Great Houghton

Ecological Impact Assessment

Avant Homes

Prepared by:

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Basis of Report

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1.0 Introduction

1.1 Background

In 2023, SLR Consulting Limited (SLR) was instructed by Avant Homes to undertake an ecological survey and desk study of a site in Great Houghton, South Yorkshire, S72 0AZ (approximate central OS Grid Reference: SE 42947 07037) which extends for approximately 3.55 ha (hectares). The results have been used to prepare an Ecological Impact Assessment (EcIA) to inform a planning application for a proposed 108-unit residential development (see Appendix A).

A Preliminary Ecological Appraisal Report was previously produced by Brooks Ecological Ltd in 2021 for an identical Site boundary (see Appendix B)[1]. This was used to inform an EcIA which was produced by Brooks Ecological Ltd in 2022, using data gathered from surveys in 2021 (see Appendix C)[2]. Bat activity surveys were also conducted by Brooks Ecological Ltd as a part of this EcIA exercise (see Appendix D)[3]. Information from these ecological surveys is referred to within this report, where relevant.

The Statutory Metric[4] was used to calculate the existing baseline score for the Site and the post-development value of the scheme.

1.2 Site Description

The application site (hereafter referred to as the 'Site') consists of two small agricultural fields and an associated yard which has four buildings / structures present. The fields are under active agricultural management, although the stack yard appears disused. Five native hedgerows form the boundaries of the arable fields.

The Site is located on the north-western edge of the village of Great Houghton. The Site is bordered to the north and east by further agricultural land, and residential properties are present to the south and west (beyond Main Street). The wider landscape is comprised of predominately agricultural land with some residential areas and pockets of woodland present.

1.3 Details of the Proposed Development

The proposed development comprises 108 residential properties (including 10 affordable), with associated access, driveways, and gardens (refer to Appendix A). All of the habitats present on Site will be lost to facilitate the development, with the exception of four of the native hedgerows on Site which will be retained.

1.4 Purpose of this Report

This report seeks to:

- Describe the baseline data collection and assessment methodologies used;

[1] Brooks Ecological Ltd (2021). Preliminary Ecological Appraisal Report Main Street, Great Houghton. Report Reference: ER-5492-01A.

[2] Brooks Ecological Ltd (2022). Ecological Impact Assessment Main Street, Great Houghton. Report Reference: ER-5492-03B.

[3] Brooks Ecological Ltd (2021). Bat Activity Survey Report Land off Main Street, Great Houghton. Report Reference: ER-5492-02.

[4] The Statutory Biodiversity Metric, User Guide, Date: February 2024, Department for Environment, Food and Rural Affairs https://assets.publishing.service.gov.uk/media/65c60e0514b83c000ca715f3/The_Statutory_Biodiversity_Metric_-_User_Guide_.pdf.

- Summarise the baseline ecological conditions and identify important ecological receptors, where relevant;
- Identify and describe all potentially significant ecological effects associated with the proposed development upon important receptors (or confirms that no potentially significant effects will occur);
- Set out the mitigation and compensation measures required to ensure compliance with nature conservation legislation and/ or to address any potentially significant ecological effects, where relevant;
- Provide an assessment of the significance of any residual effects to important receptors (where relevant), and the legal and policy implications; and
- Identify appropriate enhancement measures, where appropriate.

1.5 Evidence of Technical Competence and Experience

The fieldwork and report were completed by Miss Helen Chambers. Miss Chambers is an Ecologist at SLR, a Qualifying Member of the Chartered Institute of Ecology and Environmental Management (CIEEM) with experience of ecological impact assessments.

The first draft of this report has been reviewed by Mr Andy Law CEcol, Principal Ecologist with SLR Consulting. Mr Law is a full member of CIEEM (MCIEEM) and has over 32 years professional experience. The report was subject to a final review and was approved by Mr Gary Oliver, Principal Ecologist with SLR Consulting. Mr Oliver is a full member of CIEEM (MCIEEM) and has over 27 years professional experience.

2.0 Relevant Legislation and Planning Policy

2.1 Relevant Legislation [5]

2.1.1 Conservation of Habitats and Species Regulations 2017

The Conservation of Habitats and Species Regulations 2017 (as amended) (the Habitats Regulations) transpose Council Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna (Habitats Directive) into English law, making it an offence to deliberately capture, kill or disturb[6] wild animals listed under Schedule 2 of the Regulations. It is also an offence to damage or destroy a breeding site or resting place of such an animal (even if the animal is not present at the time). From 1st January 2021, the 2017 Regulations are one of the pieces of domestic law that transposed the land and marine aspects of the Directive. Most of the changes involved transferring functions from the European Commission to the appropriate authorities in England and Wales, all other processes or terms in the 2017 Regulations remain unchanged and existing guidance is still relevant.

2.1.2 Wildlife & Countryside Act 1981 (as amended)

The Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act (CRoW) 2000 and the Natural Environment and Rural Communities Act (NERC) 2006, consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive), making it an offence to:

- Intentionally kill, injure, or take any wild bird or their eggs or nests and disturb any bird species listed under Schedule 1 to the Act, or its dependent young while it is nesting;
- Intentionally kill, injure, or take any wild animal listed under Schedule 5 to the Act;
- intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any wild animal listed under Schedule 5 to the Act;
- intentionally or recklessly disturb certain Schedule 5 animal species while they occupy a place used for shelter or protection;
- Pick or uproot any wild plant listed under Schedule 8 of the Act; or
- Plant or cause to grow in the wild any plant species listed under Schedule 9 of the Act.

2.1.3 Protection of Badgers Act 1992

The Protection of Badgers Act 1992 makes it illegal to kill, injure or take a badger or to intentionally or recklessly interfere with a badger sett. Sett interference includes disturbing badgers whilst they are occupying a sett or obstructing access to it.

2.1.4 Natural Environment & Rural Communities (NERC) Act 2006

The NERC Act 2006 places a duty on authorities to have due regard for biodiversity and nature conservation during the course of their operations. Section 41 of the Act requires the publication of a list of habitats and species publish which are of principal importance for the purpose of conserving biodiversity. The Section 41 list is used to guide authorities in implementing their duty to have

[5] Please note that the summary of relevant legislation provided here is intended for general guidance only. The original legislation should be consulted for definitive information

[6] Disturbance, as defined by the Conservation of Habitats and Species Regulations 2010, includes in particular any action which impairs the ability of animals to survive, breed, rear their young, hibernate or migrate (where relevant); or which affects significantly the local distribution or abundance of the species.

regard to the conservation of biodiversity.

2.2 Relevant Planning Policy

2.2.1 National Planning Policy

The National Planning Policy Framework (NPPF, 2023)[7] sets out guidance for local planning authorities and decisionmakers in how to apply planning policies when drawing up plans and making decisions about planning applications. Along with Government Circular 06/05[8], the broad policy objectives in relation to the protection of biodiversity and geological conservation in England through the planning system are set out.

Paragraph 180 d of the NPPF states that:

"Planning policies and decisions should contribute to and enhance the natural and local environment by:

- *Minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures."*

Furthermore, Paragraph 181 states that plans should:

"*.....take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries".*

Paragraph 185 states that:

"To protect and enhance biodiversity and geodiversity, plans should:

a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and

b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity."

Paragraph 186 goes on to state:

"When determining planning applications, local planning authorities should apply the following principles:

a) if significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;

c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy exists; and

[7] Department for Levelling Up, Housing and Communities (2023) National Planning Policy Framework https://www.gov.uk/government/publications/national-planning-policy-framework--2

[8] Office of the Deputy Prime Minister. 2005. Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System. ODPM Circular 06/2005.

d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate."

2.2.2 Local Planning Policy

Barnsley Adopted Local Plan

The Barnsley Local Plan (Adopted January 2019)[9], has the following policy of relevance to biodiversity:

Policy BIO1 Biodiversity and Geodiversity

"*Development will be expected to conserve and enhance the biodiversity and geological features of the borough by:*

- *Protecting and improving habitats, species, sites of ecological value and sites of geological value with particular regard to designated wildlife and geological sites of international, national and local significance, ancient woodland and species and habitats of principal importance identified via Section 41 of the Natural Environment & Rural Communities Act 2006 (for list of the species and habitats of principal importance) and in the Barnsley Biodiversity Action Plan.*
- *Maximising biodiversity and geodiversity opportunities in and around new developments.*
- *Conserving and enhancing the form, local character and distinctiveness of the boroughs natural assets such as the river corridors of the Don, the Dearne and Dove as natural floodplains and important strategic wildlife corridors.*
- *Proposals will be expected to have followed the national mitigation hierarchy (avoid, mitigate, compensate) which is used to evaluate the impacts of a development on biodiversity interest.*
- *Protecting ancient and veteran trees where identified.*
- *Encouraging provision of biodiversity enhancements.*

Development which may harm a biodiversity or geological feature or habitat, including ancient woodland and aged or veteran trees found outside ancient woodland, will not be permitted unless effective mitigation and/or compensatory measures can be ensured.

Development which adversely effects a European Site will not be permitted unless there is no alternative option and there are imperative reasons of overriding public interest (IROPI)".

The Local Plan also highlighted the Dearne Valley Green Heart Nature Improvement Area[10].

Dearne Valley Green Heart Nature Improvement Area

"*Nature Improvement Areas (NIAs) are large, discrete areas that will deliver a step change in nature conservation, where a local partnership has a shared vision for their natural environment. The NIA grant scheme was established to help address ecological restoration as part of series of actions at a landscape scale to improve biodiversity, ecosystems and our connections with the natural environment identified by the Natural Environment White Paper (2011) and taking forward recommendations identified in the Lawton Review Making Space for Nature (2010). As set out in the Relationship with Plans and Strategies section, the Dearne Valley Green Heart has been designated as an NIA and its extent within Barnsley's boundary can be seen in the Green Infrastructure Diagram.*

[9] https://www.barnsley.gov.uk/media/17249/local-plan-adopted.pdf

[10] http://www.barnsleybiodiversity.org.uk/nia.html

The Council expects to adopt an NIA Planning Advice Note which will encourage major developments to incorporate biodiversity enhancements in their proposals."

The Local Plan also has the following relevant Supplementary Planning Document[11]:

Supplementary Planning Document: Biodiversity and Geodiversity

This document provides further guidance on the Biodiversity and Geodiversity policies outlined in the Local Plan, and states:

"*Any development proposal which may do harm to a biodiversity or geodiversity interest should follow the mitigation hierarchy thus:* ***avoid, mitigate, compensate****. If it is not possible to avoid damage to the interest and planning permission is still requested for then the developer/applicant should seek to mitigate impacts by good design which not only retains as much of the value* ***in situ*** *as possible, but also reduces impacts during the construction phase and leaves behind value which is protected and maintained. On occasion, the LPA may allow compensatory works on other sites outside of the development where avoidance or mitigation are not possible/sufficient, but this should be seen as a last resort.*

The LPA will not support applications that would damage the ecological network and cause a net-loss in biodiversity in line with the NPPF. Whilst the Environment Agency is the lead authority regarding implementation of the Water Framework Directive and the Humber River Basin District Management Plan, the LPA must have regards to them when determining development proposals."

The document also highlights the Barnsley Biodiversity Action Plan[12]:

Barnsley Local Biodiversity Action Plan

The Barnsley Biodiversity Action Plan is produced by Barnsley Biodiversity Trust and identifies a range of priority habitat and species for which individual action plans have been developed. Priority species include hedgehog (*Erinaceus europaeus*), water vole (*Arvicola amphibius*), otter (*Lutra lutra*), barn owl (*Tyto alba*), tree sparrow (*Passer montanus*), great crested newt (*Triturus cristatus*) and white-clawed crayfish (*Austropotamobius pallipes*). Habitat Action Plans for upland oakwood, wet woodland, hedgerows, arable field margins, ponds, rivers and lowland meadows are also included in the LBAP.

Supplementary Planning Document: Trees and Hedgerows

This document provides further guidance on how to deal with existing trees and hedgerows on development sites. This covers:

- Tree Preservation Orders
- Hedgerow Regulations 1997
- Conservation areas

The document states:

> "*The Council considers that trees and hedgerows enhance the quality of the environment, including that of new developments, and should be retained and protected wherever possible*."

[11] https://www.barnsley.gov.uk/media/15708/biodiversity-and-geodiversity-spd.pdf

[12] http://www.barnsleybiodiversity.org.uk/Barnsley%20BAP%20II%20adopted%202010.pdf

3.0 Methodology

The baseline ecological data was collated by a combination of desk-based study and field survey consistent with all current standard methodologies and published good practice guidelines.

3.1 Desk Study

An ecological data search was requested from the Barnsley Biological Records Centre (BBRC) to obtain records of protected and otherwise notable species, and non-statutory ecological sites for the Site and land within a 1.5km radius of its centre. The data search results were supplied on the 12th September 2023.

An internet-based desk study was also undertaken, whereby the Multi-Agency Geographic Information for the Countryside (MAGIC) website (http://magic.gov.uk) was searched for statutory designated sites such as Sites of Special Scientific Interest (SSSI), European Protected Species Licences (EPSL), great crested newt (*Triturus cristatus*) (GCN) survey returns and Priority Habitat inventory parcels (including ancient woodland), both for the Site itself and land within a 2km radius.

3.2 Field Survey

3.2.1 Habitats

An ecological walkover of the Site and surrounding areas was undertaken by Miss Helen Chambers, Ecologist with SLR Consulting, on 7th September 2023.

This survey was undertaken to ascertain whether the site habitats, were of the same type, extent, condition and composition as detailed in the recent PEA/EcIA by Brooks Ecological Ltd[1,2] and that the Site had not changed significantly in ecological terms since those surveys.

The survey was carried out on a clear day with scattered clouds, a light breeze and an ambient temperature of 23-27°C.

The Site was surveyed to identify the broad habitat types present in accordance with the UK Habitat Survey (UKHab) methodology[13]. The methodology was extended to include searches for features of interest, such as notable or protected species of flora and fauna, as well as habitats capable of supporting such species.

The UK Habitat Classification (UKHab) system comprises a principal hierarchy (the Primary Habitats) which involves the identification of broad habitats and Priority habitats, as well as the use of non-hierarchical Secondary codes.

In addition, plant species listed in Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), such as Japanese knotweed (*Fallopia japonica)*, Himalayan balsam (*Impatiens glandulifera)* and giant hogweed (*Heracleum mantegazzianum)* were searched for.

3.2.2 Fauna

The ability of the Site to support protected or notable species, including reptiles, badger, bats, great crested newt, water vole, and breeding birds, was assessed and field evidence of such species was searched for.

3.3 Assessment Approach

The ecological evaluation and impact assessment approach used here is based on Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland ("CIEEM guidelines") (CIEEM,

[13] https://ukhab.org

2018[14]).

3.3.1 Important Ecological Receptors

Ecological receptors can be important for a variety of reasons and the rationale used to identify them is explained here. Importance may relate, for example, to the quality or extent of the Site or habitats therein; habitat and/ or species rarity; the extent to which such habitats and/ or species are threatened throughout their range, or to their rate of decline.

Importance is considered within a defined geographical context; the following frame of reference has been used in this case, relying on known/ published accounts of distribution and rarity where available, and professional experience:

- International;
- National (i.e. UK/ England etc.);
- Regional (i.e. Yorkshire & Humber);
- County (i.e. South Yorkshire); and
- Local (i.e. within 2km).

The importance of the various habitats has been measured against published selection criteria where available and relevant. Examples of relevant criteria include: descriptions of habitats listed on Annex 1 of the Habitats Directive; descriptions of habitats of principal importance for biodiversity under Section 41 of Natural Environment and Rural Communities (NERC) Act 2006; Local Wildlife Site Selection Criteria; and Habitat Action Plans (HAPs) contained within Local Biodiversity Action Plans.

In assigning a level of importance to a species, it is necessary to consider their distribution and status, including a consideration of trends where relevant. Reference has therefore been made to published lists and criteria where appropriate. Examples of relevant lists and criteria include: species of European conservation importance (as listed on Annexes II, IV and V of the Habitats Directive or Annex 1 of the Birds Directive); species of principal importance for biodiversity under Section 41 of the NERC Act 2006 and Birds of Conservation Concern (BoCC)[15].

For the purposes of this report ecological features of local importance or greater and/ or subject to legal protection have been subject to detailed assessment. Effects on other ecological features are considered unlikely to be significant in legal or policy terms and have therefore been omitted from the assessment process.

3.3.2 Impact Assessment

The impact assessment process involves the following steps:

- identifying and characterising potential impacts;
- incorporating measures to avoid and mitigate these impacts;
- assessing the significance of any residual effects after mitigation;
- identifying appropriate compensation measures to offset significant residual effects (if required); and

[14] Chartered Institute of Ecology and Environmental Management (CIEEM) Guidelines for Ecological Impact Assessment in the UK and Ireland, September 2018.

[15] Stanbury, A., Eaton, M., Aebischer, N., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble D., and Win, I (2021). Birds of Conservation Concern 5: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds*, 114: 723-747.

- identifying opportunities for ecological enhancement.

When describing impacts, consideration has been given to the following, as appropriate:

- Positive or negative;
- Extent;
- Magnitude;
- Duration;
- Timing;
- Frequency; and
- Reversibility.

The impact assessment process considers both direct and indirect impacts: direct ecological impacts are changes that are directly attributable to a defined action, e.g. the physical loss of habitat occupied by a species during the construction process. Indirect ecological impacts are attributable to an action, but which affect ecological resources through effects on an intermediary ecosystem, process or feature, e.g. the creation of roads which cause hydrological changes, which, in the absence of mitigation, could lead to the drying out of wet grassland.

Consideration of conservation status is important for evaluating the effects of impacts on individual habitats and species and assessing their significance:

- Habitats – conservation status is determined by the sum of the influences acting on the habitat that may affect its extent, structure and functions, as well as its distribution and its typical species within a given geographical area; and
- Species – conservation status is determined by the sum of influences acting on the species concerned that may affect its abundance and distribution within a given geographical area.

3.3.3 Significant Effects

The concept of ecological significance is addressed in paragraphs 5.24 through to 5.28 of the CIEEM guidelines (2018). Significance relates to the weight that should be attached to effects when decisions are made.

For the purpose of EcIA a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. Conservation objectives may be specific (e.g. for a designated site) or broad (e.g. national/ local nature conservation policy) or more wide-ranging (enhancement of biodiversity). Effects can be considered significant at a wide range of scales from international to local and the scale of significance of an effect may or may not be the same as the geographic context in which the feature is considered important.

3.4 Limitations

3.4.1 Desk Study

Desk study data is unlikely to be exhaustive, especially in respect of species, and is intended mainly to set a context for the study. It is therefore possible that protected species not identified during the data search do in fact occur within the vicinity of the Site. Interpretation of maps and aerial photography has been conducted in good faith, using recent imagery, but it has not been possible to verify the accuracy of any statements relating to land use and habitat context outside of the field study area.

3.4.2 Accessibility and Survey Timing

The Site, and immediately surrounding areas, were fully accessible, and as such no access restrictions apply. Furthermore, the UK Hab walkover survey was undertaken at an optimal time of

year, by an appropriately experienced surveyor, and as such, no significant limitations apply.

4.0 Results

4.1 Statutory and Non-Statutory Protected Areas

4.1.1 Statutory Designated Sites

The Site itself is not designated as a statutory ecological site.

Three statutory sites are present within 2km of the Site; as detailed in Table 4-1 below. No European Sites such as Special Protection Areas (SPas) or Special Areas of Conservation (SAC) are present within a 15km radius of the Site.

Table 4-1: Statutory Designated Sites within 2km of the Site

Name of Site	Distance from Site Boundary	Designation	Summary Interest
West Haigh Wood	1km north	Local Nature Reserve (LNR)	Oak woodland and archaeological interest
Dearne Valley Wetlands	1.2km southwest	Site of Special Scientific Interest (SSSI)	Supports a nationally important assembled of birds
Carlton Main Brickworks	1.7km northwest	SSSI	Designated for geological reasons

The Site also falls within the SSSI Impact Risk Zones for the Dearne Valley Wetlands SSSI and Carlton Main Brickworks SSSI, and the guidance states '*All Planning Applications*' should be considered; therefore, Natural England may wish to comment on the application.

However, no potential pathways for significant effects have been identified upon these statutory designated sites, due to their distance and ecological separation from the Site, and as such statutory designated sites are not discussed further.

4.1.2 Non-Statutory Designated Sites

The Site itself is not designated as a non-statutory ecological site. However, one Barnsley Wildlife Site is present within 1.5km of the Site, namely West Haigh Wood, which covers four areas, the closest of which lies 900 m north-west of the Site. Edderthorpe Ings used to be classified as a Barnsley Wildlife Site and was roughly 1.4 west of the Site, however, this is no longer classified as a Local Wildlife Site, instead it is included within the Dearne Valley Wetlands SSSI[16].

West Haigh Wood is outside of influencing distance of the proposed development, due to a lack of ecological connectivity and distance from the Site. Therefore, non-statutory designated sites do not have scope to be directly or indirectly affected by the proposals and have not been subject to further assessment.

4.1.3 Dearne Valley Green Heart Nature Improvement Area

The Site lies within the Dearne Valley Green Heart Nature Improvement Area[10]. As such, development at this Site will have to comply with the associated policies, which state "*the vision for the Dearne Valley Green Heart NIA is ambitious. At its core will be 1300 ha of reedbed, wet grassland, wet woodland and woodland, with a 2690 ha buffer area of farmland, amenity grasslands, and reclaimed industrial areas whose biodiversity value will be enhanced. The aim is to link up core areas and target farmland areas of poor ecological functionality covering 1700 ha.*"

[16] http://www.barnsleybiodiversity.org.uk/localsites.html

4.1.4 Priority Habitat Inventory

The Site itself does not contain any priority habitat inventory parcels, however, the MAGIC data search returned multiple habitat parcels from within a 2km radius of the Site.

One parcel of lowland heathland was returned, circa 1.9 km north-east of the Site. Seven parcels of ancient woodland were returned, the closest parcel (which includes a mixture of ancient-replanted woodland and ancient and semi-natural woodland) circa 330 m south-west of the Site.

Fifty parcels of deciduous woodland and 41 National Forest Inventory parcels were returned, with the closest parcel circa 330 m south-west (also designated as ancient woodland). Three parcels of open mosaic habitat were returned, the closest being circa 1.1km southwest of the Site.

The closest priority habitat inventory parcel lies circa 330 m south-west of the Site (the parcel of ancient woodland) and is divided from the Site by Main Street and residential developments. This parcel of ancient woodland is therefore outside of influencing distance of the proposed development, and as such, priority habitats have been excluded from further consideration.

4.2 Habitats

4.2.1 Modified grassland (g4)

A field of modified grassland is present at the east of the Site (Plate 1; Figure 3.1 in Appendix C). The grassland is dominated by common grasses, including Italian rye grass (*Lolium multiflorum*), bents (*Agrostis* sp.), cock's foot (*Dactylis glomerata*) and Yorkshire fog (*Holcus lanatus*). Very few herbs are present, however, dandelion (*Taraxacum officinale*), chickweed (*Stellaria media*), broad-leaved dock (*Rumex obtusifolius*) and common sorrel (*Rumex acetosa*) are occasional throughout the grassland.

This grassland is being managed for agricultural purposes; and at the time of survey had been mown.

Plate 1 – View looking north across the field of modified grassland on Site.

The modified grassland has been assessed as having less than local ecological importance and has therefore been excluded from further consideration.

4.2.2 Native hedgerows (h2a)

Five native hedgerows are present on Site (Figure 3.1 in Appendix C). They are detailed below in Table 4-2A.

Table 4-2A: Description of Hedgerows on Site

Ref	Plate	Description
H1	 **Plate 2** – View looking north along hedgerow one.	Native hedgerow present along the western Site boundary, *circa* 190m in length, dominated by hawthorn (*Crataegus monogyna*), with the occasional blackthorn (*Prunus spinosa*), holly (*Ilex aquifolium*), elder (*Sambucus nigra*) and dog rose (*Rosa canina*). Ground flora indicative of arable field margin with species including nettle (*Urtica dioica*), cleavers (*Galium aparine*), bramble (*Rubus fruticosus*), broad-leaved dock (*Rumex obtusifolius*), cow parsley (*Anthriscus sylvestris*), hogweed (*Heracleum sphondylium*), ivy (*Hedera helix*), white deadnettle (*Lamium album*), borage (*Borago officinalis*) and common grasses including cocksfoot.
H2	 **Plate 3** – View looking east along hedgerow two.	Native hedgerow present along the northern boundary running along the top of a small bank, *circa* 80m in length. Mostly comprising hawthorn. On the opposite side of this hedgerow a small channel is present, which at the time of survey, was completely dry, with no aquatic vegetation present. A small rabbit warren was identified along the bank of this hedgerow. Ground flora includes nettle, cleavers, bramble, broad-leaved dock, cow parsley, hogweed, ivy and common grasses including cocksfoot.
H3	 **Plate 4** – View looking north along hedgerow three.	Native hedgerow present at the centre of the Site, *circa* 220m, marking the boundary between the modified grassland field and cropland field. Dominated by hawthorn, with the occasional blackthorn, holly, elder and dog rose. Ground flora indicative of arable field margin with species including nettle, cleavers, bramble, broad-leaved dock, cow parsley, hogweed, ivy, white dead-nettle, borage and some common grasses.

Ref	Plate	Description
H4	 **Plate 5** – View looking west along hedgerow four.	Native hedgerow present along the northern boundary running along the top of a small bank, *circa* 80m in length. On the opposite side of this hedgerow a small channel is present, which at the time of survey, was completely dry, with no aquatic vegetation present. Ground flora includes nettle, cleavers, bramble, broad-leaved dock, cow parsley, hogweed, ivy and common grasses including cocksfoot.
H5	 **Plate 6** – View looking north at hedgerow five.	Native hedgerow present along the eastern Site boundary, *circa* 170m in length, dominated by hawthorn, with the occasional blackthorn, holly, elder and dog rose. Ground flora indicative of arable field margin with species including nettle, cleavers, bramble, broad-leaved dock, cow parsley, hogweed, ivy, white deadnettle, borage and common grasses including cocksfoot.

The hedgerows have local ecological importance and the potential impact upon them has therefore been subject to further assessment.

4.2.3 Mixed scrub (h3h, 11, 1170)

Two small patches of mixed scrub are present on Site; one area surrounding a disused shed and one along the south-western boundary (Figure 3.1 in Appendix C).

The area of mixed scrub around the disused shed is dominated by bramble, however hawthorn, elder and dog rose are also present (Plate 7). Herbs such as nettle, willowherbs (*Epilobium* sp.) and creeping thistle (*Cirsium arvense*) are also present.

The area of mixed scrub along western boundary of the yard is of a similar composition (Plate 8); however, it has elements of the grown-out hedges and trees which have been planted in this area, including scattered trees such as cherry (*Prunus avium*), rowan (*Sorbus aucuparia*), willow (*Salix* sp.) and sycamore (*Acer pseudoplatanus*) trees, and has a more significant grass presence around the edges which include false oat-grass (*Arrhenatherum elatius*), Yorkshire fog and cock'sfoot.

A single mature sycamore is found within the mixed scrub area along the western boundary of the yard. Brooks Ecological mapped this tree and included it within the metric score to allow the intrinsic value offered by mature trees to be accounted for.

Plate 7 – View looking east at the area of mixed scrub around the disused shed on Site (B1).

Plate 8 – View looking southwest at the mixed scrub adjacent to the yard.

The mixed scrub on Site is assessed as holding less than local ecological importance and has been excluded from further assessment.

4.2.4 Cereal crops (c1c)

A cropland field is present towards the west of the Site (Plate 9; Figure 3.1 in Appendix C). initially surveyed by Brooks Ecological, this was occupied by a barley crop and subject to herbicide application. However, at the time of re-survey, this had become overgrown with arable weeds, likely due to a lack of management in recent months. Weeds present include willowherbs, teasel (*Dipsacus fullonum*), creeping thistle and nettle with some grasses present including false oat-grass. The habitat/ land present was still indicative of a cropland/ an agriculturally managed field albeit lacking active management.

Plate 9 – View looking northeast across the cropland.

The cropland on Site is assessed as holding less than local ecological importance and has been excluded from further assessment.

4.2.5 Developed land – sealed surface (u1b)

A small strip of concrete hard standing is present to the south of the Site, used for storing agricultural machinery (Plate 10; Figure 3.1 in Appendix C).

Plate 10 – Concrete hard standing at the south of the Site.

The developed land on Site is assessed as holding less than local ecological importance and has therefore been excluded from further assessment.

4.2.6 Buildings (u1b5, 88)

Four structures/ buildings, including two barns, are present within the yard present at the south-west corner of the Site (Figure 3.1 in Appendix C). These are detailed below in Table 4-2B. During the original surveys conducted by Brooks Ecological a fifth building was also present (Ref: B4), however, this has since been demolished. In addition, three silos were previously found on Site, with only two being present during the updated walkover.

Table 4-2B: Description of Buildings on Site

Reference	Plate	Description
B1		Dilapidated timber shed built around timber frame. Asbestos panel roof.

Reference	Plate	Description
	Plate 11 – View looking south at the small, dilapidated shed.	
B2	 **Plate 12** – View looking east at the first metal barn.	Combination of metal and wooded frame, clad with corrugated metal sheeting with an asbestos roof.
B3	 **Plate 13** – View looking south at the second barn.	Timber frame, with breeze block base curtain walls, corrugated metal to upper walls and roof.
B4	 **Plate 14** – View looking east at the concrete base, the only remaing part of building four.	Part of a more modern agricultural building breeze block base walls with corrugated asbestos uppers and roof. **Now demolished/ no longer present.**

Reference	Plate	Description
B5	 **Plate 15** – Two corrugated metal silos present at the southwestern aspect of the Site.	A collection of two corrugated metal silos. **One silo removed/ no longer present.**

The buildings on Site are assessed as holding less than local ecological importance and have therefore been excluded from further assessment. However, the potential of these structures to support protected species has been considered below.

4.2.7 Artificial unvegetated – unsealed surface (u1c, 17, 351)

At the south-western edge of the Site a small yard is present, which is comprised primarily of gravel/ unsealed surface, which appears mostly disused (Plate 16; Figure 3.1 in Appendix C). Vegetation is mostly absent, however, there are patches where early successional vegetation is present, on the edge of the mixed scrub habitat and bordering the cropland habitat. Competitive and ephemeral species present include Yorkshire fog, pineapple weed (*Matricaria discoidea*), buddleia (*Buddleja davidii*), shepherds' purse (*Capsella bursa-pastoris*), groundsel (*Senecio vulgaris*), cleavers, spear thistle (*Cirsium vulgare*) and willowherbs.

Plate 16 – View looking north at the yard present with early successional plants growing.

The artificial land on Site is assessed as holding less than local ecological importance and has therefore been excluded from further assessment.

4.3 Protected and Notable Species

4.3.1 Mammals

4.3.1.1 Bats

The Barnsley Biological Records Centre (BBRC) returned 12 records relating to bats within a 1.5km radius of the centre of the Site for the period of 1989 to 2021.

The records related to four species/ species groups: soprano pipistrelle (*Pipistrellus pygmaeus*), common pipistrelle (*Pipistrelle pipistrellus)*, noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auritus*) and an unidentified Myotis bat (*Myotis* sp.). No description is given for the records; therefore, it is not known whether they relate to field or roost records. The closest record is that of a common pipistrelle approximately 200m west.

Four structures/ buildings, including two barns, are present within the yard present at the southwest corner of the Site (see 4.2.6). These are all assessed as having negligible bat roost potential, due to the exposed nature of the structures, and the materials with which the structures are composed of e.g., sheet metal. All the trees present on Site were assessed and found to have negligible bat roost potential due to a lack of crevices/ features present for roosting bats.

The hedgerows along the boundaries of the Site, as well as the trees, scrub and ephemeral vegetation around the yard likely provide foraging and commuting resources for the surrounding bat population. Bat activity surveys were undertaken by Brooks Ecological in 2021[3], which included spring, summer and autumn walked transects and static bat detector deployment. These surveys found the Site to be of local value to commuting bats, in particular the well-grown and well-hedgerows on Site. Most of the foraging activity was recorded around the yard, however, low-level foraging activity was also found along the hedgerows. Only low-levels of bat activity were recorded, with the majority of the activity relating to common pipistrelle bats, however, the static bat detectors returned calls of up to six bat species, including soprano pipistrelle, noctule, myotis sp. and brown long-eared bat.

As such, the Site is assessed as being of local ecological importance for commuting bats, allowing bats to commute around the Site and into the wider landscape. There is also scope to enhance the Site for roosting and foraging bats and therefore this group has been subject to further assessment.

4.3.1.2 Badger

No records of badger were returned for land in close proximity to the Site, with the nearest sett record being located over 1.2km from the Site.

No evidence of badger was recorded within the Site, or close to its boundaries, during the ecological walkover survey. However, an active rabbit warren was identified along hedgerow two, with all the entrances of the size and shape indicative of rabbit burrows. Whilst currently occupied by rabbits, it is possible that badgers could enlarge the entrances already formed by rabbits and given that this warren is located within a hedgerow along a bank, which badgers particularly favour, this increases the chances of this occurring.

Currently, this Site is assessed as having less than local ecological importance for badgers, however, given the potential for sett creation and the protection afforded to badger setts, this species has been subject to further assessment.

4.3.1.3 Water Vole

Three records of water vole were returned by BBRC, dated from 2001 to 2012, with the closest record is approximately 1km northwest of the Site.

No ditches or any other watercourses are present on Site, nor does any suitable habitat lie on or within influencing distance of the Site boundary.

As such, the Site is assessed as having less than local ecological importance for water vole and this species has been excluded from further assessment.

4.3.1.4 Otter

No records of otters were provided by BBRC within 1.5km of the Site.

No ditches or any other watercourses are present on Site, nor does any suitable habitat lie on or within influencing distance of the Site boundary.

As such, the Site is assessed as having less than local ecological importance for otter and therefore this species has been excluded from further assessment.

4.3.1.5 Other Mammal Species

Two records of hedgehog (*Erinaceus europaeus*) were provided by BBRC, dated 2014 and 2016, the nearest record being 1.1 km southwest.

The Site holds potential to support foraging, commuting and hibernating hedgehogs due to the mixed scrub and hedgerow habitats present. Therefore, this species has been assessment as having local ecological importance and is subject to further assessment.

4.3.2 Amphibians (including great crested newt)

BBRC provided one record of great crested newt within 1.5km of the Site; dated 2017, and approximately 1.3km southwest of the Site.

Records of common frog (*Rana temporaria*), common toad (*Bufo bufo*) and smooth newt (*Lissotriton vulgaris*) were also returned, dating from 2001 to 2017, with the closest record being that of a smooth newt, from 2010, approximately 550m south-west of the Site.

The Site itself does not contain any ponds, and no ponds appear to lie within 250m of the Site. The hedgerow bases and scrub on Site provides some suitable amphibian terrestrial habitat, albeit isolated from suitable breeding habitat.

Overall, the Site is assessed as having less than local importance for great crested newt, given the lack of suitable breeding habitat and lack connecting habitat present. As such, great crested newt (and other amphibians) are unlikely to be affected by the proposals, and have been excluded from further assessment.

4.3.3 Reptiles

The desk study data revealed two records of grass snake (*Natrix helvetica*) and four records of common lizard (*Zootoca vivipara*) from 2014 to 2020, with all the records being over 1.2km from the Site.

The core of the Site, which comprises arable and developed land, is suboptimal for reptiles. In addition, the Site is surrounded by further poor quality/ suboptimal habitat. The margins of the Site, the hedgerows, may provide suitable habitat, however, these are not well connected to further suitable habitat and given the previous management of the Site (and current management in the grassland field), it is unlikely that reptiles are present on Site.

Overall, the Site has been assessed as having less than local importance for reptiles, and as such, reptiles have been excluded from further consideration.

4.3.4 Nesting Birds

A total of 208 records of birds were provided for land within 1.5km of the Site dated from 1990 to 2021, relating to 38 species including black-headed gull (*Chroicocephalus ridibundus*), bullfinch (*Pyrrhula pyrrhula*), corn bunting (*Emberiza calandra*), cuckoo (*Cuculus canorus*), dunnock (*Prunella modularis*), green woodpecker (*Picus viridis*), greenfinch (*Chloris chloris*), grey partridge (*Perdix perdix*), house martin (*Delichon urbicum*), house sparrow (*Passer domesticus*), kestrel (*Falco tinnunculus*), lapwing (*Vanellus vanellus*), linnet (*Linaria cannabina*), mistle thrush (*Turdus viscivorus*), rook (*Corvus frugilegus*), skylark (*Alauda arvensis*), short-eared owl (*Asio flammeus*), song thrush (*Turdus philomelos*), sparrowhawk (*Accipiter nisus*), stock dove (*Columba oenas*), swift (*Apus apus*), tawny owl (*Strix aluco*), teal (*Anas crecca*), whitethroat (*Sylvia communis*), willow tit (*Poecile montanus*), willow warbler (*Phylloscopus trochilus*), wren (*Troglodytes troglodytes*), yellowhammer (*Emberiza citrinella*).

Eleven records appear to relate to the Site itself, including nine records located at grid reference '*SE4307*', from 2006, of dunnock, linnet, song thrush, whitethroat, willow warbler, woodpigeon (*Columba palumbus*), wren and yellowhammer, with all the records relating to breeding pairs/ probably breeding pairs. The other two records relating to the Site were found at grid reference '*SE430071*', dated 2017, one relating to linnet and one relating to yellowhammer. These records relate to sightings of birds within an overgrown hedgerow.

During the updated walkover survey, two different types of pellet were found within one of the barns (B2), one of which being the correct size and shape to be indicative of barn owl (*Tyto alba*) and the other likely kestrel (*Falco tinnunculus*). During previously surveys conducted by Brooks Ecological, pellets were found in other buildings (B1, B3), and a barn owl was incidentally observed during each one of the walked transects. It was concluded that this individual likely roosts on Site, but no evidence of nesting was identified. Given the structure of the barns on Site, it is considered unlikely that barn owls are using any of the barns for nesting/ rearing purposes, as the barns lack the surfaces required to nest on.

However, the barns on Site appear to be used by barn owls (and possibly other species such as kestrel), for roosting purposes, and evidence of this has been found across multiple surveys/ years. Therefore, given the evidence of barn owls roosting on Site and the fact that barn owls are faithful to their home range, the Site is considered to be of local importance for barn owls and shall be subject to further assessment.

The remainder of the Site; the hedgerow, trees and mixed scrub habitats on Site have the potential to support a range of farmland and urban-fringe species, and the arable fields could also support small numbers of ground-nesting birds, such as skylark. However, given the small size of the Site and varying levels of disturbance/ management, the Site on a whole is unlikely to support a notable bird assemblage.

Overall, the Site (excluding the barns) is assessed as having less than local importance for birds, however, given the legal protection afforded to birds and active bird nests and the potential impact of the scheme during construction, if carried out within the bird breeding season, nesting birds have been subject to further assessment.

4.3.5 Invertebrates (including white-clawed crayfish)

BBRC provided records for small heath butterfly (*Coenonympha pamphilus*) and wall butterfly (*Lasiommata megera*) from 2002-2010. No records relate to the Site.

The Site is unlikely to support a rare or notable invertebrate assemblage or be of importance to invertebrates, due to the low species diversity and given the majority of the Site is comprised of arable/ developed land.

Therefore, this group has not been subject to further assessment.

4.3.6 Flora

Eighteen records of English bluebell (*Hyacinthoides non-scripta*) were returned for land within 1.5km of the Site, from the period of 1988 to 2019. One record relates to the Site itself; a record from 1988 of English bluebell at grid reference '*SE4307*'. Given the fact that the record uses a four-figure grid reference, means it is not entirely accurate in its approximate location. In addition, it is possible that the grid reference quoted is an error, given the arable nature of the Site (and indicated location), and given that other records of English bluebells use the grid reference '*SE4207*', which is 950m from the Site. Records were also returned of three types of orchid; bee orchid (*Ophrys apifera*), common spotted-orchid (*Dactylorhiza fuchsii*) and northern marsh-orchid (*Dactylorhiza purpurella*). All the records were over 1km from the Site.

No signs of notable flora, including bluebells or orchids, were noted on Site; the plant species recorded within the Site are common and widespread. Therefore, flora has been excluded from further assessment.

4.3.7 Invasive Species

No records of invasive species within 1.5km of the Site were returned by BBRC.

No evidence of invasive species was identified on Site during the field survey, however, a large area of rockspray cotoneaster (*Cotoneaster horizontalis*) was identified directly adjacent to the south-western potion of the Site (approximate grid reference: SE 42830 06905) (Plate 17). Given the proximity of this specimen in relation to the proposed development, care must be taken during construction works located in this area to ensure this invasive species is not spread to the Site or into the wild.

Plate 17 – Southern view of rockspray cotoneaster located offsite.

As this invasive species is not located on Site and is mainly spread via seed dispersal rather than root fragments (like Japanese knotweed), this group has not been subject to further assessment.

4.4 Summary of Important Ecological Receptors

Ecological receptors assessed as having local importance or greater, as well as legally protected species and/ or habitats, which could potentially be affected by an unmitigated scheme are summarised in Table 4-4, overleaf.

Table 4-4: Summary of Important Ecological Features Subject to Detailed Assessment

Important Ecological Receptor	Scale of Importance	Comments on Legal Status and/ or Importance
Dearne Valley Green Heart Nature Improvement Area	Local	The Site falls within the Dearne Valley Green Heart Nature Improvement Area. As such, the development at this Site will have to comply with the associated policies in terms of biodiversity enhancements.
Hedgerows	Local	Native hedgerows constitute a Priority Habitat; hedgerows have intrinsic value and are likely to support a range of protected and notable species, and to act as general wildlife corridors.
Bats	Local	The Site contains four structures which were assessed as having negligible bat roost potential. In addition, all the trees present on Site were assessed and found to have negligible bat roost potential due to a lack of crevices/ features present for roosting bats. Bat activity surveys were undertaken by Brooks Ecological in 2021, and only low-levels of bat activity was recorded, with the majority of the activity relating to common pipistrelle bats. The Site appears to be an important commuting corridor for bats (due to the hedgerows); however, it appears to offer only minimal/ low quality foraging habitat. Bats and their roosting and/or resting places are protected against killing and injury/ damage, disturbance and destruction under the Wildlife and Countryside Act 1981 (as amended) and the Conservation of Habitats and Species Regulations 2017 (as amended).
Badgers	Local	An active rabbit warren was identified along hedgerow two (along a bank). Badger setts can be dug at any time of year, and it is possible badgers could enlarge the entrances already made by rabbits. Badgers and their setts are protected against killing and injury/ damage, disturbance and destruction under the Protection of Badgers Act 1992.
Hedgehogs	Local	The Site has potential to support foraging, commuting and hibernating hedgehogs due to the hedgerow and scrub habitats present. Hedgehogs are a species of 'principal importance' and a LBAP species.
Barn owl	Local	The barns on Site appear to be used by barn owls for roosting purposes. Barn owls are protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended).
Breeding birds	Less than Local	Whilst the Site has potential to support nesting birds within the hedgerows, trees and scrub present, overall, it does not have scope to support a nesting bird assemblage of importance. However, native birds, and the nests, eggs and young of native birds, are protected against killing and injury/ damage and destruction under the Wildlife and Countryside Act 1981 (as amended)

5.0 Assessment of Effects, including Mitigation Measures and Proposed Biodiversity Enhancements

5.1 Embedded Mitigation and Good Practice Measures

Good practice environmental and pollution control measures will be employed during construction, including dust suppression and measures to minimise any contamination of surface and groundwater from accidental spillages, silt laden runoff, etc), in accordance with current best practice guidance such as, but not limited to, CIRIA C532[17] and CIRIA C741[18].

The following precautionary best practice measures shall also be adopted during construction works:

- Trenches/ excavations left open overnight shall be provided with a sloping end or ramp to provide fauna that may fall in a means of escape;
- Open pipes over 120mm in diameter shall be capped off at night to prevent fauna such as hedgehog from entering;
- Habitats potentially supporting the nests of wild birds will either be removed outside the bird breeding season (March-August inclusive) or will be checked for nests by a suitably qualified ecologist, immediately prior to the relevant works taking place. If active nests are found clearance of the relevant vegetation will be delayed until the young have fledged or the nesting attempt is confirmed to have ended, by a suitably qualified ecologist;
- Habitats potentially supporting hedgehogs will be checked by a suitably qualified ecologist, immediately prior to the relevant works taking place. Should hedgehogs be located they would be moved to a safe location nearby, ahead of vegetation clearance works;
- Methods described in British Standard BS 5837 will be used to ensure adequate protection of retained trees during construction as detailed within the Arboricultural Report (Appendix G).

Further details of good practice measures to be implemented prior to and during construction would be provided in a Construction Environmental Management Plan (CEMP), to be secured via an appropriately worded planning condition.

5.2 Proposed Landscaping and Habitat Creation

Landscaping and habitat creation measures are proposed within the design of the development to provide biodiversity enhancement (see Appendix F for Landscape Proposals).

The landscaping would include native tree planting (totalling 102 trees; including 73 in POS space and 29 within front gardens), native hedgerow planting totalling 300m, ornamental hedgerow planting within gardens, shrub bed planting, an area of pond edge wildflower seed mix within the attenuation basin to the northeast (1380m^2), areas of wildflower grassland surrounding the basin, the area to the north of the Site and a small strip through the centre of the Site (totalling 3540m^2) and small areas of mixed scrub planting (totalling 430m^2).

Most of the native hedgerows around the Site will be retained; only hedgerow H1 is to be lost entirely. Hedgerow H2 will be retained in full, whilst hedgerow H3 will be partly retained, with 100m being lost for access roads and properties; hedgerows H4 and H5 will be retained in full.

[17] CIRIA (2001) C532 Control of water pollution from construction sites: guidance for consultants and contractors. Available at: https://www.ciria.org//ProductExcerpts/C532.aspx

[18] CIRIA (2015) C741 Environmental good practice on site guide. Fourth edition. Available at: https://www.ciria.org/ItemDetail?iProductCode=C741&Category=BOOK&WebsiteKey=3f18c87a-d62b-4eca-8ef4-9b09309c1c91

The remaining habitats to be lost are mostly of only minimal value to wildlife, including cropland.

The pond edge wildflower seed mix planting within the basin would consist of Emorsgate Seeds EP1 Pond Edge Mixture[19] or a similar. Management activities will be limited, and the basin will be fenced off to allow the grassland to attain and remain in good ecological condition. Wildflower planting surrounding the basin, the area to the north, and a small strip through the centre of the Site will support of Naturescape N14 Flowering Lawn Mixture[20] or similar. Management activities will be limited which will allow the grassland to attain and remain in moderate ecological condition.

The wildflower seeding towards the north is intended to enhance biodiversity on Site, whilst the hedgerow retention and planting, and tree planting, will further improve ecological connectivity across the Site, creating habitat corridors for local wildlife.

Landscaping during operation would include aftercare and ongoing management to ensure that new habitats are being managed in a way that is sympathetic to their biodiversity and landscaping value, the detail of which will be presented within a management plan which would be produced and agreed post-consent, and prior to Site works commencing.

5.3 Dearne Valley Green Heart Nature Improvement Area

The Site falls within the Dearne Valley Green Heart Nature Improvement Area. This means that the development must comply with the associated policies and incorporate biodiversity enhancements into the proposals.

Four out of the five of hedgerows present on Site are to be retained (*circa* 450m) (see Section 5.4), with only small losses of the retained hedgerows to allow for access roads and paths (*circa* 100m). This will allow the boundaries of the Site to continue to act as wildlife corridors. Hedgerow one (*circa* 190m) will be lost to facilitate the development. In order to compensate for this loss of habitat, 300m of species-rich native hedgerow will be planted across the Site, including planting along the western boundary to replace the hedgerow which will be lost along this boundary.

In addition, 102 new native trees will be planted across the Site, including 73 in POS space and 29 within front gardens.

In addition, all houses (108) will contain integrated bird boxes (mix of house sparrow terraces and starling boxes) as well as integrated bat boxes to provide roosting and nesting opportunities for bat and bird species using the site and enhance the Site for these species.

Further to the integrated bird boxes, a pole mounted barn owl box shall be placed in the north-eastern corner of the Site, to mitigate the loss of the barns on Site, which have been previously used by barn owls (see Section 5.5.4). This shall enhance the Site for the local barn owl population, by providing nesting opportunities (the barns currently on Site on offer roosting potential).

With the above mitigation in place, it is anticipated that the Site will meet the requirements for the Dearne Valley Green Heart Nature Improvement Area and be enhanced for biodiversity.

5.4 Potential Effects on Hedgerows

Four of the five native hedgerows present on Site are to be retained either partly or in full (amounting to 450m). However, hedgerow H1 (190m) will be removed and 100m of hedgerow H3 will be lost to allow for access roads and properties. The remaining hedgerows (H2, H4 and H5) will be retained in full, and the retention of these hedgerows will allow the boundaries of the Site to continue to act as wildlife corridors.

In order to compensate for the loss of hedgerow habitat, 300m of new species-rich native hedgerow will be planted, including planting along the western boundary to replace the hedgerow

[19] EP1 Pond Edge Mixture - Emorsgate Seeds (wildseed.co.uk)

[20] N14 Flowering Lawn Plant Collection | Naturescape Wildflower Farm

which will be lost along this boundary. Hedgerows will be planted in double staggered rows and planting will comprise of a native species-rich mix of local provenance, including species that can provision birds and other fauna such as blackthorn, hawthorn, hazel (*Corylus avellana*), guelder rose (*Viburnum opulus*) and field maple (*Acer campestre*).

With the above mitigation in place, it is anticipated that the net impact upon hedgerows will be positive.

5.5 Species

5.5.1 Potential Effects on Bats

The Site does not contain bat roosting habitat and represents low quality habitat for foraging bats. However, the Site does provide commuting corridors for the local bat populations, allowing bats to commute across the Site and into the wider landscape. There is also scope to enhance the Site for roosting and foraging bats.

Four out of the five of hedgerows present on Site are to be retained, either partially or in full, and a new 300m long native species-rich hedgerow planted, achieving be a net gain of 10m of linear hedgerow habitat overall. This will ensure bats can continue to commute within the local vicinity of the Site, whilst also continuing to be a foraging resource for local bats. Additionally, 102 new native trees are to be planted around the Site.

An attenuation pond is also being created at the northeast corner of the Site, which will be sown with a pond edge wildflower seed mix and management activities will be limited. An area of wildflower grassland will also surround the basin, the area to the north of the Site and a small strip through the centre of the Site. These new landscaping features will provide enhanced foraging opportunities for bats, and provide further commuting routes through the Site.

In addition, all houses (108) shall contain integrated bat boxes, to provide roosting opportunities for bats in the local vicinity. These shall mostly face south, and will normally be placed on gable ends, at a minimum height of 4m above ground level with a clear uncluttered flight path.

With the above measure in place, no contravention of relevant wildlife legislation is anticipated, and the overall net impact upon bats is predicted to be positive, principally resulting from the introduction of enhanced foraging and roosting opportunities.

5.5.2 Potential Effects on Badgers

No evidence of badger was recorded within the Site, or close to its boundaries, during the ecological walkover survey. However, an active rabbit warren was identified along hedgerow two at the north of the Site, with this hedgerow located along a bank, which badgers particularly favour for sett creation. It is possible that badgers could enlarge the entrances already formed by rabbits.

Given that new setts can be dug at any time of year, as a precaution a pre-construction update survey for badger shall be undertaken of the full Site and 30m radius surrounding area.

With the above measure in place, no contravention of relevant wildlife legislation is anticipated, and impacts upon badgers are considered to be non-significant.

5.5.3 Potential Effects on Hedgehog

The Site has potential to support hedgehog, and the installation of boundary fences between gardens can impact them through loss of habitat connectivity. In order to overcome this and ensure that the Site can continue to be used by, and be crossed by hedgehog, post-development, 15cm x 15cm gaps shall be left at the base of garden fences. These 'hedgehog highways'[21] shall have

[21] https://ptes.org/shop/hedgehog-highways-signs/hedgehog-highway-labels

appropriate signage installed to indicate their purpose and stipulate that they should remain unobstructed. In addition, any hedgerow habitat shall be checked by a suitably qualified ecologist, immediately prior to site clearance works.

With the above measure in place, no contravention of relevant wildlife legislation is anticipated, and impacts upon hedgehogs are considered to be non-significant.

5.5.4 Potential Effects on Barn Owls

The barns on Site appear to be used by barn owls for roosting purposes, evidence of which has been found across multiple surveys/ years. The barns are to be lost to facilitate the development.

In order to mitigate for this loss of habitat, a pole mounted barn owl box will be erected on Site (see Landscape Proposals – Appendix F). This shall be placed in the northeastern corner of the Site, within the grassland planting which borders the retained hedgerow along the eastern boundary. This shall face eastwards (towards the neighbouring cropland fields) and shall be separated from the rest of the Site by hedgerow planting to ensure it is not disturbed by local residents. This will allow barn owls to enter the box from the neighbouring fields and should be sufficiently buffered from the development. This shall enhance the Site for the local barn owl population, by providing nesting opportunities, whilst the barns currently on Site only offer roosting potential.

With the above mitigation in place, the impacts upon barn owls are considered to be net positive.

5.5.5 Potential Effects on Breeding Birds

In the absence of mitigation there is potential for construction works to breach the legislation set out in Section 1 of the Wildlife & Countryside Act 1981 (as amended) by damaging or destroying active nests during vegetation clearance. However, with the embedded mitigation and good practice measures set out in Section 6.1 in place, no contravention of wildlife legislation is anticipated, and no significant residual negative effect is predicted.

Four out of the five hedgerows present on Site are to be retained either partially or in full, 300m of new native hedgerow planting is proposed, and 102 new native trees are to be planted around the Site which will provide further habitat for breeding birds.

Furthermore, all houses (108) shall support integrated bird boxes, involving a mix of house sparrow terraces, starling boxes and swift boxes. These shall face east and be at least 3 metres above the ground.

5.6 Formal Biodiversity Net Gain (BNG) Calculations

The Statutory Metric[4] was used to calculate the existing baseline score for the Site and the post-development value of the scheme (further to Appendix E, which has been supplied separately in Excel format).

In summary, the Site was assessed as having a baseline value of **7.58 habitat units** and **4.58 hedgerow units**; taking into account all of the biodiversity enhancements described within the report and summarised in the Landscape Plan (Appendix F), the Site is predicted to have a value of **7.67 habitat** and **5.12 hedgerow units**, equating to a **+1.14% net increase** and a **+11.77% net increase** respectively.

This BNG shortfall in general habitat units will be addressed via offsetting, which it is recommended can be secured via an appropriately worded planning condition, though it should be noted that the scheme is predicted to deliver a significant gain in hedgerow units.

6.0 Summary of Ecological Effects

The overall net impact of the scheme upon receptors of ecological importance is illustrated in Table 6-0 below, along with the proposed biodiversity enhancements, and the precautions that will be taken to ensure legal compliance with respect to legally protected species.

Table 6-0: Net Impact Upon Important Ecological Features (including Site Enhancement)

Important Ecological Receptor	Scale at which Feature is Important	Overall Net Impact
Dearne Valley Green Heart Nature Improvement Area	Local	Positive and significant at the Local level.
Hedgerows	Local	Positive and significant at the Local level.
Bats	Local	No contravention of wildlife legislation; overall net impact positive and significant at the Local level.
Badgers	Local	No contravention of wildlife legislation; overall net impact neutral.
Hedgehogs	Local	No contravention of wildlife legislation; overall net impact neutral.
Barn owl	Local	No contravention of wildlife legislation; overall net impact positive.
Breeding birds	Less than Local	No contravention of wildlife legislation; positive net impact, though some species will benefit and others will be adversely affected.
Biodiversity Net Gain	N/A	Overall habitat BNG: net gain of +0.09 units.
		Overall hedgerow BNG: net gain of +0.54 units.

Appendix A Site Layout – Avant Homes

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

N

Houghton Green

LISTER ROW

BUS TURNING ONLY

OUT

IN

HIGH STREET

B 6273

New 2m footway to site frontage

New 2m footway to site frontage

Existing footway widened to 2m

EXISTING PROW

EXISTING FW SEWER & EASEMENT

PEDESTRIAN ACCESS TO MUGA

EXISTING WALL TO BE RETAINED SUBJECT TO SURVEY

Farm

MUGA

PLANNING KEY

PLANNING LAYOUT KEY:

- SITE BOUNDARY
- ASSOCIATED LAND
- ROAD
- ROAD MARKINGS
- DRIVES & PATHS
- 1.8m TIMBER SCREEN FENCE
- 1.2m POST & RAIL FENCE
- 1.8m TIMBER GATE
- 1.2m METAL RAILINGS
- 0.45m KNEE HIGH RAIL
- 1.8m SCREEN WALL & FENCE PANEL INFILL
- PILLARS
- 2m ACOUSTIC FENCING
- EASEMENT
- VISIBILITY SPLAY
- EVCP
- BIN STORAGE
- BCP BIN COLLECTION POINT
- SH SHED LOCATION
- 1 PLOT NUMBERS
- PARKING SPACES
- * AFFORDABLE PLOTS
- TARMAC ROAD
- BLOCK PAVING
- TARMAC PRIVATE DRIVES
- POS & FRONT GARDENS
- REAR GARDENS
- EXISTING TREES AND HEDGING
- TREES AND HEDGING TO BE REMOVED

Schedule of Accommodation

Great Houghton 23.01.24

Affordable Housing

Name	Bed	NDSS	Storey	Number
E2.1	2	Y	2.5	6
B3	3	Y	2.5	4
Affordable Total				**10**

Open Market Housing

Askham	1	Y	2	8
Eastbeck	2	Y	2.5	7
Ferndale	2	Y	2	5
Ripley	2	Y	2	16
Oakwood	3	Y	2	10
Leyburn	3	Y	2	9
Malltby	3	Y	2	5
Baildon	3	Y	2.5	8
Salbury	3	Y	2.5	8
Wentbridge	4	Y	2	9
Cookbury	4	Y	2	11
Horbury	4	Y	2	2
Open Market Total				**98**
Overall Total				**108**

0 10m 20m 30m 40m 50m

REV	DATE	BY	AMENDMENTS
C	23.01.24	KW	AMENDMENTS MADE FURTHER TO REGIONAL MEETING ON 23.01.24
B	14.11.23	KW	RECENT TREE SURVEY, VISIBILITY SPLAYS AND REGIONAL COMMENTS ADDED. PLOTS ALSO ADJUSTED TO IMPROVE GARDENS
A	05.09.23	KW	PLOTS ROTATED TO ALLOW FOR ACCESS ROAD TO THE FARM TO THE NORTH

AVANT homes

Unit 2, Mariner Court, Fleet Avenue, Dunkirk, Wakefield, WF4 3FL
Tel: 01924 240410, Fax: 01924 240400
www.avanthomes.co.uk

DATE	SCALE	DRAWN BY
24.08.23	1:500 @ A1	KW

DWG TITLE: Planning Layout

PROJECT: Main Street, Great Houghton

DWG No: 4206-04 REV: C

Appendix B Preliminary Ecological Appraisal Report Main Street, Great Houghton – Brooks Ecological Ltd

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

Preliminary Ecological Appraisal Report

Main Street, Great Houghton

Harron Homes (Yorkshire) Ltd

Report Reference: ER-5492-01A

16/11/2021

Report Title:	Preliminary Ecological Appraisal Report Main Street, Great Houghton
Report Reference:	ER-5492-01A
Written by:	Sam Kitching BSc (Hons) MCIEEM Senior Ecologist
Technical Review:	Christopher Shaw BSc (Hons) MCIEEM Senior Ecologist
QA:	Rob Weston BSc(Hons) MSc MCIEEM Technical Director
Approved for Issue:	Christopher Shaw BSc (Hons) MCIEEM Senior Ecologist
Date:	16/11/2021

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Contents

Summary

This report is produced to inform Harron Homes (Yorkshire) Ltd of potential ecological constraints associated with their proposed development site and the need for further reporting or output to support a planning application.

This report is based on a desk study of designated wildlife sites and records of protected or notable species, and an extended Phase 1 Habitat Survey carried out in May 2021.

Key Findings

The Site is of limited ecological value, characterised by habitats of low distinctiveness, with only very small pockets of moderate distinctiveness, or higher value.

Seasonal bat activity surveys have been recommended and are underway. These will be used to collect baseline information and fully inform any required mitigation. Barn owl nesting survey is also recommended.

The Site scores 7.56 habitat units and 4.58 Hedgerow Units on the DEFRA Metric. Outline calculations suggest a loss of c.3.6 Habitat Units, based on the current landscape proposals.

A BMP should be produced to outline Habitat Units that can believed on Site and their management to ensure the calculated score is achieved.

Further surveys recommended.

Seasonal Bat Activity Surveys

Barn Owl Survey

Introduction

1. Brooks Ecological Ltd was commissioned by Harron Homes (Yorkshire) Ltd to carry out an updating Preliminary Ecological Appraisal (PEA) of land at Main Street, Great Houghton, Barnsley (Grid ref: SE 42947 07037).
2. This report is produced with reference to British Standard BS:42020 'Biodiversity Code of Practice for Planning and Development' and the CIEEM (2017) Guidelines for Preliminary Ecological Appraisal.
3. Survey and assessment was undertaken by Sam Kitching BSc (Hons) MCIEEM. Sam has 9 years professional experience undertaking Preliminary Ecological Appraisals, and has completed extensive training in species identification and habitat assessment, both in house and through external providers. He is registered to use class licences for bats and great crested newt (CL18 Level 2 and CL09).

Purpose of a PEA

4. A PEA is an *initial assessment* of the baseline for a proposed development site and establishes whether the Site is likely to be constrained by ecology, and whether more information is needed to identify the ecological baseline.
5. The subsequent Preliminary Ecological Appraisal Report (PEAR) is intended to give guidance to a developer and assist with the early stages of project planning and design. Where a site is not complex or constrained, and no additional ecological input is necessary the PEAR *may* be sufficient, and suitable to support a planning application.
6. Biodiversity Accounting metrics are used to quantify the value of a Site in Biodiversity Units - which helps in the later stage of assessing the ecological impacts of the proposed development.
7. Biodiversity Units can help to inform avoidance, or on-site mitigation levels required; or as a last resort can translate to a direct monetary value where compensation (off-site) is required. Please be aware that they *can* significantly impact on costs and viability.

The Site

8. The application site 'the Site' comprises two small agricultural fields and associated stack yard. The fields are under current agricultural management though the stack yard appears disused.
9. The assessment uses a 2km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

Figure 1 T*he Site*

Desk Study

Landscape

10. The Site is found on the northern edge of the village of Great Houghton. It is bound to the north and east by agricultural land with existing residential development to the south and beyond Main Street to the west, as well as beyond pasture to the east.
11. Development of Great Houghton is principally found to the southeast with the wider area characterised by arable farmland. Areas of woodland to the north and west and Grimethorpe Nature reserve and various RSPB reserves to the west offer higher value, or otherwise more structured habitat in the area though none of this share strong functional links with the Site.
12. The Site occupies a position over the Pennine Upper Coal Measures. This group may give rise to slightly acidic soil conditions though it is likely that persistent agricultural management has negated this influence.

Wildlife Corridors

13. The River Dearne provides the major corridor through the area. The Site shares no functional link to this corridor, being c.1.45km southwest of the site at its closest point.
14. Thurnscoe Dike, to the east provides another, albeit minor corridor in the area. again, this shares no functional link with the Site.

Figure 2 *Analysis of wildlife corridors and better structured habitat visible on mapping in relation to the Site*

Designated Sites

Statutory Designations

15. A search has been made to identify any nationally designated sites within a 2km radius of the Site, or internationally designated sites within a 10km radius. The results are shown in the below table.

Table 1 Statutory Designated Sites.

Site Name	Distance from Site	Designation	Summary Interest
Carlton Main Brickworks	1.7km NW	Site of Special Scientific Interest (SSSI)	Designated for geological reasons
Dearne Valley Wetkands	1.2km SW	SSSI	Supports a nationally important assembled of birds
West Haigh Wood	1km N	Local Nature Reserve	Oak woodland and archaeological interest

16. Direct and indirect impacts on these sites as a result of this development are considered unlikely due to the Site's separation and distance.

SSSI Impact Risk Zones (IRZs)

17. The Site lies within the 2km IRZ for the Dearne Valley Wetlands SSSI but is unlikely to meet the criteria of any highlighted categories which require the LPA to consult with Natural England in relation to potential impacts.

Non-Statutory Designations

18. There are two Barnsley Wildlife Sites in the search area. These being:
    - West Haigh Wood (covering four areas), 900m NW at its closest point.
    - Edderthorpe Ings (Covering two areas), 1.4km west at its closest point.

19. Direct and indirect impacts on these sites as a result of this development are considered unlikely due to the Site's separation and distance.

Nature Improvement Area

20. The Site lies within the Dearne Valley Green Heart Nature Improvement Area. As such, development at this Site will have to comply with the associated policies. The principal theme of the Dearn Valley Green hearth NIA is to restore and create new wetland and reed bed. While these proposals will have no impact on these aims, the NIA also stipulates the enhancement of farmland

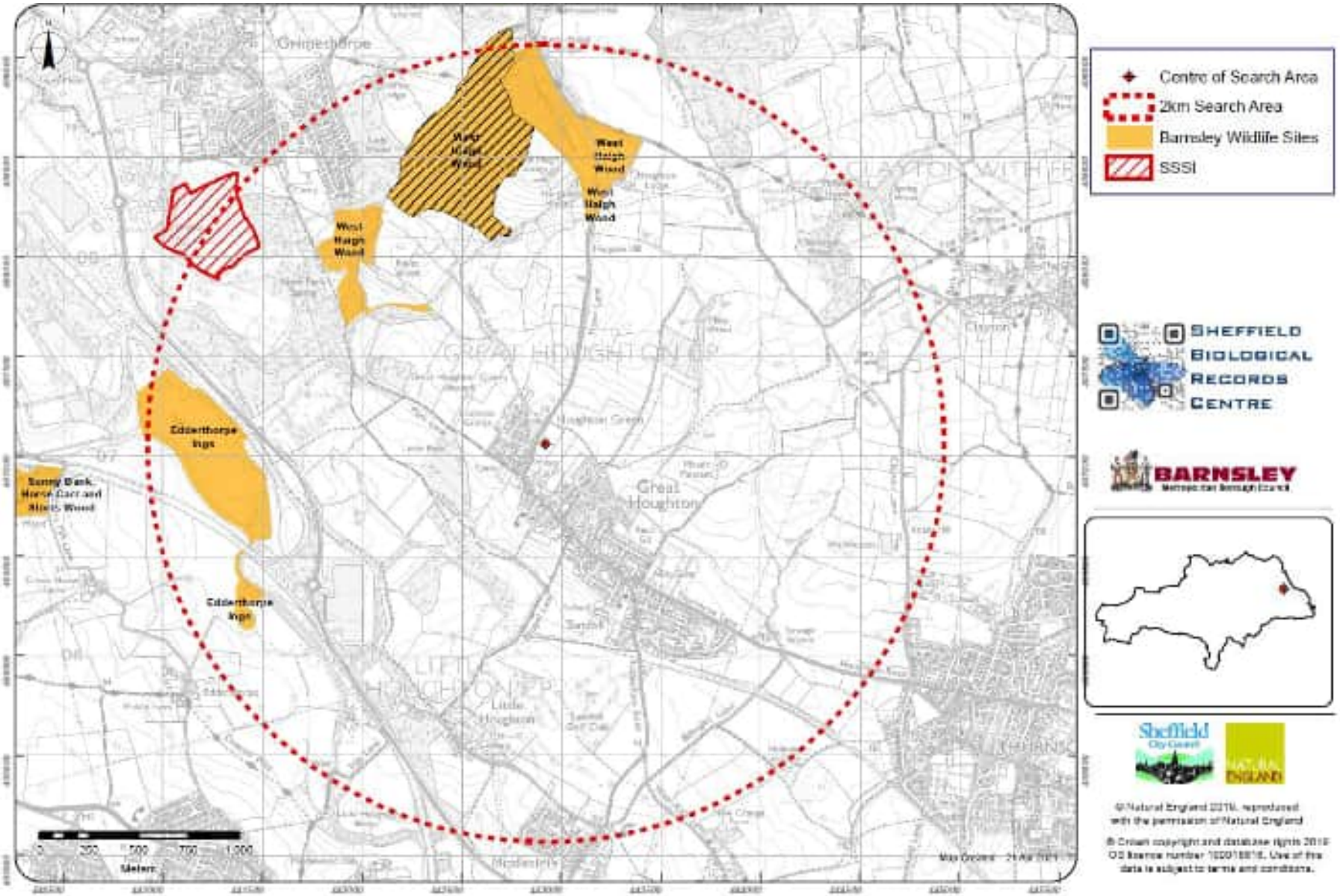
Wildlife Habitat Network

21. The Site does not fall within a designated Wildlife Habitat Network.

Granted EPSM Licenses

22. There are no granted EPSM licenses shown on MAGIC within 1km of the Site.

Figure 3 *West Yorkshire Ecology; Species and Designated Sites*



Survey

Method

23. The survey was carried out during May 2021[1] and followed the principles of Extended Phase 1 Habitat Survey methodology (JNCC, 2010).

24. Following an extension to the originally provided Red Line Boundary an updating Site visit was undertaken in November 2021 to ensure habitats within the extended area were mapped correctly and correct condition assessments could be made.

Limitations

25. Enough time was afforded the surveyor to carry out the survey. The survey was not constrained by poor weather.

26. The extension area was surveyed outside the normal growing season, however, given the similarities between these habitats and those to which they are an extension, which were surveyed in May, this is not thought to be a major constraint.

27. Whilst the majority of the Site was accessible, approximately 5% of the Site was inaccessible due to very dense vegetation, which could not be closely inspected. This could have concealed invasive species or protected species evidence but did not hamper the assessment of habitats or their condition.

Habitat Appraisal

Habitats Identified

28. The Site's habitats are described in order on the following pages. In line with the requirement to provide information on **Biodiversity Net Gain (BNG**), habitats are named in accordance with the UK Habitats classification system - we have used the relevant UK Habs guidance referenced at the back of the report in identifying habitats. Habitat descriptions are divided into the 'distinctiveness' categories used in the calculations - with more weight being afforded the more distinctive / important habitats.

29. Generally, the following apply to each tier of distinctiveness; although some authorities might highlight some lower distinctiveness habitats as having a higher importance locally. Where relevant we have highlighted these.

Very Low Distinctiveness Habitats

30. Habitats of little or no habitat value i.e., lacking any significant native vegetation, but could still provide supporting habitat for protected or notable fauna such as birds or bats. In the context of BNG - their areas are included in calculation, but mitigation or compensation is not required.

Low Distinctiveness Habitats

31. Habitats which are ubiquitous, often which have been created or modified by man. They tend to lack diversity of species and structure. They are unlikely to support notable flora but could still provide supporting habitat for protected or notable fauna. In the context of BNG they are included in calculations, but compensation / mitigation needs only to provide habitat of similar or higher distinctiveness.

Moderate Distinctiveness Habitats

32. Habitats which are common but provide a higher level of structural and species diversity, though unlikely to support more notable assemblages, species of interest could be present here and they are more likely to be important supporting habitat to fauna. In the context of BNG mitigation needs to provide habitat of the same broad habitat type, or that of higher distinctiveness.

[1] This Report has been prepared during June 2021 following a visit to the site in May 2021 and our findings are based on the conditions of the site that were reasonably visible and accessible at that date. We accept no liability for any areas that were not reasonably visible or accessible, nor for any subsequent alteration, variation or deviation from the site conditions which affect the conclusions set out in this report.

High Distinctiveness Habitats

33. These are habitats which are more natural and by definition contain more important assemblages of plants and potentially species which are rare in their own right. They will provide good supporting habitat for fauna. These habitats are likely to be targeted as conservation priorities and will be the subject of additional policy guidance or legislation. In the context of BNG whilst mitigation or compensation for loss or damage is possible, provision of more of the same type of habitat would be required – which (with a few exceptions) is likely to be difficult.

Very High Distinctiveness Habitats

34. These are the UKs rarest / best habitats. They will be present in very particular locations and a range of rare or important plant and animal species will depend on the particular conditions they provide. These habitats will be the subject of restrictive policy guidance or legislation. Whilst the BNG metric does not preclude mitigation or compensation in respect of these habitats, creation of the same habitat type would be required and this would range between very difficult/expensive and impossible.

35. Each habitat is mapped and an area for each type is provided in the format of the DEFRA Biodiversity Metric 2.0 Calculation Tool. The areas can be used to quantify the impacts of development in an Ecological Impact Assessment if this is required by the Local Planning Authority.

Condition Assessment

36. Our condition assessment for each habitat described references where available the criteria set out in The Biodiversity Metric 2.0 Auditing And Accounting For Biodiversity Technical Supplement Beta Edition.

37. Habitats in the Very Low Distinctiveness tier do not require a condition assessment.

38. Habitats in the Low Distinctiveness tier tend to fall into the poor condition category by default. Where we feel this is not the case, we have explained our reasoning.

39. Habitats within the other higher tiers can fall into a range of conditions. We set out our reasoning based on the given criteria and guidelines.

Habitats of Low/Very Low Distinctiveness

Figure 4 *Approximate location and extent of these habitats*

Table 2 Summary - Habitats of Low / Very Low Distinctiveness

Habitat Code / Name	Summary Description	Condition
c1c Cereal crops	Occupied by a barley crop subject to herbicide application – supporting minimal arable "weeds"	N/A
g4 Modified Grassland	Grassland planted and managed for agricultural purpose. Dominated by common fodder grasses including Italian rye grass, bents, cocksfoot and Yorkshire fog. Dandelion is the most abundant forb though this is still only found in very low cover. Chickweed, broad leaved dock and common sorrel were also noted.	Poor
351 Vacant / derelict / bare ground With secondary code 17	Small area within stack yard occupied by stock piles or otherwise disturbed by human activities. Supports sparse cover of common competitive and ephemeral vegetation including Yorkshire fog, pineapple weed, shepherds purse, groundsel, cleavers, spear thistle and willowherbs, amongst others in low cover.	Poor
u1c Artificial unvegetated; unsealed surface with secondary codes 88 and 17	Well trafficked area of stack yard including three disused barns/agricultural buildings which have an unsealed ground surface. Vegetation largely absent with the exception of the graded boundary between this and the mixed scrub to the west where common competitive and ephemeral vegetation is spreading.	N/A
u1b Developed land; sealed surface	Small concrete hard standing pad to the Site's south, currently used for stockpiling manure. Includes more modern shed and metal silos.	N/A
1170 Street tree	A single mature sycamore is found within the area mapped as mixed scrub with scattered trees. While this is not a high value specimen it has been mapped separately to allow the intrinsic value offered by mature trees to be accounted for in the metric.	Moderate

Figure 5 *Example of cereal crop habitat*

Figure 6 *Example of modified grassland habitat*

Figure 7 *Example of vacant/derelict/bare ground habitat*

Figure 8 *Example of artificial unvegetated habitat*

Figure 9 *Example of developed land habitat*

Figure 10 *Mature sycamore*

Habitats of Medium Distinctiveness

Figure 11 *Approximate location and extent of these habitats*

h3h Mixed scrub

40. This habitat is present two small areas around the Site.

41. Mixed scrub has developed in a small area surrounding a disused shed (Area 1) where management and/or human activity are absent. Here bramble (Rubus fruiticosus agg.) dominates but hawthorn (Crataegus monogyna), elder (Sambucus nigra) and dog rose (Rosa canina) provide additional woody species amongst competitive forbs such as nettle (Urtica dioica), willowherbs (Epilobium sp.) and creeping thistle (Cirsium arvense).

42. The western boundary to the farm yard is marked by mixed scrub (Area 2), with elements of the grown out hedges and tree which have been planted in this area mapped with the secondary code – 11- scattered trees. The species composition of the scrub is broadly similar but with a more significant grassy element around the edges which includes false oat grass (Arrhenatherum elatius), Yorkshire fog (Holcus lanatus) and cocksfoot (Dactylis glomerata).

43. Trees in this area include cherry (Prunus sp.), rowan (Sorbus aucuparia), willow (Salix sp.) and sycamore (Acer pseudoplatanus).

Defra Metric Condition Assessment Parcels

	Condition Assessment Criteria: Scrub broad habitat type	Area 1 Pass/Fail	Area 2 Pass/Fail
1	There are at least three woody species, with no one species comprising more than 75% of the cover	Pass	Fail
2	There is a good age range – a mixture of seedlings, saplings, young shrubs and mature shrubs	Fail	Fail
3	Pernicious weeds and invasive species make up less than 5% of the ground cover.	Pass	Pass
4	Well-developed edge with un-grazed tall herbs	Fail	Fail
5	There are many clearings and glades within the scrub.	Fail	Fail
Condition		**Moderate**	**Poor**

Figure 12 *Example of mixed scrub habitat*

Figure 13 *Example mixed scrub with trees*

Linear Habitats

Figure 14 *Approximate location and extent of these habitats*

h2a - Native Hedgerow

44. Hedges 1, 3 and 5 are assessed as native hedges, being dominated by hawthorn (Crataegus monogyna), with occasional blackthorn (Prunus spinosa), holly (Ilex aquifolium) elder (Sambucus nigra) and dog rose (Rosa canina).

45. Ground flora of these species is typical of arable field margin settings with species including nettle, cleavers (Galium aparine), bramble (Rubus fruiticosus agg.), broad leaved dock (Rumex obtusifolius), cow parsley (Anthriscus sylvestris), hogweed (Heracleum sphondylium), ivy (Hedera helix), white deadnettle (Lamium album) and borage (Borago officinalis) alongside common coarse grasses.

h2a - Native hedgerow – Associated with Bank or Ditch

46. Hedges 2 and 4 present roughly similar species composition to that listed above, particularly with respect to the ground flora.

47. H2 shows reduced woody species diversity being limited to hawthorn.

48. A small bank runs along this boundary into which both hedges are rooted on site. On the northern side of this feature (offsite) a small channel is present, at the time of the November Site visit this was almost entirely dry despite recent periods of heavy rain and was found to not support any significant vegetation, aquatic or otherwise.

Hedgerow Regulations

49. None of the hedges on Site meet the criteria to be assessed as important under the Hedgerow Regulations (1997) falling down on species diversity and/or absence of sufficient associated features.

Hedge type			H1 - Native hedge	H2 - Native hedge associated with bank or ditch	H3 - Native hedge	H4 - Native hedge associated with bank or ditch	H5 – Native hedge
Favorable condition attributes and criteria							
A1	Height	>1.5m average along length	Yes	Yes	Yes	Yes	Yes
A2	Width	>1.5m average along length	Yes	Yes	Yes	Yes	Yes
B1	Gap – hedge base	Gap between ground and base of canopy <0.5m for >90% length	Yes	No	Yes	Yes	Yes
B2	Gap – hedge canopy continuity	Gaps make up <10% of total length and no canopy gaps >5m	Yes	Yes	Yes	Yes	Yes
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length & present on one side of hedge at least	Yes	No	No	No	No
C2	Undesirable perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of area of undisturbed ground	No	No	No	No	No
D1	Invasive and neophyte species	>90% of hedgerow and undisturbed ground is free of invasive non-native and neophyte species	Yes	Yes	Yes	Yes	Yes
D2	Current damage	>90% of hedgerow of undisturbed ground is free of damage caused by human activities	No	No	No	No	No
Condition			**Good**	**Moderate**	**Moderate**	**Moderate**	**Moderate**

Figure 15 *Example view of H1*

Figure 16 *Example view of H2*

DEFRA Metric (Baseline)[2]

50. This metric sets out the baseline for the Site - proposals should seek to **Avoid** areas of higher value, **Mitigating** any loss on-Site through retention and enhancement, or habitat creation.

	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	**Broad Habitat**	**Habitat type**	**Area (hectares)**	**Distinctiveness**	**Condition**	**Ecological connectivity**	**Strategic significance**		**Total habitat units**
1	**Cropland**	Cropland - Cereal crops	1.47	Low	N/A -Agricultural	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	3.38
2	**Grassland**	Grassland - Modified grassland	1.65	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	3.80
3	**Urban**	Urban - Vacant/derelict land/ bareground	0.06	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.14
4	**Urban**	Urban - Artificial unvegetated, unsealed surface	0.27	V.Low	N/A - Other	Low	Within area formally identified in local strategy	Compensation Not Required	0.00
5	**Urban**	Urban - Developed land; sealed surface	0.06	V.Low	N/A - Other	Low	Within area formally identified in local strategy	Compensation Not Required	0.00
6	**Heathland and shrub**	Heathland and shrub - Mixed scrub	0.01	Medium	Moderate	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.09
7	**Heathland and shrub**	Heathland and shrub - Mixed scrub	0.03	Medium	Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.17
8	**Urban**	Urban - Street Tree	0.004	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.02
		Total site area ha	**3.55**					**Total Site baseline**	**7.56**

[2] Our report provides an estimate of the sites value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance. This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk.

	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Ecological baseline
Baseline ref	**Hedge number**	**Hedgerow type**	**length KM**	**Distinctiveness**	**Condition**	**Ecological connectivity**	**Strategic significance**	**Suggested action to address habitat losses**	**Total hedgerow units**
1		Native Hedgerow	0.19	Low	Good	Low	Within area formally identified in local strategy	Same distinctiveness band or better	1.311
2		Native Hedgerow - Associated with bank or ditch	0.08	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	0.736
3		Native Hedgerow	0.22	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness band or better	1.012
4		Native Hedgerow - Associated with bank or ditch	0.08	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	0.736
5		Native Hedgerow	0.17	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness band or better	0.782
		Total Site length/KM	**0.74**					**Total Site baseline**	**4.58**

Faunal Appraisal

51. The following pages discuss only the groups and species that could be reasonably expected to be found on the type of habitats present on, or adjacent to, the site.

Amphibians

Desk evidence

52. Fifteen records of amphibians have been returned within the data search. This includes three entries of the protected, great crested newt, while also covering common toad, common frog and smooth newt.

53. None of the returned records relate to land within 500m of the site boundary, while the great crested newt records relate to ponds over 1km south west from the Site.

54. There are no ponds visible on aerial mapping within 500m of the Site boundary.

Field Evidence

55. There is no suitable breeding habitat on Site.

56. The hedge bottoms and scrub on Site would provide suitable amphibian terrestrial habitat, albeit isolated from suitable breeding habitat.

Summary Evaluation

57. Lacking potential breeding habitat on, or within 500m, the Site is considered to be unlikely to support amphibians in significant number, while the protected great crested newt is considered likely absent.

Further Surveys

58. No further surveys or precautions are considered necessary.

Figure 17 Ponds in relation to the Site.

Bats

Desk evidence

59. Nineteen bat records are weld within the search radius. This includes common and soprano pipistrelle, daubentons, noctule and indeterminate species records.

60. None of these records relate to land within the application Site boundary. The closest being two records c.200m west, both of pipistrelle species bats but provided without any qualifying information.

Field Evidence

Potential Roost Sites

Buildings: *The Site includes three, now disused, farm buildings. these are all constructed from combinations of wood, steel, asbestos sheeting and blockwork. All buildings are assessed as being of Negligible Bat Roost Suitability.*

Ref:	Notes	Suitability
B1	Dilapidated timber shed built around timber frame. Asbestos panel roof. Occasional gaps but all features exposed to wind, and potential ingress of rain.	Negligible
BG2	Combination of metal and wooded frame, clad with corrugated metal sheeting with an asbestos roof.	Negligible
B3	Timber frame, with breeze block base curtain walls, corrugated metal to upper walls and roof. Occasional crevices are timber beams but all likely to be exposed to wind though barn.	Negligible
B4	Part of a more modern agricultural building breeze block base walls with corrugated asbestos uppers and roof.	Negligible
B5	A collection of 3 corrugated metal silos.	Negligible

Trees: *None of the trees on Site were found to support features of bat roost suitability.*

Foraging and Commuting Habitat

61. The hedges, trees and scrub around the farmyard are likely to contribute to the foraging and commuting resources sued by local bat populations. Given the Site's geographic location and the habitat features it supports, the Site is considered unlikely to support significant numbers, or otherwise important assemblages of bats.

Summary Evaluation

62. The Site does not include features likely to support roosting bats.

63. Habitats on Site are likely to contribute to foraging and commuting resources used by local bat populations, though they are not likely to have any dependence on them.

Further Surveys

64. Although habitat on Site will only contribute a small part to that used by bats in the area, seasonal activity surveys should be undertaken to confirm this baseline assessment and inform any specific mitigation required.

Figure 18 Building plan

Figure 19 *View of B1*

Figure 20 *External view of B2*

Figure 28 *Internal view of B3*

Figure 22 *View of B4*

Figure 23 *View of B1*

Birds

Desk Evidence

65. Sheffield Biological Records Centre returned nearly 3000 bird records. The vast majority of these relate to the wetland areas to the south west. This list includes several Schedule 1, BAP and red and amber list species.

Field Evidence

66. The Site is principally occupied by simple habitats offering very little structure. The Site is assumed to support a number of nesting territories of common species where structure is better, including the hedges, trees and scrub.

67. The arable land, grassland and to a lesser extent the disused areas of farm yard offer some potential to ground nesting species though in all cases sight lines are poor due to the limited size of fields and disturbance relatively high.

68. Owl pellets were found in B1 and B3 at the time of initial survey, these are of the size and shape commensurate with barn owl though no owls were seen on this visit. There are 10 records of barn owl within the data set, all relate to land at Edderthorpe Ings LWS.

69. General bird activity was very low though the survey was undertaken around midday in hot weather.

Summary Evaluation

70. Potential barn owl presence, otherwise limited value to local bird populations.

Further Surveys and Recommendations

71. Survey should be undertaken to ascertain the status of barn owl at the Site. If nesting here specific precaution and mitigation will be required.

72. Standard precautions apply in respect of restrictions on clearing vegetation during the nesting season.

Riparian Mammals

Desk evidence

73. There are 16 records of water vole within the search radius. Records of Otter are not held. All water vole records relate to land to the south west and west, principally focusing on the River Dearne.

Field Evidence

74. There is no habitat suitable for these species, on or within influencing distance of the boundaries.

Summary Evaluation

75. The likely absence of riparian mammals from the Site can be concluded.

Further Surveys and Recommendations

76. Further survey is not recommended.

Hedgehogs

Desk evidence

81. Hedgehogs are recorded within the search area.

Field Evidence

82. No evidence of hedgehogs was found on site.

Summary Evaluation

83. The Site provides suitable habitat for this species and measures to allow them to access gardens need to be planned for.

Further Surveys

84. Presence assumed no further surveys are considered necessary.

Reptiles

Desk evidence

85. Grass snake and common lizard are well recorded within the search area though once again, these records are focused on wetland areas around the River Dearne to the south west and woodland to the west. The closest records are over 1.3km west of the Site.

Field Evidence

86. The Site offers poor value habitat for species of this group.

87. No field evidence was found.

Summary Evaluation

88. Reptiles are assessed as likely absent from the site.

Further Surveys

89. No further surveys or precautions are considered necessary.

Invasive Non-Native Species (INNS)

90. INNS are species listed on Schedule 9 of the Wildlife and Countryside Act (1981), for which it is an offence to cause or allow it to grow in the wild. No such species were found on site[3]:

Survey constraints

91. This survey is highly constrained by the significant areas that were inaccessible due to the density of vegetation.

92. Although no INNS have been identified in this preliminary survey it is not always possible to conclude absence from preliminary survey alone due to factors such as season, accessibility, 3rd party attempts to hide evidence or undisclosed treatment programmes. For this reason, this report should not be relied upon as definitive evidence of absence of INNS.

93. Should further assurances be needed in relations to INNS a dedicated Invasive Weed Survey should be commissioned.

[3] Whilst our ecologists are trained in the identification of invasive species this report is not a dedicated invasive species survey. Detectability of invasive plant species can be affected by several factors, and conclusive determination status, or extent, is not possible through preliminary survey alone. As the presence of invasive species can generate significant costs to development, the client may wish to instruct a dedicated invasive species survey prior to entering into contracts.

Ecological Constraints

Habitat Value

94. The usual approach to development is to minimise any net loss of biodiversity – ideally working towards a gain in biodiversity value where this is possible on-Site.

95. The plan opposite shows the Site in the context of mapped habitat distinctiveness. It shows that there are no target areas of higher distinctiveness which would need to be avoided by the proposals, the Site is relatively uniform in terms of potential impact. Habitats do not impose any particular design constraints. Loss of habitat of this nature are not of the order which (outside of Biodiversity Net Gain) would require specific mitigation or compensation as they are common locally.

96. Most LPAs now require developments to demonstrate a 'no net loss' in biodiversity, or in some cases a 10% net gain. The Site has been assessed as having a Biodiversity Metric score of 7.56 Habitat Units.

97. Effort must be made to maximise the value of the proposed development and deliver a net get in Habitat Units on Site. Any net loss in biodiversity may need to be compensated for, through offsetting, which could require a financial contribution be made to the LPA's Habitat Fund, or a third-party broker.

Faunal constraints

98. Bat activity surveys are underway. The Spring results of which suggest activity at the Site will pose little constraint on the proposed development.

99. The potential presence of a barn owl, if nesting on Site, will pose constraints on timings.

Figure 24 *Distinctiveness of habitat*

Ecological Opportunities

100. The current proposed layout includes an easement to new surface water attenuation basins. This area should be used to maximise on Site biodiversity value through enhancement of the grassland and creation of new species rich grassland in place of arable land. Furthermore, the attenuation basins should be designed to permanently hold water, or to provide species diversity in the case of dry basins.

101. New species rich hedges should be planted through and around the Site to increased species diversity and structure and offer homes and food sources for native wildlife.

102. Installing roosting and nesting features on new buildings will also be beneficial.

103. A suitable Biodiversity Management Plan would be useful in defining these enhancements and can be secured by standard condition.

Figure 25 *Ecological Opportunities*

Conclusions and Recommendations

Planning considerations		
Recommendation	**Rationale**	**When**
R1 Additional Surveys	• Bat activity survey • Barn owl nesting survey Survey will be required to confirm the pre-development baseline and fully inform any mitigation necessary.	Bat activity surveys – underway. Barn owl survey carried out between 1st June and 16th July
R2 Produce a layout which minimises loss of biodiversity.	Engage with the Constraints and Opportunities set out above, involve your ecologist in designs at an early stage. The proposals will need to consider the NPPF hierarchy of Avoid - Mitigate – Compensate in minimising any loss of biodiversity. The LPA is likely to be seeking at least a no-net-loss situation and could request that a contribution is made to address any residual loss here, off-Site. Your layout may need to change to accommodate your findings from R1 surveys.	During the design process
R3 Biodiversity Net Gain Strategy (BNS)	Engage an ecologist to work with the design team to maximise available Biodiversity Units on site.	During the design process
R4 Landscape Design	Make sure your landscape architect follows ecological advice or the BNS to maximise Biodiversity Units on site and make sure there are no design conflicts.	During the design process
R5 Ecological Impact Assessment (EcIA) to include Calculated final Biodiversity Impact Score.	Summarises all survey findings and assesses the impacts of the scheme in respect of these. Uses DEFRA metric to quantity net gain/loss of biodiversity.	After a fixed design is agreed and all key additional survey are completed.
R6 Produce a CEMP (Biodiversity)	To show how the site will be built without affecting surrounding habitats and minimising risk of affecting protected or notable fauna. The CEMP will detail the following protection measures: • Location of Biodiversity Protection zones or fences • Dealing with known or discovered invasive species • Pre- or during- clearance ecology checks for protected species. • Protected/notable species method statements where licensing in not needed. • Nesting bird management	**Delivery report** Suitable for planning condition.
R7 Produce a Biodiversity Management Plan	To specify in detail how the development will cater for biodiversity on site and to show how habitats incorporated through the Biodiversity Net Gain Strategy be maintained in the condition that the Biodiversity Calculations were based on.	**Delivery report** Suitable for planning condition.

Outline Biodiversity Net Gain (BNG) Implications

129. The NPPF and most aligned local policies require that development achieves a 'no net loss' or unquantified 'net gain' situation for biodiversity. The forthcoming (2020/21) Environment Bill is likely to mandate a 10% net gain position and many LPA's have pre-empted this with revised policies and SPG's, some are providing a means of developers contributing to strategic off off-Site enhancement where BNG can't be secured on Site.

130. Pre-application discussions with the LPA should aim to identify their approach to BNG from an early stage.

131. Outline BNG Implications at this Site have been calculated below. This is based on outline calculation from the pre-app Site layout plan provided. For the purpose of this calculation the Suburban Mosaic habitat has been used in part. This is currently accepted under the DEFRA Metric 2.0, but it is widely assumed that it will be removed from the third version of the Metric which will be released in the near future. Final calculations may therefore differ from those shown below, depending on the time frame of this application and release of Metric 3.0. The more significant roads have been separated out and covered under the Developed Land Habitat, while open space has been assigned Other Neutral Grassland. Figures are provided for habitat area units only.

132. **This is not the final calculation** but provides what is hoped is a useful illustration to work forward from. Proposals will still be required to work within the NPPFs mitigation hierarchy of Avoid, Mitigate, Compensate To achieve the gain as outlined significant effort will have to be put into the landscape proposals and future management to maximise the potential value of open space.

Pre-development Baseline Units	Post Development Units *	Units still required to achieve No Net Loss	Units still required to achieve 10% Net Gain
7.56	3.88	3.68	4.44

133. BNG is very much an evolving situation and the importance of pre-application discussions is again emphasised. For purely illustrative purposes if this project was in our home district of Leeds the 'backstop' position of achieving BNG through the LPA's contribution scheme would incur a cost of £20,000 /unit plus 20% facilitation and monitoring fees https://www.leeds.gov.uk/planning/conservation-protection-and-heritage/achieving-net-gain-in-biodiversity-guidance-for-developers

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Appendix 1 Habitats and Ecological Features

Appendix 2 List of species recorded

Beech	*Fagus sylvatica*
Blackthorn	*Prunus spinosa*
Bramble	*Rubus fruticosus*
Broad leaved dock	*Rumex obtusifolius*
Cherry	*Prunus sp.*
Chickweed	*Stellaria media*
Cleavers	*Galium aparine*
Common bent	*Agrostis capillaris*
Common ivy	*Hedera helix*
Common sorrel	*Rumex acetosa*
Cow parsley	*Anthriscus sylvestris*
Creeping bent	*Agrostis stolonifera*
Dandelion	*Taraxacum officinale agg.*
Dog rose	*Rosa canina*
Elder	*Sambucus nigra*
False oat grass	*Arrhenatherum elatius*
Garlic mustard	*Alliaria petiolata*
Groundsel	*Senecio vulgaris*
Hawthorn	*Crataegus monogyna*
Hogweed	*Heracleum sphondylium*
Holly	*Ilex aquifolium*
Italian rye grass	*Lolium multiforum*
Nettle	*Urtica dioica*
Perennial rye grass	*Lolium perenne*
Pineapple weed	*Matricaria discoidea*
Red deadnettle	*Lamium purpureum*
Rowan/mountain ash	*Sorbus aucuparia*
Shepherd's purse	*Capsella bursa-pastoris*
Spear thistle	*Cirsium vulgare*
Sweet vernal grass	*Anthoxanthum odoratum*
Sycamore	*Acer pseudoplatanus*
Willow	*Salix sp.*
Willowherb	*Epilobium sp.*
Yorkshire fog	*Holcus lanatus*
Borage	*Borago officinalis*
Cock's-foot	*Dactylis glomerata*
Teasel	*Dipsacus fullonum*
White deadnettle	*Lamium album*

Appendix 3 Explanatory Notes and Resources Used

Site Context

Aerial photographs published on commonly used websites were studied to place the site in its wider context and to look for ecological features that would not be evident on the ground during the walkover survey. This approach can be very useful in determining if a site is potentially a key part of a wider wildlife corridor or an important node of habitat in an otherwise ecologically poor landscape. It can also identify potentially important faunal habitat (in particular ponds) which could have a bearing on the ecology of the application site. Ponds may sometimes not be apparent on aerial photographs so we also refer to close detailed maps that identify all ponds issues and drains.

Designated Sites

A search of the MAGIC (Multi-Agency Geographic Information for the Countryside) website was undertaken. The MAGIC site is a Geographical Information System that contains all statutory (e.g. Sites of Special Scientific Interest [SSSI's]) as well as many non-statutory listed habitats (e.g. ancient woodlands and grassland inventory sites). It is a valuable tool when considering the relationship of a potential development site with nearby important habitats. In addition, information from the local record holders was referred to on locally designated sites.

Functional linkage with off-Site habitats

When assessing these we consider whether the Site could be functionally linked to them, considering links such as:

- Hydrological links - is the Site upstream downstream, or could ground water issues affect it?
- Physical links - is the site in close proximity and could it be directly or indirectly affected by construction and operational effects? Conversely it may be that despite proximity major barriers separate the two.
- Recreational links - do footpaths and roads make it likely that increased recreational pressure could be felt?
- Habitat links - is the site part of a network of similar habitat types in the wider area? These could be joined by linear corridors or could simply be 'stepping stones of habitat of similar form or function.

Method

Phase 1 habitat survey methodology (JNCC, 2010). This involves walking the site, mapping and describing different habitats (for example: woodland, grassland, scrub). The survey method was "Extended" in that evidence of fauna and faunal habitat was also recorded (for example droppings, tracks or specialist habitat such as ponds for breeding amphibians). This modified approach to the Phase 1 survey is in accordance with the approach recommended by the Guidelines for Baseline Ecological Assessment (IEA, 1995) and Guidelines for Preliminary Ecological Appraisal (CIEEM 2017).

Faunal Appraisal

This section first looks at the types of habitat found on Site or within the sphere of influence of potential development, then considers whether these could support protected, scarce or NERC Act 2006 Section 41 species (referred to collectively as 'notable species').

Records of notable species supplied from a 2km area of search by Sheffield Biological Records Centre are used to inform this appraisal.

We discuss further only notable species or groups which could be a potential constraint due to the presence of suitable habitat and their presence (or potential presence) in the wider area. We screen out and do not present accounts of notable species or groups which do not meet these criteria – in some cases it may be necessary to explain this reasoning.

Consideration is given to the Local Biodiversity Action Plan (LBAP), which for this site is the 'Barnsley BAP'.

Species/Group	Habitat
Hedgehog	Mixed deciduous woodland
Bats	Upland oakwood
Water Vole	Wet woodland
Otter	Parkland and veteran trees
Grey Partridge	Traditional orchard
Bittern	Scrub
Kestrel	Coniferous woodland
Little Ringed Plover	Hedgerows
Lapwing	Arable field margins
Barn Owl	Acid grassland
Skylark	Neutral grassland
Tree Sparrow	Floodplain grazing marsh
Twite	Amenity grassland
Great Crested Newt	Upland heathland
Salmon	Lowland heath
Bullhead	Reedbeds
White-clawed Crayfish	Lowland fen
Glow Worm	Upland flushes, fens and swamps
Dingy Skipper	Rush pasture
Bluebell	Blanket bog
	Standing water and ponds
	Running water, rivers & streams
	Open Mosaic Habitats on Previously Developed Land
	Built environment and gardens

Bats

Bat roosting potential is classified according to the following criteria set out below, taken from the Bat Conservation Trust Good Practice Guidelines (2016).

Bat Roosting Suitability of Buildings and Trees

Suitability	Criteria
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions, and/or suitable surrounding habitat to be used on a regular basis or by a larger numbers of bats (i.e. unlikely to be

	suitable for maternity or hibernation). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A structure or tree with one or more potential roost sites that could be used due to their size, shelter, protection, conditions, and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only - the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protections, conditions and surrounding habitats.

Evaluation

In evaluating the Site, the ecologist will take into account a number of factors in combination, such as:

- the baseline presented above,
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity.

There are a number of tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority habitats or presents any opportunities in this respect.

The assessment of impacts considers the generic development proposals from which potential effects include:

- Vegetation and habitat removal
- Direct effects on significant faunal groups or protected species
- Effects on adjacent habitats or species such as disturbance, pollution and severance
- Operation effects on wildlife such as noise and light disturbance

Appendix 4 Bat Activity Survey Rationale

The Bat Conservation Trust Guidelines (BCTG) (Collins 2016) is now widely accepted as providing a basis and rationale for scoping and conducting bat surveys. It is acknowledged that the guidelines provide a wealth of background and are a very useful tool in standardising approaches to survey, it is also felt that an over reliance on some of the guidelines within this document can result in the provision of complicated surveys where they have significant consequences for the cost, or timescale of a large project, but could never deliver positives for bat conservation.

Taking the BCTG document as a whole, Chapter 2 helps the reader understand whether or not surveys are required, and that in the context of planning and development survey is required in relation to ensure;

- the avoidance of legal offences, and;

- the provision of a sufficient level of information - such that will allow the Local Planning Authority to make an informed decision on the proposals and their potential impacts on the Favourable Conservation Status (FCS) of bats.

Attendance at seminars presented by, and discussions with, those involved in production of the BCTG document has emphasised the point that it is within the remit of the consultant ecologist to make a decision on the necessity and scope of surveys - they will use the guidelines in doing so but are not in any way bound by them: this is reflected in Section 1.1 of the guidelines -

> *'The Guidelines do not aim to either override of replace knowledge and experience. It is accepted that departures from the guidelines (e.g. either decreasing or increasing the number of surveys carried out or using alternative methods) are often appropriate. However, in this scenario an ecologist should provide documentary evidence of (a) their expertise in making this judgement and (b) the ecological rationale behind the judgement. '*

Such decisions require a consideration of the potential of the project to impact on bat habitat, alongside analysis of the value of habitat on and around the site and of local records and the likelihood that bats might occur in significant numbers. Our reports aim to present information on how we have arrived at our decision on the Site, what assumptions we have based this on, and where further survey is recommended we indicate what the objective of this survey should be and how best this would be achieved.

Based on the range of habitats available at the Site, and its geographical context, with large areas of far greater value habitat in the area, it is considered highly unlikely to form an important part of the resources used by local bat populations. However, habitats on Site are likely to be used in some capacity. For this reason, seasonal bat activity surveys have been recommended (and started) to gather baseline data, and inform mitigation.

This assessment was made by Sam Kitching BSc (Hons) MIEEM. Sam has been assessing and carrying out bat surveys at a significant number of similar Site's in a professional capacity for 9 years and is registered to use the Class Survey Licence WML CL18 (Level 2).

Appendix 5 Wildlife Legislation, Policy and Guidance

This is not an exhaustive list but sets out briefly the relevance of Legislation, Policy and Guidance in terms of planning applications and this assessment.

Legislation

Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (EC Habitats Directive).

Provides framework at an international (EU) level for the consideration / protection of European Protected Species (EPS), and habitats through the designation of sites.

Council Directive 79/409/EEC on the Conservation of wild birds (EC Birds Directive) and The Ramsar Convention on Wetlands of International Importance (1971)

Provides framework at an international (EU) level for the consideration / protection of important bird populations and the sites on which they are dependant.

The Conservation of Habitats and Species Regulations (2010)

This transposes 1) into UK law and provides the basis on which all EPS are protected and impacts on them can be licensed in the UK.

The Wildlife and Countryside Act (1981) as amended

This provides the basis on which UK species are legally protected or restricted and confers protection on Sites of Special Scientific Interest SSSIs. It contains annexes of plants and animals which are legally protected as well as those which are considered to be invasive or harmful. It provides the basis on which impacts on such species can be licensed in the UK and provides controls on work on or near SSSIs.

The Countryside and Rights of Way Act 2000 (CRoW)

Provides a statutory basis for nature conservation, strengthens the protection of SSSIs and UK protected species and requires the consideration of habitats and species listed on the UK and Local Biodiversity Action Plans (UKBAP / LBAP).

Natural Environment and Rural Communities Act 2006 (NERC)

Sets out the responsibilities of Local Authorities in conserving biodiversity. Section 41 of the Act requires the publishing of lists of habitats and species which are "of principal importance for the purpose of conserving biodiversity". At present these largely reflect those making up the UKBAP lists.

Hedgerows Regulations (1997)

Define and provide protection for Important Hedgerows.

Protection of Badgers Act (1992)

Protects badgers from persecution, this includes excavation / development in the proximity of setts.

Protected Sites

Statutory EU / International Protected Sites

Special Areas of Conservation (SACs); and Special Protection Areas (SPAs) and Ramsar Sites contain examples of some of the most important natural ecosystems in Europe. Work on or near these sites is strictly protected and Local Authorities will be expected to carry out 'Appropriate Assessment' of development in proximity of them. In this case there is often an increased burden on the developer in relation to provision of information and assessment.

Statutory UK Protected Sites

Local Nature Reserves (LNRs); National Nature Reserves (NNRs); Sites of Special Scientific Interest (SSSIs) all receive strict protection under UK legislation. Work in or in proximity to these sites would be restricted with any needing to be agreed with Natural England. Natural England now provide guidance on the nature of development which could impact on SSSIs through Impact Risk Zones.

Locally Protected Sites

Local Authorities have a variety of protected wildlife sites designated at a local or regional level. These are gradually being brought under the banner of Local Wildlife Sites (LWS) but at present a plethora of different designations exist - all subject to local policy.

Protected Species

European Protected Species

A number of species (most relevantly bats, great crested newts [GCN], and otters) receive strict protection from killing, injury and disturbance under The Conservation of Habitats and Species Regulations (2010). Protection is also conferred on the habitats on which they rely such as roost space in the case of bats and ponds and fields etc. in the case of GCN.

UK Protected Species

A number of species (including bats, GCN, watervole and white clawed crayfish) are strictly protected under The Wildlife and Countryside Act (1981) as amended, from killing, injury, disturbance and damage or destruction of their resting places etc. Certain species (such as reptiles) and some birds (such as barn owl) receive partial protection e.g. at certain times of the year or form certain activities only. All nesting bird species are protected from damage or destruction of their nests - whilst active.

Invasive species

Schedule 9 of the Wildlife and Countryside Act (1981) as amended, lists these species and makes it an offence to cause or allow their spread in the wild. This often has impacts on development and planning in relation to the presence of invasive plant species such as: himalayan balsam (*Impatiens glandulifera),* japanese knotweed (*Fallopia japonica*) and giant hogweed *(Heracleum mantegazzianum*).

Planning Policy / Guidance

The National Planning Policy Framework (NPPF):
The National Planning Policy Framework was updated in February 2019. The most relevant paragraphs from the NPPF are set out below.

The approach to assessing the natural environment is now embedded within the definition of what 'sustainable development' is and this falls under one of three objectives of the planning system – the 'environmental objective' applying in this case. Paragraph 8c (P8c) of the NPPF states that sustainable development should "*contribute to protecting and enhancing our natural environment*" and "*help to improve biodiversity*". P10 sets out the Framework's presumption in favour of sustainable development.

Section 11 of the NPPF details making effective use of land. The Framework states that planning policies and decisions should "*take opportunities to achieve net environmental gains – such as developments that would enable new habitat creation*" and should "*recognise that some undeveloped land can perform functions for wildlife*" (P118).

Section 15 details conserving and enhancing the natural environment; policies and decisions should be "*protecting and enhancing sites of biodiversity value*", "*recognise the intrinsic character and beauty of the countryside*" and contribute to conserving and enhancing the natural environment and reducing pollution (P170). Allocations of land for development should, "*prefer land of lesser environmental value, where consistent with other policies in this Framework and take a strategic approach to maintaining and enhancing networks of habitats*" (P171).

The Framework sets out ways to minimise the impacts on biodiversity through "*identifying, mapping and safeguarding components of local wildlife rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity*" and the "*conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and (the need to) identify and pursue opportunities for securing measurable net gains for biodiversity*" (P174).

It is made clear in P175 that local planning authorities should apply principles when determining planning applications. Planning permission should be refused "*if significant harm to biodiversity resulting in development cannot be avoided, adequately mitigated, or, as a last resort, compensated for*". Development should not normally be permitted where an adverse effect on a SSSI is likely and "*opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity*".

Biodiversity 2020: A Strategy for England's Wildlife and Ecosystem Services.
This strategy builds on the Natural Environment White Paper (June 2011) - Setting out the current UK Government's approach to nature conservation. It promotes a more coherent and inclusive approach to conservation and the valuing in economic and social terms of economic resources.

The strategy promotes initiatives such as Biodiversity Offsetting, Nature Improvement Areas and a focus on well-connected natural networks and introduces the concept of securing a 'no net loss' situation with regard to UKBAP / Section 41 habitats and species.

ODPM circular 06/05 (2005) Biodiversity and Geological Conservation - Statutory Obligations and Their Impact Within the Planning System
Provides guidance to Local Authorities on their obligations to biodiversity – particularly in relation to assessing planning applications and ensuring the adequacy of information.

BSI (2013) British Standards Institute BS 42020:2013 Biodiversity — Code of Practice for Planning and Development.
Provides a standard for the biodiversity assessment and development industries and decision makers such as Local Planning Authorities to work to.

Appendix C Ecological Impact Assessment Main Street, Great Houghton – Brooks Ecological Ltd

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

Brooks Ecological

Grounded advice

Ecological Impact Assessment

Main Street, Great Houghton

Harron Homes (Yorkshire) Ltd

Report Reference: ER-5492-03B

02/03/2022

Report Title:	Ecological Impact Assessment Main Street, Great Houghton
Report Reference:	ER-5492-03B
Written by:	Sam Kitching BSc (Hons) MCIEEM Senior Ecologist
Technical Review:	Rob Weston BSc(Hons) MSc MCIEEM Technical Director
QA:	Josh Birchall BSc (Hons) ACIEEM Ecologist
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Contents

Summary

The proposals have engaged with the NPPF Mitigation Hierarchy and have been able to avoid most potential significant effects at the Site.

With the exception of Biodiversity Net Gain, residual significant effects can be mitigated and compensated on site and secured via standard conditions provided in the British Standard BS:42020.

Based on the mitigation and compensation strategy, the proposed development delivers a net loss for biodiversity in both habitat and hedgerow categories. Additional offsetting should be agreed with the LPA.

1. Introduction

1.1.1. Brooks Ecological Ltd was commissioned by Harron Homes (Yorkshire) Ltd to carry out an Ecological Impact Assessment (EcIA) for a Site referred to as land off Main Street, Great Houghton (Grid ref: SE 42947 07037).

1.1.2. The British Standard BS:42020 recommends that a proportional assessment of ecological impacts should be made - such that decision making relating to the NPPF 'mitigation hierarchy', the planning balance', and the use of conditions is suitably informed.

1.1.3. The purpose of the EcIA report is to use the information gathered, alongside the proposals for the Site, to:

- identify any significant effects associated with the proposed development,
- set out any mitigation (including monitoring) required to address these effects, and to ensure compliance with legislation and policy,
- identify suitable enhancement,
- identify measures required to secure mitigation and enhancement,
- identify and assess any residual effects and their legal, policy and development management consequences.

1.1.4. This report adapts the format set out in the Chartered Institute for Ecology and Environmental Management (CIEEM) guidelines for Ecological Report Writing (December 2017).

CIEEM

Ecological Impact Assessment (EcIA) Checklist

Local Government Ecologists

EcIA Criteria		Yes/No/n/a	Paragraph reference number(s)
Pre-app/ scope	1.		
	2.		
Survey, Sites, Species and Habitats	3.		
	4.		
	5.		
	6.		
	7.		
Impacts and Effects	8.		
	9.		
	10.		
Mitigation, Compensation and Enhancement	11.		
	12.		
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	15.		
Competency/Good Practice	16.		
	17.		
	18.		
	19.		
Conclusion	20.		
	21.		
	22.		

2. Method

Scope of Assessment

2.1.1. The application site 'the Site' comprises a few a fields located to the north of Great Aughton. The extent of this assessment is the development area within the red line boundary defined in Figure 2.1, overleaf. The actual area surveyed included adjacent habitat within the blue line areas and beyond to provide context to the site.

2.1.2. The assessment uses a 2 km area of search around the Site for records of protected and notable species and locally or nationally designated wildlife sites.

2.1.3. Ecological surveys and reports informing this assessment comprise of the following:

- A Preliminary Ecological Appraisal (PEA) carried out by Brooks Ecological in May 2020. (R-5492-01 June 2021)
- Bat Activity surveys carried out by Brooks Ecological over the 2021 season (ER-5492-02 October 2021)

Desk Study

2.1.4. A full desk study including consideration of local biological records, aerial photographs, local designations and planning guidance has been carried out.

Field Survey

2.1.5. The following dedicated field survey has been carried out at the site. Full details of the methodologies used and the results obtained are contained in the relevant documents referenced opposite. Unless stated otherwise these followed the relevant survey guidelines refenced in reports.

- Walkover / Extended Phase 1 Habitat Survey
- Bat Activity Surveys – Transect and Remote Monitoring

Figure 2.1 Site area under assessment (red line)

Assessment Method

2.1.6. In assessing the significance of effects, we refer to Section 5 of CIEEM (2018) - that a 'significant effect' is an effect that either supports or undermines biodiversity conservation objectives for 'important ecological features' or for biodiversity in general. In relation to ecological features we consider the following factors in combination, including;

- the feature's value on an ascending scale from Site, to international value
- the site's position in the local landscape,
- its current management and
- its size, rarity or threats to its integrity

2.1.7. There are several tools available to aid this consideration, including established frameworks such as Ratcliffe Criteria or concepts such as Favourable Conservation Status. Also of help is reference to Biodiversity Action Plans in the form of the Local BAP and Section 41 of the NERC Act (2006) to determine if the site supports any Priority Habitats, Habitats of Principal Importance or presents any opportunities in this respect.

2.1.8. The assessment considers the development proposals set out below; from which the potential impacts can be summarised as:

- Vegetation and habitat removal
- Disturbance, pollution or interference arising from the Site's construction
- Disturbance, pollution or interference arising from the Site's operation

2.1.9. This report deals with any significant effects potentially arising from these impacts. It looks at how the mitigation hierarchy can be applied to any effects and the implications of any residual significant effects.

3. Ecology Baseline

3.1.1. A *summary* of the points salient to this assessment are set out below:

Designated Sites and Conservation Areas

3.1.2. Impacts on both Statutory (International and National) and Non-Statutory designations or their interests have been ruled out at PEA Stage.

Habitats

3.1.3. The Site comprises habitats mapped opposite and described in the table overleaf.

Potential future changes to the baseline

3.1.4. The Site's use and ecological baseline will likely be unchanged until the time of the proposed development.

3.1.5. In the absence of re-development, it is assumed that the Site would remain as agricultural land. However, it is assumed that should this residential development proposal not go ahead, further applications would be submitted in future.

3.1.6. If left un-managed/un-grazed, the habitats on site would likely succeed to taller ruderal vegetation and native scrub over time.

Figure 3.1 The Site's habitats

3.1.7. The table below sets out the habitats at this site and their relevance in this assessment.

Table 3.1 Site Habitats Summary

Codes	Habitat Feature	**Notes**	**Valued at what scale**
c1c g4 351 u1c u1b	Habitats of Low or Very Low Distinctiveness.	The vast majority of the Site area is occupied by habitats of low or very low distinctiveness, being dominated by agricultural land – cereal crop and grassland, with additional areas of hard standing and bare ground. These habitats are of very limited species diversity and offer little ecological value. These habitats have relevance to biodiversity at this site on the basis of their extent – mitigation / compensation for any loss of these habitats is dealt with through the Biodiversity Net Gain process and they are not considered further in the EcIA process.	Negligible
h3h	Mixed scrub	Two small pockets of mixed scrub offer the only areas of higher value or higher distinctiveness. Here habitat structure and diversity are higher than found elsewhere on Site. The better of these two areas includes a number of well-established scattered trees. Despite their relative higher value, this is a common habitat type and in this instance, these areas are well isolated from additional habitat of any value. Loss will be mitigated / compensated through the Biodiversity Net Gain process.	Site Level
	Native hedge and native hedge associated with bank or ditch	The Site is bound and split by native hedges typical of agricultural field boundaries. To the northern boundary this is found in association with an earth bank. Hedges are dominated by hawthorn with blackthorn, holly and elder. Ground flora is typical of agricultural field margins.	Site Level

3.1.8. The tables below shows the site's habitats in terms of their measured Extent (ha or km) and Biodiversity Value (Habitat Units)- this is an excerpt from the DEFRA Biodiversity Metric 2.0 Spreadsheet Calculator.

Figure 3.2 Site Habitats as defined in Biodiversity Net Gain calculations – Site Baseline[1].

	Habitats and areas			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance	Suggested action to address habitat losses	Ecological baseline
Ref	**Broad Habitat**	**Habitat type**	**Area (hectares)**	**Distinctiveness**	**Condition**	**Ecological connectivity**	**Strategic significance**		**Total habitat units**
1	**Cropland**	Cropland - Cereal crops	1.47	Low	N/A -Agricultural	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	3.38
2	**Grassland**	Grassland - Modified grassland	1.65	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	3.80
3	**Urban**	Urban - Vacant/derelict land/ bareground	0.06	Low	Poor	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.14
4	**Urban**	Urban - Artificial unvegetated, unsealed surface	0.27	V.Low	N/A - Other	Low	Within area formally identified in local strategy	Compensation Not Required	0.00
5	**Urban**	Urban - Developed land; sealed surface	0.06	V.Low	N/A - Other	Low	Within area formally identified in local strategy	Compensation Not Required	0.00
6	**Heathland and shrub**	Heathland and shrub - Mixed scrub	0.01	Medium	Moderate	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.09
7	**Heathland and shrub**	Heathland and shrub - Mixed scrub	0.03	Medium	Poor	Low	Within area formally identified in local strategy	Same broad habitat or a higher distinctiveness habitat required	0.17
8	**Urban**	Urban - Street Tree	0.004	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness or better habitat required	0.02
		Total site area ha	**3.55**					**Total Site baseline**	**7.56**

[1] Our report provides an estimate of the sites baseline value in Biodiversity Units. This is based on thorough assessment at the time of survey and using the information available at this time. In this assessment we have used the latest version of DEFRA's Biodiversity Metric Tool, the UK Habitats Classification and relevant guidance (DEFRA 2021). This assessment requires subjective judgments to be made in terms of habitat type and condition and could be open to other interpretations. Reliance on the Unit Score, or conversion of this into a monetary value, would be at the developer's own risk.

	UK Habitats - existing habitats			Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Ecological baseline
Baseline ref	**Hedge number**	**Hedgerow type**	**length KM**	**Distinctiveness**	**Condition**	**Ecological connectivity**	**Strategic significance**	**Suggested action to address habitat losses**	**Total hedgerow units**
1		Native Hedgerow	0.19	Low	Good	Low	Within area formally identified in local strategy	Same distinctiveness band or better	1.311
2		Native Hedgerow - Associated with bank or ditch	0.08	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	0.736
3		Native Hedgerow	0.22	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness band or better	1.012
4		Native Hedgerow - Associated with bank or ditch	0.08	Medium	Moderate	Low	Within area formally identified in local strategy	Like for like or better	0.736
5		Native Hedgerow	0.17	Low	Moderate	Low	Within area formally identified in local strategy	Same distinctiveness band or better	0.782
		Total Site length/KM	**0.74**					**Total Site baseline**	**4.58**

Species and Species Groups

3.1.9. Potential constraints relating to relevant groups were investigated through the surveys listed above. Those highlighted are of relevance to the Site and are referenced later in the assessment.

Table 3.2 Summary of relevant faunal issues

Species/ Group (Feature)	Notes	Valued at what scale
Bats	Seasonal activity surveys identified a commuting route along the Site's northern boundary used by low numbers of common pipistrelle bats and confirmed low level foraging by common species, focussed around the southern farm-yard. Monitoring returned a very low number of registrations possibly attributable to nathusius pipistrelle. Site of limited importance to bats. No potential bat roost features noted.	**Local Level**
Birds	Barn owl was observed using buildings on Site during ach bat activity transect though no evidence of nesting at the Site was identified. This individual is likely to use onsite grassland and open space as part of its hunting grounds Old hedgerows and the small number of trees within these will support a typical range of nesting birds and provide opportunities for foraging. Standard precautions apply regarding clearance of vegetation.	**Local Level**

4. Description of the Proposed Development

4.1.1. The planning application seeks permission for 87 dwellings with associated spine road, drainage infrastructure, and public open space.

4.1.2. Whilst much of the Site will be cleared for development, land along the northern boundary will be retained as public open space.

4.1.3. Existing boundary hedgerows, and much of the central hedge, will be retained, though a number of breaks will be required in the central and western hedgerows to facilitate development.

4.1.4. Proposals have had the opportunity to respond to the findings of the PEA and have built in all potential avoidance - in terms of layout. The following sections examine impacts resulting from the proposals which could not be avoided.

4.1.5. Impacts are assessed on the basis of the Effects which result on the valued habitats, species or Site's which have been identified above.

Figure 4.1 Site layout (Drawing Reference 563 SK10, Rev – O, Feb 2022).

5. Impacts and Effects of Development

5.1.1. Figure 5.1 shows the development footprint in relation to the mapped habitats (black hatch).

5.1.2. The development footprint shows the sum extent of proposed built development and associated clearance works.

5.1.3. Although an area of open space will be retained to the north of the Site surface water attenuation basins will be dug in this part of the Site, it is therefore assumed that all habitats (with the exception of retained hedges) will be cleared or temporarily lost.

5.1.4. The entire Site, with the exception of four trees, will be cleared.

Figure 5.1 Development footprint in relation to existing on-Site habitats

5.1.5. Figure 5.2 summarise the impacts of development on existing vegetation.

5.1.6. Areas shown in red and orange will be cleared of existing vegetation and subject to extensive earthworks, which will result in the permanent loss of baseline habitats.

5.1.7. Areas marked red will then be built out, either as sealed surfaces (roads, footpaths, parking, play areas) or as school buildings.

5.1.8. Following development, areas marked orange will be landscaped including the provision of attenuation basins and species rich grassland.

Figure 5.2 Summary of impacts on existing habitats

Table 5.1 lists the anticipated Impacts and Effects associated with the proposals.

	Impact	Stage
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
1a	**Direct habitat loss**. There will be a loss of habitat generally which will be managed through the Biodiversity Net Gain process. Habitat loss will affect connectivity through and around the Site. Habitat loss will be likely to affect identified features of the Site.	Mixed Scrub Birds Bats	Local
1b	**Damage to retained habita**t such as by storage of clearance machinery or materials in these areas. The northern hedge has been identified as providing a corridor used by local bat populations, impacting the functionality of this corridor may impact commuting routes used by these bats.	Hedgerows Bats Birds	Local
1c	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period, specifically bats using the northern hedge. Wildlife in this area is likely to be habituated to noise levels associated with the urban fringe.	Birds Bats	Local
1d	**Pollution**. There is the potential for sediment or chemicals to be released from the Site, or into retained habitat during this stage.	Off-Site Hedgerows	Site
1e	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on bats, nesting birds, and the spread of Invasive Non-Native Species (INNS) can be avoided.	Protected Species	Criminal Offence

	Impact	Stage
2	**Construction activities** will take place over a 1-2 year period. Construction of roads and sewers will be followed by footings and then above ground construction of buildings.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
2a	**Damage to retained habitat** such as by storage of machinery or materials in these areas. The northern hedge has been identified as providing a corridor used by local bat populations, impacting the functionality of this corridor may impact commuting routes used by these bats.	Hedgerows Bats Birds	Local
2b	**Disturbance**. The noise and activity at the Site will render it and areas immediately off-site inhospitable to wildlife during this period.	Birds Bats	Local
2c	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	Off-site	Local

	Impact	Stage
3	**Landscaping activities** will take place period during the construction period and will, be phased around completion of roads and housing.	*Construction*

	Significant Effects - in the absence of mitigation	Acting on	Acting at scale (Maximum)
3a	**Damage to retained habitat** such as by storage of machinery or materials in these areas. The northern hedge has been identified as providing a corridor used by local bat populations, impacting the functionality of this corridor may impact commuting routes used by these bats. Access will be required to retained areas to commence management and in itself could result in damage.	Hedgerows Bats	Local
3b	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	Off-site	Local

3c	**Inappropriate habitat creation or management** techniques could mean that the proposals fail to deliver on BNG commitments	All habitats and species	Local

	Impact	**Stage**
4	**The Site will be populated.** Units will be inhabited, and traffic and services will access the Site regularly. Pedestrian access across the Site and along rights of way will increase. Presence of domestic pets will increase. Retained and created habitat will be managed by the Site Management Company.	*Operation*

	Significant Effects - in the absence of mitigation	**Acting on (feature)**	**Acting at scale (Maximum)**
4a	**Damage to retained and created habitat** such as by inappropriate use, littering, release of invasive species.	All habitats	Local
4b	**Disturbance**. The noise and activity at the Site will be present of a lower order and will likely be tolerable to species habituated to the sub-urban conditions prevailing locally. The presence of dogs and cats will result in some predation and displacement, but this area will already be affected by these species to a lesser degree.	Birds	Site Off-site
4c	In the **absence of correct management** retained and created habitats will not provide the necessary biodiversity units committed to through the BNG process.	All habitats	Local

6. Mitigation & Residual Effects

6.1.1. Where feasible, the **avoidance** of unnecessary impacts has been considered at the design stage and worked into the Site Layout plan. The proposals will incorporate the following **mitigation** in relation to the identified **effects** above, as illustrated below and set out in Table 6.1 overleaf.

6.1.2. Habitat creation and management will need to be applied to the proposals to achieve the calculated BNG position are set out (and committed to) in the plan below. These themes would need to be the subject of a suitable Biodiversity Management which would provide a means of achieving the required habitats and condition.

6.1.3. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect of the habitats identified as valued features, and also the lower value habitats which would previously have been scoped out of Impact Assessments. Our impact assessment therefore only highlights where habitats present place a particular constraint on the protection of, or delivery of habitats on Site; or on off-set agreements.

6.1.4. Planning permission for the Site would be anticipated tom be subject to standard conditions requiring the production of the following documents:

- A BS:42020 Biodiversity Management Plan (BMP).
- A BS:42020 Construction Environmental Management Plan (CEMP: Biodiversity)
- A Lighting Plan

Table 6.1 lists the mitigation put in place to address the effects identified in table 5.1

	Impact	Stage
1	**Habitat will be removed** from the Site by clearance and soil stripping using heavy machinery.	*Clearance*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
1a	**Direct habitat loss**.	Complies with Biodiversity Net Gain policy. The BMP will detail the provision and management of created habitat including POS to the north, this will negate potential impact on bats commuting along this hedge line. The BMP will detail the provision of bird nesting and bat roosting features	**Minor Negative** (BNG loss to be offset elsewhere or through financial contribution)
1b	**Damage to retained habita**t such as by storage of clearance machinery or materials in these areas.	The CEMP will detail installation of barrier fencing to protect retained habitats. This will cover specific impacts on the northern hedge and prevent fragmentation of the existing bat commuting route identified here.	**Neutral**
1c	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The CEMP will detail time limits to work on Site and the installation of screened fencing to limit visual disturbance of sensitive habitat.	**Minor Negative**
1d	**Pollution**. There is the potential for sediment or chemicals to be released from the Site, or into retained habitat during this stage.	The CEMP will detail the location of bunded compounds for storage of machinery and materials	**Neutral**
1e	Potential effects on **Protected Species**. Precautions will be required to ensure that impacts on bats, nesting birds, and the spread of Invasive Non-Native Species (INNS) can be avoided.	The CEMP will detail necessary pre-works checks for nesting birds.	Avoided entirely.

	Impact	Stage
2	**Construction activities** will take place over a 1-2 year period. Construction of roads and sewers will be followed by footings and then above ground construction of buildings.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
2a	**Damage to retained habitat** such as by storage of machinery or materials in these areas.	The CEMP will detail installation of barrier fencing to protect retained habitat – creating a Biodiversity Protection Zone bordering the northern hedgerow. This will cover specific impacts on the northern hedge and prevent fragmentation of the existing bat commuting route identified here.	**Neutral**
2b	**Disturbance**. The noise and activity at the Site will render it, and areas immediately off-Site, inhospitable to wildlife during this period.	The CEMP will detail time limits to work on Site and the installation of screened fencing to limit visual disturbance of sensitive habitat.	**Minor Negative**
2c	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	The CEMP will detail location of bunded compounds for storage of machinery and materials	**Neutral**

	Impact	Stage
3	**Landscaping activities** will take place period during the construction period and will, be phased around completion of roads and housing.	*Construction*

	Significant Effects - in the absence of mitigation	Mitigation / Compensation	Residual Magnitude
3a	**Damage to retained habitat** such as by storage of machinery or materials in these areas. Access will be required to retained areas to commence management, and in itself could result in damage.	The CEMP will detail installation of barrier fencing to protect retained habitat and any precautions required in accessing the Biodiversity Protection Zone. This will cover specific impacts on the northern hedge and prevent fragmentation of the existing bat commuting route identified here. The BMP will specify habitat creation and management activities.	**Neutral**

3b	**Pollution**. There is the potential for sediment or chemicals to be released from the Site during this stage.	The CEMP will define the location of bunded compounds for storage of machinery and materials	**Neutral**
3c	**Inappropriate habitat creation or management** techniques could mean that the proposals fail to deliver on BNG commitments	The BMP will detail; the planting and management required to achieve BNG commitments. This will include monitoring so that evidence can be provided, or remedial action can put in place as required.	**Neutral**

	Impact	**Stage**
4	**The Site will be populated.** Units will be inhabited, and traffic and services will access the Site regularly. Pedestrian access across the Site and along rights of way will increase. Presence of domestic pets will increase.	*Operation*

	Significant Effects - in the absence of mitigation	**Mitigation/Compensation**	**Residual Magnitude**
4a	**Damage to retained and created habitat** such as by inappropriate use, littering, release of invasive species.	Landscaping has been designed to accommodate public access and buffering of sensitive habitats has been designed in.	**Minor Positive**
4b	**Disturbance**. The noise and activity at the Site will be present of a lower order and will likely be acceptable to species habituated to the sub-urban conditions prevailing locally. The presence of dogs and cats will result in some predation and displacement.	Landscaping is designed to maximise the amount of habitat which groups such as birds can use for cover, and to provide connectivity. New nesting (for birds) and roosting (for bats) will	**Minor Negative**
4c	In the **absence of correct management** retained and created habitats may not provide the necessary biodiversity units committed to through the BNG process.	The BMP will provide full details of habitats to be created and their suitable management. The BMP will include monitoring so that evidence can be provided, or remedial action can put in place as required.	**Minor Positive**
4d	**Exclusion of wildlife** from the developed Site – physically or through the lack of provided habitat	The BMP will specify measures required to ensure ongoing connectivity through the Site	**Minor Negative**

7. Biodiversity Net Gain

7.1.1. There will be a requirement for the proposals to secure **Biodiversity Net Gain (BNG)** (in accordance with BS: 8683) at a level determined by the Local Planning Authority (LPA in line with their own policies and guidance in the NPPF). This is likely to equate to 10%.

7.1.2. Any shortfall in Units will need to be off-set through the creation of Units off-Site by direct works, or through contribution to a strategic fund operated by the LPA or a third party. An agreement detailing any off-setting required would be the subject of a condition of planning.

7.1.3. Calculations setting out the position of the proposals in relation to BNG are set out below. These are based on the Proposed Site Plan available at this time. Habitat types which will need to be applied to the proposals to achieve the calculated BNG position are set out (and committed to) in the plan opposite. These would be covered by a standard Landscape Masterplan. For the purposes of mapping the residential development area has been mapped as suburban mosaic, this area has been put through the Metric calculator as a 70:30 split of developed land and vegetated garden as per guidance in DEFRA 3.0.

7.1.4. Achieving the required Biodiversity Net Gain position will ensure that effects relating to habitat loss are addressed - both in respect of the habitats identified as valued features, and also the lower value habitats which would historically have been scoped out of Impact Assessments.

Net Gain Calculations

7.1.5. The proposals will lead to an overall net loss in habitat units, with a shortfall of 1.59 Habitat Units (-21.04%) and shortfall of 3.42 hedgerow units (-64.29%) predicted.

7.1.6. The client has been provided with a full copy of the Biodiversity Metric 2.0 Calculation Tool.

Figure 7.1 Post development habitat types

Table 7.1 Habitat Creation Summary extracted from Biodiversity Metric 2.0 Calculator tool

7.1.7. The table below shows the Site's habitats in terms of their measured extent (ha or km) and Biodiversity Value in Habitat Units. These are an excerpt from the DEFRA Biodiversity Metric 2.0. Spreadsheet Calculator. Although The DEFRA Biodiversity Metric 3.0 was released during production of this report, the Site's assessment and design has all been based on the categories and values in DEFRA 2.0 - the guidance reproduced below and provided with the 3.0 version is followed here:

Post Development Habitat Creation

Post development/ post intervention habitats								
Proposed habitat	Area (hectares)	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Temporal multiplier	Difficulty multipliers	Habitat units delivered
				Ecological connectivity	Strategic significance	Time to target condition/years	Difficulty of creation category	
Grassland - Modified grassland	0.43	Low	Moderate	Low	Within area formally identified in local strategy	10	Low	1.39
Grassland - Other neutral grassland	0.31	Medium	Moderate	Low	Within area formally identified in local strategy	10	Low	2.00
Urban - Artificial unvegetated, unsealed surface	0.05	V.Low	N/A - Other	Low	Within area formally identified in local strategy	0	Low	0.00
Urban - Built linear features	0.7	V.Low	N/A - Other	Low	Within area formally identified in local strategy	0	Low	0.00
Urban - Developed land; sealed surface	1.06	V.Low	N/A - Other	Low	Within area formally identified in local strategy	0	Low	0.00
Urban - Vegetated garden	1	Low	Poor	Low	Within area formally identified in local strategy	1	Low	2.22
Urban - Street Tree	0.21	Low	Moderate	Low	Within area formally identified in local strategy	27	Low	0.37
Totals	**3.55**							**5.97**

Hedgerow Creation (in addition to 1.79 retained units)

						Spatial quality		Temporal multiplier	
		Proposed habitats		Habitat distinctiveness	Habitat condition	Ecological connectivity	Strategic significance		Hedge units delivered
Baseline ref	New hedge number	Habitat type	Length km	Distinctiveness	Condition	Ecological connectivity	Strategic significance	Time to target condition/years	
		Hedge Ornamental Non Native	0.16	V.Low	Poor	Low	Within area formally identified in local strategy	1	0.00
		Native Species Rich Hedgerow	0.02	Medium	Moderate	Low	Within area formally identified in local strategy	5	0.10
		Creation Length/KM	**0.18**						**0.10**

8. Timing Issues

8.1.1. Other than the standard constraint surrounding nesting birds and vegetation clearance, no specific timing issues are foreseen.

9. Cumulative Effects

9.1.1. No in-combination effects have been identified.

10. Offsite Measures or Compensation

10.1.1. The scheme is expected to result in a net loss for biodiversity on-site, and as such off-site measures of compensation will be required by the LPA to conform with Net Gain policy. This should be agreed with the LPA through Condition.

11. Enhancement

11.1.1. Opportunities to provide enhancement, and how to secure this, have been identified in Figure 6.1 and Table 6.1 above and will be detailed in the BMP and Landscaping Plan documents to be produced as a standard condition of planning.

12. Monitoring

12.1.1. The CEMP document will detail the role of an Ecological Clerk of Works (ECoW) in overseeing protection measures.

12.1.2. The BMP document will identify any management specific monitoring which might be required in respect of habitat enhancement proposed.

13. Policy and Legislation

13.1.1. Given the implementation of the mitigation set out above, it is anticipated that the proposals will comply with the relevant policy and legislation relating to wildlife and ecology.

14. Conclusion

14.1.1. Mitigation to be agreed by standard conditions of planning will be able to address all significant effects resulting from the development.

14.1.2. The scheme will deliver a net loss for biodiversity on site, for both habitats and hedgerows. Further compensation should be agreed with the LPA. The shortfall in Habitat Units can be compensated for through a financial contribution to the LPA or through a third party land bank. There is scope to include additional hedgerow length within the proposed development, providing the required gain on Site.

References

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Appendix D Bat Activity Survey Report Land off Main Street, Great Houghton – Brooks Ecological Ltd

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

Bat Activity Survey Report

Land off Main Street, Great Houghton

Harron Homes Yorkshire

Report Reference: ER-5492-02

22/10/2021

Report Title:	Interim Bat Activity Survey Report Land off Main Street, Great Houghton
Report Reference:	ER-5492-02
Written by:	Sam Kitching BSc (Hons) MCIEEM Senior Ecologist
Technical Review:	Christopher Shaw BSc (Hons) MCIEEM Senior Ecologist
QA:	Rob Weston BSc(Hons) MSc MCIEEM Technical Director
Approved for Issue:	Christopher Shaw BSc (Hons) MCIEEM Senior Ecologist
Date:	22/10/2021

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Summary Statement

The Site has been found to provide a commuting route used by low numbers of common pipistrelle bats along its northern boundary, but attracts only very low-level irregular foraging by a limited range of common bat species.

The identified commuting route follows a hedge which will be retained as part of the development as well as being adjacent to an area of open space, providing a buffer from development.

The risk of direct impacts on local bat populations arising from the proposals is considered to be minimal. Residual risk of impact can be mitigated through the implementation of a suitable lighting scheme. There is scope for the project to offer proportionate enhancement for local bat populations.

Introduction

1. Brooks Ecological was commissioned by Harron Homes Yorkshire to carry out detailed Bat Activity Survey at the proposed development Site at Land off Main Street, Great Houghton
2. These surveys are required to provide evidence of the baseline use of the Site by the local bat population, which in turn will then enable mitigation and enhancement strategies to be devised to support a planning application.
3. The scope of the survey has been devised based on an assessment of the habitats present, the results of previous activity surveys and in accordance with current best practice guidelines (Bat Conservation Trust, 2016).

Figure 1 Site location plan

Method

4. Survey and assessment was directed by Sam Kitching BSc (Hons) MCIEEM. Sam has been planning, undertaking and evaluating bat surveys such as this in a professional capacity for 9 years, he is registered to use the Class Survey Licence WML CL18 (Bat Survey Level 2).
5. The objective of the survey was to collect up to date information on the Site's use by local bat populations, so that an accurate assessment of the potential impacts of development could be made. A transect and remote monitoring survey was carried out to collect the following data (Bat Conservation Trust, 2016):
   - The assemblage of bat species using the site;
   - The relative frequency with which the site is used by different species;
   - The nature of activity for different bat species, for example foraging, commuting and roosting.

Survey Conditions

6. Walked transects were undertaken in Spring, Summer and Autumn, during optimal survey conditions. Survey conditions are summarised below:

Table 1 Survey Conditions

Survey	Date	Sunset	Weather	Invertebrate Activity
Spring	27.05.21	21:24	17°- 14°C, clear sky, Beaufort 2	Low
Summer	13.07.21	21:33	18° - 16°C, light cloud, B1	Low
Autumn	20.10.21	17:58	11° - 11°C, clear sky, B2	Low

Transects

7. Transects began around sunset and continued up to two hours after when all bats were thought to have emerged, and thus were actively foraging and commuting.

8. The transects were walked by a team of two surveyors, equipped with a heterodyne detector as well as a Titley Scientific Anabat Express, used to track the transect route and aid species identification. Notes taken during the survey were then used to produce the survey summary in the below figures, where significant activity has been recorded an activity 'heat map' has been produced.

9. Blue shades on the heat map correspond with low activity defined by up to 2 individuals intermittently recorded, yellow tones indicate more prolonged spells of activity by 2 -5 individuals whilst red tones indicate higher and consistent activity levels of 5 or more bats.

Remote Monitoring

10. To supplement data collected during the walked transect, static monitoring device/s (Wildlife Acoustic SM4) were deployed in a strategic location on-site prior to the start of the walked transect.

11. Data collected during the period of remote monitoring has been run through Kaleidoscope Pro software, which can identify bat calls down to species level (except for *Myotid*). Identification is generally correct when using this software; however, results are double checked to ensure accurate data analysis.

12. Every effort is made to split up *Myotid* calls down to species level. This is done by analysing calls on Analook software and looking at parameters such as inter-pulse interval, call duration, slope and maximum / minimum / peak call frequency. However, this can often be difficult when registrations are short in duration, faint or distorted by cluttered environments.

Limitations

13. Static monitoring can only reliably provide information on what species of bat are regularly making use of a site. More detailed information on bat activity, such as frequency of bats, nature of activity (foraging, commuting, flight path), etc. can only be gleaned through walked transects.

14. The frequency of calls recorded can, to some extent, suggest whether activity on site is low, moderate or high, by comparing data collected with that of similar sites that have been surveyed.

15. A single registration can account for up to 15 seconds of continuous bat call. Large batches of registrations can be interpreted in several different ways, i.e. a single bat foraging continuously for only an hour can result in many hundreds of registrations being logged; similarly, many hundreds of bats commuting quickly past the detector can result in the same number of registrations.

Spring Results

Walkover Transect

16. The transect commenced in the Site's south-west corner. The surveyor walked through the farmyard then along the western boundary, following a clockwise route around the western field, with a second pass around the farmyard and an anti-clockwise route was walked around eth eastern field. This route was repeated three times.
17. The only species recorded during the transect was common pipistrelle, and activity was restricted to two discrete areas around the Site.
18. The first bat encountered was seen at 21:55, commuting east to west along the Site's northern hedge line. Over the following few minutes, as the surveyor progressed along this boundary feature five further bats were seen following this route, with one bat noted, returned along this hedge at 22:00. On the second loop of the site one further bat was seen commuting along this route.
19. A single bat was noted foraging within the farmyard the west of the existing barns.
20. The final bat encountered was seen commuting along the western boundary, then away from the site at 22:40.

Figure 2 Summary of bat activity observed during walked transect

Spring Results

Remote Monitoring

21. A single remote detector (Song Meter SM4BAT FS) was deployed in the location as shown in Figure 2. This was left to run for 5 consecutive nights, from 27th to 31st May 2021.

22. Data returned points to only sporadic use of the area of the site in which the monitoring device was located. Two of the monitoring nights recorded zero registration of any species.

23. Registrations of three common and widespread species were recorded, though this is heavily skewed towards registration of common pipistrelle. The other two species being soprano pipistrelle and noctule.

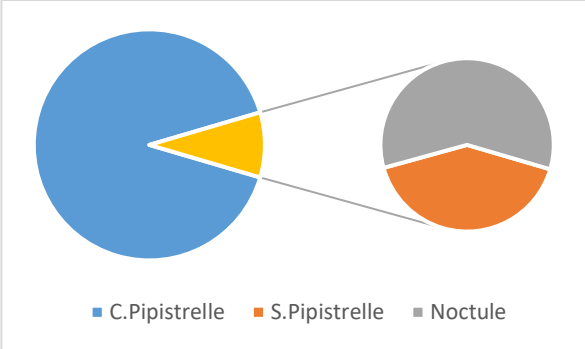
24. Registrations peaked during the middle of the night, this reflects the low levels of activity recorded during the transect undertaken at sunset.

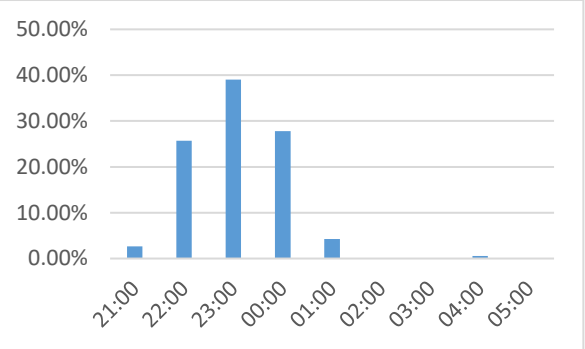
25. The data set suggests small numbers of common pipistrelle forage around various areas of the site on an ad-hoc basis.

Table 2 Total number of registrations logged for each bat species, per day across the spring period.

	27.05.21	28.05.21	29.05.21	30.05.21	31.05.21
C.Pipistrelle	0	75	95	0	0
S.Pipistrelle	0	1	6	0	0
Noctule	0	5	4	1	0

Figure 3 Cumulative proportion of registrations per species and total logged for each hour across the spring monitoring period.





Summer Results

Walkover Transect

26. The transect followed the same route as previously walked. Activity patterns were very similar to those observed during the spring transect, albeit at lower levels.
27. Again, all bats encountered were common pipistrelle.
28. The first bat encountered was seen briefly foraging within the farmyard to the west of the barns, before being seen to leave the Site to the west.
29. The only other encounter was that of a single bat seen commuting west to east along the northern hedge. It is considered highly likely that more bats than observed followed this route, as seen during spring, but commuted through the Site at a time when the surveyors were elsewhere on Site.

Figure 4 Summary of bat activity observed during walked transect

Summer Results

Remote Monitoring

30. A single remote detector (Song Meter SM4BAT FS) was deployed in the location as shown in Figure 4. This was left to run for 5 consecutive nights, from 13th to 17th July 2021.

31. As would be expected during the summer months, the number of recorded registrations suggest that activity was notably higher, although still broadly low.

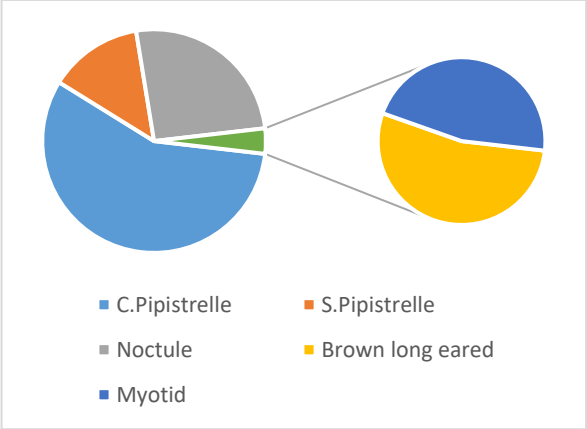
32. During this monitoring period registrations of five species of bat have been recorded at the Site. Again, common pipistrelle is the most frequently recorded, followed by noctule then soprano pipistrelle. Very low numbers of registrations of brown long eared bat and a myotid species (sonograms suggest brandt's bat) were also returned.

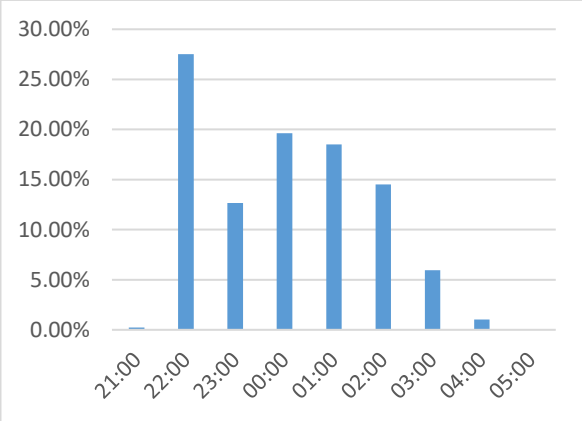
33. As seen during Spring period monitoring recorded registrations are relatively constant throughout the night, without distinct peaks at sunset or sunrise. Similarly, significant variation between monitoring nights is noted ranging from 199 total registrations on one evening down to 111.

Table 3 Total number of registrations logged for each bat species, per day across the spring period.

	13.07.21	14.07.21	15.07.21	16.07.21	17.07.21
C.Pipistrelle	120	76	95	92	53
S.Pipistrelle	19	24	6	40	15
Noctule	27	33	37	58	42
Brown long eared	4	4	3	3	1
Myotid	1	0	6	6	0

Figure 5 Cumulative proportion of registrations per species and total logged for each hour across the summer monitoring period.





Autumn Results

Walkover Transect

34. The transect followed the same route as previously walked.
35. Activity over the course of the survey was very low with only a single common pipistrelle being seen.
36. This bat was noted commuting in a northerly direction along the central hedge before turning into and crossing the open field.

Figure 6 Summary of bat activity observed during walked transect

Autumn Results

Remote Monitoring

37. A single remote detector (Song Meter SM4BAT FS) was deployed in the location as shown in Figure 6. This was left to run for 5 consecutive nights, from 17th to 19th October 2021.

38. Autumn monitoring returned very low numbers of recorded registrations.

39. Common pipistrelle again account for the majority of registrations and again are recorded on a sporadic basis, ranging from only 2 registrations on two monitoring nights to a peak of 63, though all 63 of these registrations were recorded within the space of circa 1 hour suggesting it relates to a solitary bat foraging in close proximity o the device for a period of time.

40. All other species recorded returned registrations in the single digits, and were not recorded on all monitoring nights.

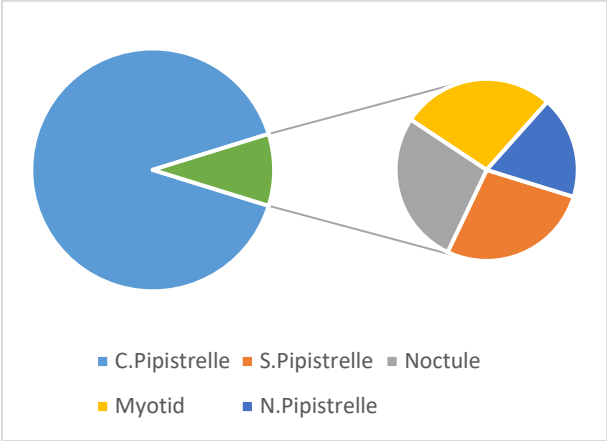
41. Two pipistrelle registrations peaked at 39khz, suggesting these could have been made nathusius pipistrelle, the numbers and distribution of this species in the UK is largely unknown.

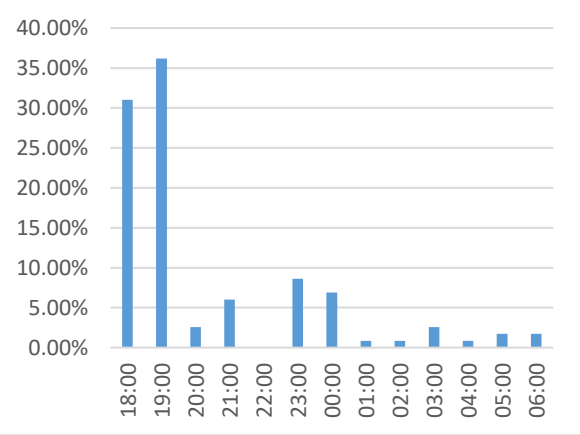
42. Significant peaks are seen in recording during the hours closely following sunset. However, this is heavily skewed by the 63 registrations of common pipistrelle recorded in a short time frame. As such, it is not considered reflective of movement to or from a roost.

Table 5 Total number of registrations logged for each bat species, per day across the spring period.

	15.10.21	16.10.21	17.10.21	18.10.21	19.10.21
C.Pipistrelle	2	63	13	24	2
S.Pipistrelle	-	1	-	-	2
Noctule	-	2	1	-	-
Myotid	1	-	-	2	-
N.Pipistrelle	-	-	2	-	-

Figure 7 Cumulative proportion of registrations per species and total logged for each hour across the autumn monitoring period.





Evaluation

43. Evaluation of foraging and commuting habitat is made with reference to Wray *et al* (2010). This uses a scoring system to assess the Site's importance to bats against a geographic frame of reference.

Table 4 Scoring system for valuing commuting and foraging habitat

Geographic Frame of Reference	Score
International	>50
National	41-50
Regional	31-40
County	21-30
District, Local or Parish	11-20
Not Important	1-10

44. Using the above methodology, the Site is assessed as follows:

Foraging

45. Individuals (5) of common species of bat (2). No potential roosts identified nearby (1). Suburban area (2).

46. Total of **10 points.** The Site is not important as foraging habitat to local bat populations.

Commuting

47. Small numbers (10) of common species of bat (2). No potential roosts identified nearby (1) with somewhat well-grown and well-connected hedgerows, small field sizes (4)

48. Total of **17 points.** The Site is of local value to commuting bats.

49. The assessment method devised by Wray et al indicates that the Site is not of any specific importance to local bat populations as foraging habitat and is only of local value to commuting bats.

50. This corroborates the assessment of data gathered during activity surveys.

Conclusions

51. Walked transects undertaken across Spring and Summer have identified a commuting route regularly used, but by only low numbers of common pipistrelle bat, along the northern hedge line alongside very low-level, irregular foraging by common pipistrelle bats. All observations of foraging activity were recorded in and around the farmyard.

52. Remote monitoring recorded similar low-level activity, but returned registrations of up to six bat species, with common pipistrelle and noctule making up the bulk of this activity.

53. The number of returned registrations suggest that low numbers of bats forage around the Site on an *ad hoc* basis, across various nights and steadily through any given evening.

54. The data collected during this, does not point to the Site being of any significant importance to any particular local bat populations.

Barn Owl

55. A barn owl was seen flying from onsite buildings on all three transect visits – flying in a southerly direction from the southern-most barn on the spring survey, westerly from the small northern most shed on the summer survey and perched on the ridge of the central barn on the autumn visit leaving Site to the southeast. Although it is clear this individual roosts on Site, no evidence of nesting has been identified.

Recommendations

56. Based on findings of transects and remote monitoring, the proposed development is unlikely to impact significantly on the local bat populations.

57. Sensitive design of the masterplan includes a minimum 20m buffer from the northern hedgerow, meaning potential impacts on this commuting route will be negligible. To further minimise any potential impact lighting design should ensure that this corridor buffer is not subject to excessive light spill, and that the existing hedge remains unlit.

58. This buffer area will include surface water attenuation basins, designed to be dry and planted with a species rich seed mix, areas of wildflower grassland and new native trees and shrubs and will offer enhancement to both the identified commuting route and the baseline foraging value of this area of the Site.

59. Vegetated gardens around the proposed development will offer ongoing habitat with capacity to support foraging levels beyond those currently recorded onsite.

60. Bat boxes should be installed in appropriate locations on new buildings.

61. Compensation for the loss of barn owl roosts is not specifically required and the proposed layout does not offer any suitable buildings into, or onto which a barn owl box could be mounted. However, the potential to provide a pole mounted barn owl box in the north east corner of the Site should be explored.

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Appendix E Biodiversity Metric Spreadsheet (provided separately in Excel format)

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

Appendix F Landscape Plan - Rosetta Landscape Design

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

This drawing has been prepared for the purpose of planning approval.

Planting Schedule

Proposed Trees

Nr	Code	Tree Name	Specification	Girth	Height
1 -	AaRH	Amelanchier arborea Robin Hill	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
1 -	Ac	Acer campestre	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
4 -	AcE	Acer campestre 'Elsrijk'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
12 -	AcS	Acer campestre 'Streetwise'	Heavy Standard :Clear Stem 175-200 :RB	12-14cm	350-425cm
1 -	AcS	Acer campestre 'Streetwise'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
1 -	Ag	Alnus glutinosa	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
5 -	Al	Amelanchier lamarckii	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
4 -	Atg	Acer tataricum ginnala	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
8 -	Bp	Betula pendula	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
1 -	BpD	Betula pendula 'Dalecarlica'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
4 -	Cb	Carpinus betulus	Heavy Standard :Clear Stem 175-200 :C	12-14cm	350-425cm
8 -	Cmo	Crataegus monogyna	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
6 -	Fs	Fagus sylvatica	Heavy Standard :Clear Stem 175-200 :C	12-14cm	350-425cm
2 -	MJD	Malus 'John Downie'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
12 -	Pa	Prunus avium	Heavy Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
4 -	Ppa	Prunus padus	Heavy Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
6 -	PPan	Prunus 'Pandora'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
5 -	Qr	Quercus robur	Heavy Standard :Clear Stem 175-200 :C	12-14cm	350-425cm
3 -	SaJR	Sorbus aucuparia 'Joseph Rock'	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
4 -	Sau	Sorbus aucuparia	Selected Standard :Clear Stem 175-200 :RB	10-12cm	300-350cm
5 -	Tc	Tilia cordata	Heavy Standard :Clear Stem 175-200 :C	12-14cm	350-400cm
5 -	TcG	Tilia cordata 'Greenspire'	Heavy Standard :Clear Stem 175-200 :RB	12-14cm	350-400cm

Total :102 -

Proposed Hedges (4/m)

Nr	Code	Tree Name	Specification	Height
59 -	Fs	Fagus sylvatica	C	60-80cm
221 -	Gli	Griselinia littoralis	C	60-80cm
211 -	Pl	Prunus laurocerasus	C	60-80cm
212 -	PvRR	Photinia x fraseri 'Red Robin'	C	60-80cm

Total :703 -

Proposed Shrubs

Nr	Code	Plant Name	Height	Cntr (l)	Nr/m2
111 -	BtAN	Berberis thunbergii 'Atropurpurea Nana'	40-60cm	5L	3/m²
28 -	CaS	Cornus alba 'Sibirica'	60-80cm	5-7.5L	3/m²
35 -	CBM	Ceanothus 'Blue Mound'	30-40cm	5L	3/m²
41 -	Ct	Choisya ternata	30-40cm	5L	3/m²
50 -	EEG	Euonymus fortunei 'Emerald Gaiety'	30-40cm	5L	4/m²
12 -	EfEG	Euonymus fortunei 'Emerald 'n' Gold'	30-40cm	5L	4/m²
16 -	EfSQ	Euonymus fortunei 'Silver Queen'	20-30cm	2L	4/m²
32 -	Hr	Hebe rakaiensis	30-40cm	5-7.5L	4/m²
49 -	HRE	Hebe 'Red Edge'	20-30cm	2L	4/m²
18 -	Hs	Hebe 'Sutherlandii'	30-40cm	5L	4/m²
31 -	LaH	Lavandula angustifolia 'Hidcote'	30-40cm	5L	4/m²
41 -	LnBG	Lonicera nitida 'Baggesen's Gold'	30-40cm	5L	4/m²
51 -	LnMG	Lonicera nitida 'May Green'	30-40cm	5L	3/m²
41 -	PfxRR	Photinia fraseri 'Red Robin'	40-60cm	5L	3/m²
73 -	PIOL	Prunus laurocerasus 'Otto Luyken'	40-60cm	5L	3/m²
73 -	PoRL	Physocarpus opulifolius 'Red Lady'	40-60cm	5L	4/m²
18 -	PSY	Pyracantha saphyr 'Yellow'	40-60cm	5L	3/m²
62 -	SoP	Salvia officinalis 'Purpurascens'	20-30cm	2L	4/m²
36 -	SoT	Salvia officinalis 'Tricolor'	20-30cm	2L	4/m²
44 -	Vmi	Vinca minor	20-30cm	2L	4/m²
19 -	Vt	Viburnum tinus	30-40cm	5L	3/m²

Total :881 -

Proposed Grasses

Nr	Code	Plant Name	Nr/m2
42 -	DcGo	Deschampsia cespitosa 'Goldtau'	4/m²
45 -	MsRC	Miscanthus sinensis 'Red Chief'	3/m²
43 -	PvI	Pennisetum villosum	4/m²

Total :130 -

Native Hedge Mix (5/m)

Nr	Code	Plant Name	Root	%
86 -	Ac	Acer campestre	BR	5%
321 -	Cav	Corylus avellana	BR	20%
478 -	Cm	Crataegus monogyna	BR	30%
163 -	Ia	Ilex aquifolium	BR	10%
321 -	Ps	Prunus spinosa	BR	20%
163 -	Sc	Salix caprea	BR	10%
86 -	Vo	Viburnum opulus	BR	5%

Total :1618 -

Native Shrub Mix (0.5/m2)

Nr	Code	Plant Name	Root	%
70 -	Cav	Corylus avellana	BR	30%
49 -	Cmo	Crataegus monogyna	BR	20%
26 -	Ia	Ilex aquifolium	BR	10%
49 -	Ps	Prunus spinosa	BR	20%
26 -	Sc	Salix caprea	BR	10%
26 -	Vo	Viburnum opulus	BR	10%

Total :246 -

Planting Notes

Topsoil shall be a minimum of 400mm depth over planting beds and graded to fall. Imported topsoil must be BS3882:2007 compliant and existing topsoil must be cultivated in accordance with BS3882:2007. No cultivation should take place in wet/ waterlogged conditions.

Herbicide and cultivation: Topsoil to be treated with two applications of herbicide prior to planting, where necessary, strictly in accordance with the Control of Pesticides Regulations 1986 (as amended 1997, or, otherwise, updated/superseded legislation) and following manufacturer's instructions by qualified staff. The topsoil shall than be cultivated to 150mm depth.

Planting: All planting and turfing shall conform to BS: 3936: 1992 and BS:4428:1989.

Trees: Standard trees to be planted in pits 800x800x450mm or dimensions of rootball, whichever is greater. Heavy and Extra Heavy Standard trees to be planted in pits 1000x1000x600mm or dimensions of rootball, whichever is greater. Alginure soil improver and 150g Enmag (or, equivalent) to be incorporated into the soil of all new tree pits. Trees to be planted centrally within a tree pit. Tree stakes shall be of hazel, chestnut or other approved timber. They shall be round, rough sawn, straight, free from projections, large or edge knots and other defects and be pointed at the lower end. They shall be strong enough not to split when driven into the ground and when ties are nailed to them (both initially and when adjusted). For Feathered trees use 2No stakes (1.4m by 75mm) to be driven into ground 800mm, leaving 600mm above ground.. For Selected Standard Trees 2No stakes (1.7m by 100mm) and cross bar are required; stakes to be driven 900mm below ground leaving 800mm above ground. For Heavy/ Extra Heavy trees use 2No stakes (2.2m x 100mm) with a 400x100x15mm cross bar. Stakes to be driven into ground 1m leaving 1.2m above ground.

Semi-mature/Multi-stemmed trees greater than 5m to be underground guyed. Tree ties shall consist of a solid rubber spacer, hollowed on both sides and twice slotted of such a width that the tree is held away from the stake and/or cross bar, and such that it does not rub against the stake and/or cross bar in any location and fixed so that nails do not scar tree; and 25mm wide rubber or rubber covered canvas strap of such a length to allow 50mm overlap after securing. The strap shall be flexible, slightly elastic and adjustable. Tie Fixing Nails shall be galvanised and not less than 38mm long with 10mm diameter heads.

Container grown shrubs, transplants and whips: Shrubs and transplants shall be planted in pits 300x300x400mm depth), and the backfill shall include 3 litres of peat-free tree and shrub compost. Where two or more shrub species are indicated within a single bed each species shall be randomly mixed throughout the bed in groups of 3/5.

Herbicide: Spot treat with herbicide throughout the maintenance period in accordance with the manufacturer's instructions.

Mulch: Planting beds to receive 75mm depth pulverized ornamental bark mulch. Native woodland/edge plants to be planted with 800g flax fibre mulch mat pinned to soil. Native hedgerow to be planted through 800g flax fibre mulch roll, edges tucked. Ensure the top of the mulch layer is a minimum of 15mm below adjacent pavements and other surfaces, to prevent spillage.

Plant position: Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers.

Protection to planting: Native hedgerow plants to be protected by spiral shelters. Native trees and shrubs within mixes to be protected by shelter guards as supplied by Acorn Planting Products Ltd (01508 528763), or equivalent.

Ornamental hedging: Hedges to comprise a single row of plants. 400mm wide trench excavated to take plants and topsoil cultivated to 400mm depth prior to application of fertiliser.

Grass: All turf/seeded areas to be cultivated and levelled as required removing any stones, rubble, subsoil, general construction waste.

Wildflower grassland: To be prepared and cultivated in 100mm depth of nutrient poor soil.

Planting Season: Bare-root shrubs to be planted between mid-November and mid-March dependant upon the planting season.

LEGEND

- Site boundary
- Existing vegetation to be retained
- Existing vegetation to be removed
- Proposed tree Heavy (Standard)
- Proposed tree Selected (Standard)
- Proposed Native Hedge Mix
- Proposed hedge
- Proposed shrub bed
- Proposed grass
- Proposed Naturescape N14 Flowering Lawn mixture sown@5g/m² www.naturescape.co.uk
- Proposed Emorsgate EP1 'Pond Edge Mix' Sown@ 4g/m² www.wildseed.co.uk
- Proposed Native Shrub Mix

Rev A: Revised in line with client comments 20feb24 (RP)

Base: Avant Homes 'Planning Layout' 4206-04-C received 06Feb24

PROJECT	Main Street, Great Houghton		
TITLE	Detailed Landscape Proposals (1 of 2)		
CLIENT	Avant Homes		
DATE	15 Feb 24	SCALE 1 : 250	SHEET A0
DRAWN	BP	DRAWING NO	4025/2
CHECKED	BP	REVISION	A

ROSETTA LANDSCAPE DESIGN
Landscape Architects
Swallow's Nest, Main Street
Askham Richard, York, YO23 3PT
Telephone +44 (0)1904 500410
Email design@rosettalandscape.co.uk
Web www.rosettalandscape.co.uk

This drawing has been prepared for the purpose of planning approval.

Planting Notes

Topsoil shall be a minimum of 400mm depth over planting beds and graded to fall. Imported topsoil must be BS3882:2007 compliant and existing topsoil must be cultivated in accordance with BS3882:2007. No cultivation should take place in wet/ waterlogged conditions.
Herbicide and cultivation: Topsoil to be treated with two applications of herbicide prior to planting, where necessary, strictly in accordance with the Control of Pesticides Regulations 1986 (as amended 1997, or, otherwise, updated/superseded legislation) and following manufacturer's instructions by qualified staff. The topsoil shall than be cultivated to 150mm depth.
Planting: All planting and turfing shall conform to BS: 3936: 1992 and BS:4428:1989.
Trees: Standard trees to be planted in pits 800x800x450mm or dimensions of rootball, whichever is greater. Heavy and Extra Heavy Standard trees to be planted in pits 1000x1000x600mm or dimensions of rootball, whichever is greater. Alginure soil improver and 150g Enmag (or, equivalent) to be incorporated into the soil of all new tree pits. Trees to be planted centrally within a tree pit. Tree stakes shall be of hazel, chestnut or other approved timber. They shall be round, rough sawn, straight, free from projections, large or edge knots and other defects and be pointed at the lower end. They shall be strong enough not to split when driven into the ground and when ties are nailed to them (both initially and when adjusted). For Feathered trees use 2Nr stakes (1.4m by 75mm) to be driven into ground 800mm, leaving 600mm above ground.. For Selected Standard Trees 2Nr stakes (1.7m by 100mm) and cross bar are required; stakes to be driven 900mm below ground leaving 800mm above ground. For Heavy/ Extra Heavy trees use 2Nr stakes (2.2m x 100mm) with a 400x100x15mm cross bar. Stakes to be driven into ground 1m leaving 1.2m above ground.
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Herbicide: Spot treat with herbicide throughout the maintenance period in accordance with the manufacturer's instructions.
Mulch: Planting beds to receive 75mm depth pulverized ornamental bark mulch. Native woodland/edge plants to be planted with 800g flax fibre mulch mat pinned to soil. Native hedgerow to be planted through 800g flax fibre mulch roll, edges tucked. Ensure the top of the mulch layer is a minimum of 15mm below adjacent pavements and other surfaces, to prevent spillage.
Plant position: Final position of trees and shrubs subject to confirmation of service location and approval of statutory undertakers.
Protection to planting: Native hedgerow plants to be protected by spiral shelters. Native trees and shrubs within mixes to be protected by shelter guards as supplied by Acorn Planting Products Ltd (01508 528763), or equivalent.
Ornamental hedging: Hedges to comprise a single row of plants. 400mm wide trench excavated to take plants and topsoil cultivated to 400mm depth prior to application of fertiliser.
Grass: All turf/seeded areas to be cultivated and levelled as required removing any stones, rubble, subsoil, general construction waste.
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LEGEND

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- Proposed Native Shrub Mix

Plant Codes - See drawing 4025/2 for full schedule

Proposed Trees

Code	Tree Name
AaRH	Amelanchier arborea Robin Hill
Ac	Acer campestre
AcE	Acer campestre 'Elsrijk'
AcS	Acer campestre 'Streetwise'
AcS	Acer campestre 'Streetwise'
Ag	Alnus glutinosa
Al	Amelanchier lamarckii
Atg	Acer tataricum ginnala
Bp	Betula pendula
BpD	Betula pendula 'Dalecarlica'
Cb	Carpinus betulus
Cmo	Crataegus monogyna
Fs	Fagus sylvatica
MJD	Malus 'John Downie'
Pa	Prunus avium
Ppa	Prunus padus
PPan	Prunus 'Pandora'
Qr	Quercus robur
SaJR	Sorbus aucuperia 'Joseph Rock'
Sau	Sorbus aucuparia
Tc	Tilia cordata
TcG	Tilia cordata 'Greenspire'

Proposed Hedges (4/m)

Code	Tree Name
Cb	Carpinus betulus
Fs	Fagus sylvatica
Gli	Griselinia littoralis
Pl	Prunus laurocerasus
PxfRR	Photinia x fraseri 'Red Robin'

Proposed Shrubs

Code	Plant Name
BtAN	Berberis thunbergii 'Atropurpurea Nana'
CaS	Cornus alba 'Sibirica'
CBM	Ceanothus 'Blue Mound'
Ct	Choisya ternata
EEG	Euonymus fortunei 'Emerald Gaiety'
EfEG	Euonymus fortunei 'Emerald N' Gold'
EfSQ	Euonymus fortunei 'Silver Queen'
Hr	Hebe rakaiensis
HRE	Hebe 'Red Edge'
Hs	Hebe 'Sutherlandii'
LaH	Lavandula angustifolia 'Hidcote'
LnBG	Lonicera nitida 'Baggesen's Gold'
LnMG	Lonicera nitida 'May Green'
PfxRR	Photinia fraseri 'Red Robin'
PlOL	Prunus laurocerasus 'Otto Luyken'
PoRL	Physocarpus opulifolius 'Red Lady'
PSY	Pyracantha saphyr 'Yellow'
SoP	Salvia officinalis 'Purpurascens'
SoT	Salvia officinalis 'Tricolor'
Vmi	Vinca minor
Vt	Viburnum tinus

Proposed Grasses

Code	Plant Name
DcGo	Deschampsia cespitosa 'Goldtau'
MsRC	Miscanthus sinensis 'Red Chief'
Pvil	Pennisetum villosum

Native Hedge Mix (5/m)

Code	Plant Name
Ac	Acer campestre
Cav	Corylus avellana
Cm	Crataegus monogyna
Ia	Ilex aquifolium
Ps	Prunus spinosa
Sc	Salix caprea
Vo	Viburnum opulus

Rev A: Revised in line with client comments 20feb24 (RP)

Base: Avant Homes 'Planning Layout' 4206-04-C received 06Feb24

PROJECT	Main Street, Great Houghton		
TITLE	Detailed Landscape Proposals (2 of 2)		
CLIENT	Avant Homes		
DATE	15 Feb 24	SCALE 1 : 250	SHEET A0
DRAWN	BP	DRAWING NO	4025/3
CHECKED	BP	REVISION	A

ROSETTA LANDSCAPE DESIGN
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Appendix G Tree Survey – AWA Tree Consultants

Great Houghton

Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

19 May 2025

TREE CONSULTANTS

ARBORICULTURAL REPORT

to BS 5837:2012 at:

Main Street,
Great Houghton,
Barnsley
S72 0AZ

Prepared for:
Avant Homes Yorkshire

Date: *October 2023*

Reference: *AWA5651*

Institute of Chartered Foresters
Registered Consultant

Office: 0114 272 1124 Mobile: 0776 631 0880 Email: info@awatrees.com Website: awatrees.com

Contents

1. Introduction

1.1 Instructions and Brief

1.1.1 We were instructed by Avant Homes Yorkshire to visit the site and prepare our findings in a report.

1.1.2 The report is required in accordance with BS 5837:2012 *Trees in relation to design, demolition and construction – Recommendations,* to provide detailed, independent, arboricultural advice on the trees present, in the context of potential development.

1.2 Survey Details

1.2.1 The survey took place during September 2023.

1.2.2 The trees were surveyed visually from the ground using "Visual Tree Assessment" techniques and in accordance with the guiding principles of British Standard 5837:2012.

1.2.3 Any additional off-site trees that could impact a new development design have been included in the tree survey parameters.

1.2.4 We have been provided with a topographical survey with tree positions plotted. Where surveyed trees were not included on the topographical survey the tree positions were plotted using enhanced GPS technology (1-2m accuracy) and laser distance measurer.

1.2.5 This report has been prepared by Adam Winson, Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, Principal and Director of AWA Tree Consultants Ltd.

1.2.6 The tree survey data collection was carried out Sophie Beckerman, BA (Hons), Level 4 Diploma in Arboriculture, Arboriculturist at AWA Tree Consultants Ltd.

1.2.7 Full qualifications and experience are included within **Appendix 1**. Explanatory details regarding the survey methodology are included within **Appendix 2**. A full explanation of the tree data can be found at **Appendix 3**. Full details of all the trees surveyed are found in **Appendix 4**. For tree locations please refer to the Tree Constraints Plan at **Appendix 5**.

2. The Site

2.1 Location and Description

2.1.1 The site is located on Main Street, Great Houghton.

2.1.2 The site is on agricultural land and comprises an old farmyard with associated farm buildings and 2 large fields. The west is bordered by a residential road, the north and east by farmland and the south by a farmyard and farm buildings.

2.1.3 The approximate area of the survey is highlighted in the (2022 Google Earth) image below:

3. The Trees

3.1 Legal

3.1.1 The following advice is for guidance purposes only. Some trees are protected by legislation, and it is essential that the legal status of trees is established prior to carrying out works to them. Unauthorised work to protected trees could lead to prosecution, resulting in enforcement action such as fines or a criminal record. Tree Preservation Orders, Conservation Areas, Planning Conditions, Felling Licences or Restrictive Covenants legally protect many trees in the UK.

3.1.2 An online search was undertaken with Barnsley Metropolitan Council on 04/10/23 to check whether any trees at the site are protected by a Tree Preservation Order or are located within a Conservation Area. As of this date no trees at the site are protected by a Tree Preservation Order or are within a Conservation Area.

3.1.3 Due to the large potential penalties for illegally carrying out work to protected trees, before authorising any tree works a further check should be made with the Local Planning Authority to confirm if any trees are covered by a Tree Preservation Order or are within a Conservation Area. If either applies, then statutory permission is required before any works can take place (unless such work is approved as part of full planning permission).

3.1.4 The Multi-Agency Geographical Information for the Countryside (MAGIC) website was used to search for areas of ancient woodlands listed on the Ancient Woodland (DEFRA 2021), and a check for catalogued Ancient and Veteran trees using the woodland trust ancient tree inventory (ATI) (Woodland Trust 2021). It was confirmed that there are no designated ancient woodlands or veteran or ancient trees within the survey area.

3.1.5 Trees provide a wide range of habitats for many species, some of which are legally protected such as bats, nesting birds, badgers and dormice. It is essential that appropriate care is taken to ensure that this legislation is not contravened.

3.1.6 When appointing a tree surgeon, only properly qualified and experienced companies should be used, who have adequate Public Liability and Employer's Liability Insurance.

3.1.7 All tree work should be carried out according to British Standard 3998:2010 Tree Work - Recommendations.

3.2 Tree Survey Results

3.2.1 The tree survey revealed 15 items of woody vegetation, comprised of 6 individual trees and 9 tree groups or hedges.

3.2.2 Of the surveyed trees: 1 tree is retention category 'B', and 14 trees are retention category 'C', (explanatory details regarding the retention categories are included at Appendix 3).

3.2.3 Full details of the surveyed trees, tree groups and hedges are provided in the attached tree data schedule at Appendix 4. General comments are provided below:

3.2.4 The significant tree cover within the site is concentrated on the southwestern boundary, where there is a mixed species group of semi-mature trees.

3.2.5 Much of the site contains little of arboricultural significance, having been under agricultural use in the recent past.

3.2.6 Species diversity at the site is relatively good. There is a range of species making up the tree group along the southwestern boundary, including Sycamore, Beech and Cherry and a managed group of Cypress. Field boundaries are predominantly Hawthorn hedges.

3.2.7 Most of the trees are semi-mature with only a single mature tree, a Sycamore, T2.

3.2.8 G3 collectively provides good screening between the road and the site and is therefore of moderate amenity value.

3.2.9 Within G3 are two individual trees, T2, a Sycamore, and T15, a Beech. These are the largest two trees on site with good long-term prospects and provide moderate amenity value.

3.2.10 Most trees and tree groups are of low value and should not pose any significant constraint on the development potential of the site.

3.2.11 Some trees were covered in dense Ivy or were inaccessible (as detailed in Appendix 4). In such cases measurements were estimated and the condition values are indicative only.

3.2.12 The tree Root Protection Area (RPA) for each tree has been plotted as a polygon centred on the base of the stem. Due to the presence of roads, structures, topography (and past tree management) the RPA is likely to be a simplified representation of the tree roots actual morphology and disposition. However, detailed modifications to the shape of the RPA would

largely be based on conjecture and so have been avoided.

3.2.13 Some lower value tree, hedge and shrub groups do not have RPAs detailed on tree plans. The detailed extent and spread of these low value groups, in conjunction with the tree schedule, is sufficient to assess the associated potential constraints.

3.3 Photographs

Photo 1: T2 from south east

Photo 2: G3 from southeast

Photo 3: T15 on edge of group (G3) from east

Photo 4: T4, T6 and T7 and G5 from south

Photo 5: T14 from west

Photo 6: G3 from west

3.4 Arboricultural Development Advice

3.4.1 The higher value retention category 'A' and 'B' trees and tree groups should be retained, where possible, and incorporated into any new development design.

3.4.2 Where suitable, those category 'C' trees, tree groups and hedges with reasonable future prospects should be retained as part of any new development. However, care should be taken to avoid misplaced tree retention. Attempts to retain too many or unsuitable trees on a site can result in excessive pressure on the trees during demolition or construction work, or post-completion demands for their removal.

3.4.3 If required by the development proposals, occasional lower value, retention category 'C' trees, tree groups and hedges could be removed, and replacement planting would largely mitigate their losses.

3.4.4 The tree Root Protection Area (RPA), detailed on the Tree Constraints Plan at Appendix 5, should be used as a layout design tool, to inform on the area around a tree where the protection of the roots and soil structure is treated as a priority.

3.4.5 If construction of new buildings is required within the RPA of retained trees it may be possible to employ special foundation design such as mini/ micro pile and suspended beam foundations or cantilevered foundations.

3.4.6 Construction of hard surfaces, for drives and paths, within the RPA can have negative impacts on tree roots. However, the potential negative impacts can often be overcome or minimised by employing a 'no-dig' type construction method with a porous final surface.

3.4.7 The design of the new development should consider tree crown positions in relation to any new dwellings. The dappled shade of a tree is more pleasant than the deep shadow of a building, and some shade from trees may be beneficial. In particular, deciduous trees give shade in summer but allow access to sunlight in winter. Whilst either shade or sunlight might be desirable, depending on the potential use of the area affected, the design should avoid unreasonable obstruction of light and should give adequate provision for future tree growth.

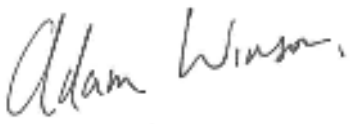
3.4.8 The retained trees may require protection by fencing in accordance with BS 5837:2012, during the development phase.

3.4.9 If required by the Local Planning Authority, an associated Arboricultural Method Statement, detailing protective fencing specifications and construction methods close to the retained trees can be provided.

4. Signature

I trust this report provides all the required information.

Signed



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Adam Winson, *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, ACIEEM*

4th October 2023

AWA Tree Consultants Limited
Union Forge
27 Mowbray Street
Sheffield
S3 8EN

www.awatrees.com

Appendices

Appendix 1: Authors Qualifications & Experience

Adam Winson, *Chartered Arboriculturist, MSc, BSc (Hons), MICFor, MArborA, ACIEEM, QTRA Registered*
Adam is the company Director and Principal Consultant. He has a mix of the highest-level academic qualifications and relevant work experience. He has worked within the tree care profession for over 20 years and was awarded an MSc in Arboriculture and Urban Forestry, with distinction. Adam is a Chartered Arboriculturist and a Registered Consultant with the Institute of Chartered Foresters, a Professional Member of the Arboricultural Association and he has original research published by the UK Forestry Commission. His work ranges from individual expert tree inspections to managing trees on major infrastructure projects. His work often involves trees with preservation orders or litigation, and he has appeared as a tree expert, at planning appeal hearings up to the crown court. Adam also regularly undertakes locum Tree Officer work for several Local Planning Authorities.

James Brown, *BSc (Hons) Arboriculture, MArborA, PTI (Lantra), QTRA Registered*
James is a highly experienced and qualified Arboricultural Consultant. He has a BSc (Hons) in Arboriculture, attaining first class honours, as well as being awarded the Institute of Chartered Foresters student award. He is a Professional Member of the Arboricultural Association, an Associate of the Institute of Chartered Foresters, and he is working towards becoming a Chartered Arboriculturist. James joined AWA in 2016, he has many years' experience as an Arboricultural Consultant, he previously worked in Europe's largest container tree nursery and he has experience of local authority Tree Officer work.

James Godfrey, *BA (Hons), FdSc Arboriculture and Tree Management, TechArborA, PTI (Lantra), QTRA Registered*
James has had extensive arboricultural experience working as an arborist within the public and private sector. While working at AWA, James completed his FdSc in Arboriculture and Tree Management, graduating with a distinction and was also awarded for achieving the highest overall mark in his year. James has used his arboricultural knowledge to inform and carry out accurate tree surveys and produce detailed reports that aim to balance appropriate tree retention with the requirements of landowners.

Joe Thomas, *MSci Biology, Award L4 Arboriculture, TechArborA, QTRA Registered*
Joe achieved a first class degree in Biology with an integrated Masters (MSci) from the University of Sheffield. Additionally, he has a Level 4 Award in Arboriculture. Joe joined AWA after an Urban Forestry role with the Sheffield and Rotherham Wildlife Trust and Sheffield City Council, where he gained a variety of experience in different aspects of the arboriculture sector.

James Boyle, *HND Level 5 Arboriculture and Urban Forestry, QTRA Registered*
Jim joined AWA after having worked within the tree care profession for several years, alongside studying at college and university. During this time he gained a wealth of experience and achieved a variety of practical qualifications within the tree care industry. Jim has studied Arboriculture and Urban Forestry at Merrist Wood College in Surrey, Plumpton College in Sussex and University of Highlands and Islands in the Scottish Highlands, where he achieved a distinction in the Higher National Diploma Level 5.

Lucy Garbutt, *MSc Animal Behaviour, BSc (Hons) Biology, CIEEM membership*
Lucy graduated with a masters degree in Animal Behaviour from the UK's highest rated university, St Andrews of Scotland, immediately following the completion of her BSc degree in Biology from Lancaster University. Lucy has experience in botany and plant science and moved into arboriculture after previous experience of protected species and botanical surveys with a large environmental consulting company.

Sophie Beckerman, *BA (Hons), Dip Arboriculture Level 4, TechArborA*
Sophie has more than 10 years' experience as an arborist, working for a variety of private companies as well as undertaking tree management with Sheffield City Council Ranger Service and The Wildlife Trust. Her expertise in arboriculture is demonstrated in the practical NPTC qualifications gained, and her excellent knowledge is reflected in the L4 diploma in Arboriculture, which she completed while working. Her roles as a climbing arborist and team leader included estimating for jobs and project management, supervising tree contracting teams - ensuring that work is carried out safely and efficiently and that health and safety standards are adhered to, and risk assessments are carried out.

Appendix 2: Survey Methodology and Limitations of Report

The survey was undertaken in accordance with British Standard 5837:2012 *Trees in relation to design, demolition and construction – Recommendations.* The trees were assessed objectively and without reference to any proposed site layout. The trees were surveyed from the ground using 'Visual Tree Assessment' (VTA) methodology. VTA is appropriate and is endorsed by industry guidance. It is used by arboriculturists to evaluate the structural integrity of a tree, relying on observation of trees biomechanical and physiological features. Measurements are obtained using a diameter tape, clinometer, laser distometer and loggers tape. Where this is not practical measurements are estimated. Tree groups have been identified in instances as defined in BS 5837:2012. Shrubs and insignificant trees may have been omitted from the survey.

This report represents a BS 5837:2012 tree survey and should not be accepted as a detailed tree safety inspection report; however, tree related hazards are recorded and commented upon where observed, yet no guarantee can be given as to the absolute safety or otherwise of any individual tree. All recommended tree work must be to BS 3998:2010 - '*Tree Work: Recommendations'*.

The findings and recommendations contained within this report are valid for a period of twelve months from the date of survey. The author shall not be responsible for events which happen after this time due to factors which were not apparent at the time, and the acceptance of this report constitutes an agreement with these guidelines and terms.

Appendix 3: Explanation of Tree Descriptions

HEIGHT of the tree is measured from the stem base in metres. Where the ground has a significant slope the higher ground is selected.

CROWN HEIGHT is an indication of the average height at which the crown begins.

STEM DIAMETER is measured at 1.5 metres above (higher) ground level. Where the tree is multi-stemmed at this point; the diameter is measured close to ground level or else a combined stem diameter is calculated.

CROWN SPREAD is measured from the centre of the stem base to the tips of the branches in all four cardinal points.

AGE CLASS of the tree is described as young, semi-mature, early-mature, mature, or over-mature.

PHYSIOLOGICAL CONDITION is classed as good, fair, poor, or dead. This is an indication of the health of the tree and takes into account vigour, presence of disease and dieback.

STRUCTURAL CONDITION is classed as good, fair or poor. This is an indication of the structural integrity of the tree and takes into account significant wounds, decay and quality of branch junctions.

LIFE EXPECTANCY is classed as; less than 10 years, 10-20 years, 20-40 years, or more than 40 years. This is an indication of the number of years before removal of the tree is likely to be required.

Retention Categories

A (marked in green on Appendix 5) = retention most desirable. These trees are of very high quality and value with a good life expectancy.

B (marked in blue on Appendix 5) = retention desirable. These trees are of good quality and value with a significant life expectancy.

C (marked in grey on Appendix 5) = trees which could be retained. These trees are of low or average quality and value, and are in adequate condition to remain until new planting could be established.

U (marked in red on Appendix 5) = trees unsuitable for retention. These trees are in such a condition that any existing value would be lost within 10 years.

	Tree Species			Measurements				Crown (m)					Tree Condition				Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Crown height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G1	Leyland Cypress	***Cupressus x leylandii***	Semi-mature	7	10	100	Yes	0.5	See plans				Boundary group of leylandii approx 5 m wide, trimmed on road side, extending 1 m beyond fence. Dense undergrowth prevented detailed inspection				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
T2	Sycamore	***Acer pseudoplatanus***	Mature	15	6	350	Yes	1	7.5	6.5	6.5	7	Exposed roots. Girdled roots	Multiple stemmed. at base. Old pruning wounds. Stubs. Tight union. Partially included bark. Cup-like union collecting dirt/water. Minor cavities	Minor deadwood	Overhanging road and pavement to northwest. Large union with included bark at base holding water.	Good	Fair	>40 yrs	Moderate	B	No works required in current site context
G3	Cherry	***Prunus avium***	Semi-mature	14	10	200	Yes	1	See plans				Boundary group of mostly Cherry and Beech, with occasional Sycamore and Willlow and some smaller Hawthorn. Good screening between site and road/ houses. Overhanging adjacent footpath. Dense undergrowth prevented detailed inspection				Fair	Fair	20 to 40 yrs	Moderate	C	No works required in current site context
T4	Willow	***Salix sp.***	Semi-mature	10	1	250	No	0.5	5	4	3	4	Limited access around base	Single stemmed. Vertical. Stubs. Minor cavities	Minor deadwood. Minor dieback	Undergrowth prevented detailed inspection of base and stem. Overhangs pavement to northwest	Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G5	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	3.5	10	80	Yes	0	See plans				Managed boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn. Road to west.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context

	Tree Species			Measurements				Crown (m)					Tree Condition						Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Crown height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
T6	Cypress	***Cupressus sp.***	Young	7	1	100	Yes	1	1.5	1.5	1.5	1.5	Limited access around base	Single stemmed. Vertical	Normal	Single Cypress growing within hedge. Visibility largely obscured by hedge and undergrowth. Plotted approximately	Good	Fair	20 to 40 yrs	Low	C	No works required in current site context
T7	Willow	***Salix sp.***	Semi-mature	7	1	300	No	1	4	4	4	4	Limited access around base	Single stemmed. Vertical	Minor deadwood. Minor dieback	Undergrowth prevented detailed inspection of base and stem. Overhangs pavement to northwest	Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G8	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	3.5	10	80	Yes	0	See plans				Managed boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G9	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	3.5	10	80	Yes	0	See plans				Managed boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G10	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	7	10	100	Yes	0	See plans				Unmanaged boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn. On raised banking				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G11	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	1.8	10	80	Yes	0	See plans				Managed boundary hedge between two fields. Mostly Hawthorn, occasional Elder and Blackthorn. Recently trimmed.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context

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	Tree Species			Measurements				Crown (m)					Tree Condition					Value		Management
Tree ID	*Common Name*	*Latin Name*	*Maturity*	*Height (m)*	*Stems*	*Stem Diameter (mm)*	*Estimated*	*Crown height*	*N*	*E*	*S*	*W*	*Roots*	*Stem*	*Crown*	*Comments*	*Physiological*	*Structural*	*Life Expectancy*	*Amenity*	*Category*	*Works*
G12	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	2.5	10	80	Yes	0	See plans				Managed boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn. Recently trimmed.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
G13	Hawthorn, Elder, Blackthorn	***Crataegus monogyna, Sambucus nigra, Prunus spinosa***	Semi-mature	2	10	80	Yes	0	See plans				Managed boundary hedge. Mostly Hawthorn, occasional Elder and Blackthorn. Recently trimmed.				Fair	Fair	20 to 40 yrs	Low	C	No works required in current site context
T14	Cherry	***Prunus avium***	Semi-mature	14	1	240	No	1.5	3.5	3.5	3	2.5	Ground level changes. Root damage/ loss. Trenching/ excavations. Soil compaction	Single stemmed. Vertical. Bark damage. Minor decay	Normal	Soil and bricks piled around base. Recent ground level changes. Elder growing immediate to south and stone wall immediately beyond that. Western crown in contact with farm building.	Good	Good	20 to 40 yrs	Moderate	C	No works required in current site context
T15	Beech	***Fagus sylvatica***	Semi-mature	16	1	300	No	1	5	3.5	2.5	3	Limited access around base	Single stemmed. Vertical	Minor deadwood	Larger Beech within group. Overhanging gateway and road/pavement. Growing into lampost to northwest	Good	Good	>40 yrs	Moderate	C	No works required in current site context

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Appendix 5:
Tree Constraints Plan

Main Street, Great Houghton, Barnsley S72 0AZ
Ref AWA5651

BRITISH STANDARD 5837:2012
RETENTION CATEGORIES
Definitions of these categories can be found in Appendix 2 of the report.

SCALE: 1:500 PAPER: A1

	CATEGORY A: HIGH VALUE RETENTION MOST DESIRABLE
	CATEGORY B: MODERATE VALUE RETENTION DESIRABLE
	CATEGORY C: LOWER VALUE COULD BE RETAINED
	CATEGORY U: UNSUITABLE FOR RETENTION
	RPA: ROOT PROTECTION AREA
	TREE STEM

Appendix H Barnsley Biological Records Centre (BBRC) Data Records

Great Houghton

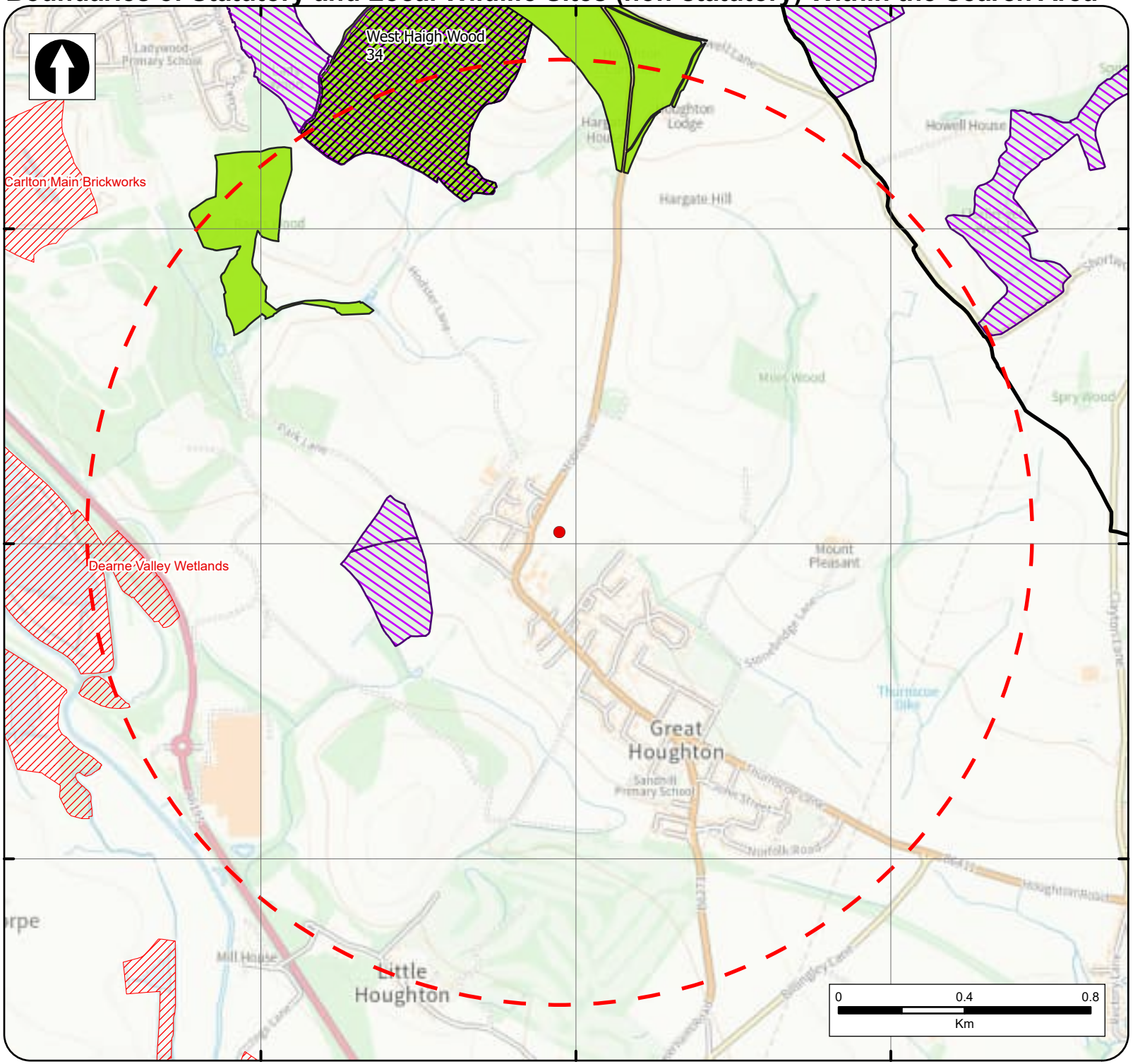
Ecological Impact Assessment

Avant Homes

SLR Project No.: 424.064965.00001 v3

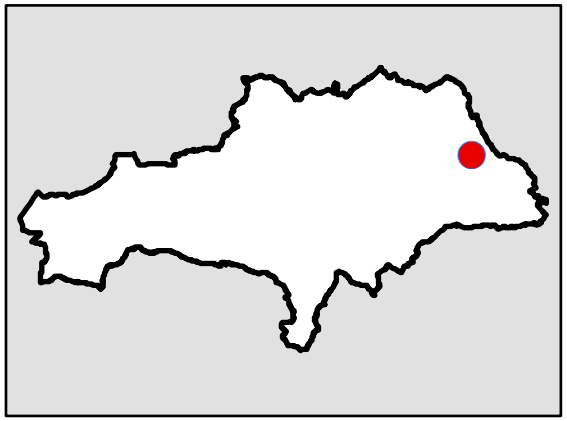
19 May 2025

Boundaries of Statutory and Local Wildlife Sites (non-statutory) Within the Search Area



Great Houghton

- Centre of Search Area
- SSSI (England) © Natural England
- LNR NEngland
- Ancient Woodland Natural England
- Barnsley Boundary
- Local Wildlife Sites - Barnsley
- 1.5km radius



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