The Bungalow, Wombwell

Ecological Impact Assessment

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Prepared by:

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Purpose and Description	Originated	Checked	Reviewed	Date
For Planning	R Bell MCIEEM	P Middleton MCIEEM	G Slack MCIEEM	27/11/2023

Contents

Site Name The Bungalow	**Location** Brampton Road, Wombwell, Barnsley, S73 0SR
Local Authority Barnsley Metropolitan Borough Council	**Grid Reference** SE 41021 02233
Surveyor Robert Bell MCIEEM	**Date of Survey** 13/10/2023
Soilscape Slowly permeable seasonally wet acid loamy and clayey soils	**Designation of Site** None

UK Habitat Classification habitats on Site Habitats: g4 – modified grassland, h2b – non-native and ornamental hedgerow, h3h – mixed scrub, u1b5 – buildings, u1b6 – other developed land, u1f – sparsely vegetated urban land Secondary codes: 32 – scattered trees, 828 – vegetated garden
Protected/Notable Species, Constraints on Site None
HPIs and SPIs under NERC Act 2006 None
Barnsley BAP None

1. Summary

1.1.1 This ecological impact assessment of The Bungalow in Wombwell was commissioned by the client Elliot Burley on 19th September 2023. The survey was commissioned to inform proposals to build two new dwellings on an existing garden, to be accessed via the existing driveway.

1.1.2 The purpose of this report is to present the findings of a UK Habitat Classification survey and an assessment of the site's potential to support protected and notable species. The report considers the ecological value of the site, presents an assessment of development impacts, and provides details of the mitigation and compensation necessary to avoid or reduce these impacts. The scheme has also been assessed using the Biodiversity Metric 4.0.

1.1.3 The red-line boundary comprised a 0.16 ha plot of land, with the Elsecar Branch Canal present c.10 m south of the site boundary. The site itself included a bungalow, attached garage, greenhouse and drive. A large garden was present comprising mainly lawn, with a steep relatively bare and shaded embankment located between the lawn and a cypress hedge bordering Brampton Road. Flower beds and a weeping willow tree fringed the front garden at the northern corner of the site. A second short length of cypress hedge and an area of mixed scrub bordered the southeast boundary.

1.1.4 Habitat loss is anticipated to be restricted to a proportion of the lawn, buildings and hardstanding. No further survey is required to identify potential impacts or inform mitigation/compensation measures. Potential negative impacts arising from the development were identified in relation to trees, amphibians, bats, birds and hedgehog. The proposals are expected to result in a net loss of 11.47 % of Habitat Units (0.12 Habitat Units) with no change in Hedgerow Units.

1.1.5 British Standard 5837 (2012): Trees in relation to design, demolition and construction, should be followed. Root Protection Zones (RPZs) should be calculated and implemented to prevent harm to trees on-site or near the boundary. As an enhancement it is proposed to plant two new fruit trees as part of the scheme.

1.1.6 The presence/absence of great crested newt has not been confirmed and impacts are possible in relation to this species. With appropriate mitigation and supervision, it is however considered that works could still proceed without a mitigation licence, provided they were undertaken in accordance with a non-licensed method statement approach. The details of this approach are specified.

1.1.7 No tree/shrub clearance is envisaged, however, if required then it should be undertaken outside the main nesting season (outside March to August) or preceded by a nesting bird check. Two integrated swift boxes will be fitted in new dwellings.

1.1.8 In order to reduce impacts arising from artificial lighting, it is proposed that new external lighting be minimised. An integrated bat box and bee brick will also be incorporated in each new dwelling. In addition, hedgehog holes will be created at the base of any new fences.

1.1.9 The results of this survey are considered to be valid for 24 months. After this time Middleton Bell Ecology should be contacted to determine the need for update survey.

2. Introduction

2.1.1 This ecological impact assessment of The Bungalow in Wombwell was commissioned by the client Elliot Burley on 19th September 2023.

2.1.2 The survey was commissioned to inform proposals to build two new dwellings on an existing garden, to be accessed via the existing driveway.

2.1.3 The purpose of this report is to present the findings of a UK Habitat Classification survey and an assessment of the site's potential to support protected and notable species. The report considers the ecological value of the site, presents an assessment of the impacts of the proposed development, and provides details of the mitigation and compensation necessary to avoid or reduce these impacts. The scheme's ecological impact is also calculated using the Biodiversity Metric 4.0.

2.1.4 Key legislation relating to designated sites, protected species and habitats is detailed in Appendix 1. The implications of legislation are detailed in the body of the report where necessary.

3. Site Description

3.1.1 The red-line boundary comprised a 0.16 ha plot of land, enclosed by Brampton Road to the northeast, Dove Road to the northwest, an adjacent property and garden to the southwest and a block of scrub between the garden and a footpath on the southeast. The Elsecar Branch Canal was present c.10 m south of the site boundary.

3.1.2 The site itself included a bungalow, attached garage, greenhouse and driveway, all located towards the northwest end of the site. A large garden was present comprising mainly lawn, with a steep relatively bare and shaded embankment located between the lawn and a cypress hedge which bordered much of Brampton Road. Flower beds and a weeping willow tree fringed the front garden at the northern corner of the site. A second short length of cypress hedge and an area of mixed scrub bordered the southeast boundary.

3.1.3 The site falls within National Character Area (NCA) 38: The Nottinghamshire, Derbyshire and Yorkshire Coalfield. This NCA comprises a generally low-lying area, with hills and escarpments above wide valleys, the landscape embraces major industrial towns and cities as well as villages and countryside. Over half of the NCA is currently designated as greenbelt land; this maintains some distinction between settlements and represents areas that are often under pressure for development and changes in land use. The landscape is dotted with many pockets and patches of habitat where species find refuge. This is often on land that was once worked for minerals or occupied by major industry.

3.1.4 Natural soils in the area comprised slowly permeable seasonally wet acid loamy and clayey soils.

Figure 1. The site location, as indicated by red outline

4. Methodology

4.1 Data Consultation

4.1.1 Barnsley Biological Records Centre (BBRC) were contacted to request the following information for locations within a 1.5 km radius of the site:

- Protected and notable species records
- The boundaries of non-statutory designated sites of nature conservation interest

4.1.2 A search of the Multi-Agency Geographical Information for the Countryside (MAGIC) website was undertaken to determine the following:

- The boundaries of statutory designated sites of nature conservation interest
- The locations of historic European Protected Species (EPS) licences granted by Natural England
- The presence of Great Crested Newt (GCN) *Triturus cristatus* records included in either the Class Survey Licence Returns or 2017-2019 Pond Surveys datasets

4.2 Field Survey

UK Habitat Classification Survey

4.2.1 The UK Habitat Classification Survey was conducted by Robert Bell (MCIEEM) on 13th October 2023 using UK Habitat Classification habitat survey methodology (UK Hab Ltd., 2023).

4.2.2 Notable, rare or scarce plant species were highlighted if present. Evidence of protected species or species of nature conservation importance was recorded where present at the time of survey. Species recorded are included within the report as appropriate. Information is presented on the UK Habitat Classification plan, using Target Notes (TN) to identify particular features of interest, where appropriate.

4.2.3 Aerial photographs (Google Earth) 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 is particularly useful for identifying wildlife corridors and ponds but because the latter are often not apparent on aerial photographs, OS 1:25 000 scale maps are also used.

4.2.4 Habitats of Principal Importance (HPIs) and Species of Principal Importance (SPIs) are included on Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 were noted together with priority species and habitats as included on the Local Biodiversity Action Plan (LBAP).

4.3 Method of Assessment

4.3.1 The value and sensitivity of ecological features present on site were determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (CIEEM, 2018). Individual ecological receptors (habitats and species that could be affected by the development) for the scheme were assigned levels of importance for nature conservation. The highest level is international, then decreasing in order of importance through national, regional, county, local and lastly site.

4.4 Biodiversity Calculation

4.4.1 The Biodiversity Metric 4.0 (Natural England, 2023) was used to calculate the ecological impact of this scheme. This metric uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity value. This value is then adjusted depending on the condition and location of the habitat, to calculate 'biodiversity units'. Biodiversity Metric 4.0 incorporates similar but separate calculations for habitats that require a different method of measurement such as hedgerows, lines of trees, rivers, streams and street trees. Calculations are undertaken in a purpose designed spreadsheet, which provides the main output of the process.

4.5 Survey Limitations

4.5.1 The field survey was undertaken outside the main growing season, when many plant species do not display visible above ground growth. The habitats present on site could however be confidently identified. Where restrictions owing to the time of survey have impacted the ability to assess habitat condition (notably site grassland) these have been discussed in relation to that habitat.

5. Ecological Baseline

5.1 Designated Sites

5.1.1 Designated sites present within 1.5 km of the site are detailed in Table 1.

Table 1. Designated sites

Designation	Name	Interest	Distance and direction to site
Site of Special Scientific Interest (SSSI)	Dearne Valley Wetlands	Dearne Valley Wetlands comprises a number of discrete sites which together support nationally important assemblages of breeding birds of lowland damp grassland, lowland open water and their margins and scrub, plus nationally important numbers of some individual species of breeding water birds.	496 m northeast

5.1.3 The site is included in the Dearne Valley Nature Improvement Area (NIA) which covers a single extensive area taking in parts of Barnsley, Doncaster and Rotherham. Nature Improvement Areas are large, discrete areas where a local partnership has a shared vision for their natural environment.

5.1.4 No ancient woodland is present within 1.5 km of the site.

5.2 Habitats

5.2.1 The arrangement of site habitats is shown on the UK Habitat plan in Appendix 3, whilst a full list of plant species recorded is provided in Appendix 4.

5.2.2 Site habitats are not considered to be of greater than site level importance to nature conservation.

5.2.3 A detailed description of the site and adjacent habitats and the site's potential to support protected and notable species is provided below.

<u>g4 – modified grassland</u>

5.2.4 The majority of the site comprised an area of modified grassland/lawn. Until recently this area of grassland had experienced recent mowing, and consequently it was a uniform height. Grass species present included abundant red fescue *Festuca rubra*, together with frequent Yorkshire fog *Holcus lanatus* and cocksfoot *Dactylis glomerata*. Herb species present included frequent hogweed *Heracleum sphondylium*, together with occasional fox and cubs *Pilosella aurantiaca*, ribwort plantain *Plantago lanceolata*, white clover *Trifolium repens*, creeping buttercup *Ranunculus repens* and ox eye daisy *Leucanthemum vulgare*.

5.2.5 This habitat was assessed as being in moderate condition based upon the Condition Assessment Criteria stated in Biodiversity Metric 4.0 (Natural England, 2023). This grassland included 6-8 species per m^2, there was little physical damage evident, no bracken cover and there was an absence of invasive non-native species. The grassland failed the other condition criteria.

5.2.6 Within the lawn a small rectangular raised bed (TN1, Appendix 3) was present to the east of the dwelling (B1). To the southeast of the drive, a former vehicle inspection pit was present (TN2, Appendix 3) which had become subsumed by vegetation comprising species present in the adjacent lawn (see Plate 1).

5.2.7 The ornamental planting beds along the northeast and northwest boundaries of the front garden, together with a triangular block of vegetation at the western corner of the site and a short bed to the south of B1, were classified under secondary code 828 'vegetated garden'. A single weeping willow *Salix alba x babylonica* tree with a diameter at breast height of 50 cm was present in the bed at the northern end of the site (Plate 2). Within the vegetated garden areas plant species present were varied comprising largely ornamental species and including baby sage *Salvia microphylla*, sage *Salvia officinalis*, peony *Paeonia* spp., wall flower *Erysimum* spp., Wilson's honeysuckle *Lonicera nitida*, viburnum *Viburnum* spp., hebe *Hebe*, Californian lilac *Ceanothus* spp., buddleja *Buddleja* spp., holly *Ilex aquifolium*, walnut *Juglans regia* and cherry *Prunus* spp..

Plate 1. Looking southeast from the drive across the lawn, with the inspection pit (TN2) visible as patch of shorter vegetation beyond end of drive on right of image.

Plate 2. Front garden with flower bed beside fence and weeping willow tree in corner

h2b – non-native and ornamental hedgerow

5.2.8 An outgrown cypress *Cupressaceae* spp. hedge was present on the top of an embankment between the lawn and Brampton Road on the northeast edge of the lawn (Plate 3). This hedge was 8 m tall by 5 m wide. At the southern end of this hedge was a single multi-stemmed sycamore *Acer pseudoplatanus* tree with a diameter at breast height of c.35 cm. A single multi-stemmed hawthorn *Crataegus monogyna* tree was also present on the embankment between the hedge and lawn. The hawthorn had a diameter at breast height of 28 cm.

5.2.9 A second shorter length of cypress hedge of a similar age and size was also present on the southeast boundary of the site (Plate 4).

Plate 3. Outgrown cypress hedge on top of embankment on northeast boundary of garden, with hawthorn and sycamore trees visible to right of hedge

Plate 4. Vegetation at southern end of garden. Line of cypress trees visible on left of image with mixed scrub present on right of image

h3h – mixed scrub

5.2.10 A small block of mixed scrub was present at the southern end of the lawn (Plate 4). Together with a short cypress hedge this scrub formed the boundary between the garden and an off-site footpath leading past the northeast end of the canal. This scrub comprised frequent dogwood *Cornus sanguinea*, together with lilac *Syringa vulgaris*, dog rose *Rosa canina*, cotoneaster *Cotoneaster* spp. (not one of the Cotoneaster species included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and hogweed *Heracleum sphondylium*.

5.2.11 This habitat was assessed as being in poor condition based upon the Condition Assessment Criteria stated in Biodiversity Metric 4.0 (Natural England, 2023). This scrub was not considered to be a good representation of the habitat type, lacked a varied age structure, did not have a well-developed edge and lacked cleared glades and rides.

u1b5 - buildings

5.2.12 Buildings on site included a c.1940s brick built bungalow (B1) with a connected flat-roofed garage (B2)(Plates 5 & 6). A small aluminium-framed greenhouse (B3, Plate 6) was also present off the eastern corner of the bungalow.

5.2.13 The potential of the buildings to support roosting bats and nesting birds is considered in the species section of this report.

Plate 5. Bungalow and garage

Plate 6. Looking northwest up driveway towards house

u1b6 – other developed land

5.2.14 A tarmac covered drive leads from Dove Road past the garage (B2) to a parking and storage area to the south of the dwelling (B1)(Plates 1 & 6).

u1f – sparsley vegetated urban land

5.2.15 An embankment was present between the lawn and Brampton Road (Plate 3). This embankment was quite dry and shaded and as a result was sparsely vegetated although ivy *Hedera helix* was locally abundant in places, with false oat grass *Arrhenatherum elatius* also occasionally present.

5.2.16 This area of land only loosely fits the 'sparsely vegetated urban land' classification criteria, had less than 50 % vegetation cover and was more than 25 % shaded by trees in the adjacent unmanaged cypress hedge. As a result, this habitat was assessed as being in poor condition.

5.3 Species and Species Groups

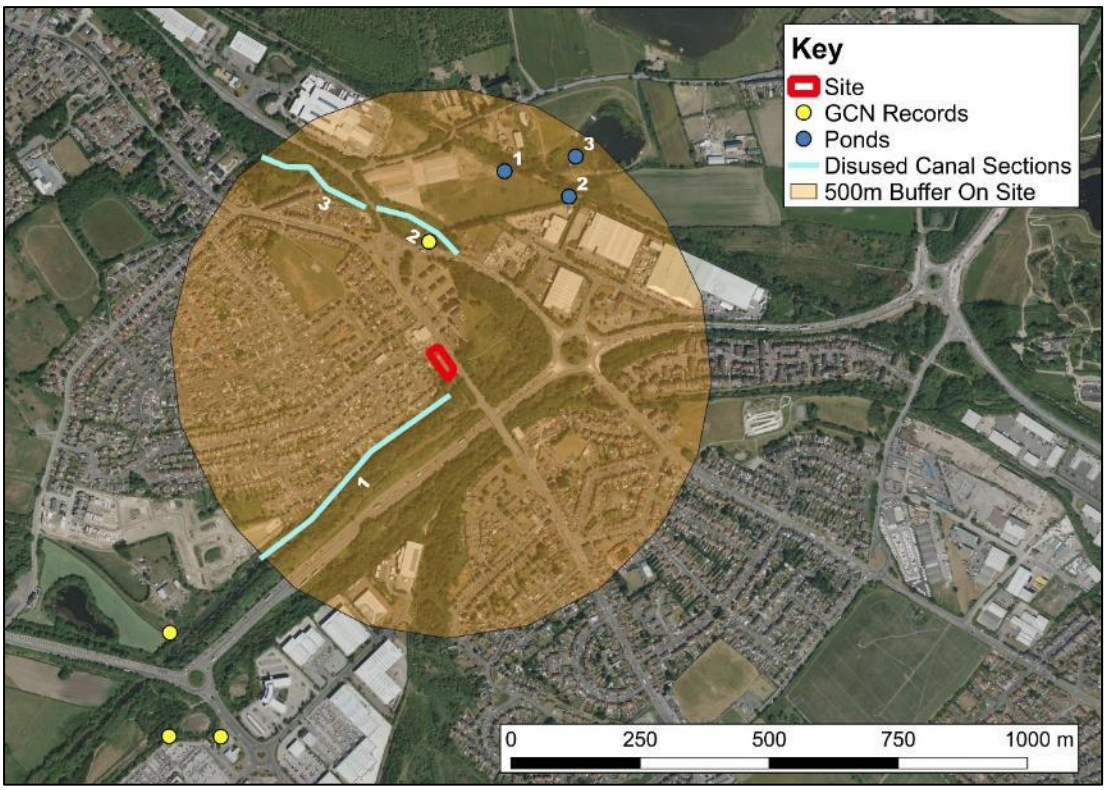
5.3.1 It was considered that locally important populations of amphibians, birds, bats and reptiles may be present in the surrounding area, however, in each case the site would be unlikely to experience much use by these species groups. Populations of other faunal groups were considered unlikely to be of greater than site level importance.

Amphibians

5.3.2 A total of five Great Crested Newt (GCN) records were provided by BBRC. One of these records comprised a 2019 presence record, relating to an eDNA test thought to have been carried out in a location only 40 m east of the site. The record notes '*Grid reference estimated by BBRC using a map provided by Estrada Ecology. The grid references given in the survey report are incorrect.*' The origin of this record was checked directly with Jo Toller of Estrada Ecology in October 2023, who clarified that this record actually related to a sample taken from the Elsecar Branch Canal north and south of the bridge under Wath Road, in a location 200 m north of the site (see Figure 1). The next closest record to the site was collected from a location 750 m southwest of the site. It is assumed this sample was taken from the section of the Elsecar Branch Canal located to the south of the site.

5.3.3 No former GCN mitigation licences, or GCN presence records included in either the Class Survey Licence Returns or 2017-2019 Pond Surveys datasets were identified for locations within 2 km of the site during the MAGIC search.

Figure 2. Pond, canal section and GCN records plan



5.3.4 Three ponds were located within 500 m of the site. These comprised two triangular ponds (Ponds 1 and 2, Figure 2) located 350 m northeast of the site. An examination of these aerial imagery shows these ponds were only constructed in 2022, at the same time as a large industrial development was constructed immediately to their southwest. A further large pond (Foulston Forge – Pond 3 on Figure 2) was located 416 m northeast of the site. These ponds were not accessed for inspection during the survey as there was very limited connectivity between the closest pond (Pond 2) and the site. The only possible commuting route for GCN between the site and Pond 2 would involve

a 500m + journey that involved passing beneath both Brampton Road and the A633.

5.3.5 Three lengths of disused Elsecar Branch Canal were also present within 500 m of the site. These are shown on Figure 1. The length of canal present c.10 m south of the site was inspected (see Plate 7). This section of canal is c.3.2 km long by c10 m wide. This waterbody was found to support some fringe vegetation of species such as reed mace *Typha latifolia* and greater willowherb *Epilobium hirsutum* with floating duckweed covering large proportions of the surface in some areas. A local dog walker reported that the canal was regularly fished, whilst a large number of perch *Perca fluviatilis* were observed by an ecologist during a survey in 2017 (BE, 2017). The Habitat Suitability Index assessment system is not designed to be applied to a long linear former stretch of canal of this type. It is however assessed that given the known abundant fish presence within this section of canal its suitability for breeding GCN is likely to be very limited.

5.3.6 Two further stretches of the former canal area were present to the north of the site (Figure 2), with the closest section 180 m north of the site. These stretches of canal were not inspected during the survey, however, given the presence of a positive GCN eDNA test from one of these sections of canal, it is assumed a population of GCN uses the closest of these waterbodies.

5.3.7 The vast majority of site itself comprises mown grassland or buildings/ hardstanding, with these habitats of no value to resting GCN and little interest to foraging GCN. Given the low suitability of the adjacent stretch of canal and the presence of extensive higher quality potential GCN foraging and resting habitat to the south of the site, it was considered unlikely but not impossible that GCN would use the site.

5.3.8 Records were also received from BBRC in relation to common frog *Rana temporaria*, smooth newt *Lissotriton vulgaris* and common toad *Bufo bufo*, with the closest records of each species received for locations 230 m, 750 m and 890 m from the site respectively. Locally important populations of amphibians may use the canal and surrounding area, however, the site is unlikely to experience much use by them, given the low suitability of habitats present for amphibians in their terrestrial stage.

Plate 7. Section of Elsecar Branch Canal to south of site

Badger

5.3.9 No badger *Meles meles* records were provided for locations within 2 km of the site by BBRC.

5.3.10 No signs of badger presence were noted from the site. It is possible badger may use the site as part of a wider foraging area, if present locally.

Bats

Historic records

5.3.11 A total of 73 bat records were received from BBRC. Species positively identified in these records included common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus,* brown long-eared bat *Plecotus auritus*, Daubenton's bat *Myotis daubentonii* and noctule *Nyctalus noctula* with other records attributed either to an unidentified pipistrelle species or an unidentified species of bat. The closest bat record to site comprised a noctule recorded in 2000 feeding in a location 230 m south of the site.

5.3.12 No bat EPS mitigation licences have been issued for locations within 2 km of the site.

Building inspections

5.3.13 Building 1 (Appendix 3) comprised a c.1940s brick-built bungalow with a pitched and hipped plain tile covered roof (Plates 5 & 6). The building had a clay ridge and wood soffits with plastic-framed double-glazed windows and plastic gutters. A brick chimney protruded through the roof covering. Potential roost features on the exterior of the building were limited to a low number of lifted and missing roof slates, particularly around the chimney on the northwest pitch of the roof.

5.3.14 Internally the dwelling roof void was 3 m high. The roof was lined with hessian backed Type1F bituminous felt and suspended on a ridge beam, purlins, rafters and battens. A layer of glass fibre insulation c.200 mm thick covered the ceiling. No signs of bats were recorded with only house mouse *Mus musculus* droppings and a few brown rat *Rattus norvegicus* droppings noted. Building 1 was considered to display a low level of bat roost suitability.

Plate 8. Building 1 roof void

5.3.15 Building 2 comprised a single storey brick-built garage with a flat plastic sheet covered roof and wooden soffits (Plates 5 & 6). A metal roller-shutter door was present on the northwest elevation with plastic-framed double-glazed windows present in other elevations. Guttering was plastic. A search for potential roost features on the exterior of the garage highlighted missing panels on the wooden soffits (Plate 9). A close inspection showed these openings led into the garage interior over the top of the single-skin brick wall and did not in themselves support any bat roosting potential. Internally the garage roof was lined with timber boards, with no voids or signs of bat presence recorded (Plate 10). Building 2 was considered to display a negligible level of bat roost suitability.

Plate 9. Missing soffit panel on garage

Plate 10. Interior of garage

5.3.16 The third structure (B3) comprises an aluminium framed and glazed greenhouse (Plate 6). This structure was considered to display a negligible level of roost suitability.

Trees

5.3.17 Trees on site were considered to display no more than a negligible level of bat roost potential with no potential roost features noted.

Foraging habitat

5.3.18 The boundary hedgerow and scrub on the northeast and southeast sides of the garden, together with the lawn displayed some potential for use by foraging bats, however, these areas are limited in extent and higher quality potential foraging areas are present adjoining the site.

5.3.19 Locally important populations of bats may forage and commute over the canal and surrounding area including the garden, however, the site is unlikely to experience much use by them, given the nature and extent of habitats present.

Birds

5.3.20 No bird species were recorded using the site during the field survey.

5.3.21 A total of 19296 records relating to 234 different bird species were provided by BBRC. None of these records related to the site itself, with the closest records comprising a series of 2015 recordings of blackbird *Turdus merula*, collared dove *Streptopelia decaocto* and robin *Erithacus rubecula*, recorded from a location on the Elsecar Canal 90 m from the site.

5.3.22 Site habitats are of common and widespread types and do not comprise the more specialist riparian habitats typically used by the bird species for which Dearne Valley Wetlands SSSI has been designated and for which the wider area is notable. A restricted range of common garden bird species was expected to use the site, with the site itself small and bordered by higher value potential foraging and nesting areas. Nevertheless, some use of tree and shrub vegetation within the site by nesting birds would be expected.

5.3.23 Populations of those bird species likely to use the site were considered to potentially

be of local value, however, the site itself was expected to be used only infrequently and for relatively short durations by these populations with ample alternative habitat present in the local area represented by the Dearne Valley Wetlands SSSI. Therefore although these populations are likely to occasionally use the site, the site itself was considered to be of little value to those birds.

Hedgehog

5.3.24 Eight hedgehog *Erinaceus europaeus* records were received from BBRC. The closest record was collected in 2016, recorded from a location 350 m northwest of the site.

5.3.25 The site displayed potential for use by hedgehog, if present, however, local gardens display similar habitats whilst the wooded belt to the south also displayed good potential for use by this species.

Invasive species

5.3.26 A total of 101 records of five invasive species, included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were received from BBRC. None of these records related to the site.

5.3.27 The closest invasive species record comprised a 2016 recording of Himalayan balsam, recorded from a location 170 m south of the site.

5.3.28 No specimen of invasive species, included on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended), were recorded from the site.

Invertebrates

5.3.29 A total of 2944 records of 906 invertebrate species were received from BBRC. None of these records originated from the site itself. The closest record comprised a species of true bug (parent bug *Elasmucha grisea*) recorded in 2011 from a location 120 m south of the site.

5.3.30 Site habitats are of common and widespread types and do not comprise the more specialist riparian habitats for which the Dearne Valley is notable. The site supports a range of ubiquitous habitats of very limited extent and consequently rarely occurring invertebrate species are unlikely to be present.

Otter and water vole

5.3.31 A total of 64 water vole records were provided by BBRC. The closest water vole record was collected in 2013 from a location on Elsecar Canal 110 m south of the site. The most recent water vole record was also collected in 2013.

5.3.32 The closest open water (the end of the local stretch of the Elsecar Canal) is c.10 m from the southern site boundary. Given the distance between the canal and site it was considered highly unlikely that water vole, if present, would use the site in any way.

5.3.33 A total of six otter records were provided by provided by BBRC. The closest otter (also the most recent) was collected in 2016 from a location 770 m north of the site.

5.3.34 Otter will range wider from riparian habitats than water vole and will rest in dense scrub,

such as that present at the south of the site, however, given the presence of an adjacent well used footpath it was considered highly unlikely the scrub would be used for that purpose. In addition, the site provides no connectivity between riparian habitat, so would not be used for commuting between such sites.

Plants

5.3.35 The habitats present do not include long-established unimproved grasslands, ancient woodlands, species rich hedgerows or other diverse botanical communities. Therefore, protected or priority plants are unlikely to be present.

Reptiles

5.3.36 A total of 16 reptile records were received from BBRC. Species included in these records comprised grass snake *Natrix helvetica*, common lizard *Zootoca vivipara* and slow worm *Anguis fragilis*, with the closest records of each species 230 m, 1.2 km and 1.2 km from the site respectively.

5.3.37 Habitat to the south of the site, notably the canal, comprises fairly high quality potential grass snake habitat and it is possible this species may occasionally use the lawn or sparsely vegetated embankment for basking. However, the site is unlikely to be used regularly by animals of this wide-ranging species. The site is however considered to lack suitability to support either common lizard or slow worm.

5.3.38 Locally important reptile populations may be present in the area, but the site is unlikely to be used by many individual animals, or with any regularity.

Table 2. Ecological importance of each habitat, species or species group on site and adjacent

Habitat, Species or Species Group	Ecological value
g4 – modified grassland	Site
h2b – non-native and ornamental hedgerow	Site
h3h – mixed scrub	Site
u1b5 - buildings	Site
u1b6 – other developed land	Site
u1f – sparsely vegetated urban land	Site
Amphibians	Local
Badger	Site (if present)
Bats	Local
Birds	Local
Hedgehog	Site (if present)
Invasive species	Not present
Invertebrates	Site
Otter and water vole	Not receptor
Plants	Site
Reptiles	Local (if present)

5.4 Biodiversity Calculation

5.4.1 The existing site's value as calculated by the Biodiversity Metric 4.0 is 1.07 Habitat Units and 0.04 Hedgerow Units (Appendix 5).

6. Assessment

6.1 Proposals

6.1.1 It is proposed to construct two new detached dwellings and a new garage, on the existing southern lawn. Access to these properties would be via a continuation of the existing driveway from Dove Road, with the garage to be demolished to enable vehicle passage through to the southwest end of the site. Vegetative habitats other than the lawn would be retained. The existing dwelling will be retained.

6.2 Biodiversity Calculations

6.2.1 The Headline Results output of Metric 4.0 is presented in Appendix 5, based on the proposed site habitats shown in Appendix 6. The metric shows a net loss of 11.47 % of the existing Habitat Units (0.12 Habitat Units) with no change in Hedgerow Units.

6.2.2 A net loss in Habitat Units cannot be avoided for the proposed scheme. As a result, it is proposed that a commuted sum should be paid to the local planning authority (LPA) to fund the enhancement of offsite habitats under their management.

6.3 Assessment of Impacts

Designated sites

6.3.1 Taking into account the nature of the development (two new dwellings in a densely populated area and the distance from Dearne Valley Wetlands SSSI, no impacts to this designated site are envisaged.

Habitats

6.3.2 Vegetative loss will be restricted to loss of lawn/modified grassland. Retention of other habitats is proposed.

6.3.3 The Elsecar Branch Canal is present c.10 m south of the site boundary and though not designated due to its nature conservation interest, this waterbody and bordering woodland comprise habitats suitable for use by a wide range of species. Retention of existing scrub and hedgerow habitat at the southwest end of the lawn will help reduce disturbance impacts upon the canal and bordering habitat as a result of construction and occupation of new dwellings. The existing use of the footpath bordering the site's southeast boundary is expected to result in disturbance impacts to wildlife greatly exceeding any that may result from the two new dwellings. Furthermore, it is noted that houses on Brampton Crescent (to the southwest of the dwelling) front directly onto the canal. For these reasons it is anticipated that negative scheme impacts upon species using the adjacent habitats to the southwest of the site will be at an insignificant level.

6.3.4 The development has potential to result in damage to the root systems and possibly also the canopies of trees both on site and bordering the site.

Species

Amphibians

6.3.5 Use of the site by GCN cannot be ruled out, however, this species was considered unlikely to make much use of the habitat to be lost (lawn/modified grassland). It is however considered that without mitigation killing or injuring of GCN cannot be ruled out, with this species subject to wide ranging legislative protections (Appendix 1).

Bats

6.3.6 The minor loss of habitat required as a result of the proposed scheme is expected to have no more than a negligible negative impact on foraging bats. The scheme does however have potential to result in additional lighting, which without mitigation could further reduce the appeal of the site to bats.

Birds

6.3.7 No shrub or tree clearance is envisaged, however, were this to be both required and undertaken during the main bird nesting period (March to August inclusive), then it could result in the destruction of active nests. Birds are subject to legal protection when actively nesting (Appendix 1).

Hedgehog

6.3.8 If this species uses the site, then the construction of new fences/walls between adjacent dwellings could have the effect of partitioning up the site and preventing animals of this species accessing potential foraging areas within associated gardens.

Other species

6.3.9 No impacts in relation to other species are expected to be of significance at greater than the site level.

6.4 Further Survey, Mitigation and Enhancement

Habitats

6.4.1 Given the site's size and the nature of the development, with no shared public space, there is almost no scope to mitigate for lost Habitat Units. New gardens are expected to be grass covered. Although it will not contribute to lost Habitat Units, due to their placement in new gardens, it is nevertheless recommended that two new fruit trees be planted within the site. It is recommended these trees either apple *Malus* grown on an M106 root stock or cherry *Prunus* grown on a colt rootstock. Fruit trees provide feeding opportunities to pollinating insects, nesting opportunities for birds and feeding opportunities for a range of invertebrates, mammals and birds.

6.4.2 British Standard 5837 (2012): Trees in relation to design, demolition and construction, should be followed. Root Protection Zones (RPZ's) should be calculated and implemented to prevent harm to trees near the boundary. This should also apply to any trees out-with the site, up to 5 m from the boundary.

Species

Amphibians

6.4.3 With appropriate mitigation and supervision, it is considered that even if GCN are present locally works could still proceed without a GCN mitigation licence provided they were undertaken in accordance with a non-licensed method statement approach.

6.4.4 The non-licensed method statement approach should include the following elements:

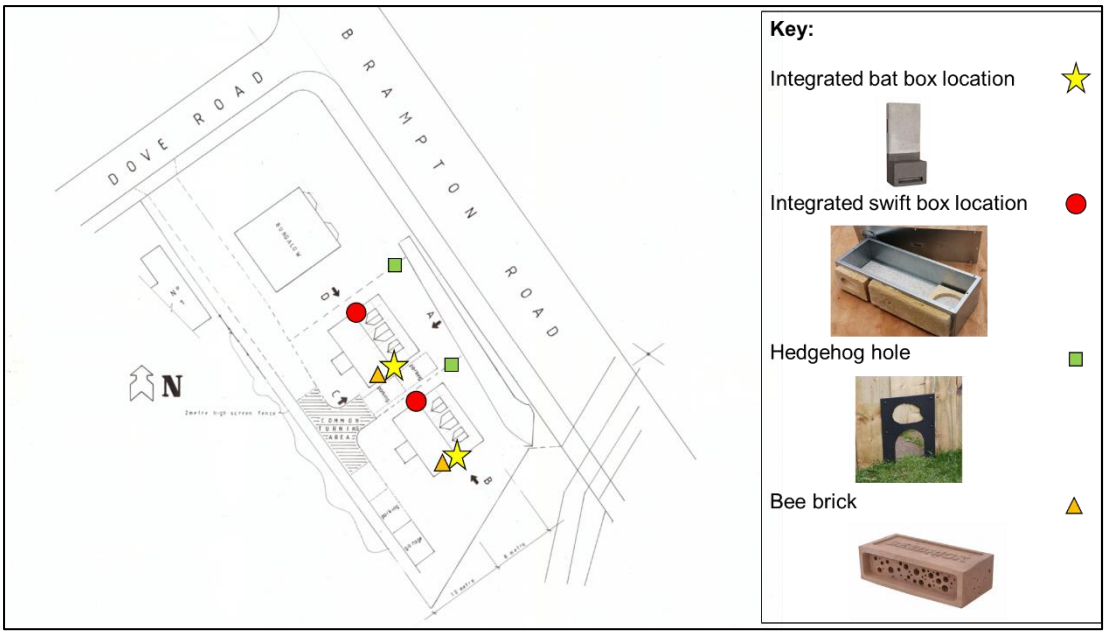
- A suitably experienced ecologist should be on site at the beginning of site clearance/demolition to give a toolbox talk to contractors and hand search the area of lawn to be stripped. If GCN are recorded at any stage, then the need for a GCN mitigation licence should be re-assessed.
- To avoid creating a habitat that might be used by great crested newts during the works, any materials resulting from site clearance/demolition must be removed from site immediately and no piles of materials should be allowed to accumulate during works.
- During construction, building materials should be stored on pallets or otherwise kept off the ground, so that they do not attract newts seeking shelter.
- Any excavations should either have at least one sloping side, or should include a mean of escape for amphibians (i.e. a plank or similar). Excavations should be checked carefully for amphibians before commencing work.

Bats

6.4.5 One integrated bat box will be installed within each of the two new dwellings. It is recommended the installed unit comprises a PRO UK Build-in WoodStone Bat Box, or equivalent, with proposed bat and bird box locations shown in Figure 3. Integrated boxes are self-contained and don't allow any bat access into the dwelling, beyond the box itself.

6.4.6 An ecologically sensitive external lighting plan should be developed for the site. Artificial lighting has been shown to restrict the range of bat species that may use an area, as well as disrupting the ecology of other nocturnal species (i.e. moths). The lighting plan should look to restrict external lighting to the minimum level necessary. Use of passive infra-red sensor operation triggered lighting on a relatively short timer is recommended in order to reduce time of operation. Where lighting is necessary, it is advised that lighting is low height, low output, directional and of a warm colour tone. No light spill should occur across the integrated bat boxes.

Figure 3. Proposed hedgehog hole, bird and bat box location plan



Birds

6.4.7 If any tree or shrub clearance subsequently becomes necessary, then it should take place at a time when it would not be expected to affect nesting birds (outside March to August). If limited vegetation clearance works are to be undertaken during the typical nesting period, then they should be preceded by a nesting bird check.

6.4.8 The two new dwellings should each incorporate an integrated swift brick, such as the S Brick. This brick should be installed at wall top height on the northwest gables. Studies have shown that swift *Apus apus* boxes are used by the full range of nesting birds that utilise buildings; consequently, these boxes will also provide potential nesting space for house sparrow *Passer domesticus* and starlings *Sturnus vulgaris*.

Hedgehog

6.4.9 In order to ensure that hedgehogs continue to be able to freely access the site, 13cm x 13cm hedgehog holes should be cut at the base of any new dwelling boundary fences.

Invasive species

6.4.10 No plants listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) should be included in the new planting plan for the site.

Other species

6.4.11 A single bee brick should be installed in each new dwelling (Figure 3). These bricks provide nesting space for solitary bee species. The bricks should be installed in the south facing elevation of each house.

6.5 Conclusion

6.5.1 The scheme will result in a small ecological net loss, although this is not anticipated to be of significance to the wider cause of nature conservation, including any species or species group at greater than the site level.

6.5.2 The proposals are expected to result in a net loss of 11.47 % of Habitat Units (0.12 Habitat Units) with no change in Hedgerow Units.

6.5.3 The results of this survey are considered to be valid for a period of 24 months. After this time Middleton Bell Ecology should be contacted to determine the need for update survey.

7. References

BE (2017) Great Crested Newt Survey – Land off Lundhill Road, Wombwell, Barnsley. Brooks Ecoogical.

Collins J. (ed.) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines. The Bat Conservation Trust.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater and Coastal and Marine. Chartered Institute of Ecology and Environmental Management, Winchester.

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Natural England (2023) The Biodiversity Metric 4.0 User Guide. Natural England.

UKHab Ltd (2023) UK Habitat Classification Version 2.0 (at https://www.ukhab.org)

Stanbury A, Eaton M, Aebischer N, Balmer D, Brown A, Douse A, Lindley P, McCulloch N, Noble D & I Win (2021) The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain. British Birds 114, 723–747.

Appendix 1. Relevant Legislation and Planning Policy

Wildlife legislation relating to statutory designated sites and species is summarised in Table A1 and A2 below. This legal information is intended for summary only, and the original legal documents should be consulted if a detailed understanding is required.

Table A1. Legislation relating to designated sites and habitats

Designated Site	Legal Status
Site of Special Scientific Interest (SSSI)	SSSIs are the national suite of sites providing statutory protection for the best examples of the UK's flora, fauna, or geological or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs have been re-notified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000. SSSIs are of at least national importance to nature conservation

Table A2. Legislation relating to species

Species	Legal Status
European protection	
European Protected Species (EPS) (including bats, Great Crested Newt (GCN), otter and hazel dormouse)	These animal species and their breeding sites or resting places are protected under the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, which makes it illegal to: • Intentionally or deliberately capture, injure or kill any such animal or to deliberately take or destroy their eggs. • Deliberately disturb such an animal. • Damage or destroy a breeding site or resting place of such an animal. European Protected Species (EPS) licences can be granted by Natural England in respect of development to permit activities that would otherwise be unlawful under the Conservation Regulations, providing that the following 3 tests (set out in the EC Habitats Directive) are passed: • The development is for reasons of overriding public interest. • There is no satisfactory alternative; and • The favourable conservation status of the species concerned will be maintained and/or enhanced. Under Regulation 9(5) of the Conservation Regulations, Planning Authorities have a legal duty to 'have regard to the requirements of the EC Habitats Directive in the exercise of their functions'. This means that they must consider the above 3 tests when determining whether Planning Permission should be granted for developments likely to cause an offence under the Conservation Regulations. As a consequence, Planning Applications for such developments must demonstrate that the 3 tests will be passed. Natural England also allow sites to be registered on the Bat Low Impact Class Licence to permit activities that would otherwise be unlawful under the Conservation Regulations where the 3 tests can

Species	Legal Status
	be passed and the bat roosts to be impacted are of low conservation status.
National protection	
European Protected Species and other species including water vole and white clawed crayfish	These animals receive full protection under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any such animal. • Intentionally or recklessly damage, destroy or obstruct any place used for shelter or protection by any such animal; and • Intentionally or recklessly disturb such animals while they occupy a place used for shelter or protection.
Common reptile species	These animals receive limited protection under The Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal to intentionally kill or injure any such animal.
Badger	The Protection of Badgers Act 1992 makes it illegal to wilfully kill or injure a Badger or attempt to do so and also make it illegal to intentionally or recklessly interfere with a Badger sett. This includes damaging or destroying a sett, obstructing access to a sett and disturbing a Badger while it is occupying a sett. Licences can be granted by Natural England to permit sett closure and/or disturbance between July and November inclusive.
Schedule 1 birds	Special penalties relate to offences concerning birds listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended). In addition to the offences detailed above relating to all wild birds, it is illegal to intentionally or recklessly disturb any Schedule 1 bird or their dependent young while nesting.
All bird species	All wild birds are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000), which makes it illegal (subject to exceptions) to: • Intentionally kill, injure or take any wild bird. • Take, damage or destroy the nest (whilst being built or in use) or eggs of any wild bird.
Invasive species	The Wildlife and Countryside Act 1981 (as amended) contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9 of the Act. In relation to Schedule 9 plants, it is an offence to plant or otherwise cause these plant species to grow in the wild.

Species and Habitats of Principal Importance

Planning authorities have a duty under Section 40 of the NERC Act 2006 to have regard to priority species and habitats in exercising their functions including development control and planning. In compliance with Section 41 of the NERC Act, the Secretary of State has published a list of species and habitats considered to be of principal importance for conserving biodiversity in England under the UK Post-2010 Biodiversity Framework. This is known as the list of Habitats and Species of Principal Importance (HPI/SPI). The HPI/SPI list is used to guide planning authorities in implementing their duty under the NERC Act.

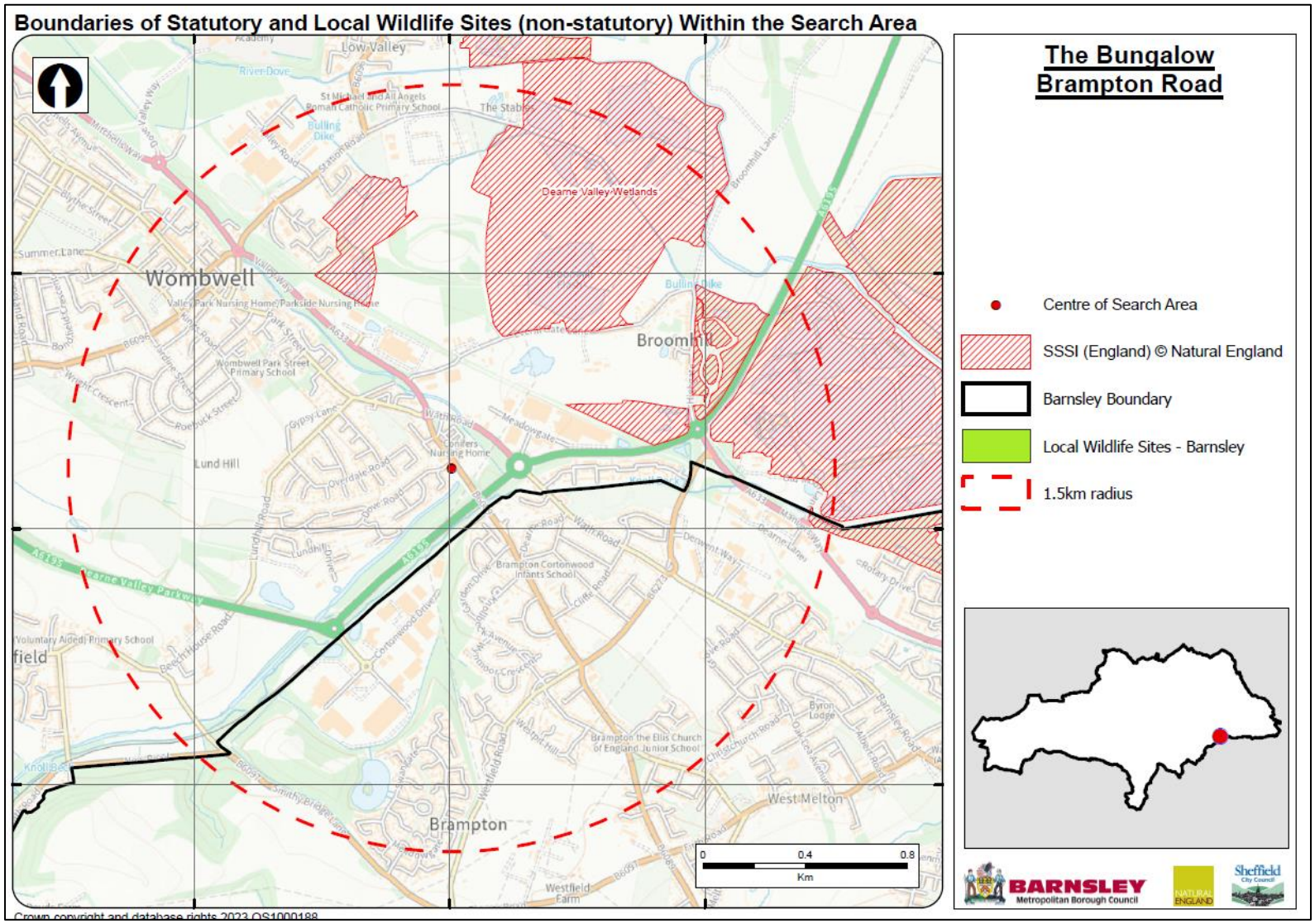
National Planning Policy Framework

The National Planning Policy Framework for England was revised in 2021. This document states that plans should 'promote the conservation, restoration and re-creation 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'. It also puts an emphasis on refusing development which would result in the 'loss or deterioration of irreplaceable habitats (such as ancient woodland)' unless there are 'wholly exceptional reasons and a suitable mitigation strategy exists'.

Local Biodiversity Action Plans

The HPI/SPI list included on Section 41 of the NERC Act 2006 is supported by a series of Local Biodiversity Action Plans (LBAPs), usually set up on a local authority local authority administrative boundary basis. Each LBAP identifies those habitats and species considered to be most important in that area (usually referred to as priority habitats and species). Commonly, an LBAP will identify a number of habitats and species for which "action plans" have been prepared.

Appendix 2. Designated Sites Plan



Appendix 3. UK Habitat Classification Plan

Survey Information	
	Site boundary (1,555.4m^2)
UK Habitat Survey (Primary Habitats)	
	g4 - Modified grassland (1,019.1m^2)
	h3h - Mixed scrub (14.3m^2)
	u1b5 - Buildings (130.5m^2)
	u1b6 - Other developed land (184.2m^2)
	u1f - Sparsely vegetated urban land (138.8m^2)
	828 - Vegetated garden (68.5m^2)
	h2b - Non-native and ornamental hedgerow (40.4m)
	32 - Scattered trees
	Target note

Target notes:

1 – Wooden sided raised bed
2 – Former inspection pit for car repairs – now grown over with vegetation and surrounded by lawn

N

0 2.5 5 10
Metres

PROJECT TITLE

THE BUNGALOW

DRAWING TITLE

Figure 1. UK Habitat Survey Plan

VER	DATE	REMARKS	Drawn	Checked
1.1	20/10/23	UKHab	MP	RB

DRAWING NUMBER:
MIDDLETONBELLECOLOGY/TheBungalow/UKHab

SCALE	1:325	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG

Middleton Bell Ecology
33 Wilthorpe Road, Barnsley, South Yorkshire, S75 1JA
www.middletonbellecology.co.uk
T: 01226 286282

Appendix4. Plant Species Recorded on Site

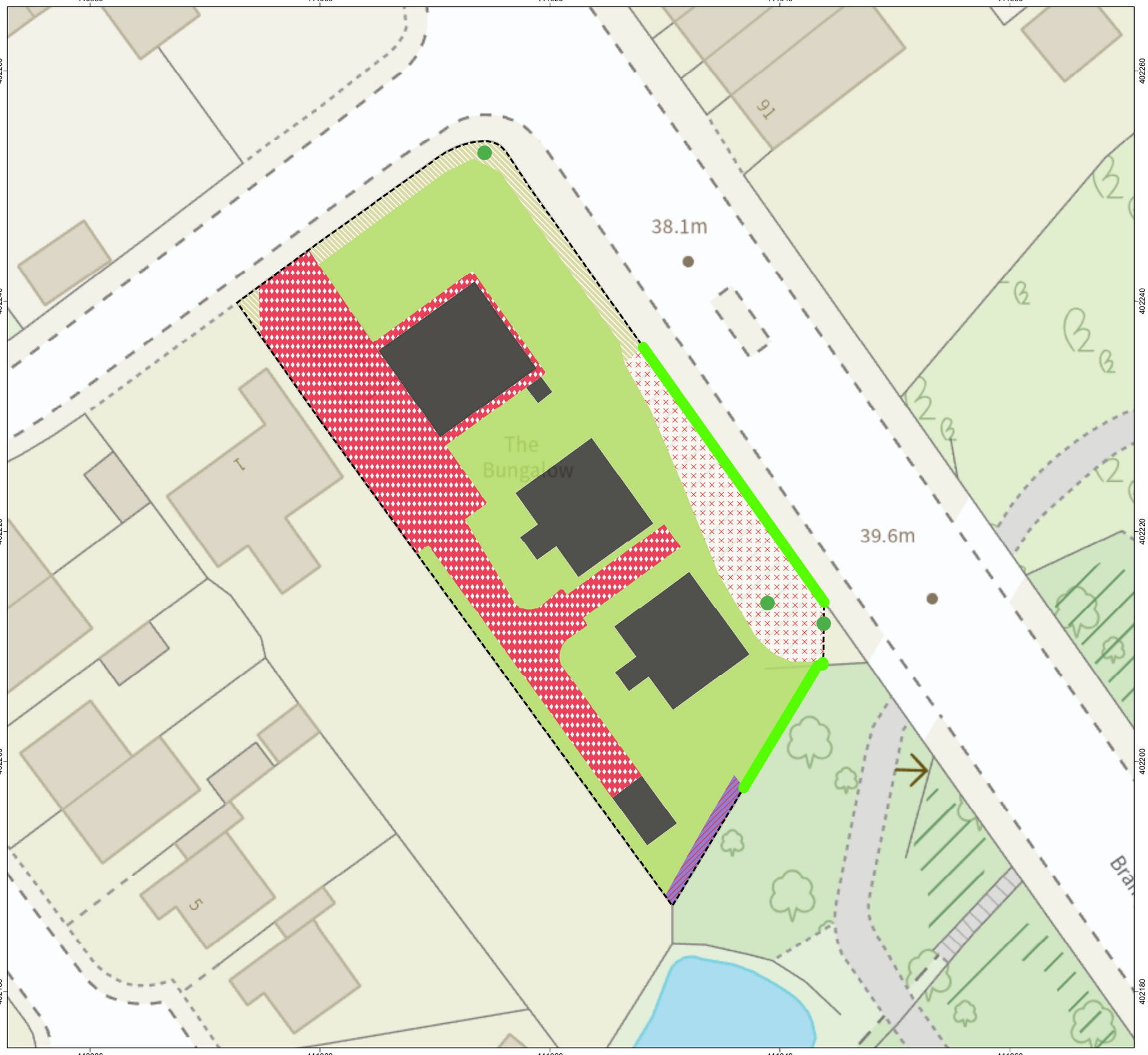
D = Dominant, **A** = Abundant, **F** = Frequent, **O** = Occasional, **R** = Rare

Common name	Latin name	g4 – modified grassland	h2b – non-native and ornamental hedgerow	h3h – mixed scrub	u1f – sparsley vegetated urban land	828 - vegetated garden
Red Fescue	*Festuca rubra*	A				
Cock's-foot	*Dactylis glomerata*	F				
Hogweed	*Heracleum sphondylium*	F				
Yorkshire-fog	*Holcus lanatus*	F				
Creeping Buttercup	*Ranunculus repens*	O				
Fox-and-cubs	*Pilosella aurantiaca*	O				
Oxeye Daisy	*Leucanthemum vulgare*	O				
Ribwort Plantain	*Plantago lanceolata*	O				
White Clover	*Trifolium repens*	O				
Cypress	*Cupressaceae*		D			
Hawthorn	*Crataegus monogyna*		O			
Sycamore	*Acer pseudoplatanus*		O			
Dogwood	*Cornus sanguinea*			F		
Hebe	*Hebe*			O		O
Cotoneaster	*Cotoneaster*			O		
Dog-rose	*Rosa canina*			O		
Lilac	*Syringa vulgaris*			O		
Ivy	*Hedera helix*				LA	
False oat grass	*Arrhenatherum elatius*				O	
Weeping Willow	*Salix alba x babylonica*					F
Wilson’s honeysuckle	*Lonicera nitida*					F
Buddleja	*Buddleja*					O
Californian lilac	*Ceanothus*					O
Cherry	*Prunus*					O
Holly	*Ilex aquifolium*					O
Paeony	*Paeonia*					O
Sage	*Salvia officinalis*					O
Viburnum	*Viburnum*					O
Wall flower	*Erysimum*					O
Walnut	*Juglans regia*					O
Baby sage	*Salvia microphylla*					O
Common Nettle	*Urtica dioica*					O

Appendix 5. Biodiversity Metric 4.0 Headline Results

The Bungalow				
Headline Results	Return to results menu			
Scroll down for final results ⚠				
On-site baseline	*Habitat units*	1.07		
	Hedgerow units	0.04		
	Watercourse units	0.00		
On-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.95		
	Hedgerow units	0.04		
	Watercourse units	0.00		
On-site net change (units & percentage)	*Habitat units*	-0.12	-11.47%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	
Off-site baseline	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site post-intervention (Including habitat retention, creation & enhancement)	*Habitat units*	0.00		
	Hedgerow units	0.00		
	Watercourse units	0.00		
Off-site net change (units & percentage)	*Habitat units*	0.00	0.00%	
	Hedgerow units	0.00	0.00%	
	Watercourse units	0.00	0.00%	

Appendix 6. Proposed Site Habitat Plan Converted For Metric Input



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	828 - Vegetated garden (62.4m^2)
	h2b - Non-native and ornamental hedgerow (40.4m)
	32 - Scattered trees

N

0 2.5 5 10
Metres

PROJECT TITLE

THE BUNGALOW

DRAWING TITLE

Figure 2. Proposed Site Plan

VER	DATE	REMARKS	Drawn	Checked
1.2	22/11/23	Proposed	MP	RB

DRAWING NUMBER:

MIDDLETONBELLECOLOGY/TheBungalow/Proposed

SCALE	1:325	PLOT SIZE	A3	DATUM	OSGB	PROJECTION	BNG

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