
EXTENDED PHASE 1 HABITAT SURVEY

**Bloomhouse Lane, Darton,
Barnsley**

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Field Investigations and Data

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1.0 INTRODUCTION

- 1.1 Applied Ecological Services Ltd. was commissioned to undertake an Extended Phase 1 Habitat Survey in land off Bloomhouse Lane, Darton, Barnsley. The purpose of the survey was to map and identify habitats and species that are present within the site boundary (see **Figure 1** and **Appendix 2**). The aim of the survey was to provide baseline data of the site and highlight areas for further investigation that may provide a constraint to development. This report presents an assessment of these potential ecological constraints to redevelopment based on the results of the survey, along with recommendations for further, more detailed surveys to be undertaken, as appropriate.
- 1.2 A new link-road is proposed within the site boundary (outlined in figure 1 and appendix 2). The site is located approximately 5km north-west of Barnsley Town Centre and approximately 800m east of the M1 motorway and is located within a suburban setting at grid reference SE 314 103 (approximate central point).
- 1.3 The 11.5 hectare (approximate) site consists of a range of habitat types including tall ruderal vegetation, dense and scattered scrub, defunct and intact hedges and hedges with trees, broad-leaved semi-natural woodland and neutral and improved grassland. To the north of the site is arable fields, the residential area of Darton is to the east and south. To the west there is a sports ground with ground clearance works surrounding that.



Figure 1. Aerial view of the site with surrounding land uses.

2.0 METHODOLOGY

DESK STUDY

- 2.1 In order to compile existing baseline information, relevant ecological information was requested from the following organisations which for the purposes of this report, included:
- Multi Agency Geographic Information for the Countryside (Magic) website;
 - Sheffield Biological Records Centre
- 2.2 A 2km radius was searched for sites of International nature conservation importance, such as Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), statutory sites of national, regional and local importance, such as Sites of Special Scientific Interest (SSSIs) and Local Nature Reserves (LNRs), and non-statutory designated sites such as Local Wildlife Sites (LWS) and also for records of protected and notable species.
- 2.3 Further inspection, using colour 1:25,000 OS base maps (www.ordnancesurvey.co.uk) and aerial photographs from Google Earth (www.maps.google.co.uk), was also undertaken in order to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.

HABITATS / FLORA

- 2.4 The site was surveyed on the 19th August 2015 by Daniel Madden (AES-LTD), using the standard Extended Phase 1 Habitat Survey methodology (JNCC, 2010)¹ as recommended by Natural England to identify specific habitats of ecological interest. Whilst the species list should not be regarded as exhaustive, sufficient information was gained during the survey to enable classification and assessment of major habitat types.

FAUNA

BAT RISK ASSESSMENT

- 2.5 Ground based tree assessments were undertaken on the 19th August 2015. Trees were inspected for signs of use by bats and features which have the potential to be used by bats as indicated in **Table 1**. Each inspected tree was placed into a category representing the signs of use by bats and the potential of the tree to support roosting bats as described in **Table 2**.

¹ JNCC, (2010), Handbook for Phase 1 habitat survey - a technique for environmental audit

Table 1. Common types of features used by bats for roosting and shelter and field signs that may indicate use by bats. Source: BCT (2012).

Features of trees used as bat roosts	Signs indicating possible use by bats
Natural holes	Tiny scratches around entry point
Woodpecker holes	Staining around entry point
Cracks/splits in major limbs	Bat droppings in/around/below entrance
Loose bark	Audible squeaking at dusk or in warm weather
Behind dense, thick-stemmed ivy	Flies around entry point
Hollows/cavities	Distinctive smell of bats
Within dense epicormic growth	Smoothing of surfaces around cavity
Bird and bat boxes	

Table 2. Categorisation of tree roosting opportunities and signs of bat use from ground-based observations.

BCT category	Level of bat roost potential	Tree roosting opportunities and signs of bat use
Roost Present	Known or Confirmed bat roost	Field evidence of the presence of bats e.g. scratch marks, oil or urine stains, droppings, audible bat social calls, distinctive odour of bats.
1*	High	High quantity and quality of bat roosting features e.g. abundant holes/cracks/splits in major limbs, dense thick-stemmed ivy, dense epicormic growth. Possible signs of bat use e.g. flies around a hole, smoothing of surfaces.
1	Medium	Trees with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats
2	Low	Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.
3	Negligible	Trees with no potential to support bats

SURVEY LIMITATIONS

- 2.6 The survey was undertaken at an optimum time of year for vegetation surveys, however some areas were inaccessible and so had to be viewed from a short distance away. This was due to either dense vegetation creating an obstacle or from the presence of grazing horses.

3.0 RELEVANT LEGISLATION & POLICY²

LEGISLATION

HABITAT REGULATIONS

- 3.1 The Conservation of Habitats and Species Regulations 2010 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 disturb³ wild animals listed under Schedule 2 of the Regulations (such as all bat species and great crested newts). 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).

WILDLIFE & COUNTRYSIDE ACT

- 3.2 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), making it an offence to:

- 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; and
- Pick or uproot any wild plant listed under Schedule 8 of the Act. Sites of Special Scientific Interest (SSSI) are designated under this Act.

POLICY

NATIONAL PLANNING POLICY FRAMEWORK

- 3.3 The Government published the National Planning Policy Framework (NPPF) on 27th March 2012. This sets out new guidance for local authorities, focusing on helping to produce planning policies that are clear and easier to understand. The NPPF is effective immediately; however the local plans are still valid, for the time being, even if they have

² Please note that this legal information is a summary and intended for general guidance only. The original legal documents should be consulted for definitive information.

³ 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.

been produced prior to the NPPF. There is emphasis on the need for economic growth through designing planning policies which are in favour of development but this will not be achieved in isolation from social and environmental development. Section 11 sets out the requirements for conserving and enhancing the natural environment. Land previously used for development (brownfield sites) should be favoured as long as they are not considered to be of high environmental value. Of particular note is paragraph 152 of the Plan-Making Section which states, “Local planning authorities should seek opportunities to achieve each of the economic, social and environmental dimensions of sustainable development, and net gains across all three. Significant adverse impacts on any of these dimensions should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Where adverse impacts are unavoidable, measures to mitigate the impact should be considered. Where adequate mitigation measures are not possible, compensatory measures may be appropriate”. The Framework is guidance for local planning authorities on the content of their Local Plans, but is also a material consideration in determining planning applications. The NPPF has replaced much existing planning policy guidance, including Planning Policy Statement 9: Biological and Geological Conservation. However, the government circular 06/05: Biodiversity and Geological Conservation - Statutory Obligations and their Impact within the Planning System, which accompanied PPS9 remains valid.

BIODIVERSITY ACTION PLANS

- 3.4 The UK Biodiversity Action Plan (UKBAP) (Anon, 1995) was organised to fulfill the Rio Convention on Biological Diversity in 1992, to which the UK is a signatory. A list of national priority species and habitats has been produced with all listed species/habitats having specific action plans defining the measures required to ensure their conservation.
- 3.5 The UKBAP is no longer an active strategy, and has been replaced by biodiversity strategies in England, Northern Ireland, Scotland and Wales. While the UKBAP is no longer an active policy, species listed on the UKBAP have been incorporated into the new biodiversity strategies for each country. In England under Biodiversity 2020: A strategy for England's wildlife and ecosystem services and under section 41 of The Natural Environment and Rural Communities (NERC) Act 2006, where UKBAP species were recognised as of principal importance for the conservation of biodiversity. Section 40 of the NERC Act 2006 requires all public bodies to have regard for biodiversity conservation when carrying out their function. This is commonly referred to as the '**biodiversity duty**'.

- 3.6 Regional and local BAPs have also been organised to develop specific plans for species/habitats of nature conservation importance at regional and local levels, these plans remain valid.

LOCAL STRUCTURE PLANS

- 3.7 County, District and Local Councils have Structure Plans and other policy documents that include targets and policies which aim to maintain and enhance biodiversity. These are used by Planning Authorities to inform planning decisions

NATURAL ENVIRONMENT AND RURAL COMMUNITIES (NERC) ACT (2006)

- 3.8 Public authorities have a duty to conserve biodiversity under the Natural Environment and Rural Communities (NERC) Act, which came into force in 2006. This states that 'any public body or statutory undertaker in England and Wales must have regard to the purpose of conservation of biological diversity in the exercise of their function and that decisions of public bodies work with the grain of nature and not against it' (Part 3, Paragraph 60). The Act also includes a range of measures to strengthen the protection of wildlife and habitats.

WILDLIFE LEGISLATION

- 3.9 In addition to the above, a range of legislation is in place to ensure that habitats and species of conservation importance are protected from harm, either directly or indirectly. A summary of this legislation is given in Table 3.

Table 3: Overview of Key Legislation

Legislation	Relevance
The Conservation of Habitats and Species Regulations 2010	This transposes the EC Habitats Directive 1992 (<i>Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Flora and Fauna</i>) and the EC Birds Directive 1979 (<i>Council Directive 79/409/EEC on the protection of wild birds</i>) into UK law. Annexes I and II of the Habitats Directive list (respectively) habitats and species for which member states are required to establish and monitor SACs. The EC Birds Directive provides a similar network of sites (SPAs) for all rare or vulnerable species listed in Annex I and all regularly occurring migratory species, with particular focus on wetlands of international importance. Together with SACs, SPAs form a network of pan-European protected areas known as 'Natura 2000' sites. The Habitats Regulations also make it an offence (subject to exceptions) to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4.

The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention 1979)	The Bern Convention aims to ensure conservation and protection of all wild plant and animal species and their natural habitats (listed in Appendices I and II of the Convention), to increase cooperation between contracting parties, and to afford special protection to the most vulnerable or threatened species (including migratory species).
The Wildlife and Countryside Act (WCA) 1981 (as amended)	The WCA is the primary UK mechanism for statutory site designation (Sites of Special Scientific Interest, SSSIs) and the protection of individual species listed under Schedules 1, 2, 5 and 8 of the Act, each subject to varying levels of protection
The Countryside and Rights of Way Act 2000	This legislation strengthens the provision of the 1981 WCA (as amended), both in respect of statutory sites such as SSSIs and protected species. It also places a statutory obligation on Local Authorities and other public bodies to further conservation of biodiversity in the exercise of their functions, thus providing a statutory basis to the Biodiversity Action Plan (BAP) process, which began in 1994. Section 74 of the Act lists the habitat types and species of principal importance in England.
Hedgerow Regulations 1997	The Hedgerow Regulations 1997 are intended to protect important countryside hedges from destruction or damage in England and Wales.
Natural Environment and Rural Communities Act 2006	The 'NERC' Act makes provision in respect of biodiversity, pesticides harmful to wildlife, protection of birds and invasive non-native species. Section 40 of the act also introduced a new duty on public bodies to have regard to the purpose of conserving biodiversity in the exercise of their functions.

3.10 Due to its location the site may have the potential to support or provide habitat for a number of those species protected by the various pieces of legislation summarised in Table 3. A summary of the key legislation is given in Table 4.

Table 4: Key Legislation for protected species

Species	Key legal protection
Bats (all species)	All European species of bat are listed on Annex IV of the EC Habitats Directive as being in need of "strict protection". This is implemented in Britain under The Conservation of Habitats and Species Regulations 2010. All British bats are included on Schedule 5 of the WCA (1981) and the whole of Section 9 of The Act applies to European bat species. In summary, the above legislation collectively prohibits the following: • Deliberately or recklessly capturing, injuring, taking or killing of a bat; • Deliberately or recklessly harassing a bat; • Intentionally or recklessly disturbing of a bat in its place of rest (roost), or which is used for protection or rearing young; • Deliberately or recklessly damaging, destroying or obstructing

	access to any resting place or breeding area used by bats; • Deliberately or recklessly disturbing a bat in any way which is likely to significantly affect the local populations of the species, either through affecting their distribution or abundance, or affect any individuals ability to survive, reproduce or rear young; • Possession or advertisement/sale/exchange of a bat (dead or alive) or any part of a bat. In England, licenses are issued by Natural England for any actions that may compromise the protection of a European protected species, including bats, under the Habitats Regulations 2010. This includes all developments, regardless of whether or not they require planning permission. Bats are also protected by the Wild Mammals (Protection) Act 1996 and selected species are listed on the UK Biodiversity Action Plan (BAP) and the Local Biodiversity Action Plan (LBAP)
Great crested newt	Great crested newts are protected under European and British law, having the same level of protection as bats (see above). Licenses are issued by Natural England for any actions that may compromise the protection of this species, under the Habitat Regulations 2010. This includes all developments, regardless of whether or not they require planning permission. The species is also listed on the UK and Local BAPs.
Birds	The majority of bird species, with the exception of some species listed on Schedule 2, are protected under the WCA 1981 (as amended). This makes it an offence to intentionally or recklessly: • Kill, injure or take any wild bird; • Take, damage or destroy any nest which is in use or being built; and • Take, damage or destroy the eggs of any such bird. Additional protection against disturbance whilst at the nest is also afforded to any bird species, whether an adult bird or their dependent young, which is listed on Schedule 1 of the Act. Certain species are also listed as being of priority conservation importance on the UK and Local BAPs
Badger	Badger are protected under the Protection of Badgers Act 1992, which makes it an offence to: • Knowingly kill, capture, injure or disturb any individual; • Intentionally damage or destroy a badger sett, or any part thereof; • Obstruct access to an area which is used for breeding, resting or shelter; and • Disturb a badger while it is using any place used for breeding, resting or shelter. The species is also protected by the Wild Mammals (Protection) Act 1996.

4.0 RESULTS AND DISCUSSION

DESK STUDY

DESIGNATED SITES

- 4.1 No designated sites exist within a 2km radius of the site.

ECOLOGICAL RECORDS

- 4.2 A total of 303 records of protected and notable species were returned from a data search by Sheffield Biological Records Centre, within a search area of a 2km radius of the site. 260 of these records were recorded from the year 2005 onwards and are discussed below.

Amphibians

- 4.3 Sheffield Biological Records Centre returned seven records of amphibian species; one of common frog *Rana temporaria* and three records of smooth newt *Triturus vulgaris* all over 1.5km away from the site. Great crested newt *Triturus cristatus* eggs have been recorded in two ponds along Barnsley canal, however these were almost 2km away from the site and therefore unlikely to disperse to the site at Bloomhouse Lane.

Bats

- 4.4 Only 3 records of bats were returned within a 2km radius of the site. Two of these were common pipistrelle *Pipistrellus pipistrellus* in flight and one record of an unidentified roosting bat from 2005. No records of bats exist within the site boundary.

Terrestrial mammals

- 4.5 The data search returned only 5 records from 3 species of terrestrial mammals. 2 records of badger *Meles meles* field signs exist; one record of field sign is present within the site boundary, the other being almost 2km away from the site. 1 record of an old harvest mouse *Micromys minutus* nest exists from 2012 almost 2km away from site. 2 records of hedgehog *Erinaceus europaeus* are present with one record of roadkill in Kexbrough and another being released in Barugh Green after rehabilitation.

Bird species

- 4.6 Bird species make up the majority of the records returned from the 2km radius around the site, with records of 234 birds from 32 species over the last ten years. Many of these records are common song birds, such as blackbird *Turdus merula* and goldfinch *Carduelis carduelis*, occurring in or around local private gardens and arable fields and hedgerows. However some are legally protected and/or classified as a UK BAP priority species. The most notable of

these species includes one record of red kite *Milvus milvus* in 2011 flying over an area of arable fields and farm buildings on the western side of the M1 road, approximately 1.5km west of the site. Two records of green sandpiper *Tringa ochropus* were returned from 2013 occurring in and around Darton Sewage Treatment Works. One record of redwing *Turdus iliacus* from 2013 also nearby the Darton Sewage Treatment Works, alongside the river Dearne. Two records of fieldfare *Turdus pilaris* with notes attached indicating a large flock of the species located in a similar area, near the Sewage Treatment Works, over 1km from the site. These four species, red kite, green sandpiper, redwing and fieldfare are afforded the highest degree of legal protection under Schedule 1 of the Wildlife and Countryside Act 1981. Other notable species within a 2km radius of the site include birds that are classified as being priority species in the UK BAP, such as lesser redpoll *Carduelis cabaret*, yellowhammer *Emberiza citrinella*, reed bunting *Emberiza schoeniclus*, grasshopper warbler *Locustella naevia* and lapwing *Vanellus vanellus*.

Butterfly and moth species

- 4.7 There are records of three species of invertebrates within 2km of the site. These species include butterflies: small heath *Coenonympha pamphilus* and dingy skipper *Erynnis tages*; and one species of moth, cinnabar *Tyria jacobaeae*. There are four records of small heath, all from 2013; six records of dingy skipper, five from 2013 and one from 2011; and one record of cinnabar from 2013. All of these records have been submitted from the area of Mapplewell Tip.

FIELD RESULTS AND DISCUSSION - HABITATS/FLORA

GENERAL SITE DESCRIPTION

- 4.8 The site consists of a range of habitat types including tall ruderal vegetation, dense and scattered scrub, defunct and intact hedges and hedges with trees, broad-leaved semi-natural woodland, semi-improved neutral grassland and improved grassland.
- 4.9 The locations of the habitats described in the following sections can be found on the Phase 1 Habitat Plan. Target notes (TN) are provided in **Appendix 1**.

TALL RUDERAL

- 4.10 Tall ruderal vegetation is present in several areas within the site. This habitat included common hogweed *Heracleum sphondylium*, broad-leaved dock *Rumex obtusifolius*, ragwort *Jacobaea vulgaris*, mugwort *Artemisia vulgaris*, prickly sow-thistle *Sonchus asper*, spear thistle *Cirsium vulgare*, rosebay willowherb *Epilobium angustifolium*, common teasel

Dipsacus sylvestris and creeping thistle *Cirsium arvense*.

DENSE SCRUB

- 4.11 Dense scrub is found in large areas within the site. Species present included bramble *Rubus fruticosus*, *Salix* spp. and hawthorn *Crataegus monogyna*.

POOR SEMI-IMPROVED GRASSLAND

- 4.12 The majority of the site was classified as species poor grassland although the area in the east of the site was distinctly different to that in the west. Fields in the eastern section of the site appear to have been unmanaged through grazing and or cutting and were becoming encroached by scrub, they were dominated by false oat-grass *Arrhenatherum elatius*, with annual meadow grass *Poa annua*, timothy *Phleum pratensis*, Yorkshire fog *Holcus lanatus*, creeping thistle and common knapweed *Centaurea nigra*.
- 4.13 Fields in the west of the site had been recently cut for hay and had a high ratio of grass to herbs (TN 2). The field denoted by TN 8 had not yet been cut but the sward was the same. The sward had become tussocky in areas and grass species noted were false oat-grass cock's-foot *Dactylis glomerata*, Yorkshire fog, perennial rye *Lolium perenne* with a much lower occurrence of *Festuca* spp., and crested dog's-tail *Cynosurus cristatus*. Several herb species were noted throughout the area but were infrequent within the sward: ribwort plantain *Plantago lanceolata*, dandelion *Taraxacum* agg., red clover *Trifolium pratense*, St. John's wort *Hypericum perforatum*, yarrow *Achillea millefolium*, vetch sp. *Vicia* sp, meadow buttercup *Ranunculus acris*, cat's-ear *Hypochaeris radicata*, common sorrel *Rumex acetosa* and white clover *Trifolium repens*.

IMPROVED GRASSLAND

- 4.14 Improved grassland is present in the centre of the site between areas of scattered scrub. This habitat was densely populated by perennial rye grass and white clover, many areas were also heavily horse-grazed and as a result localised manure enrichment occurred.

BUILDINGS AND HARDSTANDING

- 4.15 Many residential buildings surround the site to the east and south, none of which are to be effected by the proposed development within the site. There is one main residential building (the farm house), with several sheds and outhouses surrounded by the site boundary (TN 9), this building is located outwith the site boundary.

CONTINUOUS BRACKEN

- 4.16 Two areas of bracken *Pteridium aquilinum* were present within the site. A smaller area within a hedge and trees towards the centre of the site, and a larger area along the northern boundary.

SCATTERED SCRUB

- 4.17 This habitat was present in the centre of the site between improved grassland that is grazed by horses. Scattered scrub species predominantly included bramble and hawthorn

BROAD-LEAVED SEMI-NATURAL WOODLAND

- 4.18 This habitat was present along the northern boundary of the site and in the south east of the site. Species included ash *Fraxinus excelsior*, sycamore *Acer pseudoplatanus*, English oak *Quercus robur*, *Salix* spp. and field maple *Acer campestre*.

INDIVIDUAL TREES

- 4.19 Individual trees were present onsite, species included poplar sp. *Populus* sp., *Salix* spp., ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus*. Trees were a mix of young and semi-mature. A line of semi-mature poplars were present just outside the site boundary to the north-west of the site (TN4)

DEFUNCT SPECIES-POOR HEDGE

- 4.20 These hedges consisted predominantly of hawthorn *Crataegus monogyna* and were present in small areas around the boundary of the site.

HEDGE AND TREES

- 4.21 This type of hedge is found around the boundary of the site as well as acting as boundaries between several fields within the site. Species present included hawthorn, blackthorn *Prunus spinosa*, field maple *Acer campestre*, sycamore and ash.

INTACT SPECIES-POOR HEDGE

- 4.22 This type of hedge was recorded around small areas of the site boundary. Species included a dominance of hawthorn with blackthorn and bramble also present.

FIELD RESULTS AND DISCUSSION – FAUNA

BATS

- 4.23 As the site has a range of habitats including, various grassland types, hedgerows scrub and woodland, there is good potential to provide foraging habitat for bats.
- 4.24 The trees on site did not have any features suitable for bat roosts (as outlined in table 1). All trees within the site boundary were categorised as BCT Category 3 – Negligible (table 2).
- 4.25 The farm house is located towards the centre of the site. It is located outwith the site boundary and it will not be directly affected by the development proposals. The house may have potential for roosting bats which if present may use the site for foraging.

BADGER

- 4.26 The site was searched thoroughly for signs characteristic of badger. No field signs characteristic of badger were observed on the site at the time of survey.

NESTING BIRDS

- 4.27 The site has potential to support nesting birds. Breeding bird surveys have not been undertaken, however several common species were noted at the time of survey including blackbird *Turdus merula*, great tit *Parus major*, pied wagtail *Motacilla alba*, robin *Erithacus rubecula*, blackcap *Sylvia atricapilla* and chiff chaff *Phylloscopus collybita*.

INVASIVE SPECIES

- 4.28 An extensive area of Japanese knotweed *Fallopia japonica* was identified towards the northern section in the centre of the site (TN 12), between the area of scattered scrub and dense scrub.

5.0 SUMMARY & RECOMENDATIONS

- 5.1 This site supports a range of habitat types which have some potential to support features that may be used by protected or notable species.
- 5.2 The site supports individual trees which are of negligible potential based on a ground-based risk assessment, for roosting bats. However a farmhouse and associated buildings located towards the centre of the site although outwith the site boundary may have potential for roosting bats. Although the farmhouse and buildings will not be directly affected by the development proposals, any bats which may roost could be affected by any loss of foraging. A risk assessment and emergence surveys for bats are recommended on the farmhouse and associated buildings to determine if bats are using the buildings.
- 5.3 The site supports a network of hedgerows, dense scrub and individual trees which provide habitat suitable for foraging bats. Bat transect surveys are recommended to determine bat usage of the site the results of which will inform any mitigation required. However is recommended that consideration will be given to low level lighting of the development as well as consideration to minimise light pollution to reduce impact on retained habitat.
- Use low pressure sodium lamps or high pressure sodium instead of mercury or metal halide where glass glazing is preferred due to its UV filtration properties;
 - Lighting should be directed to where it is needed and light spillage avoided. This may be achieved through design and using accessories such as hoods, cowls, louvres and shields;
 - The lighting should be as low as guidelines permit, if lighting is not needed don't light;
 - Many security lights may be fitted with movement sensors which if well installed and aimed will reduce the amount of time a light is on each night; and
 - The light should be aimed to light only the immediate area required by using as sharp a downward angle as possible.
- 5.4 The site has potential to support nesting bird species and several common species were noted during the phase 1 survey. It is recommended that site preparation works i.e. vegetation clearance, are conducted outside of the breeding bird season. This includes all ground level vegetation as well as scrub, hedgerows and standard trees. The bird breeding season can extend from March until August (inclusive), weather and species depending. Where vegetation clearance cannot be undertaken outside the bird

breeding season, all such areas would be subject to a thorough walkover survey by a suitably qualified ecologist prior to any clearance or disturbance work being undertaken.

- 5.5 Japanese knotweed was identified within the site boundary. To ensure compliance with the Wildlife and Countryside Act 1981 (as amended) the works must not cause Japanese knotweed to spread. Therefore it is recommended that a Japanese knotweed survey be completed and a Method Statement developed to ensure that the proposed works do not result in the spread of this invasive non-native species.

APPENDIX 1: TARGET NOTES

TN No.	Note	Photo
1.	Tall ruderal vegetation included common hogweed, broad-leaved dock, ragwort, mugwort, prickly sow-thistle, spear thistle, rosebay willowherb, common teasel and creeping thistle.	
2.	Poor semi-improved grassland habitat in the western areas of the site has a high ratio of grass to herbs. - This image shows an area of poor-semi improved grassland that has been recently cut for hay	

3.	Species present within the hedges with trees included hawthorn, blackthorn, field maple, sycamore and ash.	
4.	Many individual trees were present on site, species included poplar sp., <i>Salix</i> spp., ash and sycamore.	

5.	Two areas of bracken were present within the site. A smaller area within a hedge and trees towards the centre of the site, and a larger area along the northern boundary.	
6.	Dense scrub is found in large areas within the site. Species present included bramble, <i>Salix</i> spp. and hawthorn.	

7.	Path between hedge with trees and bracken	
8.	Poor semi-improved grassland which had not been cut.	
9.	Image showing the farmhouse and associated outbuildings towards the centre of the site but not within the site boundary.	

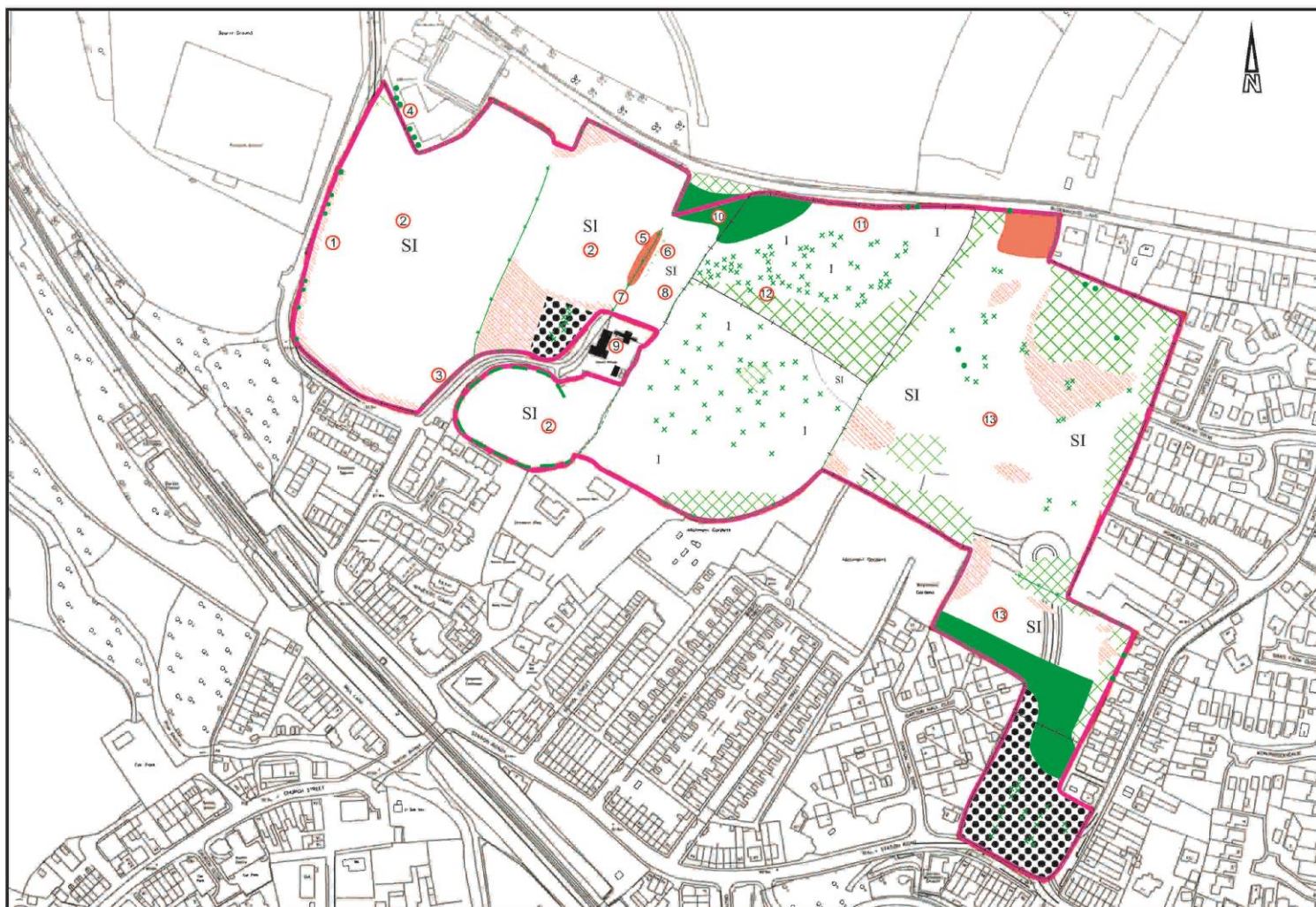
10.	Semi-natural broadleaf woodland was present along the northern boundary of the site. Species included ash, sycamore, English oak, <i>Salix</i> spp. and field maple.	
11.	Improved grassland is present in the centre of the site between areas of scattered scrub. This habitat was densely populated by perennial rye grass and white clover, many areas were also heavily horse-grazed and as a result localised manure enrichment occurred.	
12.	An extensive area of Japanese knotweed was identified towards the northern section in the centre of the site, between the area of scattered scrub and dense scrub.	

13.

Species poor semi-neutral grassland in the eastern areas of the site were dominated by false oat-grass, with annual meadow grass, timothy, Yorkshire fog, creeping thistle and common knapweed.



APPENDIX 2: PHASE 1 HABITAT PLAN



KEY

-  Site boundary
-  Tall ruderal
-  Dense scrub
-  Poor semi-improved grassland
-  Hardstanding
-  Continuous bracken
-  Scattered scrub
-  Broad-leaved semi-natural woodland
-  Improved grassland
-  Individual trees
-  Fence
-  Defunct species-poor hedge
-  Hedge and trees
-  Intact species-poor hedge
-  Target note

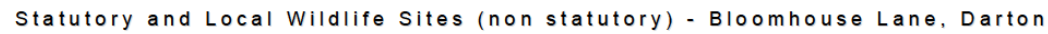
Bloomhouse Lane, Darton

Phase 1 Habitat Plan

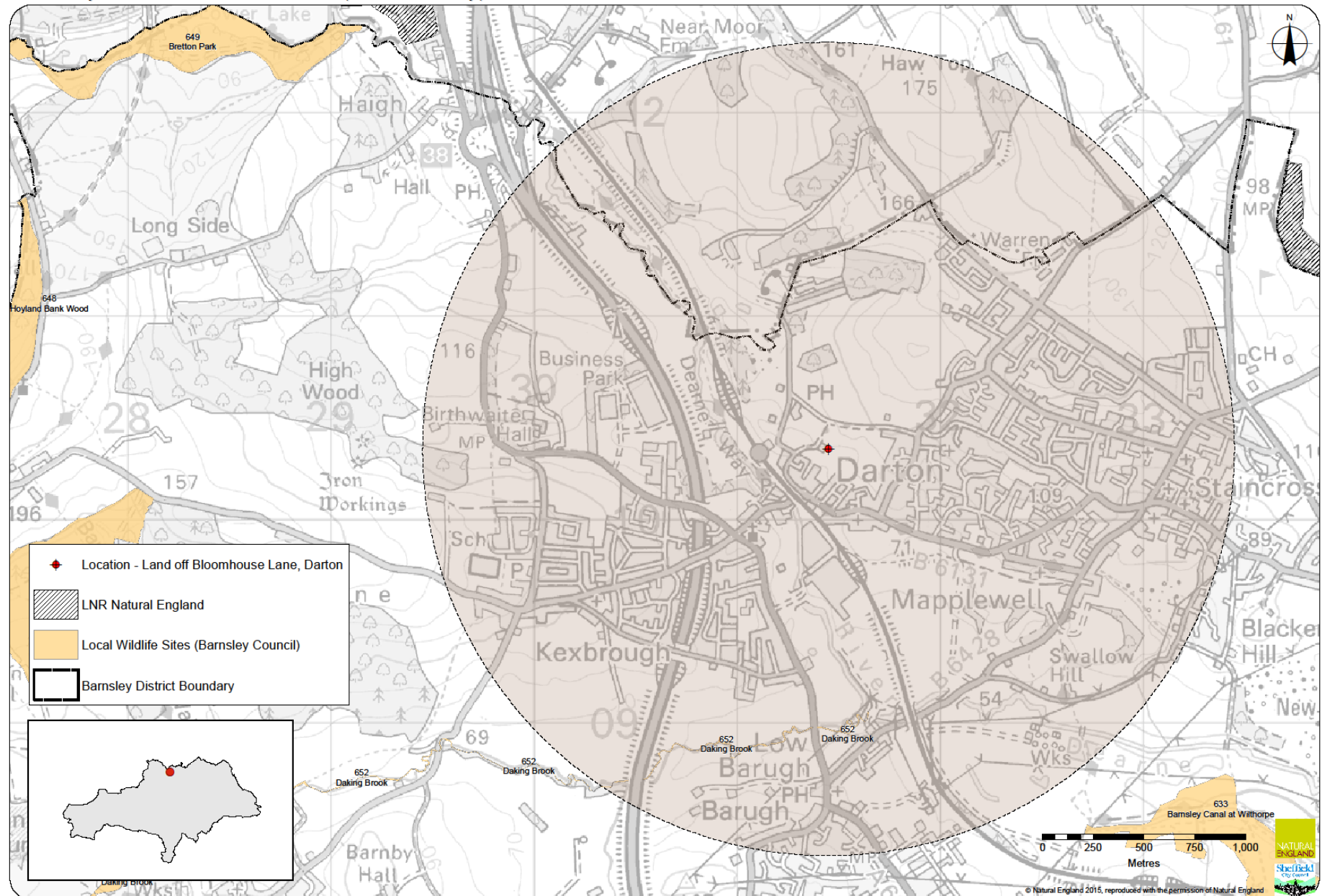


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APPENDIX 3: Statutory and Local Wildlife Sites



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