Brown Edge Road, Buxton - Ecological Assessment

Keepmoat

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1. Summary

1.1.1 The application area comprises semi-improved grassland with smaller areas of damp grassland. Landtake of grassland habitats will be required to facilitate construction of a care home and associated infrastructure.

1.1.2 All site habitats are considered to be of importance for nature conservation with the zone of immediate influence only.

1.1.3 No trees within the application area are considered to display greater than negligible potential to support roosting bats and no further bat surveys are recommended.

1.1.4 Scattered trees and grassland within the application area have some potential to support nesting birds. Where removal of these features is required, this should be undertaken outside the bird nesting season, which runs from March-August. Should this not be feasible trees to be removed should be checked for nesting birds by an experienced ecologist immediately prior to clearance works.

1.1.5 It is recommended that an ecologically sensitive landscape plan is developed for the scheme, with new tree and shrub planting to include a variety of native tree and shrub species, where feasible.

1.1.6 Consideration should be given to inclusion of bat and bird boxes within the proposed development.

1.1.7 There is potential for hedgehog and badger to be present within the area, which could move across the site overnight and this should be taken into consideration during site works. Any deep trenches left overnight should be covered, or securely fenced. Should this not be practicable, a suitable escape ramp, such as a scaffold plank, should be inserted overnight to allow escape should a hedgehog or badger fall in.

2. Introduction

2.1.1 Ecus Ltd were commissioned by Keepmoat in May 2013 to undertake an ecological assessment of a plot of land along Brown Edge Road in Buxton (centred around Ordnance Survey Grid Reference: SK 060 743) in relation to proposed development of the site.

2.1.2 The plot comprises semi-improved grassland with components that are indicative of damp conditions, including areas of soft rush (*Juncus effusus*) and a large area of butterbur (*Petasites hybridus*) and ground elder (*Aegopodium podagraria*). Tree groups are present along the perimeters of the site and a single storey building is present along the northern boundary.

2.1.3 The ecological walkover survey and assessment has been undertaken to review the habitats on site and the potential for the site to contain, or be used by, species protected under both UK and European nature conservation legislation, namely the Wildlife & Countryside Act 1981 (as amended) and the Habitat Regulations 2010.

2.1.4 This report details the findings of the ecological investigations. The methods of ecological assessment are described, including site surveys and evaluation. Recommended mitigation measures and the need for any further survey work are included as appropriate.

3. Methodology

3.1 Desk Study and Data Consultation

3.1.1 Data consultation was undertaken with Derbyshire Wildlife Trust (DWT) in June 2013 as part of the ecological assessment process to determine whether any sites, habitats or species of note had previously been recorded within 1 km of the site. Records were requested for species protected under UK and European legislation including, but not limited to, badger, birds and bats.

3.1.2 Natural England's website Nature on the Map (http://www.natureonthemap.naturalengland.org.uk/map.aspx) was consulted in May 2013 for information on statutory designated sites of nature conservation interest within 1 km of the application area.

3.1.3 Information obtained from DWT and Nature on the Map is included within the report as appropriate.

3.2 Extended Phase 1 Habitat Survey

3.2.1 The site was surveyed on 12th May 2013, by experienced Ecus ecologist Helen Lloyd ACIEEM using extended Phase 1 habitat survey methodology (JNCC, 2010). The habitats and vegetation types present were recorded and have been mapped accordingly (see Figure 1), using Target Notes (TN) where necessary to highlight features of particular note. This survey method aims to characterise habitats and communities present and is not intended to provide a complete list of all species occurring across the site.

3.2.2 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.

3.2.3 Habitats present that are listed within Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 and the local Biodiversity Action Plan (LBAP) for The White Peak (area of the National Park) were noted.

3.2.4 Invasive plant or animal species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) were recorded as seen.

3.2.5 The value and sensitivity of ecological features present on site were determined based on the guidance given in 'Guidelines on Ecological Impact Assessment' (IEEM, 2006). Individual ecological receptors (habitats and species that could be affected by the development) were assigned levels of importance for nature conservation within the zone of influence beginning at international level, moving down through UK, national, county, district, local to lastly, zone of immediate influence only.

3.3 Protected and Key Species Survey

3.3.1 All signs of protected species or groups encountered during the survey visit were recorded. This included observations of tracks, or other signs of species, that may be visible at the time of survey. The structure and quality of the habitats present were assessed for their suitability to support animal

groups, paying particular attention to detecting signs of occupation by or suitability for protected species. In addition, a note was made of any observed animals or flora of conservation interest not protected by UK or European legislation. For full details of legislation relating to all habitats and species discussed within this report visit http://www.legislation.gov.uk.

adger

3.3.2 Signs of badger (*Meles meles*) activity were searched for within the application area as part of the extended Phase 1 survey. Survey followed standard methodology detailed in Surveying Badgers (Harris *et al*., 1989). This included survey for badger setts, along with survey of linear features and boundaries for signs of badger activity including dung pits, foraging marks, feeding signs and pathways.

ats

3.3.3 All built structures and trees on site were inspected from ground level for features likely to be of interest to roosting bats, such as gaps, slipped roof tiles, crevices, broken limbs and rot holes, during the walkover survey.

3.3.4 An individual building or tree may have several features of potential interest to roosting bats associated with it. It is not always possible to confirm usage of a feature by bats as often the animals may be present on one day and no evidence of occupation may be found on the next. Consequently it is standard when undertaking such surveys to assign each feature to a defined category of roosting potential as follows:

Negligible: This category is usually used where a feature appears initially to have significant bat roost potential, but is considered on closer inspection to have low or negligible potential to support roosting bats. It is usually used during surveys to confirm that inspection of a feature has been carried out and has found that the feature is not considered to comprise suitable habitat for roosting bats.

Low: This category is used to describe a feature that may have some superficial interest to roosting bats, but is considered suboptimal to the extent that bats are not considered likely to use the feature for shelter. A cavity that is open at the top allowing access to wind and rain may be considered to be of low bat roost potential.

Moderate: This category is used to describe a feature that has some potential to support roosting bats, but is considered to be less than ideal in some way. For example the feature may be occupied by other animals, such as birds or squirrel, it may be subject to disturbance or have sub-optimal connectivity with navigational features. A surveyor would be neither expect nor be surprised to find a bat using such a feature. Features considered to be of moderate roosting potential would not automatically be subject to an activity survey unless otherwise highlighted.

High: This category is used to describe an optimal feature considered to be ideally suitable for use by roosting bats where no evidence of occupation by bats has been found. Features considered to be of high bat roost potential may include upwards-leading cavities of appropriate dimensions and height from the ground, with no obstructions below the cavity entrance. The tree

may be particularly prominent within the landscape and is likely to have good connectivity with navigational features and sufficient suitable foraging habitat in the vicinity. Features with high bat roost potential are likely to be subject to activity surveys to assist confirmation of their status, and may be subject to a watching brief during works that may disturb them.

Confirmed: This category is used where positive evidence of bats usage has been recorded from a feature. For example, bats or bat droppings may be present, or existing bat records may be associated with the feature. A licence from Natural England is likely to be required if the bat roost is to be disturbed by the development.

irds

3.3.5 Formal bird survey was not undertaken as part of this assessment, however whilst on site the opportunity was taken to record all species of birds encountered and to assess the suitability of the habitats present to support nesting and foraging birds.

erpetofauna and riparian mamma s

3.3.6 A desk based search was undertaken for waterbodies within 500 m of the application area and watercourses within 30 m of the application area, which are not separated from the site by a major barrier, using an Ordnance Survey (OS) map. A single minor watercourse was identified and therefore suitability of the site for otter (*Lutra lutra*), water vole (*Arvicola amphibius*) and white-clawed crayfish (*Austropotamobius pallipes*) was considered.

3.3.7 A single waterbody was identified within 500 m of the site. This was subject to assessment for its suitability to support great crested newt (*Triturus cristatus*) using Habitat Suitability Index (HSI) methodology (Oldham *et al.,* 2000). This approach identifies readily observable habitat features in an objective model, which provides an informed view of the value of a pond for great crested newt (GCN) and common amphibians.

3.3.8 Detailed presence/absence surveys were not undertaken as part of the ecological walkover, however the habitats present on site were assessed for their suitability to support basking, foraging and hibernating reptiles and for connectivity with other suitable habitat within the surrounding area.

t er protected and e species

3.3.9 The opportunity was taken whilst on site to assess habitats for the potential to support any other nationally or locally scarce or notable species, or any species protected under national or international nature conservation law. Other protected and key species.

4. Survey findings

4.1 General Site Description

4.1.1 The site is located on the outskirts of Buxton in Derbyshire, approximately 700 m north east of the town centre, and is dominated by neutral grassland with localised components indicative of marshy conditions. Tree groups of varied age are present around the site perimeters. Whilst there are records of the site having been used in the past as an extension of playing fields, the current sward composition is indicative of it having been unmanaged for considerable time.

4.1.2 Surrounding land use includes playing fields immediately to the north, residential housing along Brown Edge Road to the east, woodland and further housing to south, whilst a flush and grassland are present to the west. The wider area to the west and north are dominated by open pasture and grassland. Moving eastwards land use includes a mixture of pasture, a railway line, low density housing and a golf course, with the main town of Buxton lying to the south.

4.2 Sites of Nature Conservation Importance

4.2.1 The site is situated within the White Peak area of the Peak District National Park. No other statutorily designated sites were identified within 1 km of the site using Nature on the Map.

4.2.2 Identification of three non-statutorily designated Local Wildlife Sites (LWS's) present within 1 km of the site, by DWT, was received. The closest of the three sites is Railway Land, Hogshaw (former sidings), approximately 350 m east of the site. This is designated for its habitat mosaic. The further two sites are Light Wood LWS and Lightwood Reservoirs LWS, which are designated as secondary broad-leaved plantation and standing open water respectively and are located approximately 1 km north west of the site.

4.2.3 All three LWSs are considered to be of importance for nature conservation at up to a local level.

4.3 Habitats

Semi-improved grassland

4.3.1 The main area of the site is dominated by semi-improved grassland with species recorded including meadow foxtail (*Alopecuris pratensis*) with occasional cock's-foot (*Dactylis glomerata*). Forb species scattered frequently throughout the sward include creeping buttercup (*Ranunculus repens*), common sorrel (*Rumex acetosa*), broad leaved dock (*R. obtusifolius*), marsh thistle (*Cirsium palustre*), horsetail (*Equisitum* sp.) and occasional cuckoo flower (*Cardamine pratensis*). In damp areas, the sward contains localised patches which are dominated by soft rush and a large area of ground elder and butterbur is present along the western/southern boundary edge.

4.3.2 Detailed botanical survey was outside the scope of the walkover survey, however sufficient information was gathered to characterise the habitat which is comprised of predominantly coarse grasses and common herb species.

Whilst the grassland does not appear to have been managed or improved for some time, the species diversity is relatively low and the grassland is not considered to represent unimproved grassland, or any of the other grassland habitats of principal importance listed under the NERC Act 2006. However, the sward has not been managed for some time, which has led to the site becoming naturalised and developing a tussocky sward with moderate species diversity. This habitat is typical of that in the surrounding area and represents a small component of a much wider grassland resource. Therefore, grassland habitat on site is considered to be of importance for nature conservation within the zone of immediate effect.

Scattered trees

4.3.3 Groups of trees on site range in age from semi-mature to mature, with the most notable group comprising mature goat willows (*Salix caprea*) to the north west corner of the site (TN1, Figure 1). Elsewhere on site, trees lining the entrance track off Brown Edge Road comprise Swedish whitebeam (*Sorbus intermedia*), ash (*Fraxinus excelsior*), rowan (*Sorbus aucuparia*), cherry (*Prunus* sp.) on one side and sycamore (*Acer pseudoplatanus*), lime (*Tilia* sp.), wych elm (*Ulmus glabra*) and hazel (*Corylus avellana*) on the other. The edge of mixed broad-leaf and coniferous woodland of ash, goat willow and Scots pine (*Pinus* sp.) overhangs the south western boundary, whilst young scattered alder (*Alnus glutinosa*) are present along the south eastern boundary.

4.3.4 A dead standing tree trunk was recorded outwith, but adjacent to, the north eastern site boundary (TN2, Figure 1).

4.3.5 All tree species on site are common and widespread both locally and throughout the UK. There are frequent woodland blocks in the immediate and surrounding area, particularly to the west and north and due to the limited extent of trees on site, they are considered to be of importance for nature conservation within the zone of immediate influence only.

4.4 Species

ats

4.4.1 Derbyshire Wildlife Trust provided records of four known bat roost locations within 1 km of the site. The closest record is for a pipistrelle (*Pipistrellus* sp.) bat roost approximately 620 m south east of the site in 1999. Further records included a second pipistrelle roost approximately 920 m south west, an unidentified species roost approximately 810 m south west and an unidentified species roost along ‘Corbar Road’, also to the south west, between approximately 250 m and 750 m from the site.

4.4.2 There are no buildings within the site boundary. A single building stands outwith, but adjacent to, the north eastern boundary. The building is a single storey, brick built flat roofed unit with wooden fascia boarding that has lead flashing beneath. Roofing felt overhangs the lip of the roof. The use of the building is unknown and not evident. Features associated with the building that are considered to have potential to be of interest to roosting bats included small gaps between the fascia boarding and lead flashing, however these are considered unlikely to lead into any deep recesses and cobwebs were frequently present across the gaps. The fascia boarding is warped and pulling

away from the main wall in one area on the southern elevation. None of the features are considered to be of greater than low potential to be of interest to roosting bats.

4.4.3 All of the trees on site were inspected from ground level for features that may be of interest to roosting bats, such as missing limbs and cavities, rot holes and woodpecker holes. The mature goat willow trees had occasional features such as small unoccluded holes and downwards facing bark cracks, however none were considered to be of greater than negligible potential to be of interest to roosting bats. The semi-mature trees were not found to contain any features of greater than negligible potential for roosting bats.

4.4.4 The standing deadwood outside the site boundary has numerous woodpecker holes, although these were small and generally shallow, and a number of cracks/areas of lifted bark (see plate 3, Appendix 2). The trunk is considered to have a small number of features of low potential to be of interest to roosting bats.

4.4.5 The trees on site contribute to foraging opportunities for any bats resident within the local area, which may use the site from time to time as part of a wider foraging resource. However, due to the limited extent of the trees on site and the availability of other suitable and higher quality habitats in the local and wider area, including the various woodland blocks, habitats on site are considered to be of interest to foraging or commuting bats within the zone of immediate influence only.

irds

4.4.6 Records of 11 bird species present within 1 km of the site between 1986 and 2007 were provided by DWT. The majority of the records were made around the Lightwood Reservoirs LWS, located approximately 1 km from the site. The closest records to site refer to starling (*Sturnus vulgaris*) at Hogshaw Sidings, approximately 350 m south east of the site and song thrush (*Turdus philomelos*) in Buxton. No Wildlife and Countryside Act 1981 (as amended) Schedule 1 bird species were included within the records.

4.4.7 In 2009, a re-assessment of Birds of Conservation Concern (BoCC) was published by Eaton et al. (2009), which defines rare and threatened bird species on two lists (Red and Amber) describing the level of threat to each species of concern.

4.4.8 “Red” is the highest conservation priority, with species needing urgent action due to either a historical decline in breeding population, severe (>50 %) decline in breeding or non-breeding population, or severe decline in breeding range over 50 years or more. “Amber” is the next most critical group, with species qualifying for this status as a result of either recovery from red list criterion, being classed as rare breeders in the UK, moderate (>25 %) decline in breeding or non-breeding population or moderate decline in breeding range over 25 years or more.

Table 1. Bird species recorded within 1 km of the site

Common name	Scientific name	BoCC Status
Black grouse	*Tetrao tetrix*	Red

Cuckoo	*Cuculus canorus*	Red
Nightjar	*Caprimulgus europaeus*	Red
Skylark	*Alauda arvensis*	Red
Song Thrush	*Turdus philomelos*	Red
Spotted flycatcher	*Muscicapa striata*	Red
Starling	*Sturnus vulgaris*	Red
Tree pipit	*Anthus trivialis*	Red
Wood warbler	*Phylloscopus sibilatrix*	Red
Curlew	*Numenius arquata*	Amber
Reed bunting	*Emberiza schoeniclus*	Amber

4.4.9 The grassland has a low level of potential to support ground nesting birds, but non were seen on the day of the walkover survey and the grassland is relatively limited in extent. However, marshy areas dominated by juncus are often favored by snipe (*gallinago gallinago*) and wider grassland may have suitability for other species. Only magpie (*Pica pica*) were seen on site on the day of the survey.

4.4.10 The scattered trees are considered to provide nesting potential on site for a range of common bird species and the site habitats are likely to be used as part of a wider foraging resource.

4.4.11 The habitats are not considered to be critical to any one bird species in particular and an abundance of similar habitat is available within the wider area. As such the tree and grassland habitats present on site are considered to be of importance to nesting and foraging birds within the zone of immediate influence only.

t er protected nota e species

adger

4.4.12 Two records of badger (*Meles meles*) setts present within 1 km of the site were identified by DWT. For confidentiality, specific details are not disclosed, however possible connectivity between the setts and the site is considered to be present.

4.4.13 No badger setts or evidence of badger activity, such as latrines, snuffle holes or paths were recorded on site during the survey. The grassland on site is suitable for badger foraging and as there are records of badger presence within the wider area, with connectivity to suitable habitats to the north. Therefore, it cannot be ruled out that badgers resident within the wider area may move across the site as part of a wider foraging resource from time to time.

4.4.14 Taking into account the limited extent of habitats on site and the abundance of suitable foraging habitat, including woodland blocks, within the wider area the site is not considered to be of importance to badgers outwith the zone of immediate influence.

otanica species

4.4.15 A record of water violet (*Hottonia palustris*), a locally scarce/declining (DRDB) plant species, present within the woodland to the south west of site in 2010 was included within DWT supplied records. This species is a true aquatic plant and is therefore not considered likely to occur on site due to a lack of permanent waterbodies. It is not considered further within the report.

erpetofauna

4.4.16 An historic (1976) record relating to the presence of great crested newt (*Triturus cristatus*) at Buxton Golf Course was supplied by DWT. The pond the record is considered to relate to is located approximately 860 m east of the site, with direct connectivity to the site limited by the presence of the A6, a railway line and Brown Edge Road/Ladycroft.

4.4.17 There are no waterbodies to support breeding great crested newt, or other common amphibian species, on site. A single pond was identified approximately 15 m south west of the site within the woodland, for which the HSI assessment resulted in 'excellent' suitability for supporting GCN (scoring 1). However, great crested newt typically exist within a metapopulation, utilising numerous ponds in a local area, and as this pond is the only one present within 500 m of the site and is isolated from the known record/other pond by considerable distance and barriers to movement, it is considered extremely unlikely to support great crested newt.

4.4.18 Whilst the damp, medium sward terrestrial habitat on site is considered to be suitable to support great crested newt foraging, it is separated from the previous recorded location by barriers to newt movement. As such, great crested newt are not considered to be receptor in relation to the development and are not considered further within the report.

4.4.19 No records of reptiles within 1 km of the site were provided by DWT.

4.4.20 Of the reptile species found in the UK, the site habitats are considered suitable to support grass snake (*Natrix natrix*). This species is typically associated with waterbodies and watercourses and it is considered possible that the adjacent Hogshaw Brook could be used as a movement corridor on to site. However, a subsequent check of records within the public domain identified the closest known record for grass snake to be a minimum of 4 km north east of the site, on the opposite side of the A6 which is likely to be a significant barrier to movement.

4.4.21 The site habitats are considered to offer suitable foraging opportunities for reptiles, but taking into account the paucity of existing records, their distance from the site and the barriers to movement between the site and areas of known presence, the site is not considered to be of importance for reptiles outwith the zone of immediate influence.

n asi e species

4.4.22 No records of non-native, invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) within 1 km of the site were supplied by DWT.

4.4.23 However, three stands of Japanese knotweed (*Fallopia japonica*) were recorded on site on the day of survey. Two of the infestations showed clear signs of having being subject to treatment (TN3 and TN4, Figure 1 and Plates 5 & 6 in Appendix 2), whilst the third stand (TN5 and Plate 7) did not appear to be in treatment. All three stands extended from/into adjacent land on the opposite side of the site boundary fencing.

5. Ecological Assessment & Mitigation

5.1 Proposed Development

5.1.1 The development as proposed includes construction of an extra care housing facility with associated landscaping. The following assessment is based upon the supplied proposed site plan produced by Glancy Nicholls Architects in 2012. Total landtake of the semi-improved grassland is anticipated to accommodate the proposed development, however all existing trees are shown to be retained on the proposed plan.

5.2 Sites of Nature Conservation Importance

5.2.1 No mechanism by which the proposed works may significantly affect the National Park or any of the statutory and non-statutorily designated sites within 1 km of the site has been identified.

5.3 Habitats

Semi-improved grassland

5.3.1 It is anticipated that total landtake of all grassland on site will occur as part of the proposed development. The habitat is comprised of common species which are abundant both locally and throughout the UK and as such, the landtake of grassland is considered to be of importance to nature conservation within the zone of immediate effect only.

5.3.2 Tailoring the landscaping scheme to benefit local nature conservation would be beneficial for invertebrates and birds and enhance the ecology of the proposed development. This would comply with the National Planning Policy Framework (NPPF) aim that "opportunities to incorporate biodiversity in and around developments should be encouraged" (NPPF, 2012).

5.3.3 The landscaping for the scheme should aim for a natural character, which complements the local area and surrounding habitats and native species should be favoured, where practicable. Several species often used in landscaping are now listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) due to their non-native and invasive nature. Care should be taken to avoid incorporation of any Schedule 9 species in the landscaping plan as causing them to grow or spread in the wild constitutes an offence under current legislation.

Scattered trees

5.3.4 It is assumed that all trees on site will be retained throughout the development. Should small scale tree removal be considered necessary at a later date, trees to be lost would be limited in number and comprise common species. In addition, there is an abundance of both scattered and grouped trees within the surrounding area. As such, whilst significant at the level of an individual tree, the landtake of scattered trees would not be considered to be of importance to nature conservation outwith the zone of immediate effect.

5.3.5 Taking a best practice approach to nature conservation issues, it is recommended that additional native tree planting is included within the proposed landscaping scheme provide ecological enhancements to the area.

Where practicable, new planting should comprise native species of local provenance, which will compliment the nearby woodland. Suitable species for consideration may include beech, rowan, common whitebeam, wild cherry (*Prunus avium*), wych elm and field maple (*Acer campestre*). Please note this list is not exhaustive. Where feasible, heavy standards are recommended to reduce establishment time and provide immediate structure and habitat.

5.3.6 In line with British Standard 5837 (2012): Trees in relation to design, demolition and construction, all trees to be retained on site should have Root Protection Zones (RPZ's) calculated and implemented to prevent harm to, and possible subsequent failure of, the tree through root and soil compaction. This should also apply to any trees within 5 m of the site boundary.

5.4 Species

ats

5.4.1 All bats are European Protected Species. All species of bat are protected under the EC Habitats Directive 1992, which is implemented by the Habitat Regulations 2010, and the Wildlife and Countryside Act 1981 (as amended), which provides protection to certain animals included in Schedule 5 of the Act. Under the Act (as amended) it is an offence intentionally or recklessly to kill, injure, capture or disturb bats or to damage, destroy or obstruct access to any place used by bats for shelter or protection. This is irrespective of whether the animals are present.

5.4.2 There are no buildings present on site and no features of greater than negligible interest to roosting bats were identified on any of the trees occurring within the site boundary. As such, roosting bats are not considered to be a receptor with respect to this development.

5.4.3 The standing dead tree is located outwith the boundary and it is assumed that this will remain in-situ. However, should works to this tree be required, it is recommended that a tree inspection, using an endoscope to check all features for evidence of roosting bats, be undertaken by a suitably trained ecologist prior to removal.

5.4.4 Taking a best practice approach to nature conservation issues, it is recommended that bat roosting provision is incorporated into the fabric of new buildings, where practicable, as an ecological enhancement to the site and within the surrounding area. In this instance roosting provision may include incorporation of discrete and secure internal 'bat bricks' e.g. Schwegler 1FR bat tubes, into the fabric of walls to allow bat access into contained units within wall cavities. Bat bricks should be placed a minimum of 3.5 m from ground level, or preferably at soffit level, in a number of locations facing different aspects (southerly aspects are optimal) to maximise the chances of occupation. Lighting on site should be taken into consideration during positioning, with bat bricks installed away from brightly lit areas as much as possible.

irds

5.4.5 All nesting birds are protected under the Wildlife and Countryside Act 1981 (as amended) against destruction of the nest during the bird nesting season, which falls between March and August, inclusive.

5.4.6 Whilst the habitats on site are not critical for any particular bird species, they provide a resource for nesting and foraging urban/garden birds resident within the surrounding area and the medium sward grassland and rush has low potential to be used by ground nesting birds. However an abundance of alternative habitat exists within the wider area and therefore landtake associated with the proposed development is not considered to be of importance to nesting and foraging birds outwith the zone of immediate effect.

5.4.7 Without mitigation there is potential for active birds nests to be destroyed during vegetation clearance on site. Therefore as a precautionary measure, it is recommended that where possible, tree removal and grassland vegetation clearance works should be undertaken outside of bird breeding season i.e. undertaken between October to February inclusive. If it is not possible to schedule clearance works for these months, a breeding bird check undertaken by a suitably qualified ecologist will be required no more than two days prior to clearance, to check for the presence of active bird nests. An active nest would require a suitable exclusion zone to be established and adhered to until chicks have fledged (to be monitored and confirmed by an ecologist).

5.4.8 Inclusion of general purpose bird boxes with 32 mm entrance holes suitable for a range of smaller, garden bird species across the development would be considered a positive enhancement for nature conservation. In addition, where feasible, the inclusion of sparrow terrace boxes, which provide opportunities for this species to nest in communities, would be beneficial. The bird boxes should be placed in a number of locations at a minimum of 3 m from ground level, facing different aspects to maximise the chances of occupation. However, full south aspects which receive full sun all day during the summer months present a risk of overheating and should therefore be avoided.

t er protected nota e species

adgers

5.4.9 Badgers and their setts are protected under the Protection of Badgers Act 1992. It is an offence under the Act to kill, injure or take a badger. It is also an offence to destroy damage or obstruct a badger's sett, or to disturb animals within the sett. Any operation likely to affect badgers by direct disturbance to the animals or their setts is required under the Act to be licensed by the appropriate authority.

5.4.10 No signs of badger activity or setts were recorded on, or adjacent to, the site. Due to the abundance of alternative, high quality badger habitat in the surrounding area and the limited extent of foraging habitat available on site, landtake associated with the proposed development is not considered to be of importance to foraging badger outwith the zone of immediate effect.

5.4.11 Although no signs of badger were seen on the day of survey and the works are not considered likely to impact upon badgers or their setts, badgers are highly mobile and inquisitive animals and could travel onto site at any time in search of food as part of a wider foraging resource. Therefore as a precautionary measure, it is recommended that any deep trenches left overnight should be either covered, or securely fenced. If this is not feasible, a suitable escape ramp such as a long scaffold board, should be inserted to

allow escape should a badger fall in.

- ***erpetofauna***

5.4.12 Grass snakes are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) against intentional killing or injuring.

5.4.13 Whilst the likelihood of reptiles being present on site is considered to be low, taking a best practice approach, it is recommended that a precautionary approach to site vegetation clearance is followed. It is recommended that clearance works proceed in a systematic, controlled manner either from north east to south west, or from south east to north west, that will allow reptiles to move off site into the adjacent woodland or grassland of their own volition, should they be present.

5.5 Invasive species

5.5.1 Japanese knotweed is listed on Schedule 9 Part II of the Wildlife and Countryside Act 1981 (as amended) and whilst the presence of this species does not constitute an offence in itself, planting or causing it to spread in the wild does.

5.5.2 It is recommended that the presence of Japanese knotweed is addressed during works at the site. Works to areas where the species is present can inadvertently cause the plant to spread *via* transfer by people and machinery and disposal of waste material from site, therefore causing an offence. As an initial measure, the knotweed stands should have a suitable exclusion zone fenced off as soon as possible and contractors be made aware of its presence to avoid unnecessary spreading. Japanese knotweed rhizomes can extend up to 7 m horizontally from the above ground stems, therefore an exclusion zone of a minimum 7 m would be considered suitable.

5.5.3 To ensure the material is removed or treated effectively, it is recommended that a specific Japanese knotweed management plan is produced for the site by a suitably qualified professional to be implemented during works when the scheme design is finalised. This may involve eradication of the species on site or, more simply, implementing measures to prevent spread.

6. References

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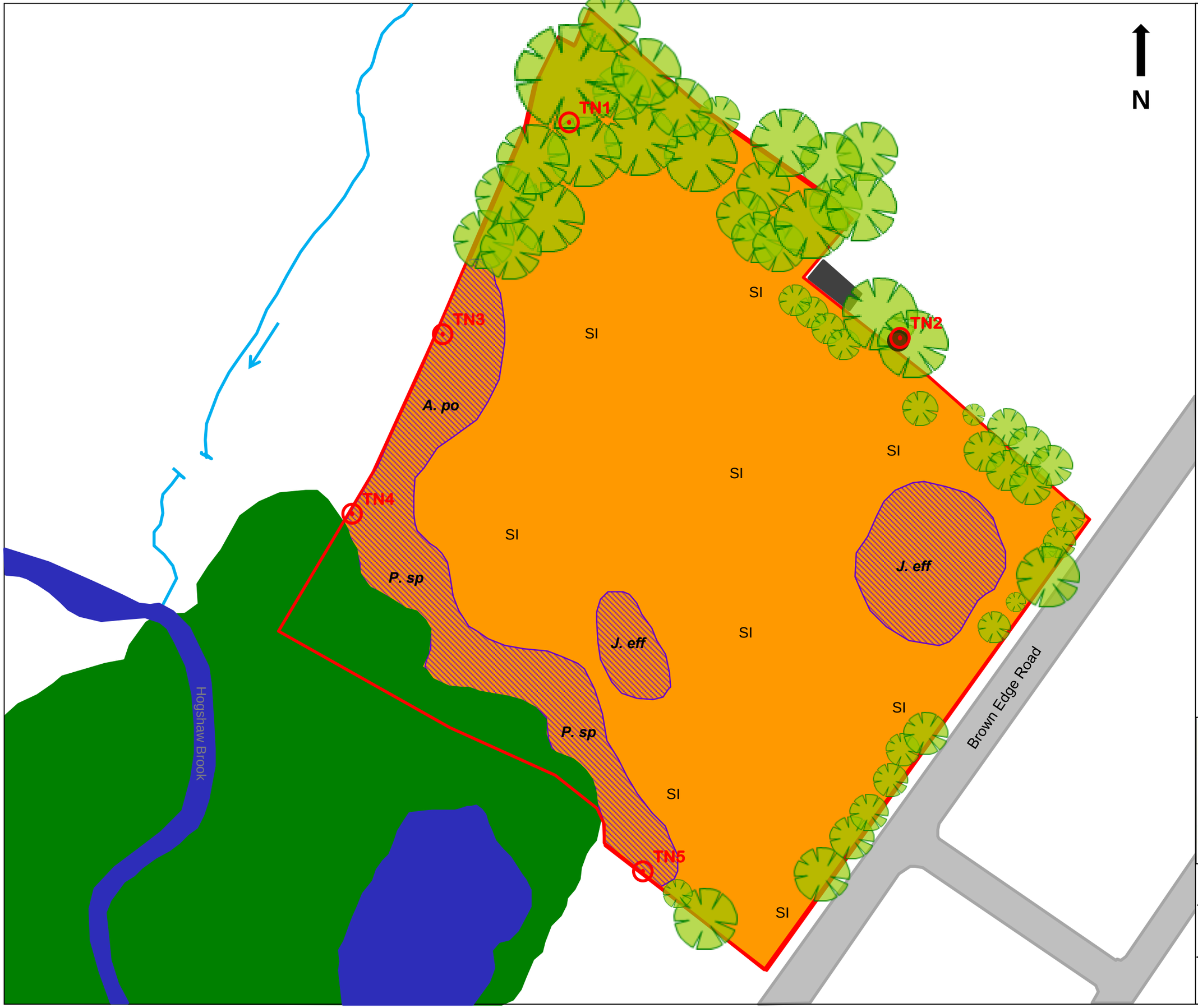
Figure 1 – Survey Findings Plan



Legend

- Survey area
- Hardstanding
- Building
- SI — Semi-improved grassland
- Marshy grassland
- Broadleaved woodland
- Scattered tree (indicative)
- Waterbody/ watercourse
- Flush
- Standing dead tree trunk
- TN — Target Note

Key Species

A. po – Aegopodium podagraria
J. eff – Juncus effusus
P. Sp – Petasites sp.

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Figure 1: Survey Findings	**Date:** June 2013
Scale: Schematic	**Ecus Ref:** 3878

Appendix 1 – Target Notes

TN1 – Area of mature goat willow trees.

TN2 – Dead standing tree trunk out with boundary. Extensive evidence of woodpecker activity and features of low bat roost potential.

TN3 - Japanese knotweed stand along perimeter fencing (treated).

TN4 – Japanese knotweed stand along perimeter fencing (treated).

TN5 – Japanese knotweed stand along perimeter fencing (no visible evidence of treatment).

Appendix 2 - Site photographs



Plate 1.



Plate 2.



Plate 3.



Plate 4.



Plate 5.



Plate 6.



Plate 7.



Plate 8.

Appendix 3 – HSI Assessment Results

Pond No.	Grid Reference/Project	Location	Area (m2)	Pond Permanence	Water Quality	Shade (%)	Waterfowl	Fish	Pond Density	Terrestrial Habitat Quality	Macrophyte Cover (%)	HSI Sum	Final HSI Score	Prediction (Likelihood of GCN)
1	Woodland pond	1	450	1	0.67	0.2	1	0.67	0.1	1	0.5	2.02	1.07	Excellent