PROPOSED HOTEL, RETAIL AND LIGHT INDUSTRIAL UNITS
CHURNET VALLEY, LEEK, STAFFORDSHIRE

EXTENDED PHASE 1 HABITAT SURVEY

AND

PROTECTED SPECIES ASSESSMENT

For

CUBE MANAGEMENT LLP

JUNE 2017

Landscape Institute
Registered practice

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1.0 Introduction

Landscape Science Consultancy (LSC) Ltd was commissioned by Cube Management LLP to conduct an Extended Phase 1 Habitat Survey and Protected Species Assessment on land off Macclesfield Road, Churnet Valley, Leek, Staffordshire – hereafter referred to as the 'Survey Site'.

The proposals relate to the development of a hotel, retail and light industrial units with associated areas of car parking and hardstanding.

The Extended Phase 1 Habitat Survey was carried out to identify and classify any habitats present within the Survey Site and, where appropriate, the Zone of Influence. An assessment for protected, notable and invasive species was conducted during the site visit. This included an assessment of the potential suitability of the onsite habitats and landscape setting to support protected and notable species.

The aim of this assessment is to identify habitats and ecological receptors within the Survey Site and to assess the ecological value of the Survey Site as a unit. Recommendations are subsequently made for any mitigation measures and working practises which may be required in respect of habitats and protected species to ensure compliance to relevant statutory legislation and current best practice methods.

2.0 Site Description

2.1 Site Location

The Survey Site is located off Macclesfield Road, Churnet Valley, Leek, Staffordshire. The Survey Site is adjacent to a Sainsbury's supermarket which was constructed on the site of the Churnet Works industrial site in 2011/2012.

The grid reference for the centre of the Survey Site is SJ 97765 57011.

2.2 Site Habitats

The Survey Site comprises a compacted area of gravel and rock hardstanding adjacent to the River Churnet and a supermarket development. The hard standing area supports low numbers of scattered ruderals herbs and common wildflowers.

2.3 Wider Landscape Context

The River Churnet is present along the southern and eastern boundaries of the Survey Site with a sizeable buffer comprising existing and new soft landscaping associated with the demolition and clearance of Churnet Works and the construction of the supermarket development in 2011/2012.

To the west of the Survey Site is the supermarket development. To the south and east of the Survey Site is the northern fringe of the town of Leek. Directly to the north of the Survey Site is a small Country Park, adjacent to, and constructed at the same time as, the supermarket development.

The wider countryside surrounding the Survey Site and supermarket development comprises undulating and irregular fields of arable and pasture bounded by mature trees and hedgerows with occasional pockets of connected woodland and waterbodies.

No aerial photographs are provided as the former Churnet Works, pre-supermarket development, are still shown and would not therefore put the Survey Site in its current and correct context.

3.0 Legislation and Policy

3.1 Statutory Legislation

A summary of potentially relevant legislation is outlined in Appendix 2.

3.2 Planning Policy

3.2.1 National Planning Policy Framework

The National Planning Policy Framework ('the Framework') sets out the Government's planning policies for England and how these are expected to be applied (DfCLG, 2012). Local Planning Authorities have an obligation to prepare their Local Plans "consistent with the principals and policies set out within the Framework, including a presumption in favour of sustainable development (Para 151)". Planning decisions must be undertaken in accordance with the Local Plan unless material considerations indicate otherwise.

The Framework requires Local Planning Authorities to set out a strategic approach for conserving and enhancing the natural environment, thereby "planning positively for the creation, protection, enhancement and management of networks of biodiversity and green infrastructure (Para 114)". When determining planning applications the Framework outlines that "if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort compensated for, then planning permission should be refused (Para 118)".

3.3 Biodiversity Action Plans

The UK Biodiversity Action Plan has been replaced by national biodiversity strategies for England, Wales and Scotland. Biodiversity 2020: A strategy for England's Wildlife and Ecosystem Services (DEFRA, 2011) has moved away from the habitat and species-based approach and clearly-defined targets of a biodiversity action plan, and concentrates instead on landscape-scale conservation with an overall target of halting biodiversity loss by 2020. Guidance on national priority habitats and species now comes from the list of Habitats and Species of Principal Importance in England, identified under Section 41 of the Natural Environment & Rural Communities Act 2006.

The 'UK Post-2010 Biodiversity Framework' was published in 2012 (JNCC, 2012). Whilst the UK BAP partnership no longer operates, many of the tools developed under UK BAP remain of use and the lists of priority species and habitats agreed under UK BAP still form the basis of local biodiversity protection and enhancement.

The Staffordshire Local BAP lists the local priority habitats and species for which conservation targets have been developed. Priority species of potential

relevance to the Survey Site include pipistrelle bats and grass snakes. Priority habitats of potential relevance to the Survey Site include Rivers and Streams.

4.0 Methodology

4.1 Desktop Study

The Multi Agency Geographical Information for the Countryside (MAGIC) website was accessed for locations of statutory nature conservation sites within 1km of the Survey Site.

Staffordshire Ecological Records Centre (SERC) was consulted with regards to the presence of non-statutory nature conservation sites within 1km of the Survey Site.

LSC Ltd undertook extensive pre-planning ecology surveys and construction mitigation works for the clearance of the former Churnet Works and construction of the supermarket, during 2009 to 2012 *(Sainsbury's Supermarkets Ltd, Churnet Works, Macclesfield Road, Leek, Environmental Statement, Chapter 9: Ecology, APRIL 2010, FINAL REV C)*.

Relevant information regarding protected species is therefore provided in Section 5.3.

4.2 Field Surveys

4.2.1 Extended Phase 1 Habitat Survey Methodology

A detailed walkover of the Survey Site was undertaken on 28th June 2016 by LSC Ltd ecologist Steven Weber BSc (Hons) MCIEEM to identify macro-habitats present and record target notes of interest, broadly following the 'Extended Phase 1' methodology as set out in CIEEM Guidelines for Baseline Ecological Assessment (2013) and the JNCC Handbook for Phase 1 Habitat Survey (2010) guidelines.

The Extended Phase 1 Habitat Survey provides an overview of existing ecological communities, associations and points of ecological interest within the Survey Site which can then be incorporated into recommendations for the future, developing linkages, reducing fragmentation and strengthening existing habitats where appropriate.

Habitats were classified following the JNCC guidelines where possible and species lists for the broad habitat areas were compiled. Plant nomenclature follows Stace (2010). The UK priority species/Red Data book/locally important species lists were used to establish the status of any rarer plants, animals or invertebrates, if recorded during the survey.

The site visit considered relevant aspects of ecology in order to provide sufficient detail to:

- Identify and assess the overall habitat pattern of the Survey Site and associated linkages relevant to the proposals, highlighting the terrestrial

habitats present,

- Assess the current ecological status and sensitivity, particularly in relation to any statutory or non-statutory designations where appropriate,
- Undertake a *preliminary assessment* for the presence or possible presence of protected species (dedicated surveys would not be within the scope of the site visit),
- Undertake an *initial assessment* for commonly encountered invasive species such as Japanese knotweed, giant hogweed and Himalayan balsam or notifiable floral species (a detailed survey would not be within the scope of the site visit),
- Provide recommendations for further survey and/or mitigation measures, if necessary.

4.2.2 Preliminary Protected Species Survey

The site visit was used to assess the potential of the Survey Site and, where appropriate, the surrounding landscape, to support a range of protected species, based on the suitability of the habitats present. Species would potentially include:

- Badgers,
- Bats,
- Breeding birds,
- Reptiles,
- Otter,
- Water vole,
- White clawed crayfish.

Specific surveys for these protected species were outside of the scope of the current site visit; however, any sign or evidence of protected species was noted and incidental records were recorded. Species are not mentioned in this report where the prevailing habitats are unsuitable.

4.2.3 Limitations

There were no limitations on access within the Survey Site.

This time of year is appropriate to allow the species composition to be assessed and does not represent a constraint on the validity of the survey results.

The Extended Phase 1 Habitat survey results are likely to remain accurate for 1 to 2 years following the completion of the survey, provided there is no significant change in management regime on the Survey Site. This is an estimate

based on the ecological character of the Survey Site and the habitats present. Individual Local Planning Authorities (LPAs) and Statutory Bodies may apply their own criteria to the period of time for which a survey remains valid. If no works are undertaken within 12 months, the ecological survey may need to be updated.

4.3 Surveyor Competence

The site visit and report were undertaken by Steven Weber BSc (Hons) MCIEEM.

Steven is a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) and has over nine years' experience undertaking a range of ecological surveys and assessing the factors that affect ecology in relation to construction and the built environment.

Steven also holds a Natural England survey licence for bats (Class Licence WML-CL18 Level 2) and great crested newts (WML-CL08 Level 1).

4.4 Assessment of Ecological Value

Where sufficient evidence was gathered during the initial Extended Phase 1 Habitat Survey, the value of onsite ecological receptors is determined using a standardised methodology based on guidance provided by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2016). The guidelines propose an approach to ecological impact assessment that involves professional judgement based on available guidance and information.

Table 01. The criteria used for determining the ecological value of site receptors, based on a geographical form of reference (Source: CIEEM 2016).

Ecological Value	Geographical Frame of Reference
Very High	International and European Value
High	National and Regional Value
Medium	County or District Value
Low	Parish (or Local) Value or within the Zone of Influence only
Negligible	Slight or no Value

Table 02. The criteria used for determining the magnitude of an ecological impact (DfT 2015).

Magnitude	Criteria
Major	· Loss of resource and/or quality and integrity; severe damage to key characteristics, features or elements (Adverse). · Large scale or major improvement of resource quality; extensive restoration or enhancement; major improvement of attribute quality (Beneficial).
Moderate	· Significant impact on the resource, but not adversely affecting the integrity;

Magnitude	Criteria
	partial loss of/damage to key characteristics, features or elements (Adverse). · Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality (Beneficial).
Minor	· Some measurable change in attributes quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features or elements (Adverse). · Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring (Beneficial).
Negligible	· Very minor loss or detrimental alteration to one or more characteristics, features or elements (Adverse). · Very minor benefit to or positive addition of one or more characteristics, features or elements (Beneficial).
No change	· No loss or alteration of characteristics, features or elements; no observable impact in either direction.

4.5 Zone of Influence (ZOI)

The Zone of Influence (ZOI) is the area within which the ecological impacts arising from a proposed development(s) are likely to be significant. Due to the nature of the proposed development(s) the Key ZOI for the Survey Site is identified as the site and the habitats which immediately bound it.

The sensitivity and value of offsite statutory and non-statutory sites mean that the potential for impacts arising from the proposed development should be considered within a wider ZOI. Therefore, scoping for direct and indirect impacts to designated sites is conducted within a ZOI of 2km of the Survey Site.

5.0 Results

5.1 Desktop Study

5.1.1 Statutory Nature Conservation Sites

The Survey Site and land directly adjacent to it is not subject to any international, statutory or regional wildlife designation.

There are no statutory sites of nature conservation within 1km of the Survey Site.

5.1.2 Non-Statutory Nature Conservation Sites

The Survey Site and land directly adjacent to it is not subject to any non-statutory wildlife designation.

Brough Park Fields Country Park Local Nature Reserve (LNR) is situated approximately 230m to the east of the Survey Site. The LNR comprises ponds, wetlands, woodland and semi-improved grassland. The Survey Site is connected to the LNR via the River Churnet, which runs along the perimeter, in part, of both sides.

5.1.3 Protected and Notable Species

Relevant information regarding protected species and the 2011/2012 development of Churnet Works is provided in Section 5.3.

5.2 Extended Phase 1 Habitat Survey

The Survey Site comprises a compacted area of gravel and rock hardstanding adjacent to the River Churnet and a supermarket development. The hard standing area supports low numbers of scattered ruderals, herbs and common wildflowers.

Figure 01 shows the location of habitats within the Survey Site. The Target Notes are included within Appendix 1.

5.2.1 Hard Standing with Ruderal and Ephemeral Vegetation

The Survey Site is dominated by a compacted area of stone and gravel hardstanding with scattered patches of developing grasses and herbs, most likely seeded from the adjacent Country Park (TN1). Common species were present including tufted hair-grass *(Deschampsia cespitosa)*, Timothy grass *(Phleum pratense)*, coltsfoot *(Tussilago farfara)*, Yorkshire fog *(Holcus lanatus)*, broadleaf willow herb *(Epilobium montanum)*, bird's foot trefoil *(Lotus corniculatus)*, common ragwort *(Senecio jacobaea)*, herb Robert *(Geranium robertianum)*, spear thistle *(Cirsium vulgare)*, curled dock *(Rumex crispus)*,

greater willow herb *(Epilobium hirsutum)*, chamomile *(Chamaemelum nobile)*, greater plantain *(Plantago major)* and prickly lettuce *(Lactuca serriola)*.

Photograph 01. The dominant compacted stone and gravel hardstanding within the Survey Site, looking south.

5.2.2 Semi-Improved Grassland

Thin grass verges are present around the perimeter of the Survey Site and adjacent supermarket car park (TN2). The verges have been part-sown with a wildflower mix including ox-eye daisy *(Leucanthemum vulgare)*, wild carrot *(Daucus carota)*, yellow rattle *(Rhinanthus minor)*, black knapweed *(Centaurea nigra)*, red clover *(Trifolium pratense)*, common sorrel *(Rumex acetosa)*, yarrow *(Achillea millefolium)*, ribwort plantain *(Plantago lanceolata)*, hairy tare *(Vicia hirsuta)* and creeping buttercup *(Ranunculus repens)*.

Several young standard trees have been planted within the verge and include Italian alder *(Alnus cordata)* and dogwood *(Cornus sanguinea)*.

Photograph 02. Semi-improved grass verges around the perimeter of the Survey Site.

5.2.3 River Churnet Corridor East

Along the eastern boundary of the Survey Site is the established tree-lined corridor of the River Churnet (TN3). The Survey Site has been re-graded above

the height of the river corridor and grades into a vegetated strip level with a mature line of sycamore *(Acer pseudoplatanus)* and alder *(Alnus glutinosa)* trees on the river banks. A single, semi-mature silver birch *(Betula pendula)* stands proud of the tree line.

Vegetation within the buffer strip comprises greater willow herb, broadleaf willow herb, creeping buttercup, tufted hair grass, Yorkshire fog, rosebay willow herb, hedge bindweed *(Calystegia sepium)* and locally dominant reed-mace *(Typha latifolia)*.

Photograph 03. Eastern Survey Site boundary to the River Churnet

5.2.4 River Churnet Corridor South

Along the southern boundary of the Survey Site is a re-graded section of the River Churnet (TN4), undertaken during the development of the supermarket in 2011/2012.

The vegetated strip between the Survey Site and river banks comprises short-mown grassland and planted trees, similar that described for TN2.

Photograph 04. Southern Survey Site boundary to the River Churnet

5.3 Preliminary Protected Species Survey

5.3.1 Badgers

There was no evidence of badger setts or foraging within the Survey Site or within 30m of site boundaries during the 2016 survey. This is consistent with the field data identified for the development of the former Churnet Works site in 2011/2012; no evidence of badger setts was identified at that time.

5.3.2 Bats

Roosting Opportunities

There are no buildings or suitable trees which could provide potential roosting opportunities on the Survey Site. A line of mature trees are present along the River Churnet banks adjacent to the north-eastern site boundary. There was no immediate evidence of potential roosting features within this tree line.

Foraging and Commuting Habitat

Given the dominance of hard standing within the Survey Site, this prevailing habitat type would be of negligible value for foraging bats. The tree lined River Churnet corridor along the southern and eastern Survey Site boundaries would, however, provide a suitable foraging and commuting resource for the local bat population.

5.3.3 Reptiles

A small population of grass snakes was translocated from the Churnet Works site to the Country Park (currently just to the north of the Survey Site) during the 2011/2012 supermarket re-development. The Country Park has since developed into a mosaic of tall grassland, pond, wetland and scrub habitats and has the potential to support a viable population of grass snakes.

The dominant areas of hard standing within the Survey Site are unlikely to support grass snakes; however, commuting and foraging individuals have the potential to be present within vegetated strips along the boundaries to the River Churnet.

5.3.4 Great Crested Newts

There are no ponds within 500m of the Survey Site apart from those created recently within the adjacent Country Park. Given the dominance of hardstanding within the Survey Site which is of poor quality for amphibians, the likelihood of great crested newts being present within, and directly adjacent to, site habitats is considered to be negligible.

Great crested newts were not identified or determined to be a constraint for the 2011/2012 supermarket development of the Churnet Works site.

5.3.5 Birds

The dominant hard standing within the Survey Site does not provide suitable nesting habitat for birds. The adjacent River Churnet corridor would, however, provide suitable nesting and foraging habitat for breeding and wintering birds.

5.3.6 Water Vole and Otter

The Proposed Development will not directly affect the River Churnet channel or banks therefore direct impacts to water vole and otter are highly unlikely. Evidence of one cluster of inactive water vole burrows was identified following surveys to inform the 2011/2012 supermarket development. No evidence of otter was identified.

The River Churnet may currently support suitable habitat for water vole and otter; however, the likelihood of either of these species utilising the dominant hard standing areas of the Survey Site is considered to be negligible.

5.3.7 Other Protected Species

The preliminary assessment did not identify suitable habitat for any other protected or notable species.

5.4 Invasive Species

No obvious evidence of commonly occurring invasive species, such as giant hogweed or Japanese knotweed, were identified during the Extended Phase 1 survey. An exhaustive survey was, however, not within the scope of this assessment.

6.0 Evaluation and Recommendations

6.1 Development Proposals

The proposals relate to the development of a hotel, retail and light industrial units with associated areas of car parking and hardstanding.

6.2 Habitats

6.2.1 Ecological Receptor: Hardstanding with Scattered Developing Vegetation

Summary of Ecological Value

The dominant hard standing area within the Survey Site supports scattered and common plant species and provides negligible value for protected species.

The hard standing habitats that dominate the Survey Site are therefore considered to be of negligible ecological value.

Assessment of Impacts in the Absence of Mitigation

No measurable impacts to ecological features are identified.

Recommendations

The following recommendation is provided.

Mitigation Recommendation: Native tree and shrub species or those of value to wildlife should be utilised in soft landscaping designs for the Proposed Development.

Residual Impacts

These measures would result in a neutral impact on the Survey Site habitats during the construction and/or operational phase.

6.2.2 Ecological Receptor: River Churnet Corridor

Summary of Ecological Value

The River Churnet and associated corridor is a connective feature across the local landscape which also provides suitable habitat resources for a variety of ecological receptors. The River Churnet is therefore considered to be of medium ecological value.

Assessment of Impacts in the Absence of Mitigation

The Proposed Development will not directly affect the River Churnet corridor although construction works will be in very close proximity to this landscape feature. The proposed car parking for the Business Units will be in very close proximity to established trees along the north-eastern Survey Site boundary. The following potential impacts are therefore identified:

- During the construction phase, potential damage to established trees and tree roots along the River Churnet corridor, as a result of car park installation.

- During the construction phase, potential indirect impacts to the River Churnet corridor as a result site works i.e. fuel and chemical spillages, litter and debris, dust, ingress of machinery and workers etc.

- During the operational phase, high artificial light spill on the River Churnet Corridor resulting in disturbance and displacement to nocturnal animals i.e. bats.

Recommendations

The following recommendations are provided:

Construction Phase Recommendation: Construction works must be undertaken in accordance with the British Standard BS 5837:2012 in order to protect the retained trees along the River Churnet corridor.

In order to protect river corridor trees during the construction phase, an illustrated Tree Protection Plan and Method Statement should be put in place prior to the commencement of any construction works.

The plan should follow the recommendations set out in the British Standards document *BS 5837: 2012 Trees in Relation to Design, Demolition and Construction – Recommendations.*

Construction Phase Recommendation: In order to protect the adjacent River Churnet corridor, the following working practices should be adopted during the construction process and detailed in a Construction Environmental Management Plan (CEMP).

In terms of ecological protection of the River Churnet corridor, appropriate protection and working methods would be:

- The creation of a braced line of Heras fencing along the length of the river corridor edge to be retained throughout the entire construction process,

- The correct containment and storage of fuels, liquids and materials to

prevent contamination of the river corridor,

· Designated re-fuelling areas away from the river corridor,

· Appropriate procedures in the event of spillages,

· The appropriate control of noise, dust, waste and litter.

Mitigation Recommendation: Artificial lighting should be designed to negate or minimise light spill onto the adjacent area of River Churnet corridor.

Any potential future lighting designs should avoid light spillage onto the River Churnet corridor. Excessive lighting of such commuting and foraging resources is known to adversely affect the natural behaviour of nocturnal species, causing displacement and avoidance.

It is, therefore, essential that light spill is kept to a minimum level or ideally avoided completely. The following options should be considered and incorporated where appropriate into lighting design in order to avoid light spill:

· The use of a specifically designed directional luminaires and/or suitable accessories such as hoods, cowls, louvers and shields to direct light to the pathways,

· Providing periods of darkness wherever possible by the use of sensor lighting,

· The use of a short lighting column in order to minimise horizontal spill,

· Ensuring lighting levels are as low as legally possible,

· The avoidance of high-pressure sodium (SON), white SON and metal halide lights, as they have the most adverse impacts on nocturnal species.

Mitigation Recommendation: Native tree planting should be undertaken to enhance the River Churnet corridor.

Within the final landscape designs, opportunities should be explored to increase and strengthen the River Churnet corridor through the use of native tree and shrub planting of local provenance.

Residual Impacts

These measures would result in a Neutral/Minor Positive impact on the River

Churnet corridor during the construction and/or operational phase.

6.3 Protected Species

6.3.1 Ecological Receptor: Badgers

Assessment of Value

Under the Protection of Badgers Act 1992, it is an offence to willfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, and to intentionally or recklessly interfere with a sett.

No evidence of active badger setts was identified within or adajcent to the Survey Site.

Assessment of Impacts in the Absence of Mitigation

The majority of the site is considered to be unsuitable for use as a sett-building habitat for badgers, due to the hard standing substrate. However the peripheries of the site and land within 30m of the development footprint may provide suitable sett-building habitat. Badgers will readily build new setts; therefore, active setts could be present adjacent to the Survey Site prior to construction.

Recommendations

The following recommendation is provided:

Pre-Construction Survey Recommendation: A pre-construction badger survey should be conducted prior to the commencement of works to confirm that the status of the Survey Site with regards to badgers is unchanged.

The pre-construction badger survey should follow the methodology set out in the Mammal Society's best practice guidelines (Woods, 1995), in which any evidence of badger activity such as setts, latrines, trails and footprints are recorded and mapped.

The pre-construction badger survey should be carried out 12 weeks prior to the commencement of clearance and construction activities on-site. This would be to allow for the production and authorisation of a Natural England licence should active badger setts be present.

If no evidence of badgers is identified, works can proceed without further constraint. Where badgers may represent a constraint to development, appropriate working practises or the requirement for a licence from Natural England (including potential sett replacement) would be required.

Residual Impacts

These measures would result in a neutral impact to badgers during the construction and/or operational phase based on the current status of the site with regards to this species.

6.3.2 Ecological Receptor: Bats

Assessment of Value

Under the Habitats Directive (2010) it is an offence to intentionally disturb, kill, injure or take bats. It is also an offence to damage or destroy a bat's place of shelter and protection.

The Survey Site was identified as providing no suitable roosting features for bats.

Assessment of Impacts in the Absence of Mitigation

There is the potential for foraging bats present along the River Churnet corridor to be affected by artificial lighting from the Proposed Development.

Recommendations

Appropriate recommendations have been provided in Section 6.2.2 to enhance and protect the river corridor which will benefit bats (including protection from artificial light spill).

Mitigation Recommendation: Measures should be considered to enhance the value of the River Churnet corridor for roosting bats.

In order to enhance the availability of suitable roosting opportunities for bats post-development, a number of bats boxes should be erected within the surrounding river corridor on mature trees.

The boxes installed should be:

- x2 2F Schwegler;
- x1 1FF Schwegler.

Details for the erection and siting of these boxes are provided in Appendix 4. This process should be supervised by an ecologist.

Residual Impacts

These measures would result in a Neutral/Minor Beneficial impact to bats during the construction and/or operational phase.

6.3.3 Ecological Receptor: Reptiles

Assessment of Value

Common reptile species are protected from killing and injuring under the Wildlife and Countryside Act (1981). A small population of grass snakes is known to be present within the Country Park directly to the north of the Survey Site.

Assessment of Impacts in the Absence of Mitigation

The dominant hard standing habitats within the Survey Site are of negligible value for grass snake. The vegetated habitats on site perimeters, particularly those adjacent to the River Churnet corridor may have the potential to support occasional foraging and commuting grass snakes. Given the minor amount of suitable habitat removal required, it is considered that the works can be carried out under a Precautionary Method Statement.

Recommendations

The following recommendation is provided and must be undertaken to ensure legal compliance under the Wildlife and Countryside Act (1981):

Construction Phase Recommendation: As a precaution, protection measures should be put in place in order to avoid killing or injuring reptiles during construction

A Precautionary Method Statement for the controlled clearance of vegetation prior to construction is provided in Appendix 3.

Residual Impacts

These measures would result in a neutral impact to grass snake and other reptile species during the construction and/or operational phase.

6.3.4 Ecological Receptor: Birds

Assessment of Value

Under the Wildlife and Countryside Act (1981) it is an offence to intentionally kill, injure or take any wild bird; to intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built; and to intentionally take or destroy the egg of any wild bird.

Assessment of Impacts in the Absence of Mitigation

The dominant hard standing habitats within the Survey Site are largely unsuitable for nesting birds; however, minor ingress into to the River Churnet

corridor or removal of landscaped boundaries may have the potential to adversely affect nesting birds.

Recommendations

The following recommendations are provided:

Construction Phase Recommendation: Clearance works for trees, shrubs and tall vegetation should be undertaken with due regard to the potential presence of nesting birds.

Clearance and construction works of vegetation should be conducted outside of the bird breeding season, between September – February inclusive.

Where this is not practicable, a nesting bird survey must be carried out by a qualified ecologist prior to clearance works. Any located nests must then be identified and left undisturbed until the young have fledged and the nest is abandoned.

Mitigation Recommendation: Measures should be considered to enhance the value of the River Churnet corridor for breeding birds.

In order to enhance the availability of suitable nesting opportunities for breeding birds post-development, a number of bird boxes should be erected within the surrounding river corridor on mature trees.

The boxes installed should be:

- x1 2H Schwegler Robin Box;
- x2 1B Schwegler Nest Box;
- x2 1ZA Schwegler Wren Roundhouse.

Details for the erection and siting of these boxes are provided in Appendix 4. This process should be supervised by an ecologist.

Residual Impacts

These measures would result in a neutral/minor positive impact to nesting birds during the construction and/or operational phase.

6.3.5 Ecological Receptor: Water Vole and Otter

Assessment of Value

Water vole are protected under the Wildlife and Countryside Act (1981). The act makes it an offence to intentionally capture, kill or injure water voles; damage, destroy or block access to their places of shelter or protection; or disturb them in a place of shelter or protection. Otters are protected under the Conservation of Habitats and Regulations 2012. These regulations make it an

offence to capture, kill, disturb or injure otters; damage or destroy a breeding or resting place; or obstruct access to their resting or sheltering places.

The Survey Site was identified as providing no suitable resting or sheltering places for otter or water vole.

Assessment of Impacts in the Absence of Mitigation

There is the potential in-direct disturbance to water vole and otter, if present within the adjacent River Churnet corridor, as a result site construction works i.e. fuel and chemical spillages, litter and debris, dust, ingress of machinery and workers etc.

Recommendations

Appropriate recommendations have been provided in Section 6.2.2 to enhance and protect the river corridor which will benefit water voles and otters.

Residual Impacts

These measures would result in a neutral/minor beneficial impact to water voles and otters during the construction and/or operational phase.

6.3.6 Ecological Receptor: Other Protected Species

No impacts to any further protected species are predicted.

6.4 Designated Sites

6.4.1 Statutory Sites

The Proposed Development would not impact directly or indirectly upon any offsite statutory sites.

6.4.2 Non-Statutory Sites

The Proposed Development would not impact directly or indirectly upon any offsite non-statutory sites.

7.0 Conclusion

The land off Macclesfield Road, Churnet Valley, Leek, Staffordshire was subject to an Extended Phase 1 Ecological Assessment and Preliminary Protected Species Survey. The proposals relate to the development of a hotel, retail and light industrial units with associated areas of car parking and hardstanding.

The Survey Site comprises a compacted area of gravel and rock hardstanding adjacent to the River Churnet and a supermarket development. The hard standing area supports low numbers of scattered ruderals herbs and common wildflowers.

The dominant hard standing area within the Survey Site supports scattered and common plant species and provides negligible value for protected species. The hard standing habitats that dominate the Survey Site were therefore determined to be of negligible ecological value. The adjacent River Churnet and associated corridor is a connective feature across the local landscape which also provides suitable habitat resources for a variety of ecological receptors. The River Churnet was therefore determined to be of medium ecological value.

The results of the Preliminary Protected Species Survey identified the presence and potential presence of protected habitats and species. Potential species or habitats identified included:

- The potential for occasional individual grass snakes to be present along the vegetated boundaries of the Survey Site.
- Suitable habitat for badger setts within 30m of the Survey Site, although no evidence of badgers was identified.
- The adjacent River Churnet Corridor was identified as having the potential to support foraging bats, nesting birds and potentially water vole and otter populations.

The following recommendations have been outlined:

- The protection of the River Churnet corridor during construction, in accordance with a Construction Environmental Management Plan,
- A Tree Protection Plan and Method Statement to protect retained trees during construction,
- The use of native planting along the River Churnet corridor and within the development itself, to enhance ecological value,
- Measures to reduce artificial light spill on the River Churnet corridor,
- A pre-construction badger survey,
- A Precautionary Method Statement for the removal of boundary habitats in respect of grass snake,
- Standard protection measures for nesting birds,

- The installation of bird boxes and bat boxes along the River Churnet corridor.

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APPENDIX 1
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TARGET NOTES

Target Note	Description
TN1	The Survey Site is dominated by a compacted area of stone and gravel with scattered patches of developing grasses and herbs, most likely seeded from the adjacent Country Park (TN1). Common species were present including tufted hair-grass *(Deschampsia cespitosa)*, Timothy grass *(Phleum pratense)*, coltsfoot *(Tussilago farfara)*, Yorkshire fog *(Holcus lanatus)*, broadleaf willowherb *(Epilobium montanum)*, bird's foot trefoil *(Lotus corniculatus)*, common ragwort *(Senecio jacobaea)*, herb Robert *(Geranium robertianum)*, spear thistle *(Cirsium vulgare)*, curled dock *(Rumex crispus)*, greater willowherb *(Epilobium hirsutum)*, chamomile *(Chamaemelum nobile)*, greater plantain (Plantago major) and prickly lettuce *(Lactuca serriola)*.
TN2	Thin grass verges are present around the perimeter of the Survey Site and adjacent supermarket car park (TN2). The verges have been part sown with a wildflower mix including ox-eye daisy *(Leucanthemum vulgare)*, wild carrot *(Daucus carota)*, yellow rattle *(Rhinanthus minor)*, black knapweed *(Centaurea nigra)*, red clover *(Trifolium pratense)*, common sorrel *(Rumex acetosa)*, yarrow *(Achillea millefolium)*, ribwort plantain *(Plantago lanceolata)*, hairy tare *(Vicia hirsuta)* and creeping buttercup *(Ranunculus repens)*. Several young stand trees have been planted within the verge and include Italian alder *(Alnus cordata)* and dogwood *(Cornus sanguinea)*.
TN3	Along the eastern boundary of the Survey Site is the established tree-lined corridor of the River Churnet (TN3). The Survey Site has been re-graded above the height of the river corridor and grades into a vegetated buffer strip level with a mature line of sycamore *(Acer pseudoplatanus)*, alder *(Alnus glutinosa)* trees on the river banks and a single semi-mature silver birch *(Betula pendula)* standing proud of the tree line. Vegetation within the buffer strip comprises greater willowherb, broadleaf willowherb, creeping buttercup, tufted hair grass, Yorkshire fog, rosebay willowherb, hedge bindweed *(Calystegia sepium)* and locally dominant reed-mace *(Typha latifolia)*.
TN4	Along the southern boundary of the Survey Site is a re-graded section of the River Churnet (TN4), undertaken during the development of the supermarket in 2011/2012. The buffer strip between the Survey Site and river banks comprises short-mown grassland and planted trees, similar that described for TN2.

APPENDIX 2
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SUMMARY OF POTENTIALLY RELEVANT STATUTORY LEGISLATION

The Habitat Regulations 2010 (as amended)

The Conservation of Habitats and Species Regulations 2010 (as amended), or the 'Habitat Regulations 2010 (as amended)', transposes European Directives into English and Welsh legislation. Under these regulations, wild animals of a European Protected Species and their breeding sites or resting places are protected under Regulation 41. Such wild animals of a European Protected Species include great crested newts, otters, dormice and all species of bat. It is an offence to deliberately capture, injure or kill any such wild animal and in the case of great crested newts, deliberately take or destroy their eggs. It is also an offence to deliberately damage or destroy a breeding site or resting place of any such wild animal.

Wild animals of a European Protected Species are also protected from disturbance under Regulation 41. Disturbance of such wild animals includes in particular any disturbance which is likely:

(a) To impair their ability -

- *to survive, to breed or reproduce, or to rear or nurture their young; or*

- *in the case of animals of a hibernating or migratory species, to hibernate or migrate; or*

(b) To affect significantly the local distribution or abundance of the species to which they belong.

The Wildlife and Countryside Act (as amended) and Countryside and Right of Way Act (CRoW) Act 2000 (as amended)

The Wildlife and Countryside Act 1981 (as amended) and the CRoW Act 2000 (as amended) afford protection to wild birds in England and Wales under Part 1. It is an offence to intentionally kill, injure or take any wild bird. It is also an offence to intentionally take, damage or destroy the nest of any wild bird whilst it is in use or being built, or intentionally take or destroy their eggs. If the wild bird is included on the Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), it is additionally an offence to intentionally or recklessly disturb the wild bird whilst on the nest during the breeding season.

Certain species of animal, such as the water vole, are offered 'full protection' under the Wildlife and Countryside Act 1981 (as amended) and the CRoW Act 2000 (as amended) by being included in Schedule 5 in respect of certain offences under Section 9. Such offences include:

9(1) Intentional killing, injuring or taking of a Schedule 5 animal;

9(4a) Intentional or reckless damage to, destruction of or obstruction of any structure or place used by a Schedule 5 animal for shelter or protection;

9(4b) Intentional or reckless disturbance of a Schedule 5 animal occupying such a structure or place.

Widespread species of native reptiles occurring within England and Wales such as the adder or common lizard are protected against intentional killing and injuring under the Wildlife and Countryside Act 1981 (as amended) only. Animals of a European Protected Species are now only protected under offences 9(4a) and 9(4b) of Section 9, the main legislative tool covering such animals is under the 'Habitats Directive 2010 (as amended)'.

The Protection of Badgers Act 1992

Badgers are primarily protected by The Protection of Badgers Act 1992, under which it is an offence to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so, and to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

The Hedgerow Regulations 1997

Under the Hedgerow Regulations 1997 it is an offence to remove most hedgerows without the issuing of a Hedgerow Removal Notice from the Local Planning Authority. 'Important' hedgerows are those protected under the 1997 Regulations if they are over 30 years old and satisfy one of the criteria under Part II, Schedule 1, based on archaeology and history or wildlife and landscape.

In the case of 'Important' hedgerows, the Local Planning Authority will only issue a Hedgerow Removal Notice if there are sufficient circumstances to justify its removal. If sufficient circumstances do not exist then the Local Planning Authority will issue a Hedgerow Retention Notice and the 'Important' hedgerow will be protected under the 1997 Regulations. Unauthorised removal of the 'Important' hedgerow may result in a fine and/or a requirement for the hedgerow to be replaced.

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities (NERC) Act came into force on 1st October 2006. Section 41 (S41) of the Act requires the Secretary of State to publish a list of habitats and species which are of principal importance for the conservation of biodiversity in England.

The S41 list is used to guide decision-makers such as public bodies, including local and regional authorities, in implementing their duty under Section 41 of the Natural Environment and Rural Communities Act 2006 to have regard to the conservation of biodiversity in England when carrying out their normal functions.

Fifty-six habitats of principal importance and 943 species of principal importance are included on the S41 list. The habitats and species on the S41 list are included within the UK Biodiversity Action Plan (UK BAP) as requiring conservation action. The requirement for action continues to be regarded as a conservation priority in the

subsequent UK Post 2010 Biodiversity Framework. At a local level the actions and targets are still referred to as BAPs.

The Wild Mammals (Protection) Act 1996

Under the Wild Mammals (Protection) Act 1996 it is an offence if he or she mutilates, kicks, beats, nails or otherwise impales, stabs, burns, stones, crushes, drowns, drags or asphyxiates a wild mammal.

APPENDIX 3
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METHOD STATEMENT – CONTROLLED GROUND CLEARANCE IN RESPECT OF REPTILES

Method Statement – Controlled Ground Clearance in Respect of Reptiles

1.0 Background

This method statement provides a suitable methodology for controlled ground clearance where reptile populations are present, or potentially present, and a precautionary approach is required.

Controlled ground clearance of the work area would be undertaken to ensure that no reptiles are present before construction or full clearance works commence. Once the controlled ground clearance is complete, works can proceed without constraint from reptiles. The controlled ground clearance would be supervised by a suitably licenced ecologist at all times.

2.0 Pre-Clearance Works

The ecologist would carry out a detailed fingertip search for reptiles throughout the working area immediately before these areas are subject to a controlled ground clearance.

Where tall grass or herbs are present, these areas would be carefully and slowly cut using brushcutters or a mower under the direction of the ecologist. If using brushcutters, cutting strokes would be slow and deliberate working from the top of the sward to no lower than 20cm above ground level. If using a mower, the cutter bar would be set to no less than 20cm and mowing would progress in a slow and deliberate manner.

Any trees and/or shrubs within the work area would be subject to a fingertip search by the ecologist, including landing areas. Trees/shrubs would be cut at 20cm above ground level. All brash would be chipped or removed from site, to prevent these features being used for reptiles for shelter.

3.0 Controlled Ground Clearance

Clearance of all habitats would be undertaken with a mechanical digger supervised and directed by the ecologist. The stripping of vegetation would be undertaken in a slow and deliberate manner. All arisings/waste would be removed off-site.

4.0 Capture of Reptiles

Where presence of Reptiles is confirmed: In the unlikely event that reptiles are captured, they will be moved to a suitable near-by habitat by the ecologist which would allow for safe dispersal into the wider countryside.

APPENDIX 4
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INSTALLATION OF BIRD AND BAT BOXES

Installation of Bird Boxes

This method statement outlines an appropriate generic methodology for the installation of bird boxes on trees and buildings, with some species specific methods. Suitable locations for the bird boxes should be detailed by the ecologist, on a site specific basis.

1.0 Generic Methodology

When installing bird boxes, the below methods should be followed (heights are discussed in Section 2.0):

- Install boxes on northern through to eastern aspects, to avoid prevailing winds and rain,
- Avoid where possible installing boxes in locations susceptible to predation from cats or squirrels (such as directly adjacent to large branches or other such platforms),
- Ensure where possible that the box is inconspicuous, particularly where it may be at risk from vandalism (i.e. public parks and other such areas with high public traffic),
- Tilt the box forward slightly to avoid ingress of rain,
- Avoiding installing the box where vegetation would block the entrance,
- Where boxes are installed on trees, the method of fixing should allow trees to grow,
- Boxes should be installed following the manufacturer's recommendations and using the fixings provided.

2.0 Heights and Species Specific Methodology

The generic methods in Section 1.0 should also be applied.

Standard boxes (Non-species specific): Vary between 2m to 4m in height, at different aspects.

Robin and wren boxes: Below 2m hidden in vegetation.

House sparrow terraces: Above 2m on buildings only.

Woodpecker boxes: 3m to 5m on a tree trunk with a clear flight path away from disturbance.

Spotted flycatcher boxes: 2-4m high, sheltered by vegetation but with a clear outlook.

Swallow nests: Inside outbuildings such as sheds, barns or stables leaving a distance of at least 6cm between the top of the nest and the ceiling. Ensure continual access for the birds through an open window or sky-light. Multiple nests should be >1m apart.

Swift terraces: On buildings only, at least six to seven metres above the ground, ensuring that there is wide unobstructed access for birds entering and leaving. If possible, boxes should be sited under the shelter of eaves, soffits or overhanging roofs.

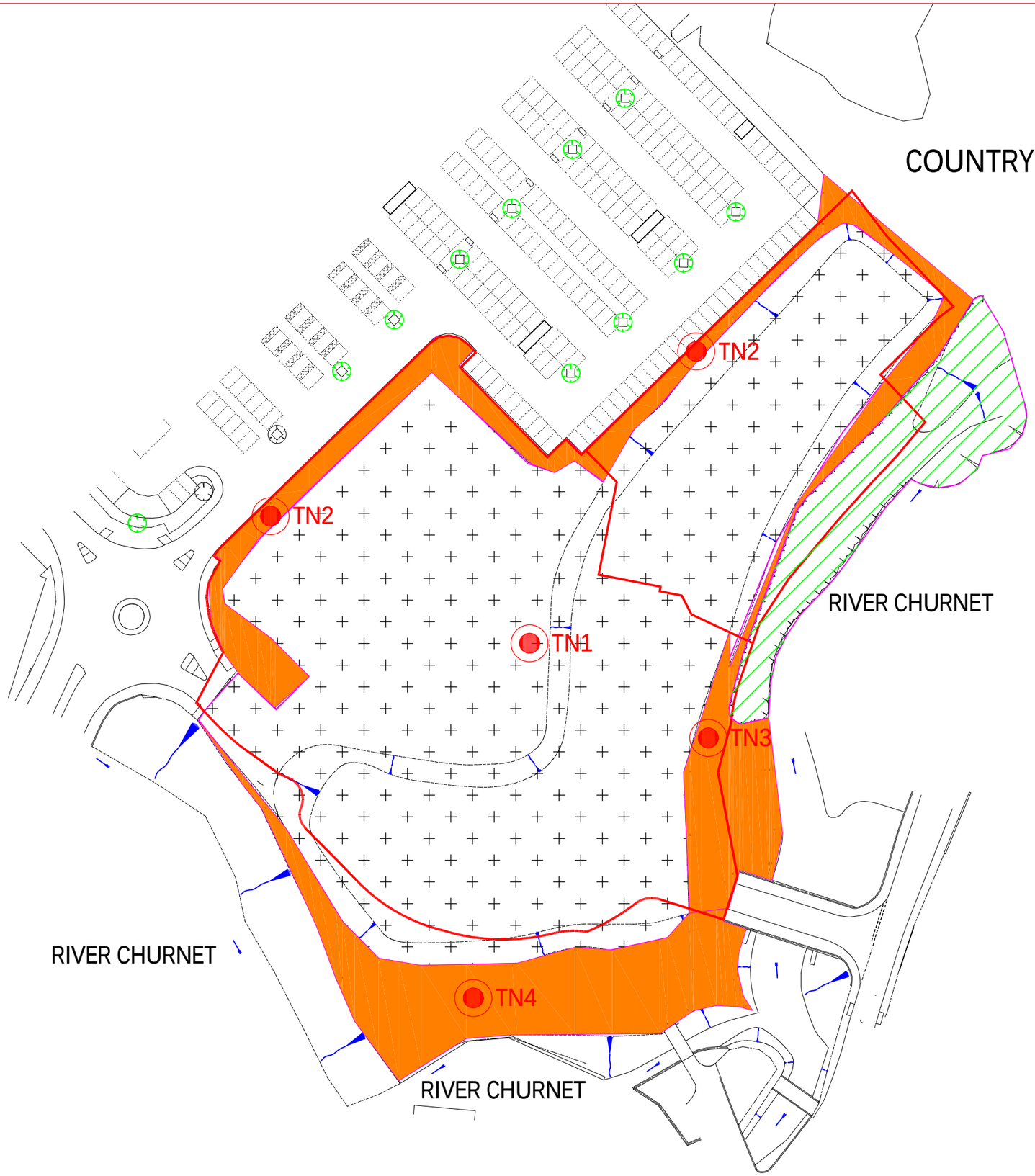
House martin nests: On buildings only, at least six to seven metres above the ground, ensuring that there is wide unobstructed access for birds entering and leaving. Boxes must be sited under the shelter of eaves, soffits or overhanging roofs.

Barn owl boxes: on retained mature trees with an open outlook, ideally facing onto grassland in an E/NE/SE direction. Boxes should have a clear flight path to the entrance and the height of fixing should be between three and five metres. Where possible, boxes should be installed where perches such as branches are available for emerging owlets and they should not be sited above water-filled ditches which may present a hazard to the chicks if they fall from the entrance.

Bats – Installation of Bat Boxes

This method statement outlines an appropriate generic methodology for the installation of bat boxes on trees and buildings. Suitable locations for bat boxes should be detailed by the ecologist, on a site specific basis.

- Bat boxes would be installed at south-east and south-west aspects;
- Bat boxes would be installed at a height of above 6m;
- On trees, bat boxes would be installed in locations inconspicuous to vandalism or predation by domestic animals, particularly cats (i.e. away from branches where cats may access the boxes);
- On buildings, bat boxes would be installed ideally at the apex of gable ends or below the roof line of elevations; away from windows, sleeping areas, sources of artificial light and ledges/platforms that may provide access by domestic animals;
- Each box would be tilted forward slightly to avoid ingress of rain;
- Boxes would not be installed where vegetation would block the entrance;
- Where boxes are installed on trees, the method of fixing would allow trees to grow;
- Bat boxes would be fixed following the manufacturer's recommendations and using the fixings provided.



Source: Midland Survey Ltd Drawing Number 26311 Sept 2016

Key

- Bare ground with ephemeral/ruderal vegetation
- Grassland verge/margins
- Established trees
- Site boundary
- TN1 Target note

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PROJECT:
Proposed Hotel, Retail and Light Industrial Units, Leek, Staffs

TITLE:
PHASE 1 HABITATS MAP

DATE: 21/06/17

SCALE: 1:1,000 @ A3

FIGURE:
01

Revision