed from the dataset.

overestimation of the waste arisings. Residual waste arisings are discussed in more detail in this WNA refer to 'Residual arisings' (paragraphs 131 to 139).

44. Waste records entered into the EA databases also include information on the type of facility type and site waste operation permits. Waste management methods were determined by filtering the data by facility and permit types.
45. There is potential for overestimation where waste is handled at intermediate facilities such as transfer stations. Waste recorded through intermediate facilities (including clinical, non-hazardous, and hazardous waste transfer stations) was removed from the dataset. The reasoning for removing these records is that waste recorded at intermediate facilities is then transferred onto another facility for further processing and/or treatment and is then captured again when received at this facility, potentially resulting in double counting. Where waste is transferred outside of South Yorkshire it is reasoned that this waste should be captured under the field 'WPA origin' when received at the facility for further treatment. Where waste has been recorded through intermediate facilities, either identified as transfer/treatment in the WDI or permitted for transfer and materials recycling by the WPA, such records were captured under materials recycling at a rate of 25% of the recorded tonnage (to reflect that the facility involves both transfer and some form of preparation for reuse and/or recycling).
46. Management rates were determined by identifying the amount of waste recorded against facilities sorted by facility and permit type, this information was then cross-referenced (for waste received to facilities within South Yorkshire) against the Councils permitted sites database.
47. It is important to acknowledge that the WDI database may contain errors due to data entry and particularly in relation to omissions in information fields on the returns, including waste origin. Data for waste records originating from South Yorkshire are captured under the Yorkshire & Humber region, and there is a historic issue with waste movements not being correctly attributed to an origin WPA, that is these movements are recorded as 'WPA Not Codeable – Yorks & Humber'. This means that there is the possibility that some arisings from South Yorkshire are assigned to the generic Yorks & Humber group (where waste records show Yorks & Humber for the Recorded Origin and Origin WPA fields). This also occurs at the sub-region level with waste recorded as 'WPA Not codeable – South Yorkshire'. This affects the ability to attribute waste arisings to individual WPAs with a high degree of certainty (for records reported as origin South Yorkshire or Yorks & Humber only). C&I waste arisings directly attributed to South Yorkshire fluctuate significantly over the last five years. This, taken with the historic regional reporting (WPA Not codeable – Yorks & Humber), indicates that it is highly likely that a portion of waste recorded under the generic Yorks & Humber group could be attributed to South Yorkshire. As the waste records have been entered under the generic Yorks & Humber group with no further breakdown it is not possible to determine which individual records should be attributed to South Yorkshire; this also applies to records entered under the generic South Yorkshire group. It was therefore necessary to estimate how much of this waste may be attributed to South Yorkshire, and how to attribute this to the WPA level. NOMIS employee counts for

C&I sectors are reported on an annual basis and provide a view of economic and industry activity within an area. A percentage breakdown (for individual WPAs, South Yorkshire, and Yorks & Humber) was derived as a factor of the total employee count. This resulted in three-year averages (2017 to 2019) of 24% for South Yorkshire of Yorks & Humber, and at the WPA level 14% for Barnsley (of South Yorkshire), 21% for Doncaster, 17% for Rotherham, and 47% for Sheffield.

48. It is also possible that some C&I waste arisings are recorded under EWC Chapter 20 municipal. To account for this the total municipal waste arisings (Defra LACW Management Statistics) for the WPAs were subtracted from the total Chapter 20 municipal waste identified as originating from WPAs¹⁹ (i.e. Total EWC Chapter 20 – Total municipal/LACW). These additional potential C&I arisings (i.e. C&I was captured under the generic Yorks & Humber group and surplus EWC Chapter 20 municipal wastes) account for an average 0.144 Mtpa. The total C&I arisings (including potential C&I captured under the generic Yorks & Humber group and surplus EWC Chapter 20 municipal wastes) indicate arisings of 0.960 Mt for 2020 or a three-year average of around 0.961 Mt for South Yorkshire.
49. Management methods for C&I waste captured under the generic Yorks & Humber group and surplus EWC Chapter 20 municipal waste could not be determined as it was not possible to identify the individual records that make up these component of C&I arisings. The total tonnes were simply added onto the total C&I waste arisings for the relevant year and it was assumed that the management methods identified continue to apply (refer paragraph 47 - 47).
50. For comparison purposes, the total C&I arisings attributed directly to individual WPAs and the generic South Yorkshire group (not including records captured under the generic Yorks & Humber group and surplus EWC Chapter 20 municipal wastes) derived from the EA databases indicate arisings of 0.794 Mt for 2020 or a three-year average of around 0.816 Mt for South Yorkshire.

Defra UK Statistics on Waste

51. The UK Statistics on Waste was released in March 2021 (published by Defra), this included updated estimates for C&I waste for 2010 to 2019. The updated C&I estimate are derived from application of the revised 'reconcile' methodology to calculate C&I waste generated in England. The methodology revisions note sets out how the method was revised, refer Defra 2019 C&I waste arising's methodology revisions for England. It should be noted that the Defra 2021 report clearly acknowledges that C&I waste generation remains extremely difficult to estimate owing to data limitations and data gaps. As a result, C&I estimates for England have a much higher level of uncertainty than municipal waste.
52. The latest estimates for C&I waste arisings indicate that a total of 37.2Mt was produced in England in 2019 (Defra 2021 Report, Table 6). Local estimates were produced by apportioning the total C&I waste for England to a local level by applying the percentage total employee count represented within South Yorkshire

¹⁹ EWC Chapter 20 wastes recorded through intermediate facilities were treated in the same manner as outline in the paragraph 45 to avoid double counting.

(of England) (2.16% for 2016 and 2.16% for 2017, 2.17% for 2018 and 2.15% for 2019, NOMIS) producing estimates of 0.716 Mt for 2016, 0.782 Mt for 2017, 0.808 Mt for 2018, and 0.799 Mt for 2019 with a three-year average of 0.769 Mt. This exercise was also repeated to obtain estimates for waste arisings at the WPA level using the same method (i.e. applying the percentage total employee count represented within individual WPAs (of South Yorkshire and England). The dataset accompanying the Defra 2021 UK Statistics on Waste splits total generation of waste for England by NACE²⁰ economic activities and EWC, in addition it can be filtered based on hazardous and non-hazardous waste (Defra 2021, Table 5.1). Removing NACE economic activities that are not relevant to the C&I waste stream or to South Yorkshire may help to provide a better estimate. NACE economic activity fields that were removed included: mining and quarrying, and manufacture of coke and refined petroleum products (such activities are not undertaken within the WPA); water collection, treatment and supply, sewerage, remediation activities, and other waste management services; construction; and household. The dataset was also filtered to remove hazardous wastes. It is assumed that these are captured under the relevant waste streams and that retaining these wastes within the dataset would likely produce an overestimate for C&I wastes. It should be noted that this dataset applies to 2016 and 2018 waste generation. This resulted in a total estimated C&I waste for England of 28.9 Mt for 2016 and 32.8 Mt for 2018 (reduced from 33.1 Mt and 37.2 Mt respectively, refer Defra 2021 Report Table 6). Applying the percentage employee count (for the broad industry sectors) represented within South Yorkshire (of England) for 2016 and 2018 results in figures of 0.627 Mt and 0.713 Mt respectively. An alternate method is to analyse the total generation of waste split by NACE economic activity and EWC waste material (Defra 2021, Table 5.1) and apportion this based on representation of the broad industry sectors (NOMIS employee count) within South Yorkshire; resulting in figures for 2016 and 2018 of 0.645 Mt and 0.756 Mt respectively. This demonstrates that the unfiltered Defra data may not pick up on local variances in the sectors present within the individual WPA area.

53. In order to compare the filtered Defra estimates to current as managed arisings both employee number projections and the total 'real' Gross Value Added (GVA) by authority area (House of Commons 2021) growth profiles were applied to extrapolate the data forward and identify estimated arisings for 2017, 2019, and 2020. It should be noted that the Defra dataset was not intended to be drilled down to WPA area levels and so results derived using this method are acknowledged to represent an estimate only. This produced results ranging from 0.687 Mt to 0.723 Mt for 2020; both of which are lower than the as managed estimates derived from the EA databases. Comparison with the UK Statistics on Waste is useful for comparison or sensitivity testing purposes and helps to inform identification of a local estimate.

20 The Statistical classification of economic activities in the European Community, abbreviated as NACE (Nomenclature statistique des activités économiques dans la Communauté européenne).

Identifying a local estimate

54. Estimated waste arisings derived from EA databases and Defra 2021 were compared for the purpose of sensitivity testing. Estimated arisings ranged between 0.687 Mt and 0.960 Mt, with those derived from national estimates lower than the EA database as managed estimates. In line with avoiding spurious accuracy and to reflect that EA database estimates produced vary depending on the reporting region and scope, and that the Defra national arising estimates are not designed to be drilled-down to WPA area levels (and so may not be an accurate local representation), the average of the EA database as managed estimates has been taken as the estimated total C&I waste arisings to inform this WNA; producing a figure of 0.877 Mt for 2020.
55. This method accords with the national policy and guidance²¹ and is reflective of methodology applied to recent WNAs in surrounding regions and WPA areas. This approach provides for a consistent approach whilst giving consideration to local circumstance.
56. C&I waste generated within South Yorkshire and management methods are summarised in the table below.

Table 2: C&I waste arisings and management, 2020 (million tonnes)

South Yorkshire		0.877
Barnsley		0.123 (14%)
Doncaster		0.184 (21%)
Rotherham		0.151 (17%)
Sheffield		0.418 (47%)
Preparation for reuse and recycling	Materials recycling	0.382 (44%)
	Inert recycling	0.006 (1%)
	Composting	0.018 (2%)
Treatment and energy recovery		0.395 (45%)
Disposal to non-hazardous landfill (including SNRHW)		0.066 (7%)
Disposal to restricted landfill		0.008 (1%)
Disposal via incineration – no energy recovery		<0.001 (<1%)

57. Management rates for 2020 are based on returns reported through the EA databases (2020). A small amount of waste (<1%) is disposed of through incineration without energy recovery and at restricted landfill (associated with a specific industrial process and not receiving other waste types, located within the factory curtilage).
58. Due to the potential for some waste records to have been incorrectly assigned to the generic Yorks & Humber group it was not possible to split C&I waste disposal to non-hazardous landfill into non-hazardous and non-hazardous (SNRHW), as such

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all waste disposed of has been captured as non-hazardous landfill (including SNRHW).

Construction, demolition, and excavation (CD&E) waste

59. CD&E waste means waste materials that arise from the construction or demolition of buildings and/or civil engineering infrastructure, including hard construction and demolition waste, and excavation waste (and soils). Hard construction and demolition waste may include concrete, bricks, tiles, bituminous mixtures, railway ballast, and mixtures of the various components. Excavation waste may include clean and contaminated soil, stone, and rocks arising from land levelling, filling, and/or general foundations. The majority of this type of waste is made from inert materials such as concrete, rubble, and soils. A small proportion of CD&E waste is non-inert materials such as wood, metals, and plastic that can be managed via non-hazardous waste treatment facilities. CD&E waste may also include hazardous waste materials such as lead, asbestos, liquid paints, oils, etc. CD&E waste contains a high proportion of recyclable materials.

Environment Agency waste operator return databases

60. As previously discussed in relation to C&I waste, waste operator returns are available through the EA WDI and Incinerator Returns databases. It is widely acknowledged that a significant proportion of total CD&E waste arisings are reused on site or at exempt site; this unseen capacity is not captured through the EA databases.
61. Inert waste is reported through the EA databases under Basic waste category: Inert/C&D. Inert wastes predominately include Chapter 17 construction and demolition wastes (including excavated soil from construction sites). Data for inert waste originating from South Yorkshire (both received at facilities within South Yorkshire and other WPAs) was extracted from the EA databases reporting on industry returns for the most recent five years (i.e. 2016 to 2020). Any CD&E wastes identified from analysis of other waste streams were carried across to the CD&E arisings dataset for the relevant reporting year (e.g. EWC Chapter 01 wastes from mining and quarrying, and Chapter 19 and 20 soils, sand and stones). As per the method applied to C&I waste arising (refer paragraph 45), waste recorded through intermediate facilities were removed with waste recorded through transfer/treatment facilities captured under materials recycling at a rate of 25% of the recorded tonnage.
62. Waste captured as arising from South Yorkshire from both the WDI and Incinerator Returns databases were added together (for years preceding 2019). Waste management methods were determined in the same manner applied to C&I wastes (refer paragraph 46).
63. As with C&I wastes, some arisings from South Yorkshire may be captured under the generic Yorks & Humber group due to historic regional reporting (refer paragraph 47). Dwelling stock completion figures are reported by the Ministry of Housing, Communities, and Local Government (MHCLG) / Department for Levelling Up, Housing and Communities (DLUHC) and provide a view of construction activity

within an area. A percentage breakdown (for individual WPAs, South Yorkshire, and Yorks & Humber) was derived as a factor of the total dwelling stock completions for WPAs of South Yorkshire, and South Yorkshire of Yorks & Humber. This resulted in a three-year average of 26% for South Yorkshire of Yorks & Humber (2017 to 2019). The rate of 26% was applied to wastes reported under the generic Yorks & Humber group and added onto wastes reported under South Yorkshire to produce an estimate of as managed CD&E wastes. Again (as with C&I wastes), this was also applied at the local level to determine potential arisings at the individual WPA level, with three-year averages of 20% for Barnsley (of South Yorkshire), 24% for Doncaster, 9% for Rotherham, and 47% for Sheffield (refer Table 3). The estimated as managed CD&E arisings derived from the EA databases (including records captured under the generic Yorks & Humber group) indicate arisings of 1.536 Mt for 2020 or a three-year average of around 1.510 Mtpa for South Yorkshire

64. For comparison purposes, the total C&I arisings attributed directly to individual WPAs and the generic South Yorkshire group (not including records captured under the generic Yorks & Humber group) derived from the EA databases indicate arisings of 1.102 Mt for 2020 or a three-year average of around 1.023 Mt for South Yorkshire. Of this around a third was identified as wastes other than EWC 170504 non-hazardous soils and stones with the majority (just over 95%) being recovered.

Defra UK statistics on waste

65. The Defra 2021 UK statistics on waste sets out estimates of CD&E waste (including dredging) for England of 116.8 Mt for 2014, 120.3 Mt for 2016, and 119.4 Mt for 2018 (Defra 2021, Report Table 7). Removing hazardous wastes and dredging spoils from the total CD&E produces estimates of 105.8 Mt for 2014, 110.9 Mt for 2016, and 111.3 Mt for 2018 (Defra 2021, Report Table 7 and dataset Table 5.1) for total CD&E waste arisings. Local estimates were determined by applying the percentage of construction activity (dwelling completions MHCLG) attributed to South Yorkshire (of England) (2.23% for 2014, 2.19% for 2016 and 1.95% for 2018) to the total estimated CD&E arisings for England. This produced estimates for total CD&E waste arisings for South Yorkshire of 2.360 Mt for 2014, 2.425 Mt for 2016, and 2.169 Mt for 2018.

Identifying a local estimate

66. Estimated waste arisings derived from EA databases and Defra 2021 were compared for the purpose of sensitivity testing. The national CD&E waste arising estimate (Defra 2021) acknowledges that a significant percentage of construction and demolition waste arisings are managed or reused on-site, or at exempt sites, and that this management capacity is unseen; this is also acknowledged in the NPPG²². This may go some way to explaining the variance between estimated as managed and total CD&E arisings reported through surveys and the EA databases; with that reported through the EA databases forming the portion managed at

22 NPPG, Waste, How should waste planning authorities forecast future construction and demolition waste arisings? '... a sizeable proportion of construction and demolition waste arisings are managed or reused on-site, or exempt sites, so it is critical that some provision is made for unseen capacity in this way ...' Paragraph: 033 Reference ID: 28-033-20141016

permitted waste management facilities and the remainder being the portion managed or reused on-site, or at exempt sites.

67. As such, and in the absence of any more accurate local data, the figures derived from the EA databases are taken to form the best available data regarding CD&E waste requiring management at permitted facilities for which South Yorkshire, as WPAs, are responsible for. The Defra 2021 estimates are taken to form the estimated total CD&E waste arisings. The difference between the estimated total CD&E waste arisings and the actual as managed arisings is assumed to make up the unseen arisings managed either on site or at exempt sites; this accounts for, on average, about half of the estimated total CD&E arisings which is quite high however may also reflect that the national estimates are not made for the purpose of drilling down to WPA level. The method applied reflects that the national CD&E arising estimates are not designed to be drilled-down to a local level and helps to avoid spurious accuracy.
68. The national Defra estimates were extrapolated forward using a growth profile based annual dwelling completions (considered to reflect construction output), and has been taken as the estimated total CD&E waste arisings; producing a figure of 2.308 Mt for 2020. The figure derived from the EA database is taken to form the as managed portion to inform this WNA, being 1.319 Mt for 2020.
69. This method accords with national policy and guidance²³ and is reflective of methodology applied to recent WNAs in surrounding regional and WPA areas. This approach provides for a consistent approach whilst giving consideration to local circumstance.
70. CD&E waste generated within South Yorkshire and management methods are summarised in the table below.

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Table 3: CD&E waste arisings and management, 2020 (million tonnes)

South Yorkshire - Total		2.308
South Yorkshire - As managed		1.319
Barnsley		0.259 (20%)
Doncaster		0.321 (24%)
Rotherham		0.122 (9%)
Sheffield		0.617 (47%)
Preparation for reuse and recycling	Materials recycling	0.226 (17%)
	Composting	0.001 (<1%)
	Inert recycling	0.234 (18%)
Other treatment and recovery	Treatment and energy recovery	0.023 (2%)
	Soil treatment	0.078 (6%)
	Inert recovery (includes deposit of inert waste associated with the restoration of permitted mineral extraction sites)	0.656 (50%)
Disposal	Disposal to inert landfill	<0.001 (<1%)
	Disposal to non-hazardous landfill (including SNRHW)	0.100 (8%)

71. Management rates for 2020 are based on returns reported through the EA databases (2020).
72. The majority of waste disposed of to non-hazardous landfill (including SNRHW), comprised minerals, soil, stones, and other inert fill that may be being deposited at these sites for engineering and restoration purposes. This may give the impression of higher disposal rates.
73. Due to the potential for some waste records to have been incorrectly assigned to the generic Yorks & Humber group it was not possible to split CD&E waste disposed of to non-hazardous landfill into non-hazardous and non-hazardous (SNRHW), as such all waste disposed of has been captured as non-hazardous landfill (including SNRHW).

Hazardous waste

74. Hazardous waste has historically been considered material that poses the greatest risk to human health or the environment, including materials such as asbestos, oils, solvents, and chemical wastes. The Landfill Directive refers to some wastes as 'hazardous', rather than 'special', broadening the definition to include everyday items such as fluorescent tubes, monitors, and televisions that have reached the end of their lives. Hazardous materials are subject to strict controls on carriage, treatment, and disposal. Even so, as hazardous waste is generated from such a wide array of uses and operations (from households, healthcare/medical, and industry) the way that it is recorded is not the same; this may result in data omissions or anomalies.

EA Hazardous Waste Data Interrogator

75. The most accurate data available on hazardous waste arisings is from the EA Hazardous Waste Data Interrogator (HWDI) database. Data held on the HWDI is derived from waste operator returns submitted to the EA, who maintain the HWDI.
76. Data extracted for all consignments arising from South Yorkshire from the HWDI databases indicate arisings of 0.161 Mt for 2020 or a three-year average (2018 to 2020) for hazardous waste arisings²⁴ of around 0.156 Mtpa. As with data extracted from the WDI, waste recorded through intermediate facilities (recorded as Transfer R and Transfer D) were removed from the hazardous waste dataset.
77. Several anomalies were found in the dataset that are likely to be once off occurrences relating perhaps to utilities or highway work projects (EWC 170301) and trommel fines contaminated with dangerous substances (EWC 191211). These were removed from the dataset to allow for determination of averaged arisings and management rates that provide a representative view of hazardous waste in the area, and emerging trends. Smaller amounts of these wastes are recorded year-on-year and these smaller amounts were retained, only the large once off consignments were removed.
78. This method accords with national policy and guidance²⁵ and is generally reflective of methodology applied to recent WNAs in surrounding regional and WPA areas.
79. Hazardous waste generated within South Yorkshire and current management methods are summarised in the table below.

Table 4: Hazardous waste arisings and management, 2020 (million tonnes)

South Yorkshire		0.161
Barnsley		0.009 (6%)
Doncaster		0.016 (10%)
Rotherham		0.084 (52%)
Sheffield		0.052 (32%)
Recycling, recovery, and other treatment	Recovery (includes preparation for reuse and recycling)	0.078 (49%)
	Treatment and other recovery (includes incineration with energy recovery)	0.059 (37%)
Disposal	Disposal to hazardous landfill	0.021 (13%)
	Disposal via incineration - no energy recovery	0.002 (1%)

80. Total arisings and management rates for 2020 are based on returns reported through the HWDI (2020).

24 Total of consignments arisings from South Yorkshire minus Transfer (R) and Transfer (D). Large inputs of hazardous were recorded as disposed of to landfill – further investigation of consignments reported through the WDI indicate that the majority of this was waste output materials/residual wastes and/or attributed to other WPAs.

25 NPPG, Waste, What are the potential sources of information of waste data to inform the preparation of Local Plans? Paragraph: 035 Reference ID: 28-035-20141016

Radioactive waste

81. It is essential that all radioactive waste and materials be safely and appropriately managed in ways that pose no unacceptable risks to people or the environment. The decommissioning of nuclear power reactors produces the majority of radioactive waste in the UK, with other sources including the generation of electricity in nuclear power stations and from the associated production and processing of the nuclear fuel, use of radioactive materials in industry, medicine and research, extraction of materials which include some naturally occurring radioactive materials, and from military nuclear programmes.
82. Radioactive waste is divided into categories according to how much radioactivity it contains and the heat that this radioactivity produces, the main categories including high, intermediate, and low level waste. Low level radioactive waste (LLW) may comprise building rubble, soil, and steel items arising from the decommissioning and clean-up of nuclear reactors, facilities, and sites as well as paper, plastics, and scrap metal items from the operation of nuclear facilities. Very low level waste (VLLW) is a sub-category of LLW.
83. According to the Nuclear Decommissioning Authority (NDA) UK Radioactive Waste Inventory 2019²⁶, LLW (including VLLW) makes up the majority (more than 94%) of the UK's total volume of radioactive waste – but contains less than 0.1% of the total radioactivity.
84. Application of the waste hierarchy has resulted in new approaches for the management of LLW in more sustainable ways, with 76% of LLW projected for disposal in 2019, compared with 78% in 2015, and 95% in 2009²⁷.
85. LLW can be disposed of at near surface facilities. Waste at the lower activity range (of LLW) may not require the level of engineering and containment provided by the LLWR facility and could undergo treatment (e.g. incineration or metals recycling) or be disposed of via alternative routes, such as disposal to existing landfill including non-hazardous landfill (where permitted for such activities). The majority of LLW forecast to arise over the period 2019 to 2024 are expected to be diverted away from disposal at the LLW Repository (LLWR) facility near Drigg, Cumbria; waste is to be disposed of at off-site landfill facilities and the Dounreay LLW facility in Caithness. The diversion of significant amounts of waste away from disposal at the LLWR facility has extended its projected operating life to 2130.
86. The NDA 2019 Inventory does not identify any radioactive waste produced within South Yorkshire. The Inventory is updated every three years as such the 2019 Inventory forms the best available information.
87. The data collection on solid low-level waste from the non-nuclear sector, Department of Energy and Climate Change (DECC) 2008 provides an overall view

26 UK Radioactive Waste Inventory, NDA 2019 , referred to as the NDA 2019 Inventory

27 Refer pages 58 and 55 of the 2019 and 2016 Inventory Reports respectively (2019 Inventory Report, 2016 Inventory Report)

of the waste arisings and disposals from the non-nuclear sector, which identifies estimates of LLW arisings by WPA. Estimates of LLW from the non-nuclear industry (DECC 2008, Table 3) indicate arisings of 31.33m³ for South Yorkshire (0.06% of the total non-nuclear arisings reported through the survey for England, Scotland, and Wales) for the reporting year 2007. Though dated this is the best available information on radioactive waste arisings from the non-nuclear industry.

88. Arisings of radioactive waste from both nuclear and non-nuclear industries within South Yorkshire are very low; the WPA area is not a significant producer of radioactive wastes.

Other wastes

89. Agricultural waste and wastewater are also generated within South Yorkshire. There are no national or local targets for the management of such wastes, however these wastes have been taken into consideration at an appropriate level (outlined below).

Agricultural waste

90. Agricultural waste is waste material that is generated from agricultural premises; the majority of agricultural waste is not classified as controlled wastes. The majority of agricultural wastes are bulk materials such as animal manure and waste slurries. Non-natural agricultural wastes include discarded pesticide containers, plastics, bags and sheets, tyres, batteries, clinical waste, old machinery, oil, packaging waste, etc. The WFD captures non-natural components of this waste stream, which account for a very small amount²⁸ (<1%) and are thought to be managed via the use of Household Waste Recycling Centres and transfer to others (contractors). Very little data is available on waste arisings within the agricultural sector, particularly at a local level. As such the WNA assumes that the non-natural component of agricultural waste is captured under either trade waste received at HWRCs or within the C&I waste stream.
91. The EA databases may capture some agricultural wastes under EWC Sub-chapter 0201 (Wastes from agriculture, horticulture, aquaculture, forestry, hunting, and fishing). A total of 0.012 Mt of waste was reported under EWC Sub-chapter 0201 originating from South Yorkshire in 2020.

Water supply, sewage and wastewater

92. Within South Yorkshire, water supply and sewage and wastewater is managed by Yorkshire Water, Anglian Water, and Severn Trent Water each of which prepare operational Water Resource Management Plans and 25-year business and asset management strategies. The individual Borough and City Councils have separately prepared the relevant flood risk and water cycle studies (such as Strategic Flood Risk Assessment, Local Flood Risk Management Strategy, Surface Water Management Plan, and Water Cycle Study) in order to identify major issues

28 EA 2001 Towards sustainable agricultural waste management (R&D Technical Report P1-399/1) indicated arisings of non-natural components for 2000 of 0.5Mt for the UK. Figures for agricultural waste cannot account for wastes stockpiled on site (at farms).

associated with the planned growth for the area such as sewage treatment, water quality, supply and efficiency, flood risk management, and sustainable drainage systems. Although WLPs have a role to play in relation to development control and management, the scope of WLPs (relating to demand and future needs for water supply, sewage, and wastewater) is somewhat limited as these matters are addressed through the plans and strategies produced by the aforementioned water and wastewater companies. The scope of any WLP should include policies that are generally supportive of an increase in sewage treatment capacity where required to serve existing or planned development in accordance with the Development Plan.

Forecasting waste arisings over the reporting period

93. In order to plan for provision of new capacity it is first necessary to forecast waste arisings over the reporting period. This has been done separately for each of the waste streams (municipal, C&I, CD&E, and hazardous waste) due to the different factors that drive waste arisings and affect growth. Waste arising forecasts for individual streams are detailed below.

Municipal waste

94. Municipal waste management is subject to commercial contracts that determine current and future management methods and rates. As previously outlined (paragraph 34), the management of municipal waste is undertaken through commercial contracts. Management processes provided under the contracts include: for the Barnsley, Doncaster, and Rotherham (BDR) area, preparation for recycling, Anaerobic Digestion (AD), and Mechanical Biological Treatment (MBT) with the resulting Refuse Derived Fuel (RDF) (produced from the MBT) transported to Enfinium Ferrybridge Energy from Waste (EfW) EF1 & EF2 plants. For Sheffield, preparation for recycling with the residual municipal waste used in energy recovery at the Sheffield Energy Recovery Facility (ERF). Contract expiry dates are: for the BDR area, mid 2040 with potential to extend to 2045; and for Sheffield, 2038.
95. In preparing this WNA officers have liaised with the municipal waste management teams for the South Yorkshire WPAs in order to reflect future intent regarding municipal waste management at an appropriate level and to ensure that the WNA satisfies the WFD targets. The existing waste management contracts have been incorporated into targets and forecasts to the fullest extent possible based on information supplied. Current rates for recycling (including composting) and total recovery sit at 40% for recycling and over 95% for total recovery.
96. For the purpose of the WNA the following targets are proposed, set out in the table below. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility, including potential changes to contracts. There is no block to exceeding the total recovery targets and further reducing landfill/disposal rates.

Table 5: Municipal waste targets

Waste hierarchy level	Target
Total recovery	Maintain current rates (or over 95% from 2021 onwards)
Disposal – Non-hazardous landfill (including SNRHW)	Maintain current rates (or a maximum of 5% from 2021 onwards)

97. The Environment Act 2021 empowers the SoS to set legally binding 'long-term' (15 year +) targets in respect of any matter which relates to the natural environment or people's enjoyment of the natural environment, this includes resource efficiency and waste reduction. Previously, the Government had stated that the Environment Bill would support achievement of a 65% recycling target for municipal waste by 2035. Clear responsibilities as a result of the recent Environment Act have still yet to be set out and were not available at the time of writing this report. The existing waste contracts are in place until mid 2040 for the BDR area and 2038 for Sheffield. The ability of South Yorkshire WPAs to achieve these rates may be affected by the existing contractual arrangements however the Borough and City Councils will work to incorporate the targets set by the Secretary of State at an appropriate level, once such targets are regulated.
98. The target applied to municipal waste for the purpose of this WNA is to maintain current overall recovery rates of over 95% from 2021 onwards. This approach allows for flexibility in management options, whilst also recognising that there are existing contractual arrangements in place and that there may be differences in reporting of figures due to grouping of waste management processes. Of relevance to South Yorkshire (under the current municipal waste contracts) is the AD plant, which produces a compost-like output but is captured under treatment and energy recovery due to energy production, and the MBT plant, which includes metal recycling and production of an RDF. If waste processed through the AD and MBT were captured under recycling (including composting) the total recycling figure would increase. The application of targets should give consideration to local circumstance. The target of 65% recycling by 2035 for municipal waste has been accounted for through this WNA as an aspirational target. However, given the uncertainty regarding the future direction in the wider policy context (targets) and scope for altering management methods/rates under the existing contracts, it is considered that the target of 95% total recovery provides for a realistic and attainable goal and provides for flexibility to build in national targets once these are confirmed.
99. The following assumptions were made in preparing the municipal waste forecasts:
- Current recycling, composting, and recovery rates will not decrease.
 - Rates (%) applied to determine household and trade components of total municipal waste and management methods are based on an average of figures over recent years (the most recent three-year period) with data sourced from Defra LACW statistics, Waste Data Flow, and council contract information and records.

- Application of targets (in the case of applying possible Environment Act targets) was achieved by applying an even graduation from current rates (2020) to the full target rate (applied at the target year e.g. 2030).
- Municipal waste arisings for the year 2020 (of 0.590 Mt) were forecast from 2020 up to 2041 based on dwellings forecasts for the individual WPAs (tonnes per dwelling) giving an average annual increase over the reporting period of 0.64% per annum.

100. This methodology accords with national policy and guidance²⁹.

101. Forecast municipal waste arising and management methods over the reporting period (at five year intervals) are detailed in the table below.

Table 6: Municipal waste forecast by management method up to 2041 (million tonnes per annum)

South Yorkshire		2021	2026	2031	2036	2041
		0.581	0.600	0.622	0.643	0.665
Barnsley		0.114	0.119	0.125	0.130	0.135
Doncaster		0.153	0.158	0.163	0.168	0.173
Rotherham		0.113	0.115	0.118	0.121	0.123
Sheffield		0.201	0.208	0.216	0.225	0.233
Waste hierarchy level and broad management method						
Preparation for reuse and recycling						
Materials recycling		0.150	0.155	0.161	0.166	0.172
Composting		0.089	0.092	0.095	0.098	0.101
Treatment and other forms of recovery						
Treatment and energy recovery	Total	0.328	0.338	0.351	0.363	0.375
	Mechanical biological treatment	0.227	0.235	0.242	0.250	0.258
	Anaerobic digestion	0.269	0.278	0.288	0.298	0.309
	Energy from Waste	0.058	0.060	0.062	0.064	0.066
Disposal						
Non-hazardous landfill (including SNRHW)		0.014	0.015	0.015	0.016	0.016

102. Application of targets that were previously set out in the Environment Bill (and that under the Environment Act the SoS may set, refer paragraph 2) of 65% recycling for municipal waste by 2035 results in the following tonnages for management rates at the end of the reporting period: 0.279 Mtpa for materials recycling, 0.153 Mtpa for composting, 0.215 Mtpa for treatment and energy recovery, and 0.017 Mtpa for disposal to non-hazardous landfill (including SNRHW).

29 NPPG, Waste, How should waste planning authorities forecast future municipal waste arisings?
Paragraph: 029 Reference ID: 28-029-20141016

103. Insufficient data was available to split municipal waste disposal to non-hazardous landfill into non-hazardous and non-hazardous (SNRHW), as such all waste disposed of has been captured as non-hazardous landfill (including SNRHW).
104. Other biological waste management processes, such as AD, may take up compost capacity where the waste composition input into the facility captures the same waste type. AD may also be appropriate for the management of separate food waste collection and disposal.

Commercial and industrial (C&I) waste

105. C&I waste management is subject to commercial contracts that determine current and future management methods and rates. Information regarding individual contracts is not available to the council and the council is not able to exert direct influence over such matters. However, a range of legislative and market drivers exist (e.g. landfill tax, targets and producer responsibility measures) that are driving change and seeing more waste diverted from landfill.
106. Targets for C&I waste, are limited to packaging recycling and recovery targets as set out in the Packaging and Packaging Waste Directive 94/62/EC. Packaging waste targets have recently been reviewed by Defra with updated targets including 75% of packaging waste recycled and 82% recovered (in total) by 2020. Operator returns (2020) indicate that for packaging waste (EWC Chapter 15) attributed to South Yorkshire over 90% was recovered.
107. For the purpose of the WNA targets of 95% recovery and a maximum 5% disposal to landfill by 2035 for all C&I waste are proposed. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility regarding market demands and commercial contracts. Although current management method rates for arisings indicate a total recovery rate that is just above 90% the last five years shows some fluctuation with the three-year average being 90%. The WDI dataset also indicates that of the wastes currently sent for disposal the majority of this is potentially recoverable. Note that there is no block to exceeding the total recovery targets and further reducing disposal rates.
108. As previously outlined, estimates for current arisings for South Yorkshire were determined as a product of local as managed arisings (EA databases), refer paragraphs 38 - 50. Growth profiles derived from total 'real' GVA annual increase (House of Commons 2021) were applied over the reporting period to forecast arisings up to 2030 (1.1% per annum), with the ten-year averaged 'real' GVA (2010 to 2019) applied for the period 2031 to 2041 (1.4% per annum).
109. During preparation of this WNA the Covid-19 virus pandemic affected the global economy. The most recent quarterly reports on economic statistics available from the ONS were used to provide context to growth profiles (2021 Quarters 1 to 3)³⁰. It is difficult to determine the true impacts of the pandemic on the economy for 2021, and what recovery might look like, at this stage. Reduced employment and economic activity experienced during the pandemic will have an impact on waste

³⁰ <https://www.ons.gov.uk/economy>

arising. This situation should be monitored and the WNA model updated in line with updated data and forecasts from the ONS.

110. Availability of local economic forecasts was limited, particularly any recent data or that produced during/in the context of the Covid-19 pandemic. The House of Commons forecasts were released in May 2021 and form the most up-to-date information available that includes data for the wider Yorks & Humber region which is likely to be not too dissimilar to circumstances within South Yorkshire, as such can reasonably be used as a proxy. The ten-year period preceding the Covid-19 pandemic provides a local view of GVA growth. This methodology accords with national policy and guidance³¹.
111. Management methods applied to forecasts were derived from the three-year average of EA databases (2018 to 2020) management rates. Although there was some fluctuation in management method rates over the three-year period the average is likely to indicate emerging trends, and best reflect local circumstance. Rates for management methods have been applied and increased incrementally to achieve targets as relevant.
112. The following assumptions were made in preparing the C&I waste forecasts:
 - Growth in C&I waste arising is a direct factor of economic growth.
 - Impact of, and recovery from, Covid-19 will see a decrease in economic activity, gradually recovering over a period of 5+ years.
 - Current recycling, composting, and recovery rates will not decrease.
 - Application of targets was achieved by applying an even graduation from three-year average rates (2018 to 2020) up to the full target rate (applied at the target year e.g. 2035).
 - The proportion of waste types attributed to business sectors identified through the Defra 2021 dataset is transferable to South Yorkshire.
 - Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.).
 - Waste recorded through intermediate facilities identified as transfer/treatment (either in the WDI or permitted by the WPA for transfer and materials recycling), has been captured under materials recycling at a rate of 25% (unless stated otherwise and informed by site-specific information) of the recorded tonnage in order to reflect that the facility involves some form of preparation for reuse and/or recycling.

31 NPPG, Waste, How can waste planning authorities forecast future commercial and industrial waste arising? Paragraph: 032 Reference ID: 28-032-20141016

Table 7: C&I waste forecast by management method up to 2041 (million tonnes per annum)

South Yorkshire	2021	2026	2031	2036	2041
	0.889	0.939	0.994	1.066	1.143
Barnsley	0.125	0.132	0.140	0.150	0.161
Doncaster	0.186	0.197	0.209	0.225	0.241
Rotherham	0.153	0.162	0.172	0.184	0.197
Sheffield	0.425	0.448	0.473	0.507	0.543
Waste hierarchy level and broad management method					
Preparation for reuse and recycling					
Materials recycling	0.388	0.423	0.462	0.507	0.543
Inert recycling	0.004	0.004	0.005	0.005	0.006
Composting	0.016	0.017	0.018	0.020	0.022
Treatment and other forms of recovery					
Treatment and energy recovery	0.393	0.418	0.445	0.480	0.514
Disposal					
Non-hazardous landfill (including SNRHW)	0.077	0.067	0.057	0.050	0.053

113. A small amount of waste (<1%) is disposed of through incineration without energy recovery and at restricted landfill (associated with a specific industrial process and not receiving other waste types, located within the factory curtilage).
114. Insufficient data was available to split C&I waste disposal to non-hazardous landfill into non-hazardous and non-hazardous (SNRHW), as such all waste disposed of has been captured as non-hazardous landfill (including SNRHW).

Construction, demolition, and excavation (CD&E) waste

115. CD&E waste management is also subject to commercial contracts that determine current and future management methods and rates. As with C&I waste this information is not available to the council and the ability of the council to directly influence such matters is limited, however a similar range of legislative and market drivers (including the Aggregates Levy) are acting on operators to divert waste from landfill.
116. Targets for CD&E waste are limited to that set out in the WFD requiring recovery of at least 70% of C&D wastes by 2020 (excluding naturally occurring material defined in category EWC 170504 – non-hazardous soils and stones), including backfilling operations using waste to substitute other materials. Current as managed arisings indicate that EWC 170504 wastes account for around two-thirds of CD&E waste as managed. Of other CD&E wastes the majority is processed for reuse and recycling or otherwise recovered³² achieving a total recovery of around 95%; exceeding the WFD target. The WDI dataset also indicates that of the wastes (scoped in, i.e. other than EWC 170504) currently sent for disposal to landfill some of this is potentially

³² Other recovery includes soil treatment and inert recovery (including deposit of inert waste to land associated with the restoration of permitted mineral extraction sites) as well as other forms of treatment and recovery (including energy from waste processes).

recoverable. The Management of Non-Aggregate Waste Report (WRAP 2016) estimates that up to 5% of CD&E apportioned to landfill could be managed through energy recovery processes. Applying this to South Yorkshire CD&E as managed waste arisings disposed of to non-hazardous landfill (not including EWC 170504) produces a figure of less than 0.001Mt. Total as managed wood waste arisings are around 0.011 Mt for South Yorkshire in 2020, all of which is either processed for reuse and recycling or otherwise recovered. It is possible that some wood waste is mixed with other wastes and disposed of to landfill however the extent of this cannot be determined. Subsequently there may be potential for capacity greater than that of identified arisings for wood waste reuse, recycling and other recovery.

117. There are several permitted non-hazardous landfills within the South Yorkshire area with permissions expiring between 2022 and 2042 (refer to Appendix 2). Inert waste (in particular EWC 170504) is deposited at these sites for engineering purposes and for restoration in line with planned closures. EWC 170504 wastes are highly recoverable and there is normally a preference for such material to be directed to permitted mineral extraction sites to support restoration, if not otherwise recovered. There are also inert recovery/disposal sites permitted within South Yorkshire, predominantly associated with the restoration of mineral extraction sites. Permissions for these sites expire between 2022 and beyond the reporting period, however, dependant on availability of inert restoration materials (and operational requirements) it is common for these sites to require extensions of time in order to achieve surface levels (i.e. fill up the void) as per the agreed restoration scheme.
118. For the purpose of the WNA the following targets for CD&E waste have been identified: for EWC 170504 – maintaining current rates of 95%³³ recovery and a maximum 5% disposal to landfill from 2021 onwards; and for other wastes (excluding EWC 170504 wastes) – increasing to 95% recovery by 2030 with a maximum 5% disposal to landfill, this target builds on the existing WFD target and management rates. The proposed targets are based on overall recovery and disposal rates as this approach is considered to allow for flexibility regarding market demands and commercial contracts. The target for EWC 170504 wastes takes into account the current management rates, the highly recoverable nature of this waste, and that as more waste is recovered (from all streams) the need for non-hazardous (including SNRHW) landfill will reduce subsequently reducing the requirement for inert waste for engineering and restoration purposes in the long-term. Note that there is no block to exceeding the total recovery targets and further reducing landfill/disposal rates.
119. As previously outlined, and in line with the national guidance, estimates for as managed arisings of CD&E waste were determined as a product of local as managed arisings (EA databases), refer paragraphs 60 - 67. The as managed arisings are those wastes that require management through facilities for which the WPA is responsible for. The total arisings were derived from national estimates and were taken forward to 2020 to enable comparison with the total as managed arisings derived from the EA databases, refer paragraphs 66 - 67. The growth

33 Current rates exceed 95% and so the current rate will be maintained.

profile was based on dwelling stock forecasts (forming a more conservative approach) and was applied to both the as managed and total arisings figures over the reporting period to forecast arisings up to 2041. The difference between the as managed and total representing waste that is reused or managed on-site or at exempt sites.

120. As with C&I waste, potential impacts from the Covid-19 virus pandemic have been built into the growth profile. The ONS reported³⁴ that total construction output decreased by 12.5% in 2020 compared with 2019. The Construction Products Association (CPA) reported an estimated decrease of 14.3% in 2020 and forecast recovery of 13.7% increase in 2021 and 6.3% in 2022. Growth profiles were adjusted to reflect the CPA figures, with incremental increases up to 2025 to achieve the original forecast (dwelling stock) rates. This situation should be monitored and the WNA model updated in line with updated data and forecasts where available.
121. It should be noted that generation of CD&E waste is different from other waste streams in that the generation of waste is tied to construction and/or demolition projects (e.g. redevelopment, housing construction, infrastructure projects, etc.) and so does not grow year-on-year. Where the annual increase forecast for dwelling stocks remains steady (i.e. the same year-on-year) no growth was forecast however where the forecast indicated an increase or decrease the percentage increase or decrease was applied to the CD&E forecast. This reflects that CD&E waste is not subject to a compounding growth profile. Forecasts for dwelling stock were sourced from the adopted and emerging Local Plan evidence base (Barnsley Metropolitan Borough Council Barnsley Local Plan 2019, Doncaster Council and Rotherham Metropolitan Borough Council 2021 Doncaster and Rotherham Local Aggregates Assessment (2019/20), Sheffield City Council September 2020 The Sheffield Plan Issues and Options Housing Technical Note). The forecasts indicate that there may be some fluctuations but overall the arisings remain much the same over the reporting period.
122. Infrastructure projects located within South Yorkshire, identified in the National Infrastructure Delivery Plan (NIDP) 2016 to 2021, include the main line (railway) improvements to the existing network in Sheffield), Trans Pennine tunnel between Sheffield and Manchester (and options to enhance the A66, A69, and north-west quadrant of the M60), and the northern roads improvements and capacity enhancement to the M1 at J35a-39, Rotherham to Wakefield. These projects could potentially produce a temporary increase on demand for inert recycling and recovery, and some of this may be delivered on-site. The extent of the additional off-site demand is not known. There are no specific significant planned regeneration projects identified within South Yorkshire that would result in a significant increase in waste generation that have not been accounted for through dwelling stock and growth forecasts.

34 ONS February 2021 Construction output in Great Britain

123. The approach applied to forecasting arisings for CD&E strikes a balance between reflecting growth patterns and forecasting waste arisings where the waste stream is acknowledged not to be subject to a compounding growth profile. This methodology accords with national policy and guidance³⁵.
124. Management methods were derived from the three-year average of management rates as per the EA databases (2018 to 2020). Although there was some fluctuation in management method rates over the three-year period the average is likely to indicate emerging trends and best reflect local circumstance. Rates for management methods have been applied and increased incrementally to achieve targets as relevant.
125. The following assumptions were made in preparing the CD&E waste forecasts:
- Growth in CD&E waste is tied to construction and/or demolition projects and so does not continually grow year-on-year.
 - Dwelling stock forecasts indicate general construction activity likely to take place and may therefore reflect waste generation.
 - Impact of, and recovery from, Covid-19 will see a decrease in construction output (including associated waste arisings), gradually recovering over a period of 5+ years.
 - Current recycling and recovery rates will not decrease.
 - Application of targets was achieved by applying an even graduation from three-year average rates (2018 to 2020) up to the full target rate (applied at the target year e.g. 2030).
 - There is a significant quantity of CD&E waste that is reused on-site or at exempt sites and this will continue to be the case.
 - Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.).
 - Waste recorded through intermediate facilities identified as transfer/treatment (either in the WDI or permitted by the WPA for transfer and materials recycling), has been captured under materials recycling at a rate of 25% (unless stated otherwise and informed by site-specific information) of the recorded tonnage in order to reflect that the facility involves some form of preparation for reuse and/or recycling.

35 NPPG, Waste, How should waste planning authorities forecast future construction and demolition waste arisings? Paragraph: 033 Reference ID: 28-033-20141016

Table 8: As managed CD&E waste forecast by management method up to 2041 (million tonnes per annum)

South Yorkshire – As managed	2021	2026	2031	2036	2041
	1.267	1.529	1.588	1.588	1.588
Barnsley	0.249	0.360	0.374	0.374	0.374
Doncaster	0.308	0.292	0.303	0.303	0.303
Rotherham	0.117	0.180	0.186	0.186	0.186
Sheffield	0.592	0.698	0.725	0.725	0.725
Waste hierarchy level and broad management method					
Preparation for reuse and recycling					
Materials recycling	0.247	0.299	0.311	0.311	0.311
Inert recycling	0.199	0.243	0.254	0.254	0.254
Composting	<0.001	<0.001	<0.001	<0.001	<0.001
Treatment and other forms of recovery					
Treatment and energy recovery	0.018	0.022	0.023	0.023	0.023
Soil treatment	0.062	0.075	0.079	0.079	0.079
Inert recovery [^]	0.640	0.794	0.842	0.842	0.842
Disposal					
Non-hazardous landfill (including SNRHW)	0.100	0.095	0.078	0.078	0.078

[^] Inert recovery includes deposit of inert waste associated with the restoration of permitted mineral extraction sites.

126. A small amount of waste (<1%) is disposed of to inert landfill (not beneficial or associated with restoration works).
127. Insufficient data was available to split CD&E waste disposal to non-hazardous landfill into non-hazardous and non-hazardous (SNRHW), as such all waste disposed of has been captured as non-hazardous landfill (including SNRHW).

Hazardous waste

128. There are no targets for the management of hazardous wastes. Hazardous wastes are generated from a wide array of uses and operations (from households, healthcare/medical, and industry); as such the drivers that act on municipal, C&I, and CD&E wastes also influence the generation and management of hazardous waste. Time series data for hazardous waste arisings was extracted from the HWDI for the period 2016 to 2020. The HWDI as managed data indicates that hazardous waste fluctuates slightly year-on-year but has generally been around 0.150 Mtpa. The three-year (2018 to 2020) average has been applied as the estimated arisings for 2021 from which forecasts have been made over the reporting period.
129. Commercial and industrial business sector operations are thought to account for a large proportion of hazardous wastes generated. As such the growth profile applied to C&I waste was also applied to hazardous waste. This growth profile was applied to the 2021 estimated arisings figure. As there are no targets for hazardous waste the management methods were derived from the three-year average of the HWDI (2018 to 2020). Although there was some fluctuation in management method rates over the three-year period the average is likely to indicate emerging trends and best

reflect local circumstance and trends. This method accords with national policy and guidance³⁶.

130. The following assumptions were made in preparing the hazardous waste forecasts:

- Growth in hazardous waste reflects that of C&I waste.
- Current recycling and recovery rates will not decrease.
- Waste recorded at intermediate facilities (i.e. waste transfer stations) is subsequently managed, and accounted for, at other waste management facilities (e.g. MRF, treatment, landfill, etc.), as indicated in the HWDI (e.g. consignments recorded under Transfer (D) and (R) indicates waste transfer prior to disposal and recovery respectively).

Table 9: Hazardous waste forecast by management method up to 2041 (million tonnes per annum)

South Yorkshire	2021	2026	2031	2036	2041
	0.156	0.165	0.175	0.188	0.201
Barnsley	0.008	0.008	0.008	0.009	0.010
Doncaster	0.013	0.014	0.015	0.016	0.017
Rotherham	0.082	0.087	0.092	0.099	0.106
Sheffield	0.054	0.057	0.060	0.064	0.069
Waste hierarchy level and broad management method					
Recovery and treatment	0.140	0.152	0.161	0.172	0.185
Disposal via hazardous landfill	0.015	0.011	0.012	0.013	0.014
Disposal via incineration – no energy recovery	0.002	0.002	0.002	0.002	0.002

Residual waste arisings

131. Waste outputs are also produced as a result of waste treatment processes. Increasing the diversion of waste from landfill and driving waste up the waste management hierarchy will result in an increase in waste outputs from treatment processes, also referred to as residual waste. Potential residual waste arisings have been calculated to provide a broad guide to possible arisings over the reporting period, however the application of such figures is heavily caveated. Estimated residue output rates are derived from a limited range of technologies that may not reflect the final technologies that come on stream during the reporting period. This is due to the dynamic nature of the waste management industry and emerging technologies. Hence it is recognised that, although it is necessary to acknowledge the potential future capacity requirements for waste management facilities including final disposal, forecasts for residual arisings cannot be determined with any level of certainty.

36 NPPG, Waste, How should waste planning authorities forecast future hazardous waste arisings?
Paragraph: 034 Reference ID: 28-034-20141016

132. Some residual waste from treatment processes as per the current management methods and rates are captured through the EA databases and include EWC Chapter 19 wastes³⁷. Outputs from waste management processes that are likely to be further treated (e.g. EWC sub-chapter 1912) were retained as these might not necessarily be a waste residue from treatment processes, but rather waste that has been processed through an intermediate (transfer) facility or MRF and re-classified according to the specific waste type (e.g. EWC 191201 paper and cardboard, EWC 191202 ferrous metals, etc.).
133. A recent EA study³⁸ into trommel fines (classified as EWC 191212 other wastes - including mixtures of materials - from mechanical treatment of wastes other than those mentioned in EWC 191211), indicate that some of this waste may be being incorrectly classified as non-hazardous, i.e. should be classified as EWC 191211 (other wastes - including mixtures of materials - from mechanical treatment of waste containing dangerous substances – i.e. a hazardous waste). Wider issues encountered whilst undertaking the study (Covid-19) affected the sample size and analysis meaning that the study is not representative across England and so a blanket approach (of the findings) cannot be applied. The study is useful though, as it does highlight the need for improved analysis and monitoring of these specific 'mirror' waste types – by operators and the EA.

Taking account of residual arisings

134. The EA WDI 2020 reported around 0.281 Mt³⁹ of EWC 191212 for South Yorkshire (increasing to 0.396 Mt when including a portion of waste identified as WPA Not Codeable - Yorks & Humber). An additional 0.318 Mt of other residual wastes from treatment processes were also identified (but not included in waste arising estimates), including wastes from composting, soil remediation, and other treatment processes (including Refuse Derived Fuel (RDF) and Solid Recovered Fuel (SRF)); increasing to 0.345 Mt when including a portion of waste identified as WPA Not Codeable - Yorks & Humber. Estimates of residues produced based on typical output rates applied to the existing management methods for South Yorkshire waste arisings only (not including intermediate facilities) sit at just above 0.300 Mtpa. South Yorkshire is a significant importer of wastes from other WPAs, particularly to materials recycling facilities. This indicates that a significant amount, up to two-thirds, of these types of waste are likely to be produced from the processing of waste that has originated from outside of South Yorkshire (e.g. processing of waste imported from other WPAs at MRFs located within South Yorkshire). Unfortunately, there is no definitive way of knowing how much of such wastes can be directly attributed to South Yorkshire. The required capacity to

37 Note that EWC sub-chapter 1912 (waste from the mechanical treatment of waste (e.g. sorting, crushing, compacting, pellatising) not otherwise specified) includes many wastes that can be clearly identified (e.g. plastic, glass, paper, wood, etc.) that, for the purpose of the plan-making process, are not captured under residual wastes as these are wastes that have been sorted into specific streams with the intention of being transferred onto treatment facilities (or that could be).

38 EA Trommel fines: Chemical analysis and waste classification, June 2020

39 It is possible that some of this made up of outputs generated from waste imported into the plan area and processed at treatment facilities within the plan area.

manage such wastes may not have previously been captured and so an estimate of the arisings over the plan period (based on the C&I growth profile) attributed to South Yorkshire and those likely to be from processing of imported wastes is identified below.

135. Residue output rates (per one tonne of waste input) applied to determine potential arisings are: processing of recyclables 15%; composting 15%; and treatment and energy recovery 20%. Small amounts of hazardous residual waste may also be produced from thermal treatment processes at a rate of 3%. Outputs vary widely and are dependent on the technology employed, scale of facility, waste composition, type of waste input, quality of waste input (e.g. contaminant level and calorific value), and operational efficiency of the individual plant/facility. Not all of this material needs be disposed of to landfill; it can be reused within the operational cycle, further treated using other technologies, recycled or used in construction⁴⁰.
136. Based on the waste arisings, management methods, and targets for the main waste streams, it is estimated that by 2041 non-hazardous residual wastes arisings from treatment of waste originating from South Yorkshire could require non-hazardous waste management capacity (including disposal) of around 0.350 to 0.400 Mtpa, with an additional 0.025 Mtpa for hazardous waste management capacity (including disposal) (refer paragraphs 131 to 135). Arisings of residual waste from imported waste treated within South Yorkshire could require management capacity (including disposal) of around 0.650 Mtpa by 2041 (refer to Waste Movements, paragraphs 145 to 149). Of the estimated current residual waste arisings just under half is currently disposed of to non-hazardous landfill, with a similar amount received at EfW plants, and the remainder at materials recycling, inert recycling, and other treatment facilities. The majority of EWC 191212 is disposed of to non-hazardous landfill, with some received at other waste management facilities for further treatment including material recycling, physical treatment, and other treatment (including energy recovery) facilities. The majority of EWC 191211 (of around 0.003 Mt recorded for South Yorkshire) was received at management facilities for biological and physical-chemical treatment. Although disposal to non-hazardous landfill is currently the main management route for residual wastes, the amount recovered is increasing over time, this demonstrates that there is the potential for further recovery.
137. Recently published guidance from the EA on excavated waste from utilities installation and repair⁴¹ will result in unassessed waste from utilities excavations being classified as hazardous from 31 October 2020; previously classified as non-hazardous. Utility providers and operators were advised by the EA to prepare and implement protocols for the classification and assessment of excavated wastes to allow for correct classification of wastes. Again, this guidance highlights the need

40 Mineral Products Association 2019 Contribution of recycled and secondary materials to total aggregates supply in Great Britain indicates that 86% of Incinerator Bottom Ash (IBA) can be reused as aggregate.

41 EA Guidance - Excavated waste from utilities installation and repair: Regulatory Position Statement (RPS) 211, April 2020

for improved analysis and monitoring of specific waste types – by operators and the EA.

138. From a waste planning perspective, these examples highlight the need to consider residual arisings and ensure that such wastes are managed and pushed up the waste hierarchy, with disposal being the least preferred option.
139. Due to the uncertainties associated with obtaining estimates for waste arisings for South Yorkshire as well as residues themselves (refer paragraphs 47-47 and 131), such wastes have not been incorporated into the waste arisings, forecasts, and future capacity needs. Given the uncertainty associated with these figures caution should be taken in their application.

Monitoring future arisings

140. Where possible, future arisings (actuals and estimates) and existing operational capacity of waste management facilities within the WPA area will be monitored from the best available information sources as part of the annual monitoring report.

Low Level Radioactive Waste

141. Local forecasts for LLW have not been prepared as part of this WNA given the very low arisings previously recorded.
142. The NDA 2019 Inventory estimates that nationally the total amount of radioactive waste currently held in stores at 01 April 2019 and forecast in the future up to 2135 would occupy a volume of about 4.47 million m³ (final volume after all wastes have been packaged). Of this LLW (and VLLW) account for 3.97 million m³ (89%).
143. The Strategy for the Management of Solid LLW from the Non-nuclear Industry in the UK (DECC 2012)⁴² estimates that total UK arisings from the non-nuclear industry are very unlikely to exceed 100,000m³ per year. Survey results suggest that the majority of this can be attributed to the medical and research sectors. Management methods (reported through the survey) for LLW from the non-nuclear industry include disposal to landfill and via incineration. Naturally Occurring Radioactive Material waste arising from the oil and gas industries (e.g. from the decommissioning of oil and gas rigs) is currently not quantified but could arise for disposal in the future.

Management and disposal of LLW

144. As previously noted, application of the waste hierarchy has resulted in diversion of LLW from the LLWR facility. Management options available include incineration, metal recycling and alternative disposal. The Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom (Defra 2007)⁴³ allows for the disposal of some types of LLW to existing landfill, including: controlled burials of LLW and high volume VLLW. Such landfills could include non-inert landfill; the disposal of LLW generally does not require the same level of

42 Strategy for the Management of Solid LLW from the Non-nuclear Industry in the UK, DECC 2012

43 Policy for the Long Term Management of Solid Low Level Radioactive Waste in the United Kingdom, Defra 2007

engineering as a hazardous landfill. The disposal of such waste to existing landfill is regulated by the EA under the Environmental Permitting Regulations. This policy direction is reflected through the UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry (DECC 2016)⁴⁴, which states that LLW producers and managers should develop a LLW Management Plan to take account of current and future arisings of LLW with particular emphasis on application of the waste hierarchy and Best Available Techniques (BAT). The proximity principal and waste transport issues should also be given appropriate consideration. The Policy and the UK Strategy also require appropriate engagement with stakeholders, including communities that may be affected (including those in the vicinity of disposal sites), and must meet the needs of the regulators.

Waste movements

145. Not all waste can be managed within the boundary of the WPA from which it arises. This is due to contractual arrangements, operational networks and capacity requirements, as well as geographical convenience and other factors. There will normally be some movement of waste into and out of WPAs; this is reflected by the position of seeking net self-sufficiency.
146. Waste movements were determined by analysing data extracted from the EA databases on waste⁴⁵ received at facilities within South Yorkshire (imports) and waste received at facilities within other WPAs (exports)⁴⁶. The table below provides an overview of waste movements for 2019 and 2020.

Table 10: Waste movements South Yorkshire, 2019 and 2020 (million tonnes)

Waste stream	Imports (from other WPAs to South Yorkshire)	Exports (from South Yorkshire to other WPAs)	Balance (imports minus exports)
HIC (Municipal and C&I)			
2019	2.785	0.794	1.991
2020	2.012	0.760	1.252
Inerts (CD&E)			
2019	1.125	0.165	0.960
2020	0.716	0.172	0.544
Hazardous			
2019	0.069	0.149	-0.080
2020	0.068	0.129	-0.061
Total			
2019	3.979	1.108	2.871
2020	2.796	1.061	1.735

44 UK Strategy for the Management of Solid Low Level Radioactive Waste from the Nuclear Industry, DECC 2016

45 Excludes intermediate facilities or wastes outside the scope of the WNA (e.g. sewage and waste water, including sludges).

46 Derived from the excel extract of the WDI and Incinerator Returns.

147. Data attributed directly to South Yorkshire indicates that overall the South Yorkshire WPAs are a net importer of waste, in total importing just over 3.5 times the amount of waste exported in 2019 and 2.5 times in 2020. To some extent the scale of exports may be skewed by some waste records being incorrectly assigned to the generic Yorks & Humber group. There is no way of determining the extent to which this affects the data.

Waste imports and exports

Waste imported from other WPAs

148. Of waste managed within the South Yorkshire area the main management method is materials recycling (including metal recycling), followed by other treatment and energy recovery, and then disposal to non-hazardous landfill.
149. HIC waste imported into South Yorkshire (2020) was predominantly from the Yorks & Humber region (over half) with the remainder mainly from the East Midlands, North West, and West Midlands regions. Similarly, the majority of inert waste imported into South Yorkshire (2020) was received from the Yorks & Humber and East Midlands (around a third each), with the remainder largely from the North West and West Midlands. Lesser amounts of both HIC and inert wastes were received from all remaining regions, including from London (HIC and inerts both under 0.050 Mt). The movements of waste very much reflect the geographical relationship of South Yorkshire with the surrounding regions, and changes in the way that waste is now managed.
150. Hazardous waste received to facilities within South Yorkshire (2020) was predominantly from the North East, East Midlands, Yorks & Humber, and South East regions, with lesser amounts from all other regions.

Waste exported to other WPAs

151. Of HIC waste exported from South Yorkshire (2020) around two-thirds was received at facilities within the Yorks & Humber region, and around a quarter to the East Midlands. Similarly, the majority of inert waste exported from South Yorkshire (2020) was received at facilities within the Yorks & Humber (over half) and East Midlands (just over a third) regions. Lesser amounts of both HIC and inert wastes were exported to all remaining regions.
152. Information regarding management of waste exported may not be reflective of actual management methods due to some waste records being incorrectly assigned to the generic Yorks & Humber group. Broad management methods reported through the EA databases for exports indicate that: for HIC waste – around half was received at facilities for other treatment and energy recovery, a quarter was received at materials recycling facilities (including metal recycling), and a quarter was disposed of to non-hazardous landfill.
153. Of hazardous waste exported from South Yorkshire (2020) the majority was received at facilities within the East Midlands, Yorks & Humber, North West, North East, West Midlands, and East of England regions, with lesser amounts exported to all other regions.

Identification of strategic movements and the Duty to Cooperate

154. The following matters are typically considered to be of a strategic⁴⁷ nature (of relevance to waste planning) that could potentially affect another authority and therefore could form a DtC matter: indicative waste management capacity needs, the spatial strategy for waste development (particularly non-hazardous disposal to landfill), and the proposed allocations/designations for waste development. It is only where the movement of waste is of a particularly large volume or of a specialised nature (e.g. hazardous or radioactive waste) that this could be considered a strategic issue and therefore become relevant to the identified DtC matters.
155. A survey of WPAs was undertaken in September 2021 in line with the DtC regarding strategic waste movements. Movements were identified using the EA databases reporting on returns for the three-year period from 2017 to 2019. Strategic movement thresholds were defined relative to waste arisings for each of the WPAs, this is because the four authorities that make up the South Yorkshire area vary in the quantity of waste arisings, these thresholds are:
- Household, Industrial and Commercial (HIC) waste - From an individual WPA to an individual waste management facility 10,000 tonnes per annum (tpa),
 - Inert waste - From an individual WPA to an individual waste management facility 10,000 tpa for Barnsley, Doncaster and Rotherham, and 15,000 tpa for Sheffield, and
 - Hazardous waste - From an individual WPA to another WPA for a specific management method (e.g. recovery, treatment, landfill, etc.) 350 tpa for Barnsley, 500 tpa for Doncaster and Rotherham, and 1,000 tpa for Sheffield.
156. In order to identify thresholds relative to South Yorkshire WPA, the quantum of waste arising from South Yorkshire was taken into consideration. Local circumstance has been given consideration in the identification of the above thresholds, which typically represent a minimum of 5% of waste arisings for the relevant waste stream; a 5% significance level is widely accepted as indicating a significant difference. These thresholds allow for a more focussed view to be taken regarding strategic movements and identification of potential DtC matters. Movements below these levels would seem to indicate once-off or ad-hoc arrangements that are by their nature not strategic, or are smaller quantities that may be able to be accommodated at another facility. Hazardous waste arisings and movements tend to be of a reduced scale when compared with other waste streams and so the threshold is lower, in addition facilities for the management of hazardous waste tend to involve more specialised processes and as such have a much wider catchment area.
157. Waste movements identified as being above the thresholds over the three-year period from 2017 to 2019 from the EA databases are reported in Appendix 3 and summarised below (rounded to 1,000 tonnes). These operator waste returns were

⁴⁷ It is for the authority of South Yorkshire to determine what is a strategic matter (in line with Zurich Assurance Ltd v Winchester CC and South Downs NPA 2014 that how the authority goes about deciding what is a strategic matter is a matter for their judgement).

analysed in order to identify any potential DtC and strategic waste movements and matters with relevant WPAs.

158. With regards to imports, the main WPAs from which waste was consistently received over the three-year period to facilities within South Yorkshire (above the thresholds) included: HIC waste – Derbyshire, Lancashire, Leeds, Lincolnshire; inert waste – Wakefield and London (WPA Note Codeable); hazardous waste – Essex, Flintshire, Derbyshire, Nottingham City, Redcar & Cleveland, Suffolk, and Wakefield. There were also consistent records for HIC identified as WPA Not Codeable for HIC from the East Midlands, North West, West Midlands, and Yorks & Humber regions, and for inerts from London and Yorks & Humber regions as well as outside the UK.
159. With regards to exports, the main WPAs that waste was consistently exported to from South Yorkshire (above the thresholds) included: HIC waste – Derbyshire, Halton, Leeds, and Wakefield; inert waste – Wakefield; and hazardous waste – Derbyshire, Kingston Upon Hull City, Kirklees, Knowsley, Leeds, Lancashire, Northamptonshire, North East Lincolnshire, North Lincolnshire, Sefton, Staffordshire, Stoke-on-Trent City, Stockton-on-Tees. Note that some waste received from WPA Not Codeable - Yorks & Humber may include some waste arising from South Yorkshire due to some waste records being incorrectly assigned to the generic Yorks & Humber group.

Duty to Cooperate matters

160. Following identification of waste movements, relevant WPAs were surveyed, the purpose of which was to: confirm the general scale of movements; gain an understanding of what other WPAs considered as strategic movements; identify any DtC matters; and identify if there were any planning restrictions or other consideration regarding the continuation of movements.
161. The survey return rate was just over half. Where no response has been received this is taken as agreement and that no strategic matters have been identified between the WPA and the South Yorkshire WPAs. Authorities that responded to the DtC survey regarding waste movements included: Cheshire East, Cheshire West & Chester, Durham, East Riding of Yorkshire & Hull City, Essex, Gateshead, Greater Manchester, Hampshire, Hertfordshire, Kent, Kirklees, Leicestershire, Lincolnshire, Leeds, Northamptonshire (North and West), Norfolk, North Yorkshire, Redcar & Cleveland, Sefton St Helens & Knowsley, Staffordshire, Surrey, and Warrington.
162. Overall, responses received agreed with the occurrence and quantum of waste movements as well as the use of the thresholds. Some variance in data was noted, this may be as a result of differences in databases queries and rounding. Overall the general the scale of movements was reflected and agreed upon. Some respondents noted that other WPAs and WTABs had agreed different thresholds, whilst others stated that the thresholds were considered reasonable and suitable. Regarding thresholds agreed at regional or higher levels through practice guides or Memorandum of Understanding (MoU) it should be noted that such documents set out guidance for member WPAs but it remains for the individual WPAs to determine what strategic movements are in order to reflect local circumstances and this should

be based on best available information. Whilst South Yorkshire agree that the thresholds agreed in other regions provide for a useful starting point, such matters should be considered relative to the WPA to determine if such thresholds reflect local circumstances and would therefore provide a view to actual strategic movements and DtC matters. This is because smaller authorities, who generate less waste, would consider lesser quantities significant, whereas this would not be the case for larger authorities or those that accommodate facilities with sub-regional or wider catchment areas.

163. No DtC issues or general planning policy considerations that would affect movements over the reporting period were identified, however it was noted that, in line with national policy, WPAs are seeking to achieve net self-sufficiency and so movements may reduce as treatment capacity increases; however, some movements will still occur due to commercial contracts and operational arrangements. A small number of authorities confirmed that their non-hazardous landfills are now closed and would not be able to take waste in the future. It was acknowledged by several authorities that whilst the aim is to manage waste as close to source as possible there is likely to still be movements of waste around the country and in particular hazardous waste due to the specialist nature of the waste. Most authorities did not feel that there were any strategic matters between the respective authorities but that waste movements would be kept under review. The following responses were of note:

- Network Rail submitted an application for a Transport and Works Act Order in March 2021 to upgrade the Trans Pennine route from Huddersfield to Westtown (Dewsbury). It is envisaged that the construction works for this project could lead to an increase in the amount of CD&E waste originating in the Huddersfield-Dewsbury area and could potentially increase demand for inert recycling, recovery/deposit to land sites/facilities in South Yorkshire.
- One authority (Cheshire West and Chester) did consider the movements between authorities to be strategic but did not identify any specific strategic waste planning matters between the authorities at this time, however, noted that they would like to be a signatory if South Yorkshire were to prepare a Statement of Common Ground (SoCG) regarding waste issues. The existence of waste movements between WPAs does not in itself require a SoCG, the need for a SoCG will be considered and take account of the national policy and guidance.

164. South Yorkshire will continue to work with relevant authorities in relation to waste movements and any strategic waste planning matters as appropriate. It is important to note that commercial contracts are largely outside the WPAs remit, however the Council is committed to planning positively and work with industry to develop the additional capacity to address the WPA areas future needs, and wider needs as appropriate.

Wider waste management needs

Import of wastes and additional capacity

165. As indicated in Table 10 above, South Yorkshire WPAs are a net importer of waste. The import of significant amounts of waste into the South Yorkshire area, and management of residual wastes, demonstrates that the South Yorkshire WPAs are providing for additional waste management capacity of more than local significance. The import and treatment of waste from other WPAs gives rise to residual waste arisings that may also require further treatment and recovery, discussed in the previous section 'Residual arisings' (paragraphs 131 to 139).

London's waste

166. The Draft London Plan, July 2019⁴⁸ reports that in 2015 London produced just under 18 Mt of waste. A total of 11.4 Mt of waste was exported in 2015 with household and C&I waste accounting for 3.449 Mt with the remainder (7.9 Mt) being CD&E waste. Although the Draft London Plan is not an adopted plan this summary provides a useful and consistent basis from which to project future needs on.
167. The adopted London Plan includes the intent to achieve greater net self-sufficiency in London and these are reflected in the Draft London Plan (Policies S17 and S18) including targets to manage as much of London's waste within London as practicable, work towards managing the equivalent of 100% of London's waste within London by 2026, zero biodegradable or recyclable waste sent to landfill by 2026, and recycle/recover 95% of CD&E waste. It also seeks to reduce the proportion of household and C&I waste exported from the capital over time – from 3.449 Mt in 2015 to 1.725 Mt in 2021 and zero by 2026 (onwards).
168. The majority of waste exported from London in 2015 went to WPAs in the East of England and the South East regions. The Yorks & Humber region received a total of 0.294 Mt with a small amount, 0.012 Mt, received in South Yorkshire; less than 1% of London's exported HIC waste. This amount has increased in recent years, with South Yorkshire receiving around 3% (0.057 Mt in 2019 and 0.046 Mt in 2020) of London's non-apportioned HIC waste; predominantly to metal recycling and other treatment (including energy recovery) facilities. Import of non-apportioned household and C&I waste from London has not been identified as a strategic matter for South Yorkshire, particularly as it does not involve disposal. Furthermore, the potential for waste displacement resulting from waste exported from London received to other WPAs (that receive significant amounts of London's non-apportioned HIC waste) affecting South Yorkshire is considered low, evidenced by the scale of identified waste movements.

48 Draft London Plan, July 2019. Refer paragraphs 9.7.2 and 9.8.1, and Table 9.3.

Industry views

169. A survey was undertaken in September to December 2021 to gauge views from the waste management industry (and those of other interested parties) on waste planning matters including current and future market conditions facing South Yorkshire, and emerging waste planning matters. Information was also sought (from operators or their agents) regarding information on existing sites. The survey received a low return rate, however this is fairly typical of this type of survey. This does mean that whilst the opinions shared can be taken account of, they are not representative of industry interests across the South Yorkshire area. A summary of views received is provided below:

- The main areas where opportunities were identified included: the Environment Act and resulting changes that will need to be made to implement the requirements set out in the Act; identification of locations for waste management facilities, in particular materials recycling; commercial waste services; and provision of joint waste management planning and services.
- The main blocks to driving waste up the waste management hierarchy were perceived to be: low demand and lack of incentives (including funding); decisions driven by economics rather than environmental grounds; lack of community support and participation; lack of alternative options for consumers (to reduce waste generation); consumerism and throw-away society; and at a local level, the need to feed EfW plants which may divert waste from other forms of recovery.
- The main blocks to the development of new waste management facilities or increased capacity were perceived to be: lack of incentives and funding; security of contracts (short-term contracts offer low financial security for operators); unimplemented capacity masking actual capacity needs; management/end fate of outputs from treatment processes; and bureaucratic processes and policy (including determination timeframes for planning applications). It was considered that there needed to be more focus on: circular whole-of-life systems; encouraging a move away from disposal; and identification of more opportunities (i.e. allocation of sites and/or locations) for accommodating a wider variety of waste management facilities.
- Locally specific circumstances included: lack of investment in modern infrastructure (to improve separation of recyclates); limited waste management options for diversion of waste; and lack of engagement and community participation.
- Regarding targets, including those that may be set by the Secretary of State under powers of the Environment Act, it was felt that the target for municipal waste of 65% recycling and 10% or less by 2035 is possible however would require a change (diversification) in waste management services provided, but

that South Yorkshire should aspire to these targets. In addition there was considered to be significant gains to be made for C&I wastes, especially food waste. The main challenges to achieving targets included resources, community engagement and participation, and change in waste management services/infrastructure.

- The future focus and emerging trends for waste management were considered to be impacts of the Environment Act, climate change actions, and the minimisation and management of food waste and plastics.
- Regarding the need to account for residual waste arisings (outputs from treatment processes), it was considered that improved reporting of these materials (to the EA) would be beneficial, and that processes such as materials recycling, AD, and EfW would play an important part in further treatment options.
- Regarding uncertainty in policy and the economic climate influencing market conditions and wider policy changes (including Brexit and the Covid-19 pandemic), it was considered that such impacts are difficult to forecast with associated instability being short-term, seeing stabilisation of the market in 5+ years. Specifically relating to pandemic effects, the downturn in the various economic sectors was stated to have had a knock-on effect for related waste streams but this has been experienced differently within the waste management sector e.g. increase in household collections vs. decrease in hospitality sectors. There may be longer term effects of changed working patterns.

Waste management capacity

Estimated existing capacity

170. Existing waste sites operating within the WPA area already contribute towards supporting sustainable communities and meeting future needs. The majority of these facilities are expected to continue to operate throughout the reporting period. The estimated existing waste management capacity is set out in the tables below and is made up from a variety of facilities located throughout the WPA area. Details of waste commitments are set out in Appendix 2.
171. The capacity estimates only capture the capacity of existing sites with extant planning permission.
172. The existing capacity was determined by collating information from several existing sources including council planning application and permission records, operator returns and reports, EA databases (2016 to 2020), EA waste licence and permit registers, and the EA Waste Infrastructure Inventory 2010 as well as officer

estimates⁴⁹ where necessary. Where available, returns for individual sites were collated from EA databases for the period 2016 to 2020. The highest capacity over this five-year period has been taken to be the estimated existing capacity for the site (figures rounded to nearest 1,000 tonnes) and applied over the remaining period (2021 to 2041), unless other available information suggested otherwise (e.g. grant of recent planning permission, planned closure or rationalisation of operator assets).

173. Several planning permissions have recently been granted (mostly in Doncaster); these included permission for an EfW plant (0.300 Mtpa capacity at Kirk Sandall). Note that the capacity of this recent permissions was not been included in the existing capacity or capacity gap calculations. Other recent permission involved extensions in time for existing operations and variations to operations not affecting existing capacity. The WPAs are not aware of any planned closures that would need to be incorporated into capacity projections. Unfortunately updated remaining void space data was not available for one inert recovery site, this means that there may be slightly more existing capacity than is identified in this WNA report; however it is not likely to be a significant amount. Work will continue to update this data with the WNA to reflect this. Planning permission end dates have been applied where applicable.
174. Not all of the estimated existing capacity is utilised year-on-year; this is evidenced by operator returns, which report reduced (or zero) throughput for some years for some sites. However, this capacity is assumed to be available to be utilised or brought online for future years. Estimated capacity may fluctuate over the reporting period in response to planned closures and expiry of planning permission where relevant. Note that where facilities have been identified as transfer stations that also include materials recycling processes 25% of their capacity has been assumed to contribute towards capacity for materials recycling.
175. The information collated on existing capacity and void space fed into determining future needs (the capacity gap) over the reporting period.

49 Officer estimates of capacity are derived from previous experience with the individual site and/or similar sites as well as pers. comm. with the operator.

Table 11: Estimated existing waste management capacity (million tonnes per annum)

Waste hierarchy level	Waste stream	Waste management facility	Estimated capacity
Preparing for reuse and recycling	Mixed	Materials recycling	0.590
	Mixed	Metal recycling and End of life vehicles	1.195
	CD&E	Inert recycling	0.312
	Mixed	Composting	0.086
Treatment and other forms of recovery	Mixed	Mechanical Biological Treatment	0.250
	Mixed	Anaerobic Digestion and other biological treatment	0.054
	Mixed	Energy from Waste	0.739
	Mixed	Other treatment (physical, physical-chemical, chemical, etc.)	0.909
	Hazardous	Other treatment (physical, physical-chemical, chemical, etc.)	0.154
	CD&E	Soil treatment	0.209
Disposal	Mixed	Incineration with no energy recovery	<0.001

Table 12: Estimated existing remaining void space 2021 to 2041 (million tonnes)

Waste hierarchy level	Waste stream	Waste management facility	Estimated void space
Other forms of recovery	CD&E	Inert recovery ^A	3.050
Disposal	Mixed	Non-hazardous landfill	3.025
	Industry specific	Restricted landfill	0.231

A - Updated data was not available for one inert recovery site and so the existing capacity may be slightly more than in the table above. Work is ongoing to address this data gap. In addition, inert materials will be required for engineering and restoration of non-hazardous landfill sites (estimated at 0.751 Mt up to 2041), and planning applications for extension of the permitted end date for two (inert recovery) sites have yet to be determined, if approved these would realise use of an additional 3.2 Mt over the reporting period.

176. In addition, the capacity associated with exempt waste sites⁵⁰ has been analysed. Exemptions require renewal after three years and it is not known if the site is operating and what extent of the capacity is used, therefore any estimate for such capacity comes with a high degree of uncertainty and therefore has not been included in calculations for existing capacity, capacity gap, or future needs. It is estimated that such sites may contribute an additional 0.134 Mt of capacity towards preparing for reuse and recycling, and 0.164 Mtpa of disposal with no energy recovery.

Future needs

177. In order to ascertain future needs the capacity gap must be identified, this is the difference between the existing estimated capacity and the management capacity resulting from forecasts. The future needs represent the capacity required to

⁵⁰ [Register of Waste Exemptions](#)

manage waste appropriately to achieve relevant targets and deliver net self-sufficiency over the reporting period. These should be taken as indicative figures.

178. The indicative future needs (i.e. that needed in addition to the existing estimated capacity) over the reporting period are set out in the tables below.

Table 13: Summary of waste arisings and future needs up to 2041 (million tonnes per annum)

			Indicative total waste management capacity needs				
			2021	2026	2031	2036	2041
Total waste arisings			2.890	3.230	3.375	3.481	3.592
Non-hazardous waste management							
Preparing for reuse and recycling	Materials recycling	Forecast arisings	0.785	0.876	0.933	0.984	1.026
		Existing capacity	1.784	1.784	1.784	1.784	1.784
		Capacity gap	0.999	0.908	0.851	0.800	0.758
	Composting	Forecast arisings	0.105	0.109	0.114	0.119	0.123
		Existing capacity	0.086	0.086	0.086	0.086	0.086
		Capacity gap	-0.019	-0.023	-0.028	-0.033	-0.037
	Inert recycling	Forecast arisings	0.204	0.247	0.259	0.260	0.260
		Existing capacity	0.312	0.188	0.188	0.158	0.158
		Capacity gap	0.108	-0.060	-0.072	-0.102	-0.102
Treatment and other forms of recovery	Treatment and energy recovery ^A	Forecast arisings	0.736	0.775	0.816	0.862	0.909
		Existing capacity	1.702	1.702	1.702	1.702	1.702
		Capacity gap	0.966	0.927	0.886	0.840	0.793
	Soil treatment	Forecast arisings	0.062	0.075	0.079	0.079	0.079
		Existing capacity	0.209	0.209	0.209	0.127	0.127
		Capacity gap	0.147	0.134	0.130	0.048	0.048
Other recovery	Inert recovery ^B	Forecast arisings	0.643	0.797	0.845	0.845	0.845
		Existing capacity	0.800	0.285	0.045	0.045	0.045
		Capacity gap	0.157	-0.512	-0.800	-0.800	-0.800
Non-hazardous waste disposal							
Disposal - Non-hazardous landfill		Forecast arisings	0.192	0.177	0.150	0.143	0.147
		Existing capacity	0.300	0.200	0.200	0.000	0.000
		Capacity gap	0.108	0.023	0.050	-0.143	-0.147
Hazardous waste management							
Recovery and treatment		Forecast arisings	0.140	0.152	0.161	0.172	0.185
		Existing capacity	0.154	0.154	0.154	0.154	0.154
		Capacity gap	0.014	0.002	-0.007	-0.018	-0.031
Disposal - Hazardous landfill		Forecast arisings	0.015	0.011	0.012	0.013	0.014
		Existing capacity	0.000	0.000	0.000	0.000	0.000
		Capacity gap	-0.015	-0.011	-0.012	-0.013	-0.014

A - Treatment and energy recovery refer to AD, EfW, and other physical/chemical treatment processes.

B - Available data indicates that, within South Yorkshire, inert waste that may elsewhere be disposed of to inert landfill is recovered through deposit of inert waste to land for beneficial purposes such as restoration of mineral extraction sites with extant planning permission. Updated data was not available for one inert recovery site and so the existing capacity may be slightly more than in the table above. Work is ongoing to address this data gap. In addition, inert materials will be required for engineering and restoration of non-hazardous landfill sites (estimated at 0.070 Mtpa up to 2025, 0.110 Mtpa 2025-2027, and 0.030 Mtpa

2028-2033), and planning applications for extension of the permitted end date for two (inert recovery) sites have yet to be determined, if approved these would realise use of an additional 3.2 Mt over the reporting period; further reducing inert recovery capacity gaps.

179. Overall, South Yorkshire is making good progress towards achieving net self-sufficiency for waste management. Existing facilities provide for more than sufficient capacity with regards to net self-sufficiency for preparation for reuse and recycling, treatment and energy recovery, and soil treatment over the reporting period, and inert recycling up to 2025. When viewed in terms of total arisings and existing capacity South Yorkshire currently provides waste management capacity that exceeds total arisings; the majority of this capacity is associated with facilities for preparation for reuse and recycling, and treatment and energy recovery.

Addressing the capacity gaps and potential need for facilities

180. Capacity gaps have been identified for composting, inert recycling, inert recovery, and non-hazardous (including SNRHW) landfill, as well as hazardous recovery and treatment, and hazardous landfill.
181. Based on the indicative future waste management capacity needs identified in the table above, there is potential, dependant on the scale of the individual facilities and processes employed, for the following facilities to be provided within the South Yorkshire area: composting (or other biological treatment processes), inert recycling, and inert recovery associated with restoration (e.g. colliery or mineral extraction sites). In addition, given the significant amounts of residues arising from treatment processes (from facilities located within South Yorkshire), facilities for further recovery and treatment of residues (arising as outputs from treatment processes) may support the waste management hierarchy and further diversion of waste from landfill.
182. The capacity gaps change slightly when the possible municipal waste targets (65% recycled by 2035) provided for through the Environment Act are applied. Application of this target results in additional need for composting (or other biological treatment process) of 0.052 Mtpa by 2041, increasing the capacity gap to 0.089 Mt. This target would also see an increase in materials recycling (around 0.107 Mtpa) and a decrease in treatment and energy recovery (around 0.160 Mtpa) by 2041; however there is sufficient existing capacity to accommodate these increases (with regards to net self-sufficiency) and so this would not create a deficit in capacity.
183. The estimated total future needs (void space) for deposit to land and disposal from 2021 to 2041 for waste arisings are:
- inert recovery (deposit of inert waste to land for beneficial purposes) 16.949 Mt (includes inert landfill that could be diverted to inert recovery),
 - non-hazardous (including SNRHW) landfill 3.362 Mt, and
 - hazardous landfill 0.262 Mt.
184. The available permitted void space (2021 to 2041) for inert recovery is 3.841 Mt, resulting in a total capacity gap of 13.108 Mt, however, this may be reduced by the following factors: planning applications for extension of the permitted end date for

two sites have yet to be determined, if approved these would realise use of an additional 3.2 Mt over the reporting period; updated remaining void space data was not available for one inert recovery site and so the existing capacity is likely to be slightly more than in the table above; there is a need for an estimated total 0.751 Mt of inert material for the restoration of non-hazardous landfill; and inert material will be required for the restoration of existing and future mineral extraction sites within the South Yorkshire area. Together, these are likely to provide a significant portion of the identified capacity gap for inert recovery. Inert materials are highly recoverable and much sought after to facilitate the restoration of permitted mineral extraction sites. Such sites in neighbouring WPAs may also seek to take up some of the inert waste identified for inert recovery in order to facilitate restoration.

185. The available void space (2021 to 2041) for non-hazardous landfill is 3.025 Mt, resulting in a total capacity gap of 0.337 Mt. Estimates for residual waste arisings (from the South Yorkshire area) indicate potential for arisings of around 2 Mt that may be disposed of to landfill over the period 2021 to 2041. This would result in a capacity gap of around 2.5 Mt for non-hazardous landfill, however, there is potential for further treatment and recovery of residual wastes. Figures for residual waste arising estimates are heavily caveated owing to uncertainty in data and future management methods.
186. The appropriateness of South Yorkshire to accommodate extensions to existing non-hazardous landfill or additional capacity for hazardous recovery and treatment would need to be determined on a site by site basis and in compliance with adopted development management policies. Given current trends within the waste management sector (rationalisation of assets and market responses to demand for disposal) some of the future needs for such capacity is likely to continue to be met at facilities outside of the South Yorkshire area, i.e. through the continued export of waste to other WPA areas. No strategic or DtC matters have been identified in relation to the principle or continuation of such movements, however it was noted that some sites were coming to the end of their life (refer Appendix 2). Ongoing monitoring of waste movements particularly for disposal to non-hazardous landfill (including residues), and continued working with relevant WPAs regarding strategic waste planning matters will be necessary to ensure that wastes are managed, and that any necessary capacity planned for, appropriately.
187. Potential additional capacity needs resulting from residual waste arisings⁵¹ from waste treatment processes (of waste arising from within the WPA area) that may require further treatment and/or disposal over the period 2020 to 2041 are estimated below:
 - treatment (including energy recovery) 0.089 Mtpa at 2021 increasing up to 0.115 Mtpa by 2041,
 - metal recycling 0.010 Mtpa at 2021 increasing up to 0.012 Mtpa by 2041,

⁵¹ Such arisings are heavily dependent on future waste management trends and methods, operational efficiencies, and other market factors.

- Incinerator Bottom Ash (IBA) processing 0.086 Mtpa at 2021 increasing up to 0.106 Mtpa by 2041,
 - non-hazardous (including SNRHW) landfill of around 2 Mt over the period 2021 to 2041, and
 - hazardous disposal of around 0.500 Mt over the period 2021 to 2041.
188. In addition, there may be a need for capacity for the treatment of residual wastes arising produced as an output from the processing of waste from other WPAs imported into the South Yorkshire area, this may account for around 0.650 Mtpa by the end of the reporting period (2041). Note that there is considerable uncertainty in quantifying residual wastes and forecasting these (refer paragraphs 131 to 139). The import of significant amounts of waste into the South Yorkshire area, and management of residual wastes, demonstrates that the South Yorkshire WPAs are providing for additional waste management capacity of more than local significance.
189. It is recognised that future disposal requirements will be significantly different to that of the past, with new technologies and processes diverting more waste and reducing the need for residual wastes to be disposed of to landfill. This creates somewhat of a moving target and highlights the need for continual monitoring of disposal, including disposal of residues, to ensure that wastes are managed, and any necessary capacity planned for appropriately. It is also likely that a significant amount of the residual waste for disposal to landfill could be recovered by other treatment processes.

Conclusion

190. Current waste arisings⁵² for South Yorkshire are estimated to total just under 3 Mtpa; this includes municipal, C&I, CD&E, and hazardous wastes. Forecasts indicate that waste arisings could increase to just over 3.5 Mtpa by the end of the reporting period (2041). Current management methods achieve overall rates of around 93% for total recovery (including recycling) and 7% for disposal. Forecasts indicate that South Yorkshire could achieve a total recovery rate (including recycling) of over 95% by 2030. In addition, residual wastes, occurring as outputs from waste treatment processes, will continue to arise and require management, such wastes were estimated for 2020 to be in the region of 0.300 Mt for waste originating from South Yorkshire and 0.400 Mt for residual waste arising from imports that are processed within South Yorkshire. This waste may require additional management capacity to maximise further recovery and diversion from landfill.

⁵² Refers to as managed waste arisings.

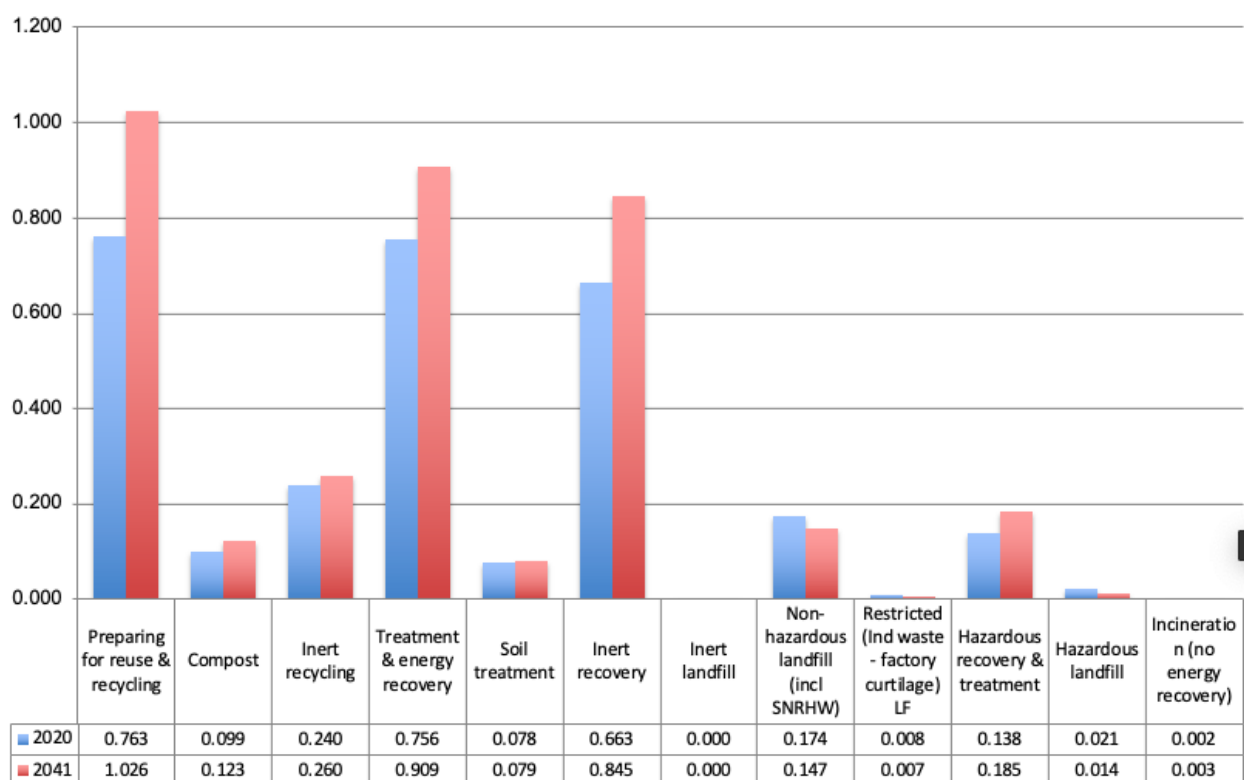


Figure 1: Waste arisings and management methods in 2020 compared to that in 2041 (million tonnes per annum)

191. Overall, South Yorkshire is making good progress towards achieving net self-sufficiency for waste management. Existing facilities provide for more than sufficient capacity with regards to net self-sufficiency for preparation for reuse and recycling, treatment and energy recovery, and soil treatment over the reporting period, and inert recycling up to 2025. When viewed in terms of total arisings and existing capacity South Yorkshire currently provides waste management capacity that exceeds total arisings; the majority of this capacity is associated with facilities for preparation for reuse and recycling, and treatment and energy recovery.
192. Capacity gaps have been identified for composting, inert recycling, inert recovery, and non-hazardous (including SNRHW) landfill, as well as hazardous recovery and treatment, and hazardous landfill.
193. There is a potential, dependant on the scale of the individual facilities and processes employed, for the following facilities to be provided within the WPA area: composting (or other biological treatment processes), inert recycling, and inert recovery associated with restoration (e.g. colliery or mineral extraction sites). In addition, given the significant amounts of residues arising from treatment processes (from facilities located within South Yorkshire), facilities for further recovery and treatment of residues (that arise as an output from waste management processes) may support the waste management hierarchy and further diversion of waste from landfill. The appropriateness of South Yorkshire to accommodate extensions to existing non-hazardous landfill or additional capacity for hazardous recovery and

treatment facilities would need to be determined on a site by site basis and in compliance with adopted development management policies.

194. Whilst the aim for South Yorkshire, and more widely within England, is to move towards achieving net self-sufficiency for waste management, cross-boundary movements will continue to occur (both imports and exports). No strategic or DtC matters have been identified in relation to the principle or continuation of such movements, however it was noted that some disposal sites within South Yorkshire are coming to the end of their operational life (refer Appendix 2).
195. Ongoing monitoring of waste movements and remaining void space, particularly for disposal to non-hazardous landfill (including residues), and continued working with relevant WPAs regarding strategic waste planning matters will be necessary to ensure that wastes are managed, and that any necessary capacity planned for, appropriately.

Appendix 1: Municipal waste management contracts

Table A1.1: Summary of municipal waste management contracts

	Barnsley	Doncaster	Rotherham	Sheffield
Collection	In house	Suez	In house	Veolia
Residual	BDR PFI MBT/AD Renewi Ends 2040 (can be extended to 2045)			Sheffield's ERF Veolia PPP Ends 2038
HWRC	FCC joint contract with BDR Ends October 2023 Element of reuse included			Subcontracted to Veolia UK Ends 2038
Garden waste	Jack Moody Recycling Ltd Ends 31 March 2026 (potential to extend to 2028)	Freeland Horticulture Ends 2023 (potential to extend to 2025)	Biowise Limited T/A Wastewise Awarded 2020 ends 2023 with the potential to extend by 2 x 12 months	Veolia PPP Ends 2036 Disposal subcontracted to Freeland Horticulture
Paper and card	Kerbside - Palm Recycling Extended to 2023	Dealt with through SUEZ Contract Ends 2026	Veolia ES, Beighton to recycle Paper and Cardboard Ends 2024 (potential to extend to 2026)	Veolia PPP Ends 2038
Mixed dry recycling	GRUK Recycling Ends 2023	Dealt with through SUEZ Contract Ends 2026	HW Martin ES, to Recycle Glass Bottles, Steel and aluminium tins and cans + plastic Bottles, Pots Tubs and trays and Textiles Ends 2024 (potential to extend to 2026)	Veolia PPP Ends 2038
Commercial waste residual only	BDR PFI MBT/AD Renewi Ends 2040	BDR PFI MBT/AD Renewi Ends 2040	In-house collection Disposal BDR PFI MBT/AD Renewi Ends 2040	

Appendix 2: Waste management sites with extant planning permission

Table A2.1: Barnsley - Waste management sites with extant planning permission

Site	Operator	Location / Address
Household waste recycling centres and transfer sites		
Nicholas Lane HWRC (Goldthorpe HWRC)	F C C Recycling (UK) Limited	Goldthorpe HWRC, Nicholas Lane, Goldthorpe, Barnsley, South Yorkshire, S63 9AS,
Springvale HWRC (Penistone HWRC)	F C C Recycling (UK) Limited	Penistone HWRC, Sheffield Road, Springvale, Penistone, Barnsley, South Yorkshire, S36 6HJ,
West Street Worsbrough HWRC (Warren Vale HWRC)	F C C Recycling (UK) Limited	West Street HWRC, West Street, Worsbrough, Barnsley, South Yorkshire, S70 5DJ,
Smithies Lane HWRC	Sampson Roger	Smithies Lane HWRC, Smithies Lane, Smithies, Barnsley, South Yorkshire, S71 1NL,
Jakto Transport Ltd	Jakto Transport Ltd	Barnsley Main Colliery Site, Oaks Lane, Stairfoot, Barnsley, South Yorkshire, S71 1HJ,
Boulder Bridge Lane Site	Mr Derek Heeley & Mr Melvin Corbett	Boulder Bridge Lane Site, Boulder Bridge Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
J Edwards Waste Management Ltd	J Edwards Waste Management Ltd	Lidget Lane Ind Est, Albion Drive Thurnscoe, Rotherham, South Yorkshire, S63 0BA
Grange Lane Transfer Station	Renewi UK Services Limited	Grange Lane Transfer Station, Grange Lane, Stairfoot, Barnsley, South Yorkshire, S71 5QQ,
Materials recycling facilities		
Hazelhead EPR/QP3238EP	R Plevin and Sons Limited	R Plevin and Sons Limited, Hazlehead, Crow Edge, South Yorkshire, S36 4HG,
Metal recycling, End of Life Vehicles, and car breakers		
P J Plant & Equipment	P J Plant & Equipment Ltd	39 Brierley Road, Shafton, Barnsley, South Yorkshire, S72 8QW,
Becketts Yard	Beckett C K	Becketts Yard, Boulder Bridge Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Land At Boulder Bridge Lane	Sims Group UK Ltd	Land At, Boulder Bridge Lane, Off Shaw Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,

Site	Operator	Location / Address
J Blackburn & Sons Ltd	J Blackburn & Sons Ltd	Units 27 & 28 Wharnccliffe Business Park, Longfields Road, Carlton, Barnsley, South Yorkshire, S71 3HT,
Wallis Metals	Wallis James	Rear Of Greyhound Stadium, Nicholas Lane, Goldthorpe, Barnsley, South Yorkshire, S63 9AS,
Geoff Ripley	Ripley, Geoff	Boulder Bridge, Shaw Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Lowfield Road Dismantlers	Lowfield Road Dismantlers Ltd	Lowfield Road, Bolton-on-dearne, Rotherham, South Yorkshire, S63 8JD,
Number 1 Autosalvage	Number 1 Autosalvage	Land/premises at Lowfield Road, Bolton On Dearne, Barnsley, South Yorkshire, S63 8JD,
Parton & Allen	Parton & Allen	Land/premises At, Boulder Bridge Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Warwick Ward (machinery) Ltd	Warwick Ward Machinery Ltd	Land / Premises At, Blacker Hill Sidings, Blacker Hill, Barnsley, South Yorkshire, S74 ORE,
Welbourn Car Dismantlers	Welbourn Paul	Welbourn Car Dismantlers, Boulder Bridge Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Trevor Wigley & Son Bus Ltd.	T. Wigley & Son Bus Limited	Boulder Bridge Lane, Off Shaw Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
B H Scrap Metals, Forge Lane	B H Scrap Metals Ltd	1 Low Forge, Wortley, Sheffield, South Yorkshire, S35 7DN,
Bulk Metals Ltd	Bulk Metals Limited	Laurence Works Ind Estate, Springvale, Penistone, South Yorkshire, S36 6HF,
Q N Q Motor Services UK Ltd	Qualter-Smith Paul Anthony	1 West Road, Pogmoor Barnsley S75 2DH (EA address: Mapplewell Industrial Park, Mapplewell Drive, Mapplewell)
Maxis Trading Ltd	Maxis Trading Ltd	Beever Street, Goldthorpe, Rotherham, South Yorkshire, S63 9HT
S R S Automotive Ltd	S R S Automotive Ltd	Unit 3, Carbon Court, Spring Vale Road, Park Springs, Barnsley, South Yorkshire, S72 7FF
Inert recycling		
Land At Junction Of Pontefract Road And Burton Road	Sealquest Limited	Land At Junction Of, Pontefract Road & Burton Road, West Green, Barnsley

Site	Operator	Location / Address
Whaley Road	Wordsworth Crushing Ltd	Wordsworth Crushing Ltd, Whaley Road, Low Barugh, Barnsley, South Yorkshire, S75 1HT,
Compost		
NA		
Other forms of treatment		
Carlton Road Site	Glass Recycling (UK) Ltd	418 Carlton Road, Carlton, Barnsley, South Yorkshire, S71 3HX,
The Cullet Yard	G B Cullet Limited	Mitchell's Enterprise Park, Off Bradbury Balk Lane, Wombwell, Barnsley, South Yorkshire, S73 8HR,
C K Beckett Oil Processing	C K Beckett	Boulder Bridge Lane, Carlton, South Yorkshire, S71 3HJ,
Mobile Plant S R 2010 No4	J G Pears (Newark) Limited	Bella Vista Farm, Penistone, Barnsley, South Yorkshire, S36 9FN,
Mobile Plant S R 2010 No5	Pickford Contracting Ltd	
Soil treatment		
Unit 7	G M M Multi Utilities Limited	Unit 7, Peel Place, Barnsley, South Yorkshire, S71 1LU,
Caulfield Concrete Yard Former D T S Recycling Centre	Shaw Lane Aggregates And Recycling Limited	Shaw Lane Est Boulder Bridge, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Inert recovery		
Former Carlton Colliery Site	Portward Homes Limited	Former Carlton Colliery Site, Shaw Lane, Carlton, Barnsley, South Yorkshire, S71 3HJ,
Disposal		
NA		

Table A2.2: Doncaster - Waste management sites with extant planning permission

Site	Operator	Location / Address
Household waste recycling centres and transfer sites		
Bootham Lane HWRC	F C C Recycling (UK) Limited	Bootham Lane HWRC, Bootham Lane, Dunscroft, Doncaster, South Yorkshire, DN7 4JT,
Carcroft HWRC Site	F C C Recycling (UK) Limited	Carcroft HWRC Site, Bentley Moor Lane, Carcroft, Doncaster, South Yorkshire, DN6 7BD,
Conisbrough HWRC	F C C Recycling (UK) Limited	Conisbrough HWRC, Crookhill Road, Conisbrough, Doncaster, South Yorkshire, DN12 2AE,
Rossington HWRC	F C C Recycling (UK) Limited	Rossington HWRC, Bankwood Lane Ind Est, Rossington, Doncaster, South Yorkshire, DN11 0PS,
Springwell Lane / Balby HWRC	F C C Recycling (UK) Limited	Springwell Lane HWRC, Springwell Lane, Balby, Doncaster, South Yorkshire,
Armthorpe HWRC	F C C Recycling (UK) Limited	Armthorpe HWRC, Armthorpe Road, Pot Hill Armthorpe, Doncaster, South Yorkshire, DN2 5QB,
White Rose Recycling Centre	Forward Environmental Limited	Whitelea Grove Industrial Estate, Swinton, Mexborough, South Yorkshire, S64 9QP
C H Middleton Limited	C H Middleton Ltd	65 / 71 Sprotbrough Road, Sprotbrough, Doncaster, South Yorkshire, DN5 8BW,
Armthorpe Recycling Centre	Yorkshire Aggregates Limited	Armthorpe Recycling Centre, Holme Wood Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3EH,
Dave Shaws Waste Transfer Station Inc: Quickskip	Shaw Dave	Land/ Premises At, Clay Lane West, Long Sandall, Doncaster, South Yorkshire, DN2 4RA,
Doncaster Waste Transfer Station	Suez Recycling And Recovery UK Ltd	Doncaster Waste Transfer Station, Sandall Stones Road, Kirk Sandall Ind Est, Doncaster, South Yorkshire, DN3 1QR,
Dumpall Skip Hire	Remondis Doncaster Limited	Land/premises At, Clay Lane, Kirk Sandall, Doncaster, South Yorkshire, DN2 4RD,
The Haven Works	Thompson Fuels & Skip Hire Services Ltd	The New Depot, Naylor Street, Parkgate, South Yorkshire, S62 6BP
Materials recycling facilities		
Bankwood Lane Industrial Estate	Attero Recycling Ltd / Eco Power	Bankwood Lane Industrial Est, Bankwood Lane, Rossington,

Site	Operator	Location / Address
	Environmental Limited	Doncaster, South Yorkshire, DN11 0PS,
J J Miller Skip Hire	Miller Jason	J J Miller Skip Hire, Hop Hills Lane, Dunscroft, Doncaster, South Yorkshire, DN7 4JX,
Unit 3 & 4 Plot 7	Skip 2 It Doncaster Ltd	Unit 3 & 4 Plot 7, 17, Clayfield Industrial Estate, Doncaster, South Yorkshire
Whitelea Grove Ind Est	Betapack Compliance Scheme Ltd	Whitelea Grove Industrial Estate, Swinton, Mexborough, South Yorkshire, S64 9QP
H M P Hatfield	Recycling Lives (Social Enterprises) Limited	H M P Hatfield, Thorne Road, Doncaster, South Yorkshire, DN7 6EL,
Metal recycling, End of Life Vehicles, and car breakers		
Balby Dismantlers	Phillips Keith	Railing Sidings, Greenfield Lane, Balby, Doncaster, South Yorkshire, DN4 0PW,
Cf Booth (Doncaster) Ltd	C F Booth (Doncaster) Ltd	Land/premises At, Wharf Road, Off Milethorn Lane, Doncaster, South Yorkshire, DN1 2ST,
Ken Urwin Motorcycles Ltd	Ken Urwin Motorcycles Ltd	60 King Street, Thorne, Doncaster, South Yorkshire, DN8 5BA,
Markham Metals	Pritchard David J	Markham Metals, Barton Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3AA,
Queens Road Garage	Seymour Raymond	Willow Garth, Off Queens Road, Askern, Doncaster, South Yorkshire, DN6 0LU,
Synetiq Limited	Synetiq Limited	Land/premises At, Bentley Moor Lane, Adwick - Le - Street, Doncaster, South Yorkshire, DN6 7BD,
Bankwood Lane	Morris & Co (Handlers) Limited	New Rossington, Doncaster, South Yorkshire, DN11 0PS,
F Hird & Son	Hird Thomas Charles	Land/premises At, Barton Lane, Armthorpe, Doncaster, South Yorkshire, DN3 3AB,
Carr Hill Brass Foundry EPR/BM1091IW	Pegler Ltd	St Catherine's Avenue, Doncaster, DN4 8DF,
G A Motor Spares	Abeysekera Gary	Unit 2 Ash Holt Ind Park, Bank End Road, Blaxton, Doncaster, South Yorkshire, DN9 3NT,
Yorkshire Metal Recycling	Yorkshire Metal Recycling Ltd	Yorkshire Metal Recycling, Sandall Stones Road, Kirk Sandall, Doncaster, South Yorkshire, DN3 1QR,

Site	Operator	Location / Address
Yorkshire Metal Recycling Ltd	Yorkshire Metal Recycling Ltd	Yorkshire Metal Recycling, Sandall Stones Road, Kirk Sandall, Doncaster, South Yorkshire, DN3 1QR,
Inert recycling		
Finningley Quarry Waste Facility	Tetron Finningley Llp	Old Bawtry Road, Austerfield, Doncaster,
Tudworth Recycling Centre	Grantham Industries Limited	Tudworth Recycling Centre, Tudworth Road, Hatfield, Doncaster, South Yorkshire, DN7 6HQ,
Wheatley Cullet Processing Plant	URM (UK) Limited	Land/premises At, Barnby Dun Road, Doncaster, South Yorkshire, DN2 4RH,
Bank End Quarry	Blaxton Aggregates Limited	Bank End Quarry, Bank End Road, Blaxton, Doncaster, South Yorkshire, DN9 3AN,
Carcroft Recycling Centre	Doncaster Metropolitan Borough Council	Carcroft Recycling Centre, Brooklands, Doncaster, South Yorkshire, DN6 7BA,
Doncaster Wood Yard	Network Rail Infrastructure Limited	Land At Doncaster Wood Yard, Ten Pound Walk, Doncaster, South Yorkshire, DN4 5HX,
Holme Hall Quarry Landfill And Recycling	Breedon Southern Limited	Holme Hall Recycling, Stainton, Maltby, Rotherham, South Yorkshire, S66 7RD,
Compost		
Wroot Road Composting Facility	Freeland Horticulture Limited	Wroot Road Quarry, Wroot Road, Finningley, Doncaster, South Yorkshire, DN9 3DU,
Other forms of treatment		
Brier Hills Farm	Brier Hills Recycling Ltd	Brier Hills Farm, Brier Hills Lane Off Stainforth Moor Road, Hatfield, Doncaster, South Yorkshire, DN7 6HA,
Kirk Sandall Thermal Treatment Plant	Trackwork Ltd	Sandall Lane, Kirk Sandall Ind Est, Doncaster
Markham Grange Nursery And Steam Museum	Nuttall Victor	Markham Grange Nursey And Steam Museum, Long Lands Lane, Brodsworth, Doncaster, South Yorkshire, DN5 7XB,
Thorpe Marsh Oil Management Unit EPR/HP3038MR	National Grid Electricity Transmission Plc	Thorpe Marsh 275 Substation, Thorpe Bank, Barnby Dun, South Yorkshire, DN3 1ET,
A One+ Integrated Highways Services Gulley Waste Treatment Facility	Colas Ltd, Halcrow Group Ltd & Costain Ltd	Sprotborough Motorway Depot, Melton Road, Sprotborough, Doncaster, South Yorkshire, DN5 7PY,

Table A2.3: Rotherham - Waste management sites with extant planning permission

Site	Operator	Location / Address
Household waste recycling centres and transfer sites		
Carr Hill HWRC	FCC Recycling (UK) Limited	Greasbrough Road, Greasbrough, Rotherham, South Yorkshire, S61 4QL,
Lidget Lane HWRC	FCC Recycling (UK) Limited	Ravenfield, Rotherham, South Yorkshire, S65 4LY,
Magilla HWRC	FCC Recycling (UK) Limited	Common Road, North Anston, Rotherham, South Yorkshire, S25 4AH,
Warren Vale HWRC	FCC Recycling (IUK) Limited / W Maw Recycling Ltd	Warren Vale Road, Rawmarsh, Rotherham, South Yorkshire, S62 7RW,
Roy Hatfield Limited	Roy Hatfield Limited	Roy Hatfield Limited, Fullerton Road, Brinsworth, Rotherham, South Yorkshire, S60 1DH,
Rotherham Waste Oils - EPR/KP3732KJ	Rotherham Waste Oils Ltd	Quarry Oil Depot, Kilnhurst Road, Kilnhurst, South Yorkshire, S64 5TL,
W Maw	W Maw Recycling Limited	W Maw Recycling Ltd, Steel Street, Holmes, Rotherham, South Yorkshire, S61 1DF,
Safety Kleen	Safety Kleen UK Ltd	Safety Kleen UK Ltd, Bookers Way, Todwick Road Industrial E, Dinnington, South Yorkshire, S25 3SH,
K C M Metals & Skip Hire	Hickling Charles Philip & Keith Mark	Effingham Mills, Ginhouse Lane, Rotherham, South Yorkshire, S61 4QN,
Milltol Ltd	Milltol Ltd	Land/ Premises At, Yard Off Steel Street, Holmes Ind Est, Rotherham, South Yorkshire, S61 1DF,
Ronald Hull Jnr Ltd	Ronald Hull Jnr Ltd	Mangham Road, Parkgate, Rotherham, South Yorkshire, S62 6EF,
T D E Enterprises	T D E Enterprises Ltd	Transfer Station, Holmes Industrial Estate, Rotherham, South Yorkshire, S61 1DF
The Foundary	T K Lynskey (Excavations) Ltd	The Foundary, Common Lane, Wath Upon Dearne, Rotherham, South Yorkshire, S63 7DX,
Materials recycling facilities		
The Glassworks	Beatson Clark Limited	The Glassworks, Greasbrough Road, Rotherham, South Yorkshire, S60 1TZ,

Site	Operator	Location / Address
Kniveton (UK) Ltd	Kniveton (UK) Ltd	North Drive, Northfield Ind Est, Greasborough Road, Rotherham, South Yorkshire, S60 1QF,
Rapid Skips	Mr Luke Brown And Mr Darren Brown	Yard 2, School Lane, Parkgate, Rotherham, South Yorkshire, S62 6FH,
SME Metal and Recycling	S M E Environmental Services Ltd	Unit 1, Lloyd Street, Parkgate, Rotherham, South Yorkshire, S62 6JG,
Crown Works	Veolia Environmental Services	Crown Works, Rotherham Road, Beighton, S20, 1AH
Metal recycling, End of Life Vehicles, and car breakers		
Arrowzone Ltd	Arrowzone Ltd	Mangham Works, Mangham Road, Parkgate, Rotherham, South Yorkshire, S62 6EF,
C F Booth Ltd	C F Booth Ltd	Clarence Metal Works, Armer Street, Rotherham, South Yorkshire, S60 1AF,
Cupola Works	Collins W	Land/premises At, Masbrough Street, Rotherham, South Yorkshire, S60 1ER,
E L G Utica Alloys Limited	E L G Utica Alloys Limited	Unit 1, Adwick Park, Manvers, Rotherham, South Yorkshire, S63 5AB,
European Asian Metal Limited	European Asian Metal Limited	European Asian Metal, North Drive Road, Northfield Industrial Est, Rotherham, South Yorkshire, S60 1QF,
London Wiper Company Limited	T/a Universal Recycling Company / Remet Processing Ltd	Wharf Road, Kilnhurst, Mexborough, South Yorkshire, S64 5SY,
Milltol Ltd	Milltol Ltd	Land/ Premises At, Yard Off Steel Street, Holmes Ind Est, Rotherham, South Yorkshire, S61 1DF,
Rotherham Metals Recycling Facility	S J M Alloys And Metals Ltd	Unit 10 Mangham Road, Barbot Hall Industrial Es, Rotherham, South Yorkshire, SE62 6EF,
Sims Group UK Ltd	Sims Group UK Ltd	Hill Brooks Works, Ulley Lane, Aston, Sheffield, South Yorkshire, S26 2DR,
Cronimet (G B) Limited	Cronimet (Great Britain) Limited	Cronimet (G B) Limited, Greasbrough Road, Rotherham, South Yorkshire, S60 1RW,
Bradgate Motors	Bradgate Motors	Land/premises At, Wortley, Rotherham, South Yorkshire, S61 1JP,

Site	Operator	Location / Address
Mitzy Bitz	Trade & Save Imports Limited	2/3 Gateway Close, Parkgate, Rotherham, South Yorkshire, S62 6LJ,
D S M C Salvage	Wilkinson Daniel	Unit 2 A, Job Lot Business Park, Canklow Road, Rotherham, South Yorkshire, S60 2JF,
M L B Autospares Limited	M L B Autospares Limited	Kilnhurst Road, Kilnhurst, Rotherham, South Yorkshire, S64 5TL,
K B P Vauxhall	Manton Wayne	Kilnhurst Business Park, 5b Glasshouse Lane, Kilnhurst, Rotherham, South Yorkshire, S64 5TH,
Waste And Salvage	Rotherham Car And Van Breakers Ltd	Waste And Salvage, Aldwarke Road, Parkgate, Rotherham, South Yorkshire, S62 6BZ,
Vass Group Ltd	Vass Group Limited	Thames House, Thames Street, Rotherham, South Yorkshire, S60 1LU,
Inert recycling		
G Morley Limited	G Morley Limited	Midland Street, Off Rotherham Street, Parkgate, Rotherham, South Yorkshire, S62 6EA,
Plot 6 Top Yard (Rapid Aggregates)	Rehill Wallslough Ltd	Plot 6 Top Yard (Rapid Aggregates), Steel Street, Rotherham, South Yorkshire, S61 1DF,
Aldwarke Terrace	Ronald Hull Jnr Limited	Aldwarke Terrace, Aldwarke Road, Parkgate, Rotherham, South Yorkshire, S62 6BX,
Shaws Waste Recycling Limited	Shaws Waste Recycling Ltd	The Recycling Centre, Derwent Way, Wath West Ind Estate, Wath Upon Dearne, South Yorkshire, S63 6EX
Compost		
Gorsefield Farm Compost Facility	Gorsefield Farm Ltd	Gorsefield Farm, Lidget Lane, Bramley, Rotherham, South Yorkshire, S65 4LY,
Other forms of treatment		
Renewi BDR Waste Treatment Facility	Renewi UK Services Limited	Bolton Road, Manvers, Rotherham, South Yorkshire, S63 7LL,
Aldwarke WWTW	Yorkshire Water Services Ltd	Aldwarke Wwtw, Aldwarke Lane, Rotherham, South Yorkshire, S65 3SR,
Templeborough Biomass Power Plant EPR/GP3433WS	Templeborough Biomass Power Plant Limited /	Templeborough Biomass Power Plant, River View, Rotherham, S60 1FA

Site	Operator	Location / Address
	Babcock & Wilcox Volund Limited	
Liberty Specialty Steel	Harsco Metals Group Ltd	Speciality Steel, Aldwarke Lane, Rotherham, S65 3SR
Steelphalt - EPR/VP3736DH	Harsco Metals Group Ltd	Steelphalt, Sheffield Road, The Ickles, South Yorks, S601DR,
Stobart Biomass	Stobart Biomass Products Limited	Stobart Biomass, North Drive, Rotherham, S60 1QF
Bio UK Fuels, Unit 3 The Ickles	Bio-UK Fuels (Sheffield) Limited	Unit 3, The Ickles, Sheffield Road, Rotherham, South Yorkshire, S60 1DP,
Hazardous waste treatment		
Ron Hull Jnr Ltd Waste Transfer & Treatment Facility	Ronald Hull Jnr Ltd	Mangham 80, Mangham Road, Parkgate, Rotherham, South Yorkshire, S62 6EF,
Woodland Environmental Services	Woodland Oil Limited	The New Depot, Naylor Street, Parkgate, South Yorkshire, S62 6BP
Soil treatment		
Waverley Soil Treatment Facility	Red Materials Limited	Orgreave Road, Catcliffe, Rotherham, South Yorkshire, S13 9XQ
Inert recovery		
Maltby Colliery	Maltby Restoration Limited	Maltby Colliery, Tickhill Road, Maltby, Rotherham, South Yorkshire, S66 7QW,
Waverley New Community	Pure Land Developments Limited	Waverley New Community, Orgreave Road, Catcliffe, Rotherham, South Yorkshire, S60 5TG,
Fishing Pond At Swallownest	Golden Lakes Limited	Fishing Pond At, Swallownest, Sheffield, South Yorkshire, S26 4TL
Thurcroft Old Plant Area	B D R Waste Disposal Ltd	Thurcroft Landfill, Kingsforth Lane, Thurcroft, Rotherham, South Yorkshire
Disposal		
Oxbow Pond <i>* Non-hazardous landfill, void space nearing depletion (before 2025).</i>	Liberty Steel Group	S60 1DW

Table A2.4: Sheffield - Waste management sites with extant planning permission

Site	Operator	Location / Address
Household waste recycling centres and transfer sites		
Smithies Lane Household Waste Recycling Centre	FCC Recycling (UK) Limited	59 Spital Hill, Sheffield, South Yorkshire, S4 7LD,
Beighton Recycling Centre	Veolia E S Sheffield Ltd	Land/ Premises At, Beighton, Sheffield, South Yorkshire, S20,
Blackstock Road Recycling Facility	Veolia E S Sheffield Ltd	Land/ Premises At, Blackstock Road, Gleadless, Sheffield, South Yorkshire, S14 1LW,
Deepcar Recycling Centre	Veolia E S Sheffield Ltd	Land/ Premises At, Manchester Road, Deepcar, Sheffield, South Yorkshire, S36 2UU,
Douglas Road Recycling Centre	Veolia E S Sheffield Ltd	Land/ Premises At, Off Longley Avenue West, Shirecliffe, Sheffield, South Yorkshire, S5 8,
Greaves Lane Recycling Centre	Veolia E S Sheffield Ltd	Land/ Premises At, Greaves Lane, High Green, Sheffield, South Yorkshire, S35 4GR,
T D E Enterprises Limited	T D E Enterprises Ltd	Clifton Works, Neepsend Lane, Sheffield, South Yorkshire, S3 8AW,
Transfer Station	Lilquest Asbestos Management Limited	Unit 12, Waleswood Colliery Industrial Estate, Mansfield Road, Waleswood, Sheffield, South Yorkshire, S29 5PQ
Anway Washrooms Ltd	Anway Washrooms Ltd	Unit 25 Lion Park, Holbrook Ind Est, Halfway, Sheffield, South Yorkshire, S20 3GH,
Rotherham Waste Oils	Derek Neil Rose and Roberta Rose	Land at, 500 Sheffield Road, Tinsley, Sheffield, South Yorkshire, S9 1RT
Unit 12 Waleswood Colliery Industrial Estate	Envirotec Hygiene Services Limited	Valley Works, Deep Lane, Sheffield, South Yorkshire, S5 0DQ,
Old Neepsend Gasworks	Arthurs Skips Limited	Old Neepsend Gasworks, Parkwood Road, Neepsend, Sheffield, South Yorkshire, S3 8AU,
Cordtape Environmental Services Limited	Cordtape Environmental Services Ltd	4 Finchwell Close, Handsworth, Sheffield, South Yorkshire, S13 9DF,
Richard Fletcher Metals	Fletcher Plant Limited	Clement Works, Clement Street, Darnall, Sheffield, South Yorkshire, S13 7XD,
Sheffield Tanks And Drums	Sheffield Tank And Drum Company Limited	359-361 Greenland Road, Sheffield, South Yorkshire, S9 5FD,

Site	Operator	Location / Address
Tinsley Park Road Facility	Veolia E S (U K) Limited	Tinsley Park Road Secure Storage Facility, Tinsley Park Road, Sheffield, South Yorkshire, S9 5DL,
Parkwood Springs, Douglas Rd	Frogson Waste Management Limited	21, Douglas Road, Parkwood Springs, Sheffield, South Yorkshire, S3 9SA,
Lilquest Asbestos Management Limited	Chirmarn Limited / Lilquest Asbestos Management Limited	
Valley Works	Bardon Environmental Limited	Valley Works, Deep Lane, Sheffield, South Yorkshire, S5 0DQ,
H R Skip Hire	B Howe & Sons Ltd	H R Skip Hire, New Street, Holbrook Trading Estate, Sheffield, South Yorkshire, S20 3GH,
Sheffield Transfer Station	Biffa Waste Services Ltd	26 Shepherd Street, Shalesmoor, Sheffield, South Yorkshire, S3 7BA,
Bradwell Skip Services	Bradwell Skip Services Ltd	Land / Premises At, Baker Street, Sheffield, South Yorkshire, S9 3WG,
Land Adjoining Otter Street And Baker Street	Bradwell Skip Services Ltd	Land Adjoining Otter Street & Baker Street, Baker Street, Attercliffe, Sheffield, South Yorkshire, S9 3WG,
Mosborough Skips	Dawes Haulage	Mosborough Skips, Plot 14 New Street, Holbrook Industrial Est, Halfway, South Yorkshire, S20 3GH,
O Brien Skip Hire	O'Brien Dean	Land/premises At, Droppingwell Road, Blackburn, Sheffield, South Yorkshire, S61 2DR,
Safety Kleen Dinnington EPR/FP3794VN	Safety-Kleen UK Limited	Salmon Pastures Transfer Station, Attercliffe Road, Sheffield, South Yorkshire, S4 7WT,
Westmoreland Waste Recycling Ltd	Westmoreland Waste Recycling Ltd	Unit 6 - 10, White Rose Park, Sheffield, South Yorkshire, S20 3PJ,
The New Depot EPR/AP3095EM	Woodland Oil Limited	Tinsley Park Road, Attercliffe, Sheffield, South Yorkshire, S9 5DL,
T K Lynskey (Excavations) Ltd	T K Lynskey Excavations Ltd	The Haven Lodge, Haggs Wood, Stainforth, Doncaster, South Yorkshire, DN7 5HT,

Site	Operator	Location / Address
West Street HWRC	FCC Recycling (UK) Limited	Kelham Ind Est, Kelham Street, Balby, Doncaster, South Yorkshire, DN1 3RE,
Materials recycling facilities		
Olive Grove Depot	Amey L G Ltd	Olive Grove Depot, Olive Grove Road, Sheffield, South Yorkshire, S2 3GE,
Brocklebank & Co (Demolition) Limited	Brocklebank & Co (Demolition) Limited	Allende Way, Darnall, Sheffield, South Yorkshire, S9 5AP,
A White & Company Limited	Brocklebank & Co (Demolition) Limited	617 Carlisle Street East, Sheffield, South Yorkshire, S4 7QN,
Lawrence Works	Bulk Waste Management Limited	Laurence Works, Sheffield Road, Penistone, Sheffield, South Yorkshire, S36 6HF,
Dixons Waste Management	Darren Peter Dixon And Arthur Dixon	The Coal Yard, Washford Road, Attercliffe, Sheffield, South Yorkshire, S9 3XW,
F & W Collins Ltd	F & W Collins Ltd	139 Upper Allen Street, Sheffield, South Yorkshire, S3 7GW,
Prospect Farm	Hague Douglas	Prospect Farm, Kirkedge Rd, High Bradfield, Sheffield, South Yorkshire, S6 6LJ,
Clay Wheels Lane Waste Transfer Facility	Hague Plant Ltd	Jubilee House, Clay Wheels Lane, Sheffield, South Yorkshire, S6 1LZ,
Hillfoot Waste Management	Hillfoot Waste Management Ltd	The Yard, Hick Street, Sheffield, South Yorkshire, S3 8BL,
Land At East Earsham Street	Land/premises At, East Earsham Street, Attercliffe, Sheffield, South Yorkshire, S4 7PY,	Whiteheads Waste Management
Carlisle Street East	M H H Contracting Limited	Carlisle Street East, Sheffield, South Yorkshire, S4 8DT,
L K A B Minerals Richmond Limited	Richmond Reclamation Limited	325 Coleford Road, Sheffield, South Yorkshire, S9 5NF,
Tinsley Park Road Secure Storage Facility	Veolia Environmental Services (U K) Plc	Transfer Station, Rowland Street, Sheffield, South Yorkshire, S3 8DE,
Salmon Pastures Waste Transfer Station	Viridor Waste Management Ltd	Unit 5 Ecclesfield 35 Ind Est, Station Road, Ecclesfield, Sheffield, South Yorkshire, S35 9YR,
D J B Recycling Limited	D J B Recycling Limited	Victoria Viaduct, Effingham Lane, Sheffield, South Yorkshire, S4 7YY,

Site	Operator	Location / Address
White Park Recycling Centre	Forward Environmental Ltd	Units 1&3 White Park, Station Road, Halfway, Sheffield, South Yorkshire, S20 3GS,
Metal recycling, End of Life Vehicles, and car breakers		
Charlotte Motor Salvage Ltd	Charlotte Motor Salvage Ltd	Land / Premises At, Brightside Lane, Sheffield, South Yorkshire, S9 2SN,
Messrs D E & K R Morris	Messrs D E & K R Morris	K R Autos, 522 London Road, Heeley, Sheffield, South Yorkshire, S2 4HQ,
Ecclesfield Car & Commercial Spares	Rowding R	26 Station Road, Ecclesfield, Sheffield, South Yorkshire, S35 3YR,
Cooper Car Spares	Cooper Car Spares	Land / Premises At, Livesey Street, Sheffield, South Yorkshire, S6 2BL,
127 Liverpool Street	Javed Mohammed	127 Liverpool Street, Sheffield, South Yorkshire, S9 2PU,
Uza Part Ltd	Mr Arshad Hussain	55 Attercliffe Common, Sheffield, South Yorkshire, S9 2AE,
Sheffield Motor Spares	Mr Ejaz Ahmed & Mr Mohammed Shahid	Sheffield Motor Spares, Grange Lane, Sheffield, South Yorkshire, S5 0DP
Quarry Motors	Mr Neil Sutherland & Mr Steven Sutherland	1-3 Rutland Street, Neepsend, Sheffield, South Yorkshire, S3 9PA,
127 Liverpool Street	Mr Zaffar Hussain & Mr Abdul Jabar	127 Liverpool Street, Sheffield, South Yorkshire, S9 2PU,
Paul Lysandrou	Paul Lysandrou	25 Rutland Street, Neeps End, Sheffield, South Yorkshire, S3 9PP,
Stainless Melting and Continuous Casting - EPR/BK6793IC	Outokumpu Stainless Ltd	Outokumpu Stainless Ltd, Europa Link, S9 1TZ,
River Don Works	Brightside Street, South Yorkshire, S9 2SU,	Sheffield Forgemasters International Ltd
A B S Metals & Waste Ltd	A B S Metals & Waste Ltd	Sussex Street, Off Effingham Road, Sheffield, South Yorkshire, S4 7YY,
Balby Metallurgical Ltd	Balby Metallurgical Ltd	C T Stores, Garter Street, Sheffield, South Yorkshire, S4 7QX,
1 Hawke Street	E L G Utica Alloys Limited	1 Hawke Street, Sheffield, South Yorkshire, S9 2SU,
E M R East Coast Road	European Metal Recycling Ltd	East Coast Road, Attercliffe, Sheffield, South Yorkshire, S9 3YD,

Site	Operator	Location / Address
E M R Sheffield Holbrook	European Metal Recycling Ltd	Holbrook Ind Est, Old Lane, Halfway, Sheffield, South Yorkshire, S20 3GZ,
Kuusakoski Ltd	Kuusakoski Ltd	Crown Works, Faraday Road, Sheffield, South Yorkshire, S9 3XZ,
Sterling Commodities Ltd	Sterling Commodities Ltd	Heppenstall Lane, Sheffield, South Yorkshire, S9 3XB,
Stevenson Road, Office Yard Site & Top Yard Site	Walter Heselwood Limited	Walter Heselwood Ltd, Stevenson Road, Sheffield, South Yorkshire, S9 2SG,
Templeborough Works EPR/XP3232WZ	ELG Haniel Metals Ltd	Templeborough Works, Sheffield Road, Tinsley, South Yorkshire, S9 1RT,
8 Grange Mill Lane - EPR/BB3307LT	Mettalis Recycling Limited	8, Grange Mill Lane, SHEFFIELD, S9 1HW,
Loy Transport Limited	Loy Transport Limited	200 Coleridge Road, Sheffield, South Yorkshire, S9 5DA,
G B Housley Limited	G B Housley Limited	404-416 Effingham Road, Sheffield, South Yorkshire, S9 3QB,
D A C Steels Ltd	D A C Steels Ltd	D A C Steels Ltd, 36 - 38 Sussex Street, Sheffield, South Yorkshire, S4 7YY,
Revert Alloys And Metals Ltd	Revert Alloys And Metals Limited	Unit 6 Harleston Works, Forncett Street, Sheffield, South Yorkshire, S4 7QG,
Alloy House	L A Mini Limited	Sheffield Auto Salvage, 398 Petre Street, Sheffield, South Yorkshire, S4 8LU,
Sheffield Sports Salvage	Mr Martyn Bingham And Mr William Bingham	Unit 1a, 35 Catley Road, Darnall, Sheffield, South Yorkshire, S9 5JF,
Low Kost Taxi Ltd	Zafeer Muhammad	Unit 1, Kilton Hill, Sheffield, South Yorkshire, S3 9EB,
Templeborough Depot	Newell & Wright Transport Contractors (Sheffield) Ltd	Templeborough Depot, Sheffield Road, Sheffield, South Yorkshire, S9 1RT,
Inert recycling		
L K A B Minerals Richmond Limited	Richmond Reclamation Limited	318 Coleford Road, Sheffield, South Yorkshire, S9 5NF,
Central Depot	G Morley Limited	Central Depot, Worthing Road, Attercliffe, Sheffield, South Yorkshire, S9 3JA,
Shepherd Street Site	Sampson Roger	26 Shepherd Street, Shalesmoor, Sheffield, South Yorkshire, S3 7BA,

Site	Operator	Location / Address
T K Lynskey (Excavations) Ltd	T K Lynskey Excavations Ltd	Clifton Works, Neepsend Lane, Sheffield, South Yorkshire, S3 8AW
Compost		
Manor Cottages	The Green Estate Ltd	Manor Cottages, 449 Manor Lane, Sheffield, South Yorkshire, S2 1UP,
Other forms of treatment		
Blackburn Meadows Renewable Energy Plant	E.ON UK Blackburn Meadows Limited / E.ON UK Infrastructure Services Limited	Blackburn Meadows Renewable Energy Plant, Alsing Road, S9 1HX,
Holbrook Community Renewable Energy Centre	Equitix ESI CHP (SHEFF) Limited	Holbrook Community Renewable Energy Centre, Rother Valley Way, Holbrook, South Yorkshire, S20 3RW,
Sheffield Energy Recovery Facility	Veolia ES Sheffield Limited	Sheffield Energy Recovery Facility, Bernard Road, Sheffield, South Yorkshire, S4 7YX,
Sheffield WM Centre	Biffa Waste Services Limited	Sheffield Waste Management Centre, Holbrook Rise, Holbrook Industrial Estate, Sheffield, South Yorks, S20 3FG,
Ecclesfield Industrial Waste Treatment Facility	FCC Recycling (UK) Limited	Starnhill Close, Station Road, Ecclesfield, Sheffield, South Yorkshire, S35 9TG,
Airbag Disposal	Airbag Disposal (U K) Limited	Unit 9, Vantage Business Park, Sheffield Road, Tinsley, South Yorkshire, S9 1BG,
Ex Doncasters F V C	Direct Special Metals Ltd	Ex Doncasters F V C, Plot 9 Garter Street, Off Carlisle Street, Sheffield, South Yorkshire, S4 7DY,
Galebest Ltd	Galebest Ltd	Galebest Ltd, Rother Valley Way, Holbrook, Sheffield, South Yorkshire, S20 3RW,
Sheffield IBA Facility EPR/FP3732WU	Blue Phoenix Ltd / Ballast Phoenix Ltd	2, Beeley Wood Lane, Sheffield, South Yorkshire, S6 1QT,
Tinsley Park Works EPR/DP3337ZK	Harsco Metals Group Ltd	c/o Outo Kumpu Stainless Steel Limited, Shepcote Lane, South Yorkshire, S9 1TZ,
Beeley Wood Recycling Village	Waste Recycling And Destruction Limited	Beeley Wood Recycling Village, Claywheels Lane, Sheffield, South Yorkshire, S6 1QT,
March Street Site - EPR/GP3536VT	R.S. BRUCE (METALS &	Bruce Metals Ltd, March Street, South Yorkshire, S9 5DQ,

Site	Operator	Location / Address
	MACHINERY) LIMITED	
Tinsley Park Works EPR/DP3337ZK	Harsco Metals Group Ltd	Tinsley Park Works, C/O Avesta Polarit LTD, Shelpcote Lane, Sheffield, S9 1TR,
Hazardous waste treatment		
Blackburn Meadows Waste Treatment Facility - EPR/MP3131SA	FCC Recycling (UK) Limited	Blackburn Meadows Landfill Site, Alsing Road, Tinsley, Sheffield, S9 1HL,
Sheffield International Rail Freight Terminal (SIRFT) Development EPR/UP3930NF	Aggregate Industries Limited	Former Tinsley Sidings, Europa Link Road, South Yorkshire,
Soil treatment		
O' Connor Utilities	O' Connor Utilities Limited	Hecla Way, Attercliffe, Sheffield, South Yorkshire, S9 3XG,
Inert recovery		
NA		
Disposal		
Parkwood Landfill <i>*Non-hazardous landfill</i>	Viridor Waste Management Ltd	Parkwood Road, Neepsend, Sheffield, S3 8AG,
Tinsley Park Works Landfill Site <i>*Restricted (industry specific) landfill</i>	Outokumpu Stainless Limited	Tinsley Park Works, C/O Avesta Polarit LTD, Shelpcote Lane, Sheffield, S9 1TR,

Appendix 3: Waste movements

Note that where no data is entered in table cells this indicates that the total tonnes received for the relevant reporting year was below the identified threshold.

IMPORTS (received at facilities within South Yorkshire WPAs)

Table A3.1 Non-hazardous waste imported into South Yorkshire WPAs (2017-2019)

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Barnsley	WPA not codeable East Midlands	HIC	Hazelhead	R Plevin and Sons Limited	Material Recycling Facility	13	13	17
Barnsley	WPA not codeable North West	HIC	Hazelhead	R Plevin and Sons Limited	Material Recycling Facility	21	25	29
Barnsley	WPA not codeable Yorks & Humber	HIC	Hazelhead	R Plevin and Sons Limited	Material Recycling Facility	41	41	35
Barnsley	WPA not codeable Yorks & Humber	Inert	Whaley Road	Wordsworth Crushing Ltd	Inert Waste Transfer / Treatment	13		11
Doncaster	Derby UA	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited	Material Recycling Facility	12		
Doncaster	Derbyshire	HIC	Wroot Road Composting Facility	Freeland Horticulture Limited	Composting	17		
Doncaster	Lancashire	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited / Eco Power Environmental Limited	Material Recycling Facility	27	30	25
Doncaster	Leeds	HIC	Hazel Lane Quarry	Catplant Quarry Ltd	Non Hazardous Landfill	26	29	19
Doncaster	Leicester UA	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited / Eco Power Environmental Limited	Material Recycling Facility	14	15	
Doncaster	Lincolnshire	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited / Eco Power	Material Recycling Facility	38	30	

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
				Environmental Limited				
Doncaster	Nottinghamshire	HIC	Wroot Road Composting Facility	Freeland Horticulture Limited	Composting	15		
Doncaster	Wakefield	HIC	Hazel Lane Quarry	Catplant Quarry Ltd	Non Hazardous Landfill	17	13	12
Doncaster	Wakefield	HIC	Wroot Road Composting Facility	Freeland Horticulture Limited	Composting			19
Doncaster	WPA not codeable West Midlands	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited / Eco Power Environmental Limited	Material Recycling Facility	24	10	11
Doncaster	WPA not codeable Yorks & Humber	HIC	Bankwood Lane Industrial Estate	Attero Recycling Limited / Eco Power Environmental Limited	Material Recycling Facility	35	48	107
Doncaster	WPA not codeable Yorks & Humber	HIC	A One+ Integrated Highways Services Gulley Waste Treatment Facility	Colas Ltd, Halcrow Group Ltd & Costain Ltd	Physical Treatment	17	23	
Doncaster	WPA not codeable Yorks & Humber	HIC	Yorkshire Metal Recycling	Yorkshire Metal Recycling Ltd	Metal Recycling		10	
Doncaster	Derbyshire	Inert	Bank End Quarry	Blaxton Aggregates Limited	Inert Waste Transfer / Treatment			23
Doncaster	Hampshire	Inert	Wheatley Cullet Processing Plant	U R M (UK) Limited	Physical Treatment	10		
Doncaster	Leeds	Inert	Hazel Lane Quarry & Landfill	Cat Plant (Quarry) Ltd	Physical Treatment	13		34
Doncaster	Leeds	Inert	Hazel Lane Quarry	Catplant Quarry Ltd	Non Hazardous Landfill	18	18	
Doncaster	Manchester	Inert	Tudworth Recycling Centre	Grantham Industries Limited	Physical Treatment		14	
Doncaster	Norfolk	Inert	Wheatley Cullet Processing Plant	U R M (UK) Limited	Physical Treatment		14	

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Doncaster	Nottinghamshire	Inert	Holme Hall Quarry Landfill And Recycling	Breedon Southern Limited	Inert Waste Transfer / Treatment		10	
Doncaster	Wakefield	Inert	Wheatley Cullet Processing Plant	U R M (UK) Limited	Physical Treatment	46	54	49
Doncaster	Wakefield	Inert	Bootham Lane Landfill	BDR Waste Disposal Ltd	Non Hazardous Landfill		12	
Doncaster	WPA not codeable East Midlands	Inert	Doncaster Wood Yard	Network Rail Infrastructure Limited	Inert Waste Transfer / Treatment	68	40	
Doncaster	WPA not codeable South West	Inert	Doncaster Wood Yard	Network Rail Infrastructure Limited	Inert Waste Transfer / Treatment		26	
Doncaster	WPA not codeable Yorks & Humber	Inert	Austerfield Quarry	Bolland Plant & Recycling Limited	Deposit of waste to land (recovery)			36
Doncaster	WPA not codeable Yorks & Humber	Inert	Bank End Quarry	Blaxton Aggregates Limited	Inert Waste Transfer / Treatment			21
Doncaster	WPA not codeable Yorks & Humber	Inert	Bankwood Lane Industrial Estate	Eco Power Environmental Limited	Material Recycling Facility		18	14
Doncaster	WPA not codeable Yorks & Humber	Inert	Bankwood Lane Industrial Estate	Attero Recycling Limited	Material Recycling Facility	15		
Doncaster	WPA not codeable Yorks & Humber	Inert	Croft Farm Landfill Site	Veolia ES Landfill Limited	Non Hazardous Landfill	28		
Doncaster	WPA not codeable Yorks & Humber	Inert	Doncaster Wood Yard	Network Rail Infrastructure Limited	Inert Waste Transfer / Treatment			84
Doncaster	WPA not codeable Yorks & Humber	Inert	Dunsville Quarry	Breedon Southern Limited	Deposit of waste to land (recovery)			13
Doncaster	WPA not codeable Yorks & Humber	Inert	Holme Hall Quarry Landfill And Recycling	Breedon Southern Limited	Inert Landfill	99		
Doncaster	WPA not codeable Yorks & Humber	Inert	Holme Hall Quarry Landfill And Recycling	Breedon Southern Limited	Inert Waste Transfer / Treatment	43		

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Rotherham	WPA not codeable London	HIC	Templeborough Biomass Power Plant	Templeborough Biomass Power Plant Limited	Co-Incinerator (Haz)			20
Rotherham	WPA not codeable West Midlands	HIC	W Maw Recycling Ltd	W Maw Recycling Ltd	Non-Haz Waste Transfer / Treatment			27
Rotherham	WPA not codeable Yorks & Humber	HIC	Specialty Steel	Harsco Metals Group Ltd	Physical Treatment			31
Rotherham	WPA not codeable Yorks & Humber	HIC	Steelphalt	Harsco Metals Group Ltd	Physical Treatment			175
Rotherham	WPA not codeable Yorks & Humber	HIC	Templeborough Biomass Power Plant	Templeborough Biomass Power Plant Limited	Co-Incinerator (Haz)			34
Rotherham	WPA not codeable Yorks & Humber	HIC	Aldwarke Sludge Conditioning Site	Yorkshire Water Services Ltd	Biological Treatment	27	25	16
Rotherham	WPA not codeable Yorks & Humber	HIC	Bolton Road	Renewi UK Services Limited	Biological Treatment	232	214	213
Rotherham	WPA not codeable Yorks & Humber	HIC	Rotherham Aldwarke Site	Speciality Steel UK Limited	Ferrous Metal re- processing			194
Rotherham	WPA not codeable Yorks & Humber	HIC	Specialty Steel	Harsco Metals Group Ltd	Physical Treatment			11
Rotherham	WPA not codeable Yorks & Humber	HIC	Steelphalt	Harsco Metals Group Ltd	Physical Treatment			39
Rotherham	WPA not codeable Yorks & Humber	HIC	Whitelea Grove Ind Est	Betapack Compliance Scheme Ltd	Non-Haz Waste Transfer / Treatment			11
Rotherham	WPA not codeable Yorks & Humber	Inert	Common Lane Site	T K Lynskey (Excavations) Ltd	Non-Haz Waste Transfer / Treatment			30
Rotherham	WPA not codeable Yorks & Humber	Inert	Maltby Colliery	Maltby Restoration Limited	Deposit of waste to land (recovery)			76
Rotherham	WPA not codeable Yorks & Humber	Inert	Roundwood Colliery Restoration Scheme	Shires Development Ltd	Deposit of waste to land (recovery)			28
Rotherham	WPA not codeable Yorks & Humber	Inert	Rotherham Aldwarke Site	Speciality Steel UK Limited	Ferrous Metal re- processing			35

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Rotherham	WPA not codeable London	HIC	Templeborough Biomass Power Plant	Templeborough Biomass Power Plant Limited	Co-Incinerator (Haz)			20
Rotherham	WPA not codeable West Midlands	HIC	W Maw Recycling Ltd	W Maw Recycling Ltd	Non-Haz Waste Transfer / Treatment			27
Rotherham	WPA not codeable Yorks & Humber	HIC	Specialty Steel	Harsco Metals Group Ltd	Physical Treatment			31
Rotherham	WPA not codeable Yorks & Humber	HIC	Steelphalt	Harsco Metals Group Ltd	Physical Treatment			175
Rotherham	WPA not codeable Yorks & Humber	HIC	Templeborough Biomass Power Plant	Templeborough Biomass Power Plant Limited	Co-Incinerator (Haz)			34
Rotherham	WPA not codeable Yorks & Humber	HIC	Aldwarke Sludge Conditioning Site	Yorkshire Water Services Ltd	Biological Treatment	27	25	16
Rotherham	WPA not codeable Yorks & Humber	HIC	Bolton Road	Renewi UK Services Limited	Biological Treatment	232	214	213
Rotherham	WPA not codeable Yorks & Humber	HIC	Rotherham Aldwarke Site	Speciality Steel UK Limited	Ferrous Metal re- processing			194
Rotherham	WPA not codeable Yorks & Humber	HIC	Specialty Steel	Harsco Metals Group Ltd	Physical Treatment			11
Rotherham	WPA not codeable Yorks & Humber	HIC	Steelphalt	Harsco Metals Group Ltd	Physical Treatment			39
Rotherham	WPA not codeable Yorks & Humber	HIC	Whitelea Grove Ind Est	Betapack Compliance Scheme Ltd	Non-Haz Waste Transfer / Treatment			11
Rotherham	WPA not codeable Yorks & Humber	Inert	Common Lane Site	T K Lynskey (Excavations) Ltd	Non-Haz Waste Transfer / Treatment			30
Rotherham	WPA not codeable Yorks & Humber	Inert	Maltby Colliery	Maltby Restoration Limited	Deposit of waste to land (recovery)			76
Rotherham	WPA not codeable Yorks & Humber	Inert	Roundwood Colliery Restoration Scheme	Shires Development Ltd	Deposit of waste to land (recovery)			28
Rotherham	WPA not codeable Yorks & Humber	Inert	Rotherham Aldwarke Site	Speciality Steel UK Limited	Ferrous Metal re- processing			35

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Sheffield	Derbyshire	HIC	Stainless Melting and Continuous Casting	Outokumpu Stainless Ltd	Ferrous Metal re-processing			10
Sheffield	Leeds	HIC	Sheffield IBA Facility	Ballast / Blue Phoenix Limited	Physical Treatment	34	39	36
Sheffield	Lincolnshire	HIC	Holbrook Community Renewable Energy Centre	Equitix ESI CHP (SHEFF) Limited	Municipal Waste Incinerator	12	23	12
Sheffield	North Yorkshire	HIC	Sheffield IBA Facility	Blue Phoenix Limited	Physical Treatment			48
Sheffield	Nottinghamshire	HIC	Blackburn Meadows Waste Treatment Facility	FCC Recycling (UK) Limited	Haz Waste Transfer / Treatment		13	
Sheffield	Nottinghamshire	HIC	Sheffield Energy Recovery Facility	Veolia ES Sheffield Limited	Municipal Waste Incinerator	60	62	63
Sheffield	Staffordshire	HIC	Stainless Melting and Continuous Casting	Outokumpu Stainless Ltd	Ferrous Metal re-processing			32
Sheffield	Wakefield	HIC	Sheffield IBA Facility	Ballast / Blue Phoenix Limited	Physical Treatment	124	129	103
Sheffield	Warrington	HIC	Stainless Melting and Continuous Casting	Outokumpu Stainless Ltd	Ferrous Metal re-processing			11
Sheffield	WPA not codeable East Midlands	HIC	Blackburn Meadows Renewable Energy Plant	E.ON UK Blackburn Meadows Limited	EFW Incinerator	77	76	76
Sheffield	WPA not codeable North West	HIC	Blackburn Meadows Renewable Energy Plant	E.ON UK Blackburn Meadows Limited	EFW Incinerator	23	32	25
Sheffield	WPA not codeable Yorks & Humber	HIC	Kuusakoski Ltd	Kuusakoski Ltd	Metal Recycling			37
Sheffield	WPA not codeable Yorks & Humber	HIC	Tinsley Park Works	Harsco Metals Group Ltd	Physical Treatment			39
Sheffield	WPA not codeable Yorks & Humber	HIC	Blackburn Meadows Renewable Energy Plant	E.ON UK Blackburn Meadows Limited	EFW Incinerator	102	106	98
Sheffield	WPA not codeable Yorks & Humber	HIC	E M R East Coast Road	European Metal Recycling Ltd	Metal Recycling		125	106

South Yorkshire (receiving) WPA	Origin WPA ¹	Waste type	Site name	Operator	Facility type	Thousand tonnes received ²		
						2017	2018	2019
Sheffield	WPA not codeable Yorks & Humber	HIC	Ex Doncasters F V C	Direct Special Metals Ltd	Physical Treatment	22	85	69
Sheffield	WPA not codeable Yorks & Humber	HIC	Stevenson Road, Office Yard Site & Top Yard Site	Walter Heselwood Limited	Metal Recycling	16		13
Sheffield	North Yorkshire	Inert	Sheffield International Rail Freight Terminal (SIRFT) Development	Aggregate Industries Limited	Haz Waste Transfer / Treatment			31
Sheffield	WPA not codeable London	Inert	Templeborough Works	ELG Haniel Metals Ltd	Metal Recycling	18	17	19
Sheffield	WPA not codeable Yorks & Humber	Inert	617 Carlisle Street East	Brocklebank & Co (Demolition) Limited	Non-Haz Waste Transfer / Treatment			115
Sheffield	WPA not codeable Yorks & Humber	Inert	Sheffield International Rail Freight Terminal (SIRFT) Development	Aggregate Industries Limited	Haz Waste Transfer / Treatment			17
Sheffield	WPA not codeable Yorks & Humber	Inert	Templeborough Works	ELG Haniel Metals Ltd	Metal Recycling			33
Sheffield	Outside UK	Inert	Templeborough Works	ELG Haniel Metals Ltd	Metal Recycling	42	39	15
Sheffield	WPA not codeable Yorks & Humber	Inert	Galebest Ltd	Galebest Ltd	Physical Treatment	30	29	24

1 – Where waste origin was reported as 'Not codeable' the region has been applied. For movements reported WPA origin = Not codeable Yorks & Humber it is acknowledged that some of this waste may arise from South Yorkshire WPAs.

2 – Highlighted 'Thousand tonnes received' cells show where there have been consistent movements above thresholds over a three-year period, indicating potential trends in waste movements.

Table A3.2 Hazardous waste imported into South Yorkshire WPAs (2017-2019)

South Yorkshire (receiving) WPA	Origin WPA	Waste fate	Thousand tonnes received ¹		
			2017	2018	2019
Barnsley	Essex	Recovery	1.1	1.1	1.0
Barnsley	Flintshire	Recovery	0.6	0.6	
Barnsley	Kent	Recovery	0.5	0.4	0.4

South Yorkshire (receiving) WPA	Origin WPA	Waste fate	Thousand tonnes received ¹		
			2017	2018	2019
Barnsley	Lancashire	Recovery			1.2
Barnsley	Middlesbrough	Recovery			0.4
Barnsley	North Lincolnshire	Recovery	0.6		
Barnsley	Suffolk	Recovery	0.9	0.8	0.9
Barnsley	Wakefield	Recovery	0.6	0.7	0.9
Doncaster	Cambridgeshire	Incineration with energy recovery		0.5	
Doncaster	Cheshire East	Incineration with energy recovery	0.7	0.6	
Doncaster	Nottinghamshire	Recovery		1.0	
Doncaster	Redcar and Cleveland	Incineration with energy recovery			1.1
Doncaster	Wakefield	Incineration with energy recovery			1.0
Rotherham	County Durham	Recovery	0.7		
Rotherham	Derbyshire	Recovery	1.1	1.6	1.8
Rotherham	Leeds	Recovery		0.8	0.9
Rotherham	North Lincolnshire	Recovery			3.3
Rotherham	Redcar and Cleveland	Recovery	14.4	12.9	12.3
Sheffield	Buckinghamshire	Treatment		2.3	7.9
Sheffield	Derbyshire	Recovery		6.4	1.9
Sheffield	Derbyshire	Treatment	1.5	1.3	1.8
Sheffield	Kent	Treatment	5.0	6.0	
Sheffield	Leicestershire	Treatment	1.2	1.2	
Sheffield	Lincolnshire	Treatment		1.4	1.0
Sheffield	Nottingham City	Treatment	3.7	3.3	4.6
Sheffield	Nottinghamshire	Treatment			1.6

1 - Highlighted 'Thousand tonnes received' cells show where there have been consistent movements above thresholds over a three-year period, indicating potential trends in waste movements.

EXPORTS (waste where origin identified as South Yorkshire received at facilities within other WPAs)

Table A3.3 Non-hazardous waste exported from South Yorkshire WPAs (2017-2019)

South Yorkshire (origin) WPA	Destination (receiving) WPA	Waste type	Site name	Operator	Facility type	Thousand tonnes received ¹		
						2017	2018	2019
Barnsley	Kingston Upon Hull City	HIC	Gibson Lane Site	Transwaste Recycling And Aggregates Ltd	Physical Treatment			12
Barnsley	North Lincolnshire	HIC	Groveport	M R F Glass Recycling Limited	Physical Treatment		24	23
Barnsley	Nottingham City	HIC	Harrimans Lane	Sims Group UK Limited	Metal Recycling			13
Barnsley	Wakefield	HIC	Welbeck Landfill Site	Welbeck Waste Management Ltd	Non Hazardous Landfill	13	14	
Barnsley	Wakefield	Inert	Nostell Quarry Landfill	Gazzella Earthworks Limited	Inert Landfill		15	25
Barnsley	North Yorkshire	Inert	Went Edge Quarry	Went Valley Aggregates And Recycling Limited	Physical Treatment	24		
Doncaster	Leeds	HIC	Mobile Plant	4recycling Limited	Mobile Plant - Treatment			38
Doncaster	North Lincolnshire	HIC	Roxby Landfill	Biffa Waste Services Ltd	Non Hazardous Landfill	339	68	
Doncaster	Nottingham City	HIC	Harrimans Lane	Sims Group UK Limited	Metal Recycling			12
Doncaster	North Yorkshire	Inert	Went Edge Quarry	Went Valley Aggregates And Recycling Limited	Physical Treatment	16		
Doncaster	Nottinghamshire	Inert	Styrrup Quarry	J White & Co (T D E) Ltd	Deposit of waste to land (recovery)	13	10	
Doncaster	Wakefield	Inert	South Kirkby Plant	U R M (UK) Limited	Material Recycling Facility	37	18	21
Rotherham	Darlington	HIC	Cleveland House	Ward Bros (Steel) Limited	Metal Recycling			14
Rotherham	Derbyshire	HIC	Alfreton Recycling Centre	H W Martin Waste Ltd	Haz Waste Transfer / Treatment			11
Rotherham	Derbyshire	HIC	Tunstead Cement and Lime Works	Tarmac Cement and Lime Ltd	Co-Incinerator	15	13	
Rotherham	Gateshead	HIC	Blaydon Quarry Landfill	Octagon Green Solutions Limited	Non Hazardous Landfill		12	
Rotherham	Leeds	HIC	Peckfield Landfill	Caird Peckfield Limited	Non Hazardous Landfill	89	85	86
Rotherham	Wakefield	HIC	Ferrybridge Multifuel Plant	Ferrybridge MFE Limited	Municipal Waste Incinerator	120	135	138

Rotherham	Leeds	Inert	Peckfield Landfill	Caird Peckfield Limited	Non Hazardous Landfill	16	13	
Rotherham	Nottinghamshire	Inert	Styrrup Quarry	J White & Co (TDE) Ltd	Deposit of waste to land (recovery)			11
Rotherham	Wakefield	Inert	Ash Pits Crabtree Lane	Mineral Processing Limited	Physical Treatment		18	
Sheffield	County Durham	HIC	Cleveland IBA	Ballast Phoenix Limited	Physical Treatment	11	15	
Sheffield	Derbyshire	HIC	Alfreton Recycling Centre	H W Martin Waste Ltd	Haz Waste Transfer / Treatment	19	19	20
Sheffield	Derbyshire	HIC	Erin Landfill	Viridor Waste Management Ltd	Non Haz (SNRHW) Landfill	16	19	
Sheffield	Derbyshire	HIC	The Midlands Urban Mine	Johnsons Aggregates and Recycling Limited	Physical Treatment			34
Sheffield	Halton	HIC	Runcorn Energy From Waste Facility	Viridor Waste Management Limited	Municipal Waste Incinerator	25	25	40
Sheffield	Manchester	HIC	South Manchester Resource Recovery Centre	Viridor Waste (Greater Manchester) Ltd	Physical-Chemical Treatment		13	
Sheffield	North Lincolnshire	HIC	South Ferriby Cement Plant	Cemex UK Cement Limited	Co-Incinerator (Haz)	25	19	
Sheffield	North Yorkshire WPA	HIC	Leeming Biogas Facility	Veolia ES (UK) Limited	Biological Treatment	12		
Sheffield	Wakefield	HIC	Ferrybridge Multifuel Plant	Ferrybridge MFE Limited	Municipal Waste Incinerator	44	36	42
Sheffield	Wakefield	HIC	Welbeck Landfill Site	Welbeck Waste Management Ltd	Non Hazardous Landfill	51	74	70
Sheffield	Leeds	Inert	Britannia Quarry	Booth Ventures Limited	Non Hazardous LF		23	
Sheffield	Nottinghamshire	Inert	Styrrup Quarry	J White & Co (T D E) Ltd	Deposit of waste to land (recovery)		28	

1 - Highlighted 'Thousand tonnes received' cells show where there have been consistent movements above thresholds over a three-year period, indicating potential trends in waste movements.

Table A3.4 Hazardous waste exported from South Yorkshire WPAs (2017-2019)

South Yorkshire (origin) WPA	Destination (receiving) WPA	Waste fate	Thousand tonnes received ¹		
			2017	2018	2019
Barnsley	Derbyshire	Recovery	0.5	0.5	0.5
Barnsley	Hertfordshire	Treatment	5.2		
Barnsley	Kirklees	Landfill	0.4		0.7

South Yorkshire (origin) WPA	Destination (receiving) WPA	Waste fate	Thousand tonnes received ¹		
			2017	2018	2019
Barnsley	Leeds	Treatment	1.3	1.1	20.0
Barnsley	Northamptonshire	Landfill			0.8
Barnsley	St Helens	Recovery	0.4		0.4
Barnsley	Stockton-on-Tees	Landfill		1.1	
Barnsley	Surrey	Treatment	1.1		
Barnsley	Staffordshire	Treatment			0.6
Doncaster	Cambridgeshire	Recovery	2.3	2.0	
Doncaster	Kirklees	Treatment	0.9		
Doncaster	Kirklees	Landfill	0.7	1.7	
Doncaster	Lancashire	Recovery	1.2	0.9	0.8
Doncaster	Leeds	Treatment	0.5	0.6	0.6
Doncaster	North East Lincolnshire	Recovery	0.9	1.1	0.6
Doncaster	North Lincolnshire	Landfill	0.6	0.7	1.3
Doncaster	Northamptonshire	Treatment	1.1		
Doncaster	Nottinghamshire	Recovery		0.5	
Doncaster	Stockton-on-Tees	Treatment			1.2
Rotherham	Bexley	Recovery	0.6		
Rotherham	Cheshire West and Chester	Long term storage		0.6	0.7
Rotherham	Derbyshire	Incineration with energy recovery		12.8	0.9
Rotherham	Derbyshire	Recovery		0.9	12.0
Rotherham	Derbyshire	Treatment		24.3	19.5
Rotherham	Kingston Upon Hull City	Recovery	1.4	1.1	1.5
Rotherham	Kirklees	Landfill		1.0	0.5
Rotherham	Knowsley	Treatment	0.7	1.0	0.8
Rotherham	Lancashire	Landfill			3.7
Rotherham	Leeds	Treatment		1.4	4.0
Rotherham	North East Lincolnshire	Recovery	3.4	2.0	3.3
Rotherham	Salford	Treatment			0.6
Rotherham	Sandwell	Recovery			0.6
Rotherham	Sefton	Recovery	2.0	2.1	1.9
Rotherham	Shropshire	Recovery			0.2
Rotherham	Staffordshire	Treatment	6.4	5.5	5.5
Rotherham	Stockton-on-Tees	Treatment		5.4	17.3
Rotherham	Stoke-on-Trent City	Recovery	1.3	1.7	1.1
Rotherham	Wakefield	Recovery	0.6	0.6	0.6
Sheffield	Cambridgeshire	Recovery			1.5

South Yorkshire (origin) WPA	Destination (receiving) WPA	Waste fate	Thousand tonnes received ¹		
			2017	2018	2019
Sheffield	Derbyshire	Landfill	1.1		
Sheffield	Kingston Upon Hull City	Recovery		1.1	1.2
Sheffield	Kirklees	Landfill	2.4	1.0	2.4
Sheffield	Leeds	Treatment	5.4	2.1	
Sheffield	Northamptonshire	Treatment	7.2	8.4	5.0
Sheffield	Northamptonshire	Recovery	1.7		
Sheffield	Sandwell	Treatment			3.2
Sheffield	Staffordshire	Treatment	8.2		
Sheffield	Stockton-on-Tees	Recovery	1.7	5.1	5.7
Sheffield	Stockton-on-Tees	Treatment	2.4		2.2
Sheffield	Walsall	Treatment	4.8	4.8	4.7

1 - Highlighted 'Thousand tonnes received' cells show where there have been consistent movements above thresholds over a three-year period, indicating potential trends in waste movements

Appendix 4: Reference list

A list of references used in preparing the WNA is provided below with links to websites where available. References are grouped under the broad areas that the information/dataset was used to inform preparation of the WNA.

Planning policy and local context

Environment Act 2021
Landfill Directive
London Plan, March 2016
London Plan (Draft), November 2017
National Infrastructure Delivery Plan 2016 to 2021
National Planning Policy Framework
National Planning Policy Guidance
National Planning Policy for Waste
National Waste Management Plan for England
National Policy Statements
Our waste, our resources: A strategy for England
Packaging and Packaging Waste Directive
Shaping the future of England's strategic roads
UK Waste Regulations 2011
Waste Framework Directive

Identify historic and current arisings and management methods

DECC Data collection on solid low-level waste from the non-nuclear sector November 2008
Defra 2019 Digest of waste and resource statistics
Defra 2019 Digest of waste and resource statistics
Defra 2021 UK statistics on waste
Defra Local authority collected waste: annual results tables
EA Incinerator returns 2016 to 2020
EA Towards sustainable agricultural waste management, 2001
EA Waste Data Interrogator and Hazardous Waste Data Interrogator database 2013 to 2020
Greater London Authority, London Plan Waste Forecasts and Apportionments 2017

NDA 2016 and 2019 Inventory
NDA 2016 Inventory Site Data
NDA 2016 Radioactive Waste Inventory Report
NDA 2019 Inventory
NDA 2019 Inventory Site Data
Waste DataFlow database

Identifying growth factors and apportioning waste arisings to authority levels and sectors/activity

Barnsley Metropolitan Borough Council Barnsley Local Plan 2019
Construction Products Association 2022 Construction industry forecasts
Doncaster Council and Rotherham Metropolitan Borough Council 2021 Doncaster and Rotherham Local Aggregates Assessment (2019/20)
House of Commons 2021 Briefing Paper: Regional and country economic indicators
MHCLG Housing supply: Net additional dwellings 2001-02 to 2018-19
Office of National Statistics Mid-year population estimates
Office for National Statistics NOMIS
Sheffield City Council 2020 The Sheffield Plan Issues and Options Housing Technical Note

Identifying waste management capacity

EA Incinerator returns 2016 to 2020
EA Environmental Permitting Regulations - Waste sites
EA Environmental Permitting Regulations - Waste operations
EA Environmental Permitting Regulations - Landfill sites
EA Register of waste exemptions
EA Remaining landfill capacity
EA Waste Data Interrogator and Hazardous Waste Data Interrogator database 2013 to 2020
EA Waste infrastructure inventory, 2010
SY WPA Councils – Previous minerals and waste decisions (available through the planning application search functions for the relevant WPA)