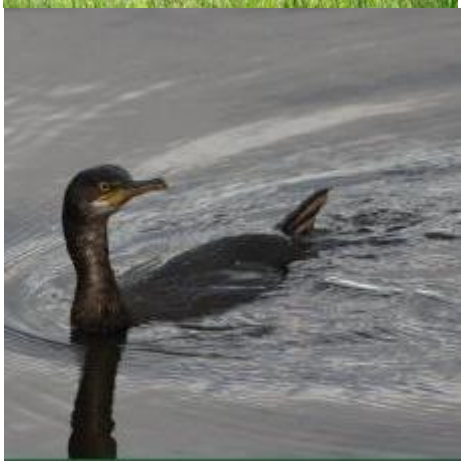

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Preliminary Ecological Appraisal

Riding Mill Tennis Courts

Riding Mill

NE44 6DL

Prepared by

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This report is presented to Riding Mill Tennis Club in respect of the proposed development at Riding Mill Tennis Courts, Riding Mill and may not be used or relied on by any other person or by the client in relation to any other matters not covered specifically by the scope of this report. Notwithstanding anything to the contrary contained in the report, Ecosurv Ltd is obliged to exercise reasonable skill, care, and diligence in the performance of the services required by Riding Mill Tennis Club and Ecosurv Ltd shall not be liable except to the extent that it has failed to exercise reasonable skill, care and diligence, and this report shall be read and construed accordingly.

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All ecologists employed on this project by Ecosurv Ltd are members of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow the Institute's code of practice when undertaking ecological surveys and associated work, or were supervised by such a member.

All assessment is based upon, and accurate to, the information made available to Ecosurv Ltd prior to the completion of this report. Any alterations to this information at a later date will reduce the accuracy of this report, to which Ecosurv Ltd cannot be held accountable.

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1 EXECUTIVE SUMMARY

Ecosurv Ltd have been instructed to undertake a Preliminary Ecological Appraisal (PEA) at the proposed development of Riding Mill Tennis Courts, Riding Mill, Northumberland . The survey area comprised of an area of hardstanding surrounded by mature broadleaved woodland. The proposals are for the installation of a floodlighting system to the tennis courts. The proposals will not involve any clearance of habitat, being limited to the existing footprint of the hardstanding area. The purpose of this report is to provide general advice on ecological constraints, advise on appropriate further surveys where required and outline appropriate mitigation measures.

A Preliminary Ecological Appraisal (PEA), comprised of a desktop study and site visit were completed on 21st June 2021 and followed the CIEEM GPEA document (CIEEM, 2017) which includes: a standard Phase 1 habitat survey (JNCC, 2010); an assessment of the presence, or likely presence, of notable species; and an assessment of the value of habitats present on site. The site visit was carried out on by Scott Taylor PhD BSc (Hons).

The desktop study collated publicly available information on the biodiversity of the site and surrounding area, including the presence of any statutory and non-statutory sites. Biological records for a 1 km radius surrounding the site were also obtained from the Environmental Records and Information Centre (ERIC) North East.

The tennis courts are of negligible ecological value. The ecological value of the wider site lies within the boundary woodland and the riverine habitat, which are suitable for badgers, nesting birds foraging and commuting bats. The proposals do not involve the clearance of any habitat; therefore, no direct impacts are envisaged. Indirect impacts arising from possible light spill of the proposed floodlighting system have been considered. A track system, affixed to the current fencing around the court is to be installed as opposed to a pole mounted/floodlit system.

The proposed lighting system to be installed is a track lighting system, it is not envisaged that light spill will be an issue in this instance, however, the following information is provided as standard guidance.

A sensitive lighting scheme should be implemented during and after construction to avoid indirect disturbance to foraging and commuting bats, birds and small mammals that may be using the offsite habitats, and should include the following elements:

- Sensitive positioning of lighting to avoid unnecessary spill onto the adjacent woodland and scrub vegetation, artificial bat boxes, as well as any habitat enhancement features to be incorporated into the development (see below);
- Angle of lighting: avoidance of direct lighting and light spill onto areas of habitat that are of importance as commuting pathways and/or foraging areas;
- Type of lighting: studies have shown that light sources emitting higher amounts of UV light have a greater impact to wildlife. Use of narrow-spectrum bulbs that avoid white and blue wavelengths are likely to reduce the number of species impacted by the lighting;
- Reduce the height of lighting columns to avoid unnecessary light spill.

Additional measures to enhance the biodiversity value of the site post development, as required by the revised NPPF have also been included within the compensation and enhancement sections of this report.

2 INTRODUCTION

Ecosurv Ltd were instructed by Riding Mill Tennis Club to undertake a Preliminary Ecological Appraisal (PEA) at the proposed development of Riding Mill Tennis Courts, Riding Mill, Northumberland. The survey work and preparation of this report has been undertaken by Scott Taylor PhD BSc (Hons). The report has been written in accordance with the CIEEM Guidelines on Ecological report writing (CIEEM, 2017) and BS 42020:2013 (BSI, 2013).

The purpose of this report is to provide general advice on ecological constraints and recommendations for further surveys associated with the proposed development at this site.

To inform this report on potential ecological impacts regarding the proposed development at this site a PEA, comprising a desktop study and a site visit were completed on the 21st June 2021 and followed the CIEEM GPEA document (CIEEM, 2017) which includes: a standard Phase 1 habitat survey (JNCC, 2010); an assessment of the presence, or likely presence, of notable species; and an assessment of the value of habitats present on site.

The site is centred on Grid Reference NZ 0157 6139 and can be accessed by a track off Millfield Road (Figure 1). The proposed development site comprised of hardstanding, surrounded by areas of mature woodland and Ridingmill Burn. The site is in sub-urban area, surrounded by residential housing, mature woodland and mature landscaping.

The proposals are for the installation of a floodlighting system to the tennis courts. The proposals will not involve any clearance of habitat, being limited to the existing footprint of the hardstanding area. Indirect impacts arising from light spill onto the adjacent habitats of higher ecological value are considered. The aim of the study was to reasonably appraise the ecological value of the study area. The following objectives were set to achieve this aim:

- To identify potential ecological constraints to the proposed development;
- To identify the further ecological surveys needed to (inform an ecological impact assessment to be identified and appropriately designed) provide sufficiently robust data to the appropriate planning authority;
- To allow likely mitigation or compensation measures to be developed;
- To form a basis for agreeing the scope of the ecological impact assessment to be identified and appropriately designed;
- Complete a desk study of study area to gather information related to legally protected/ecologically important sites, habitats and/or species;
- Map all general habitats within the field survey area and identify any habitats that are ecologically important and/or have legal protection;
- Identify dominant species of vascular plants present within each mapped habitat type;
- Highlight any parts of the field survey area that support invasive plant species;
- Assess the potential of each identified habitat to support, and where possible also undertake initial preliminary field surveys for, any ecologically important and/or legally protected fauna species.

This information has then been used to identify potential ecological constraints to development and formulate reasonable ecological recommendations and define the future ecological scope of works.

2.1 Location

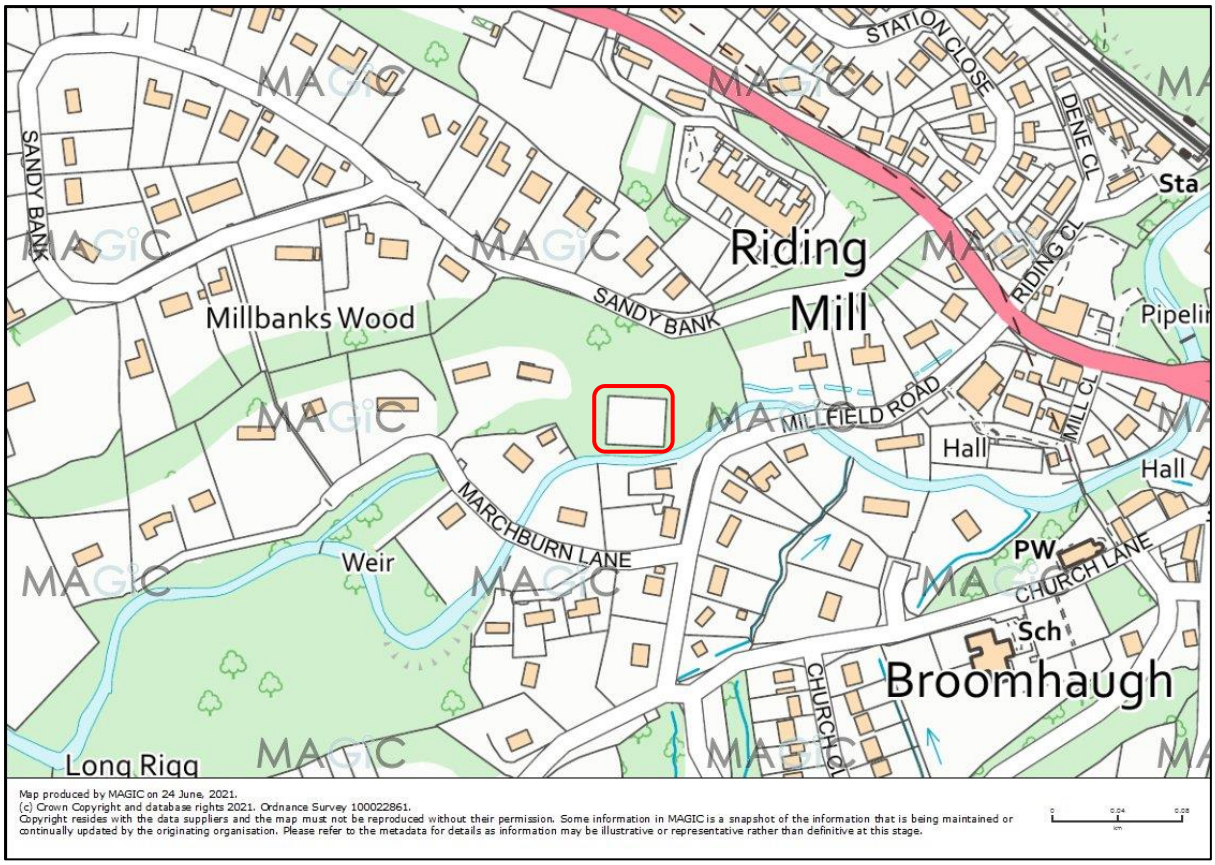

Figure 1. Site location plan. Red line shows the area proposed for development.

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3 LEGISLATION

3.1 Summary of legislation

This section summarises the legislation which is relevant, in ecological terms, to this assessment, i.e. legislation relevant to species present or potentially present within the survey area is included here along with legislation relevant to protected sites in the vicinity.

- Wildlife and Countryside Act 1981 (as amended);
- Countryside and Rights of Way (CROW) Act 2000;
- The Protection of Badgers Act (1992);
- Wild Mammals (Protection) Act 1996;
- The Conservation of Habitats and Species Regulations 2017 (as amended);
- Environment Act 1995;
- Natural Environment and Rural Communities (NERC) Act 2006.

The most significant legislation governing the protection of British wildlife is the Wildlife and Countryside Act 1981, the Countryside Rights of Way Act 2000 and The Conservation of Habitats and Species Regulations 2017. The Wildlife and Countryside Act, as amended mainly by the Countryside Rights of Way Act, protects animal species listed in Schedule 5 and plant species in Schedule 8 of the Act from being killed, injured, and used for trade. The provisions of this act further protect certain species, such as great crested newts and bats from being disturbed or taken from the wild, as well as protecting elements of their habitats. The Act also specifies that offences occur regardless of whether they were committed intentionally or recklessly. The parts of this legislation that apply to most reptile species are in regard to killing, injury and trade only and do not protect their habitat, nor are they protected from disturbance or from being taken from their habitat.

The Conservation of Habitats and Species Regulations is the English enactment of European legislation and provides similar but subtly different protection for species listed on Schedules 2 and 4 of those regulations. The provisions of this act complement those of the Wildlife and Countryside Act. Species to which these provisions apply are the European Protected Species. Activities that might cause offences to be committed can be legitimised by obtaining a licence from the relevant statutory body.

The following EC Directives and international conventions are applied by some of the above UK Acts and Regulations:

- Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and wild fauna and flora (as amended);
- Council Directive 79/409/EEC of 2 April 1979 on the conservation of wild birds (as amended);
- Convention on the Conservation of European Wildlife and Natural Habitats (the Bern Convention) (1979) (as amended);
- Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention) (1979) (as amended);
- Agreement on the Conservation of Bats in Europe (1999) (as amended).

3.2 National Planning Policy

The National Planning Policy Framework (NPPF) published in 2012 and revised in 2019 states that policy should promote the preservation, restoration and recreation of priority habitats, ecological networks and the protection and recovery of priority species populations linked to national and local targets.

The planning system should contribute to and enhance the natural environment by;

- Protecting and enhancing valued landscapes, geological conservation interests and soils;
- Recognise the wider benefits of ecosystem services;
- Minimising impacts on and providing net gains for biodiversity, contributing to the Government's commitment to halt the overall decline in biodiversity, included by establishing coherent ecological networks that are more resilient to current and future pressures.

The NPPF also states that planning for biodiversity should be done at a landscape scale across local authority boundaries, identifying components of the local ecological network including nationally and locally important sites for biodiversity and wildlife corridors and stepping stones that connect them.

Further details on the legislation protecting species of British wildlife and habitats relevant to this assessment can be found in section 9.1 of this report.

4 METHODS

4.1 Overview

The PEA involved a desktop study and a site visit. The desktop study collected publicly available information regarding the biodiversity of the area, including the habitat structure of the site and wider landscape, as well as the presence of any statutory or non-statutory designated sites, using the Multi-Agency Geographic Information for the Countryside (MAGIC) resource. Biological records within 1 km of the site were also requested from the Environmental Records and Information Centre (ERIC) North East, which included records of protected and notable species and any nearby non-statutory designated sites not available through MAGIC.

The objective of the survey was to ascertain if any protected species may be using the site, document the habitats present and identify any potential ecological constraints likely to be encountered with the proposed development. The survey would be completed under suitable weather conditions and by an experienced ecologist. The results of the desktop study and site survey would then be assessed to determine potential ecological impacts posed by the work, the requirement for additional survey work, and recommend how ecological impacts should be mitigated and compensated for.

The survey work and the preparation of this report has been conducted by Scott Taylor PhD BSc (Hons) who is experienced in protected species survey work. All survey and assessment work has been completed in line with official guidelines produced by Natural England and the Chartered Institute for Ecology and Environmental Management, and British Standard document BS 42020: 2013 'Biodiversity – Code of practice for planning and development.'

4.2 Limitations

4.2.1 Desk study limitations

Species specific groups, such as Northumberland Badger group, were not contacted for their detailed records within the survey area. However, the combination of data obtained was felt to be sufficient to achieve the objectives of the report.

4.2.2 Field Survey Limitations

Due to the time of year in which the survey was carried out some floral species are likely to have been missed, as most floral species are more readily identifiable during spring or summer. Additional species would undoubtedly be recorded at different times of the year due to the variety of flowering strategies.

4.3 Survey Area

The application site is located at Grid Reference NZ 0157 6139 and can be accessed via Millfield Road. The assessment focused on the application site, as well as all habitats in the immediate surrounding area (where access was available).

Figure 2. Satellite Image of the surveyed area. Application site boundary is shown by the red line.

(Image taken from Google Earth Pro: ©2021 Map Data Google 2021)

4.4 PEA Field survey

The field survey followed the CIEEM GPEA document (CIEEM, 2013) and BS 42020:2013 document (BSI, 2013). The PEA was carried out by Scott Taylor PhD BSc (Hons) on the 21st June 2021. The survey area included the site and extended into areas which were deemed to be a potential receptor of ecological impact due to the proposed development.

Habitats found on the site were identified using the standard Phase 1 Habitat Survey methodology (JNCC 2010) with target notes made to describe features of interest.

In addition to mapping habitat types and dominant flora, the potential for the survey area to support any legally protected faunal species and/or faunal species of nature conservation importance, e.g. BAP priority species, was assessed. Detailed surveys were not undertaken; rather the potential for the survey area to support each species/species group was assessed.

Features that would likely support protected species, holes in trees, drainage ditches, ponds, embankments etc. were all examined for the possible presence of species known to utilise these features, in accordance with the methodologies outlined in section 4.5. In addition, field signs or sightings of such species were recorded as seen.

Key features identified during the survey are summarised in the form of Target Notes. Nomenclature for plant species names is taken from Stace (1991) and the Botanical Society of the British Isles (BSBI) plant checklist (2007).

4.5 Protected Species

Based on the habitats present, the site was assessed with particular regard to determine the presence or otherwise of badgers (*Meles meles*), bats, great crested newts (GCN) (*Triturus cristatus*), nesting birds, and reptiles. An overview of the survey methods used is outlined below.

Badgers: An assessment of the site and surrounding habitats (where access was available), with particular focus on any areas of dense vegetation, was carried out in order to identify any evidence of badgers, including:

- the presence of any setts
- well-used runs/tracks
- supplementary evidence, such as hairs or prints
- badgers themselves

Bats: An assessment of the trees on site or along the site boundary was undertaken to identify any potential roost features (PRFs) for bats, and/or observe evidence of roosting bats, in accordance with the current Bat Conservation Trust (BCT) survey guidelines (Collins, 2016) and Bat Mitigation Guidelines (Mitchell-Jones, 2014). The assessment comprised of an external inspection of the trees, concentrating on features that may provide roosting opportunities or afford access into roosting features internally, such as, woodpecker holes, rotten limbs, cracks and crevices.

The trees were then categorised based on their suitability and potential for roosting bats, which was evaluated in accordance with the BCT guidelines detailed in Table 1 and criteria outlined in the Bat Mitigation Guidelines, which are presented below.

The likelihood of bat roosts being present will be higher where structures:

- are of a pre-20th Century construction;
- are in a lowland rural setting;
- have woodland, mature trees, species-rich grassland and/or water nearby;
- have large dimension roof timbers with cracks, joints and holes;
- have numerous crevices in stonework and structures;
- have an uneven roof covering with gaps, though not too draughty;
- have hanging tiles or roof cladding, especially on south-facing walls;
- have a roof warmed by the sun;
- are disused or little used; largely undisturbed; or
- provide appropriate hibernation conditions, such as abandoned mines, tunnels, kilns, or fortifications;
- recent or historical records of bats on the site, or bat roosts in the general area.

The likelihood of bat roosts being present will be lower where structures:

- are in an urban setting with little green space;
- are subject to heavy disturbance;
- have a small, cluttered roof void (particularly for brown long-eared);
- are of a modern construction with few gaps or crevices that bats can fly or crawl through (though pipistrelle bats may still be present);

- are comprised of prefabricated steel or sheet materials;
- are active industrial premises; Please note that the above list provides generic screening criteria only and there are exceptions to consider. For example, pipistrelle breeding roost sites are often found in modern housing estates and therefore the absence of bats from such locations should not always be assumed.

Table 1. Guidelines for assessing bat roosting potential of structures and trees.

Suitability	Habitat description	Further action required?
Negligible	Negligible habitat features on site likely to be used by roosting bats.	No further bat risk assessment effort or bat activity surveys are required.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).	Structures: One bat activity survey is required to determine whether the structure is being utilised by roosting bats; this may be a dusk or dawn survey. This survey must occur between May and August. The discovery of a roosting bat during this single bat activity survey will require further survey effort.
	A tree of sufficient size and age to contain PRFs, but with none seen from the ground or features seen with only very limited roosting potential.	Trees: No further bat risk assessment effort or bat activity surveys are required.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection conditions and surrounding habitat, but unlikely to support a roost of high conservation status.	Two bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey. One survey must occur between May and August.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Three bat activity surveys are required to determine whether the structure or tree is being utilised by roosting bats; this should be comprised of one dusk and one dawn survey, with an additional survey (either dusk or dawn). Two surveys must occur between May and August.

Evidence of roosting bats can include: bat droppings; staining around access points; small scratches around an entrance hole; audible squeaking at dusk or in warm weather; smoothening of surfaces around cavity or an entrance hole; distinctive smell of bats.

The bat risk assessment was completed using ladders, binoculars and a powerful torch. An endoscope was also available to check any small gaps/cracks for evidence of bats.

Great Crested Newts: The habitats on site were assessed in regards to their suitability to support GCN. Potential refugia (such as logs, stones, discarded building materials etc.) present were also checked for the presence of GCN.

Nesting Birds: The habitats on site were assessed to determine their suitability for nesting, with a check carried out for the presence of any active nests or any evidence of nesting behaviour

Reptiles: The site was also assessed in regards to its suitability to support reptiles, which is largely based on an assessment of the habitats present on site and whether they afford sufficient opportunities to support basking, foraging and sheltering. Any refugia present was also checked for the presence of reptiles or evidence of reptiles, such as sloughs (shed skins).

Water Vole: Surveys aim to visually document sightings of water voles themselves or any indicative features suggesting that the site is being used by water voles. These include feeding stations, latrine areas and burrows. A risk assessment of the proposed works would also be carried out on all areas where evidence of water voles was found.

Otter: The survey included primarily a search for signs of a holt or any resting (couch) or sheltering areas in close proximity to the site, which may be impacted or disturbed by the proposed works. In addition to this, a search for the same features was also extended c. 250 m up and down stream to further understand the presence of otter in the area. The full search area (500 m radius) was also surveyed for signs of otter; including spraint (often deposited on a focal point such as a rock for territory marking), anal jelly, prints (areas of wet mud), slides from the bank to the water, couches of flattened vegetation or scraped out soil and dead or alive sightings.

Other Wildlife: In accordance with good practice, the site was checked for the presence of any other protected/notable species, with particular regard to any other species highlighted in the desktop study.

Invasive Species: The site was also surveyed for the presence of any invasive, non-native flora or fauna.

4.6 Assessment methodology Biodiversity value

The CIEEM Guidelines

These guidelines provide a framework criterion for determining the value and importance of each potential ecological receptor found within the survey area.

Various characteristics can be used to identify important biodiversity features (sites, habitats, and species) that are likely to represent potentially significant constraints to the development project. These include a feature's:

- Rarity at various geographical scales;
- Threat status and vulnerability at various geographical scales;
- Diversity and/or its synergistic associations;
- Population size, and;
- Location in relation to its' known geographical distribution and range at various geographical scales.

The characteristics listed above help define a features' conservation status which can then be used to help determine its biodiversity value. CIEEM (2006) provides further information on how the relative value and

importance of a receptor can be determined and states that its biodiversity value should be measured against published selection criteria where available.

It is also useful to distinguish between the biodiversity value of a receptor and its legal status. Features of high biodiversity value may not necessarily attract legal protection and vice versa. For example, a viable area of ancient woodland is likely to be considered of high biodiversity value even if it does not receive any formal statutory designations.

In the evaluation of biodiversity value, reference is also made to HA, UK and Local BAPs, inclusion on national or county Red Data Books, and to conservation status (such as nationally notable/scarce, etc.). However, the inclusion within a BAP reflects the fact that the population of the species/habitat concerned is in a sub-optimal state (and hence that conservation action is required) and does not necessarily imply any specific level of value. Despite this, priority BAP species/habitats may represent a significant ecological constraint if their presence triggers planning guidance implications (as outlined above).

In accordance with CIEEM (2006), each biodiversity feature should be assessed as valuable, or potentially valuable, based on the following geographic frame of reference (some examples of ecological receptors that may be potentially valuable at each geographical scale are provided below):

- International e.g. biodiversity feature that warrant designation of an area as a SPA, SAC, or Ramsar site;
- National (i.e. UK), e.g. biodiversity feature that warrants designation of an area as a SSSI;
- Regional, e.g. biodiversity features valuable at a regional level e.g. North East England;
- County, e.g. biodiversity features valuable at a county (i.e. Northumberland) level;
- District, e.g. biodiversity features of value at the district (i.e. Riding Mill) level;
- Local, e.g. biodiversity features of value in a local (i.e. parish or within ~5km of the scheme extent) context;
- Biodiversity features of value within the immediate survey area of the scheme only;
- Local, e.g. species populations of value in a local (i.e. within ~5km of the scheme extent) context;
- Species of value within the immediate survey area of the scheme only.

5 RESULTS

5.1 Desktop Study

5.1.1 Statutory Protected Sites

There are no statutory sites within 2km of the proposed development. The closest statutory protected site is Corbridge Limestone Quarry Site of Special Scientific Interest (SSSI), which is located some 4.5km to the north.

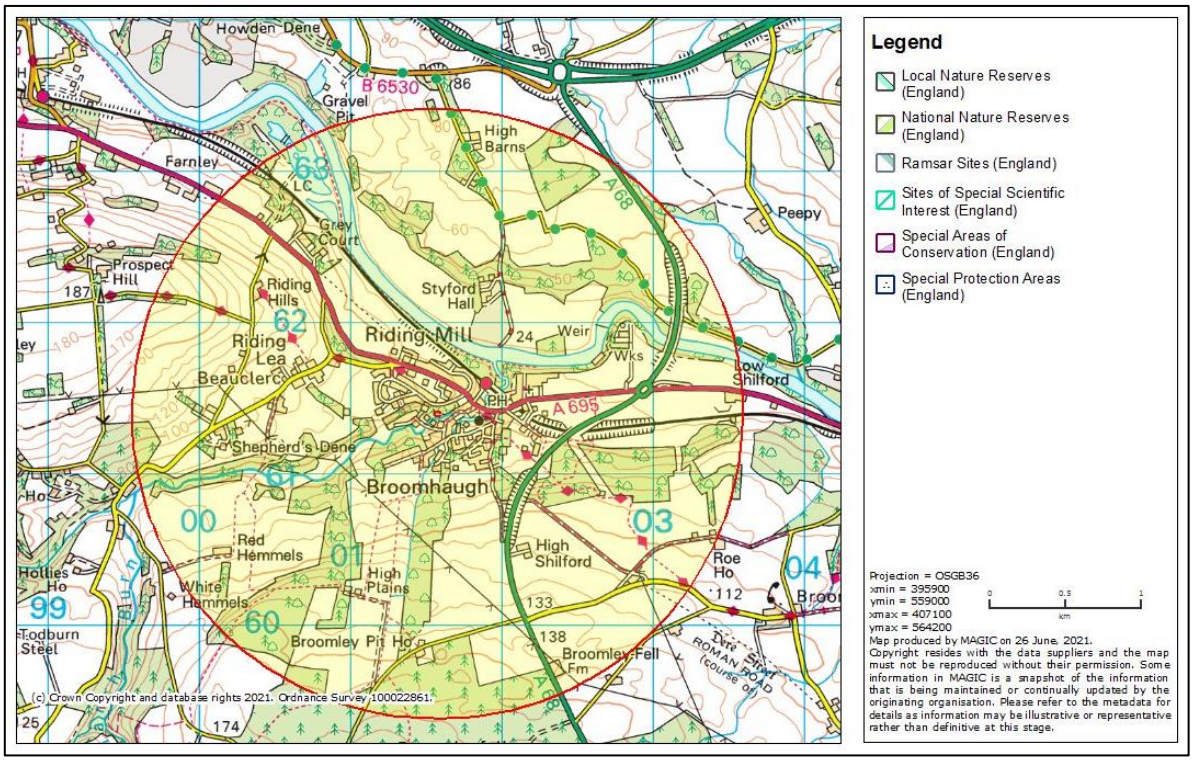

Figure 3. Location of site in relation to surrounding statutory protected sites

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5.1.2 Non-statutory sites

One Local Wildlife Site (LWS) was identified within 1km of the proposed development site. Tyne River Corbridge – Stockfield LWS is located approximately 500m north. Due to the distance from the development this LWS is unlikely to be significantly impacted.

Table 2. Summary of Surrounding Local Wildlife Sites

Name	Features	Distance	Impact
Local Wildlife Sites			
Tyne River Corbridge – Stockfield	Riverine Habitat	0.5km	Negligible

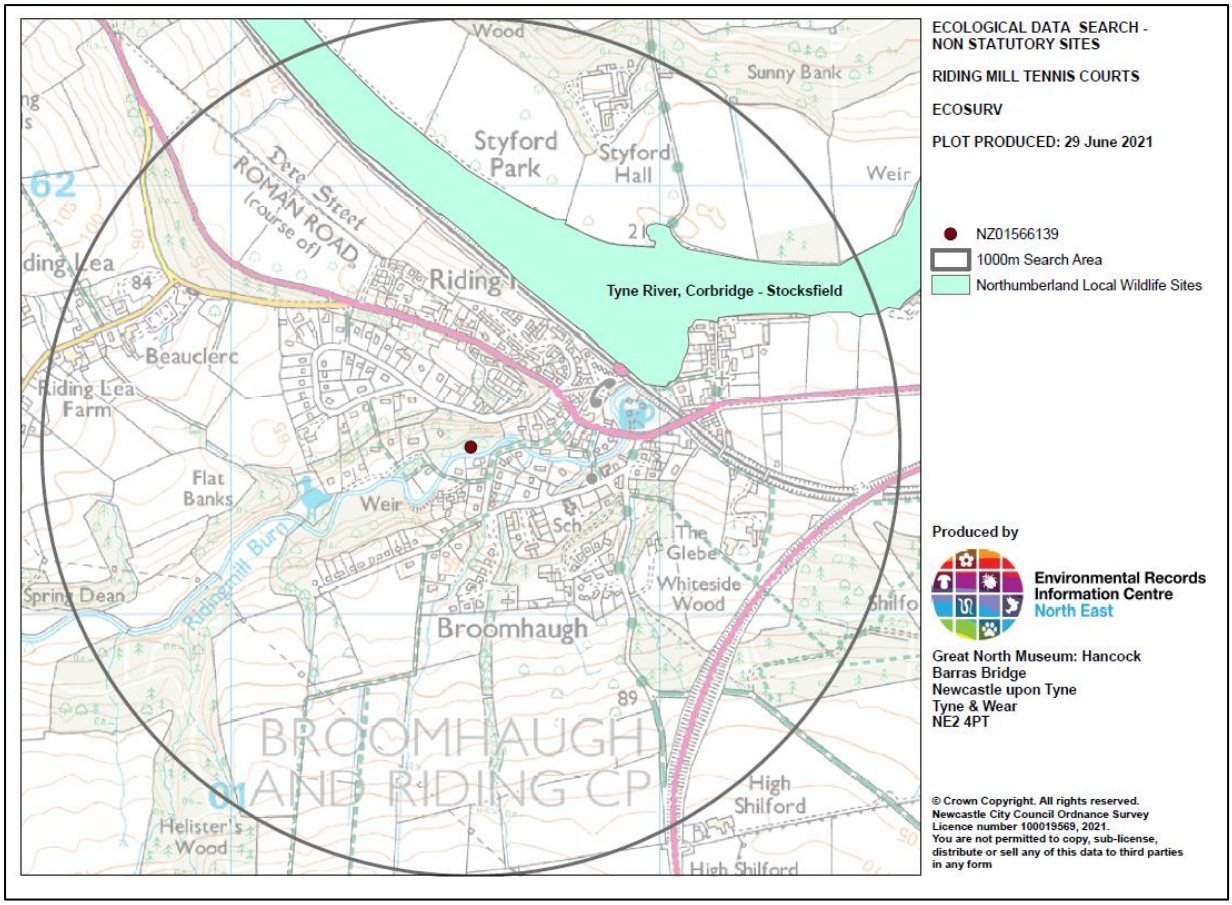

Figure 4. Map of Local wildlife sites located within a 1km radius of the proposed development. ©Environmental Records and Information Centre North East

5.1.3 Priority Habitats

The deciduous woodland habitat located to the east of the development is designated as Priority Habitat. Further pockets of deciduous woodland designated as priority habitat are located to the north and across the wider landscape. An area of Traditional Orchard is also situated to the north roughly 300m from site. The location of Priority Habitats shown on the map in figure 5.

Due to the footprint of the development and its proximity to surrounding priority habitat, it is unlikely that there will be any significant impacts to surrounding Priority Habitats.

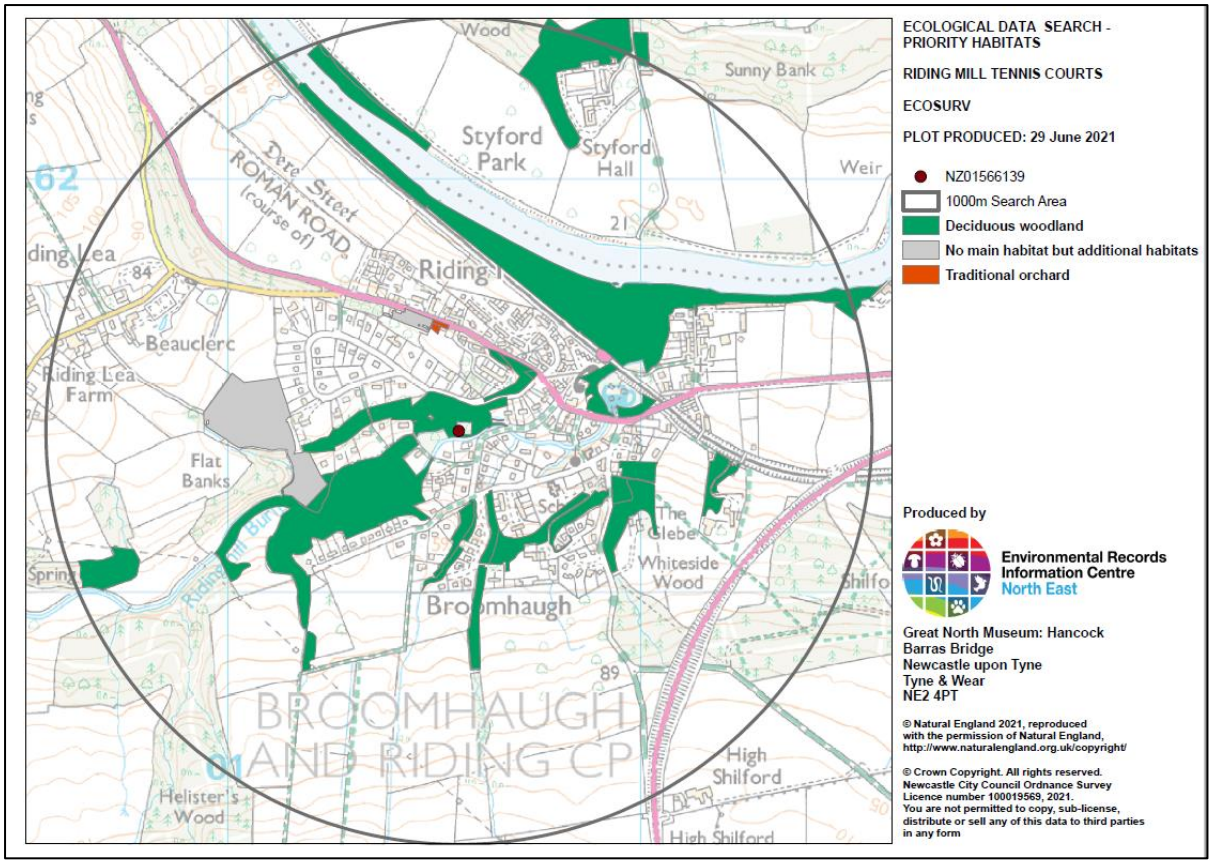

Figure 5. Map of Priority Habitat within 2km of the Proposed Development

©Environmental Records and Information Centre North East

5.1.4 Biological Records

Biological records were obtained from the Environmental Records and Information Centre North East for a 1km radius surrounding the application site. A total of 295 records were obtained, which can be separated into the following groups: 2 amphibian records (common toad, common frog); 30 bird records (22 species); 1 conifer record; 2 fish records (2 species); 37 flowering plant records (25 species); 29 insect records (13 species); 18 lichen, liverwort and moss records; 3 reptile records (slow worm); 173 terrestrial mammal records (12 species).The significance of individual species records in the context of the current proposals is discussed in section 5.3. A full list of received records is available on request with the permission of the records centre, excluding records of sensitive species.

5.2 Site Assessment

5.2.1 On-site Habitats and Ecological Features

The site itself comprised of the tennis courts made up of hardstanding. The courts site within a sheltered location between a mature woodland on the bank to the north, the Ridingmill Burn to the south and an area of amenity grassland to the east. The characteristics and ecological value of each habitat is described in the paragraphs below. The extent and locations of these habitats and ecological features is also outlined on the phase 1 habitat map (Appendix 9.3 - Figure 8)

Amenity Grassland

A small area of amenity grassland is present to the west of the tennis courts. The area is well-managed but supported typical forb species such as plantain *Plantago spp.* and daisy *Bellis perennis.*

Broadleaved Woodland

The site is surrounded by mature broad-leaved woodland which forms the primary habitat to the relatively steep embankments present to the north and west. Species included oak *Quercus robur* ash *Fraxinus excelsior*, silver birch *Betula pendula*, beech *Fagus sylvatica*, wild cherry *Prunus avium* and Hazel *Corylus avellana*. The understorey largely comprised of hazel saplings, with species such as fox glove *Digitalis sp* and harts tongue fern *Asplenium scolopendrium* noted to the more open ground floor areas.

Hardstanding and Buildings

The tennis courts and adjoining pavement form areas of hardstanding on site. The club house that is present is of timber construction with a flat felt roof.

Ridingmill Burn

Ridingmill Burn is situated adjacent to the site to the south. Vegetation present to the embankments included willow *Salix sp.,* hazel, and hawthorn *Crataegus monogyna*. Ground flora included nettle *Urtica dioica*, garlic mustard *Alliaria petiolate,* red campion *Silene dioica*, vetch *Vicia sp*, creeping buttercup *Ranunculus repens* and herb Robert *Geranium robertianum.* Mature trees present to the river-banks included sycamore *Acer psuedoplatanus* and ash.

5.2.2 Off-site Habitat and Ecological Features

The site is situated within the sub-urban area of Riding Mill, with scattered housing, areas of mature woodland slopes, Ridingmill Burn and established areas of greenspace and gardens.

5.3 Protected Species

Badgers: The woodland embankment creates suitable habitat for badger sett creation, foraging and commuting badgers. No badger setts were observed, although the dense understorey vegetation and steep sided embankment obscured the potential visibility of such features. The proposed development will not directly impact this area, therefore no significant impacts to badgers are envisaged. Indirect impacts, such as light spill should be considered with appropriate mitigation implemented where necessary.

Bats: The buildings and trees on site are outside the footprint of the development and will therefore not be significantly impacted. Indirect impacts arising from the proposals, such as light spill have been considered. The trees present to the boundary of the tennis courts were all assessed for their potential to support roosting bats. No PRFs were observed, although some of the trees would be considered to have low bat roost potential based on their size, structure or the presence of ivy which potentially obscures PRFs. The trees to the woodland embankment in particular were of generally negligible value, lacking the structural growth that lends itself to the presence or formation of PRFs.

The woodland habitats and Ridingmill Burn, do however create ideal foraging and commuting habitat for bats, with good links to both roosting and foraging areas within the wider landscape. Appropriate mitigation measures to avoid indirect impacts such as light spill should be implemented.

Great Crested Newts: The hardstanding on site is of negligible value for amphibians, the surrounding woodland areas and grassland offer some suitable habitat. There are no ponds within 500m of the proposals that would support breeding amphibians and Ridingmill burn forms a barrier to dispersal/colonisation along the southern

boundary. No impacts to the adjoining habitat are anticipated therefore any potential impact to amphibians is considered to be negligible.

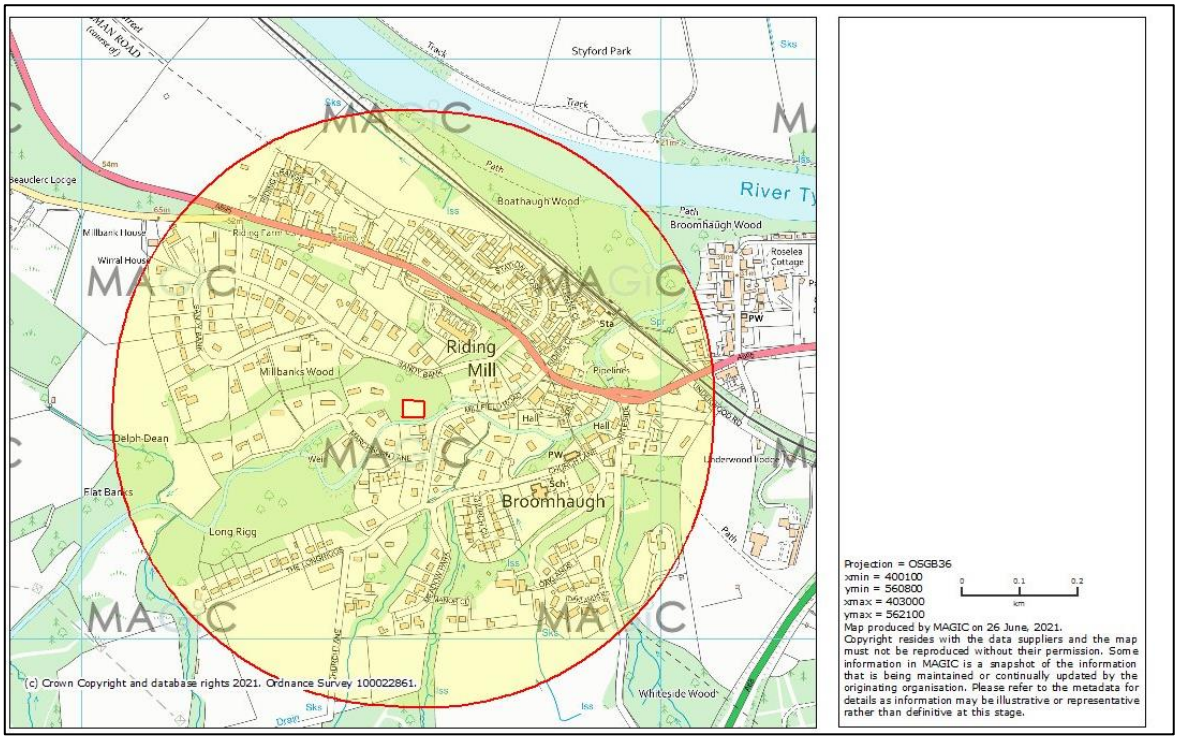

Figure 6. Map of Ponds within 500m of the proposed development

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Nesting Birds: The woodland and trees to the site boundaries create suitable habitat for nesting birds. Such features will not be directly impacted by the proposed development. Overall, the proposals are unlikely to significantly impact nesting birds.

Reptiles: The habitats off site create some suitable value for reptiles, particularly slow worm *Anguis fragilis,* which have been recorded locally. There will be no clearance of habitat as part of the proposals, therefore no significant impacts to reptiles are envisaged in the event they are present on site.

Otter: Ridingmill Burn offers some suitable habitat for Otters, with 12 records obtained during the data search. A visual inspection of section of Ridingmill Burn in proximity the site did not observe any signs of otter, although spraints have been recorded historically within Riding Mill. Indirect impacts arising from light spill as part of the proposals should be considered and avoided through mitigation or design of lighting.

Water Vole: The habitat adjacent to site associated with Ridingmill Burn offers some suitability for water vole. No records of this species were returned as part of the data search. The proposals will not directly impact this habitat, therefore no significant impacts to water vole are anticipated in the event they are present. Indirect impacts arising from the proposed lighting should be considered and avoided through design and mitigation.

5.3.1 Other notable species:

N/A.

5.4 Invasive Species

No invasive species – including non-native invasive species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) – were recorded within the site extent at the time of the site survey, or within habitats adjacent to the site.

6 CONCLUSIONS & RECOMMENDATIONS

The tennis courts are of negligible ecological value. The ecological value of the wider site lies within the boundary woodland and riverine habitat, which are suitable for badgers, nesting birds foraging and commuting bats. The proposals do not involve the clearance of any habitat, therefore no direct impacts are envisaged. Indirect impacts arising from possible light spill of the proposed floodlighting system have been considered. A track system, affixed to the current fencing around the court is to be installed as opposed to a pole mounted/floodlit system.

Under the current specification by 'Tweener Tennis Court Lighting', any indirect impacts arising from the development are considered negligible. Following the site assessment and upon review of the findings, the following is recommended:

6.1 Mitigation

- The proposed lighting system is a track lighting system, it is not envisaged that light spill will be an issue in this instance, however, the following is provided as standard guidance. A sensitive lighting scheme should be implemented during and after construction to avoid indirect disturbance to foraging and commuting bats, birds and small mammals that may be using the offsite habitats, and should include the following elements:
    - Sensitive positioning of lighting to avoid unnecessary spill onto the adjacent woodland and scrub vegetation, artificial bat boxes, as well as any habitat enhancement features to be incorporated into the development (see below);
    - Angle of lighting: avoidance of direct lighting and light spill onto areas of habitat that are of importance as commuting pathways and/or foraging areas;
    - Type of lighting: studies have shown that light sources emitting higher amounts of UV light have a greater impact to wildlife. Use of narrow-spectrum bulbs that avoid white and blue wavelengths are likely to reduce the number of species impacted by the lighting;
    - Reduce the height of lighting columns to avoid unnecessary light spill.

6.2 Compensation

- The proposals will not involve the clearance or loss of any habitat or ecological features. Compensation is therefore not required.

6.3 Enhancement

- Tree mounted bat and bird boxes could be installed within the boundary trees to enhance the biodiversity value of the site post development. Some example designs can be seen in Appendix 9.5.

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Water Vole Mitigation Survey Techniques: A Questionnaire Research Project (ENRR415)

8 SITE IMAGES

No.	Description	Image
1.	Tennis Courts	
2.	Adjacent woodland along embankment to north	

3.	Riverine and woodland habitats to south and amenity grassland to east	
4.	Ridingmill Burn Adjacent to site	

9 APPENDIX

9.1 Additional Information for the Legislation of Protected Habitats and Species

Species Legislation

European protected species (EPS)

These animals are fully protected through inclusion within Schedule II of The Conservation of Habitats and Species Regulations 2010(as amended).

This legislation makes it an offence to deliberately capture, kill or disturb an EPS. For the purposes of this legislation disturbance has been defined by the European Commission (EC) and Natural England as that likely to significantly affect: i) the ability of a significant group of an EPS to survive, breed, rear or nurture their young or ii) the local distribution or abundance of the species (EC, 2007, Natural England, 2007). Further detail on what constitutes significant disturbance and significant groups in relation to most EPS can be obtained from these guidance documents.

It is also an offence under the Habitats Regulations 1994 (as amended) to damage or destroy and/or obstruct access to a breeding site or resting place of these species; please note the former is a strict liability offence. This legislation applies to all life stages of an EPS, including eggs. Former defences relating to actions being the incidental result of a lawful operation or taking place within a dwelling house no longer apply to offences under the Habitats Regulation 1994 for EPS.

EPS potentially present in the survey area:

- All bats within England and Wales.
- Great Crested Newt.

Bats

The primary legislative protection for bats is under the Habitats Regulations 1994 through designation as an EPS (see above). However, bats are also partially protected in England and Wales through their inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is an offence to intentionally or recklessly disturb a bat whilst it is using a place of rest or shelter. This applies to individuals, but is subject to a number of defences including if the disturbance was the 'incidental result of a lawful operation that could not reasonably have been avoided'. The legislation applies to all life stages.

Great crested newt

The primary legislative protection for GCNs is under the Habitats Regulations 1994 through designation as an EPS (see above). However, the GCN is also partially protected in England and Wales through its inclusion in Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Under this legislation, it is an offence to intentionally or recklessly disturb a GCN whilst it is using a place of rest or shelter. This applies to individuals, but is subject to some defences including if the disturbance was the 'incidental result of a lawful operation that could not reasonably have been avoided'. The legislation applies to all life stages.

Breeding birds

All wild birds in England and Wales are protected under Section 1 of the Wildlife and Countryside Act, 1981 (as amended) which makes it an offence to intentionally kill, injure or take any wild bird, or take, damage or destroy the nest (whilst being built or in use) or its eggs. Species listed on Schedule 1 of The Act, e.g. kingfisher *Alcedo atthis*, receive further protection which makes it an offence to intentionally or recklessly disturb these species while building a nest, or in, on or near a nest containing eggs or young; or to disturb dependent young of such a bird. Further enhanced statutory protection is provided for bird species included on Annexe 1 of the Wild Birds Directive.

Badger

Badgers receive protection under the Protection of Badgers Act 1992 and the Wildlife and Countryside Act 1981 (as amended), under Schedule 6, Section 11. Under this legislation badgers receive protection from killing or taking by certain methods. It is also an offence to wilfully kill, injure, take or attempt to kill, injure or take a badger or interfere with a badger sett by damaging a sett or any part thereof. It is also an offence to wilfully destroy a sett, obstruct access to a sett or disturb a badger while occupying a sett. The 1992 Act defines a badger sett as "any structure or place, which displays signs indicating current use by a badger".

Penalties for offences can be severe with fines of up to £5000, plus six months imprisonment for each illegal interference, badger death or injury. It is recognised however that there exists a range of certain legitimate activities which need to be conducted in spite of badger presence.

Other wildlife protection/control

The main legislation dealing with species protection/control at the national level is the Wildlife and Countryside Act 1981 (as amended). Plants listed under Schedule 8 and animals under Schedule 5 of the Act receive varying levels of protection. There are also measures to control the spread of non-native species contained in Schedule 9. Other relevant legislation may include the Protection of Badgers Act 1992 and the Wild Mammals (protection) Act 1996. Details of the protection/control afforded to the following species/groups considered of relevance to the survey area are given below.

Invasive plant species

Heracleum *mantegazzianum* giant hogweed, *Fallopia japonica* Japanese Knotweed and *Impatiens glandulifera* Indian Balsam are listed in Schedule 9, Part II of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to plant these species or otherwise cause them to grow in the wild. Any material containing Japanese knotweed or giant hogweed is also identified as 'controlled waste' under the Environment Protection Act 1990 and must be disposed of properly at landfill.

Rare and/or protected plants

Some plants are listed on Schedule 8 of the Wildlife and Countryside Act 1981 (as amended) which makes it an offence to intentionally pick, uproot, destroy or trade in these plants. Other plants appear on national red data lists, or are considered nationally, regionally or locally scarce, though these classifications do not confer any legal protection.

Other invertebrates

In England and Wales the Wildlife and Countryside Act 1981 (as amended) and The Conservation of Habitats and Species Regulations 2010 (as amended) offer legal protection to certain invertebrate species. Under the

aforementioned legislation, 17 invertebrate species in Britain have European protection and 45 species in England and Wales are fully protected at a national level.

Other Mammals

All non-domesticated mammal species including common species, such as rabbit Oryctolagus cuniculus and deer, receive protection under the Wild Mammals (Protection) Act 1996. This act protects wild mammals from certain cruel acts and makes it an offence to intentionally inflict unnecessary suffering on wild mammals.

Habitat Legislation Statutory Protected Sites & Features

Ramsar sites

Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. Originally intended to protect sites of importance, especially as waterfowl habitat, the Convention has broadened its scope over the years to cover all aspects of wetland conservation and wise use, recognising wetlands as ecosystems that are extremely important for biodiversity conservation in general and for the well-being of human communities. They generally receive legal protection under the Wildlife and Countryside Act 1981 (as amended) as most UK Ramsar sites are also designated as SSSIs (see below). The majority are also SPAs (see below). Planning Policy Statement (PPS) 9 (see Section 2.3) also recommends that all Ramsar sites receive similar protection from development as Natura 2000 sites.

Special Areas of Conservation (SAC)

SACs receive full protection under the EC Habitats Directive (Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora). SACs are areas that have been identified as best representing the range and variety within the European Union of habitats and (non-bird) species listed on Annexes I and II of the Directive. SACs, together with Special Protection Areas (SPAs), form the Natura 2000 network. Natura 2000 sites are protected under The Conservation of Habitats and Species Regulations 2010(as amended) and any development likely to have significant impacts upon such a site will have to be assessed for its implications on the site's conservation status, an obligation under the aforementioned Regulations.

Special Protection Areas (SPAs)

SPAs receive full protection under the EC Birds Directive (Council Directive 79/409/EEC on the conservation of wild birds). SPAs are areas of the most important habitat for rare (listed on Annex I to the Directive) and migratory birds within the European Union. SPAs, together with SACs, form the Natura 2000 network. Natura 2000 sites are protected under The Conservation of Habitats and Species Regulations 2010(as amended) and any development likely to have significant impacts upon such a site will have to be assessed for its implications on the site's conservation status, an obligation under the aforementioned Regulations.

Sites of Special Scientific Interest (SSSIs)

SSSIs provide full statutory protection for the best examples of the UK's flora, fauna, geological, or physiographical features. Originally notified under the National Parks and Access to the Countryside Act 1949, SSSIs are now notified under the Wildlife and Countryside Act 1981 (as amended). Improved provisions for the protection and management of SSSIs were introduced by the Countryside and Rights of Way Act 2000. They are designated in England by Natural England who have powers to prevent damaging operations within and around the site. There is an obligation upon landowners and relevant authorities to notify Natural England if any activity they undertake may impact upon the conservation status of a SSSI.

National Nature Reserves (NNRs)

NNRs are fully protected from damaging operations within and around them under the National Parks and Access to the Countryside Act 1949 (as amended) and the Wildlife and Countryside Act 1981 (as amended). NNRs contain examples of nationally important natural and semi-natural terrestrial and coastal ecosystems in Great Britain.

Local Nature Reserves (LNRs)

LNRs are designated under the National Parks and Access to the Countryside Act 1949 (as amended) as areas of geological or wildlife interest of special local interest. They are normally owned and managed by local authorities, though increasingly local wildlife trusts are taking over this role. They can be protected from damaging operations within or around them through local bylaws or the policies of the local development framework.

Local Wildlife Sites (LWS) / Sites of Importance for Nature Conservation (SINC's)

SINCs/LWSs are identified by local planning authorities (in this case Durham County Council) on account of their value for wildlife. These receive a measure of protection through local planning policies.

Important hedgerows

The Hedgerows Regulations 1997 seek to protect 'important' hedgerows in the countryside by controlling their removal through a system of notification to the relevant local planning authority.

Tree Preservation Orders (TPOs)

TPOs give some measure of protection to individual trees, groups or trees or even entire woodlands that are considered by the Local Planning Authority (LPA) to be of value. They are protected under the Town and Country Planning Act 1990 and the Town and Country Planning (Trees) Regulations 1999. Trees subject to a TPO are protected from deliberate damage, and an application to the LPA would be necessary to remove any such tree.

9.2 Proposed Development Plan

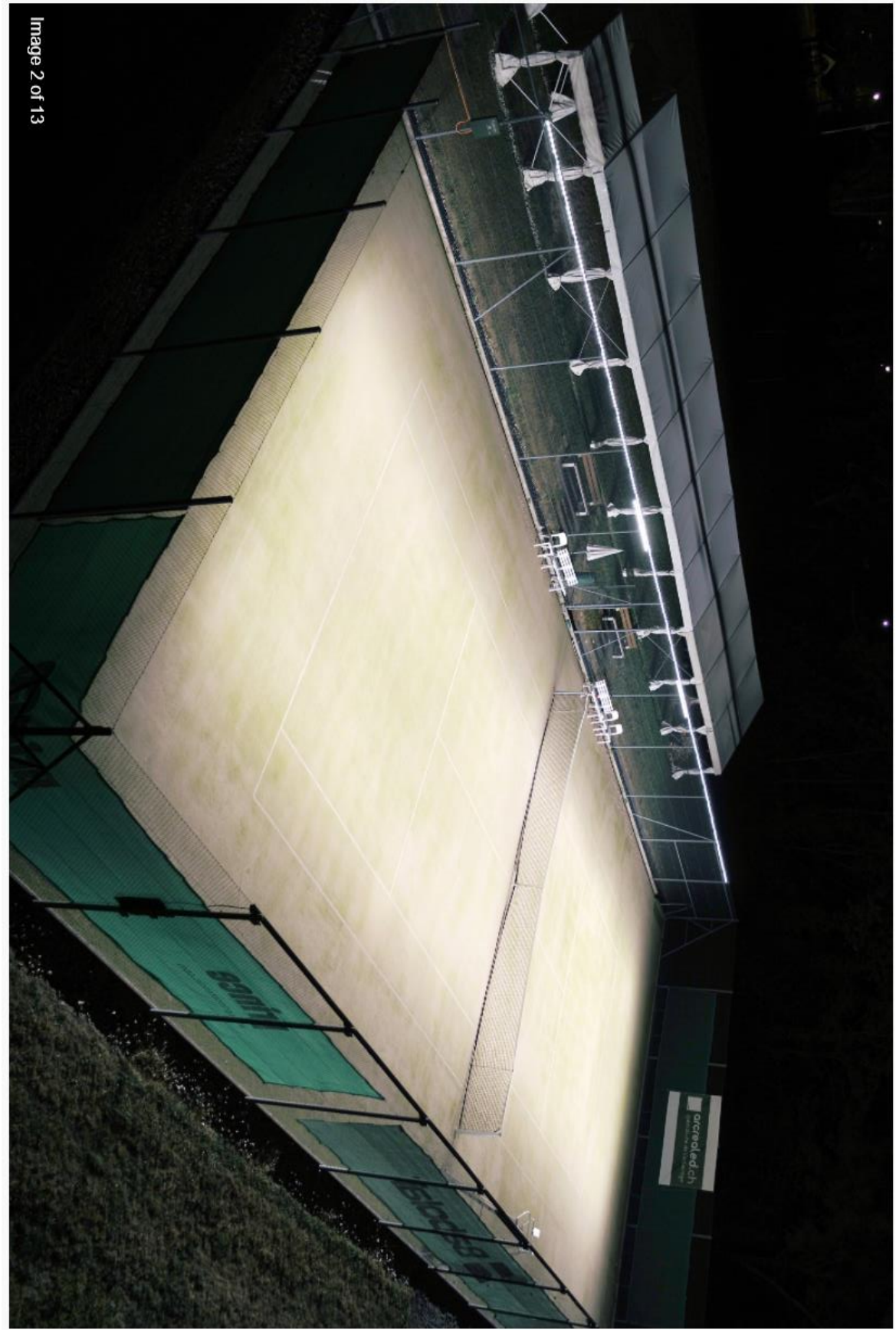

Figure 7. Visualisation of Tweener Tennis Court Lighting System

9.3 Phase One Habitat Map

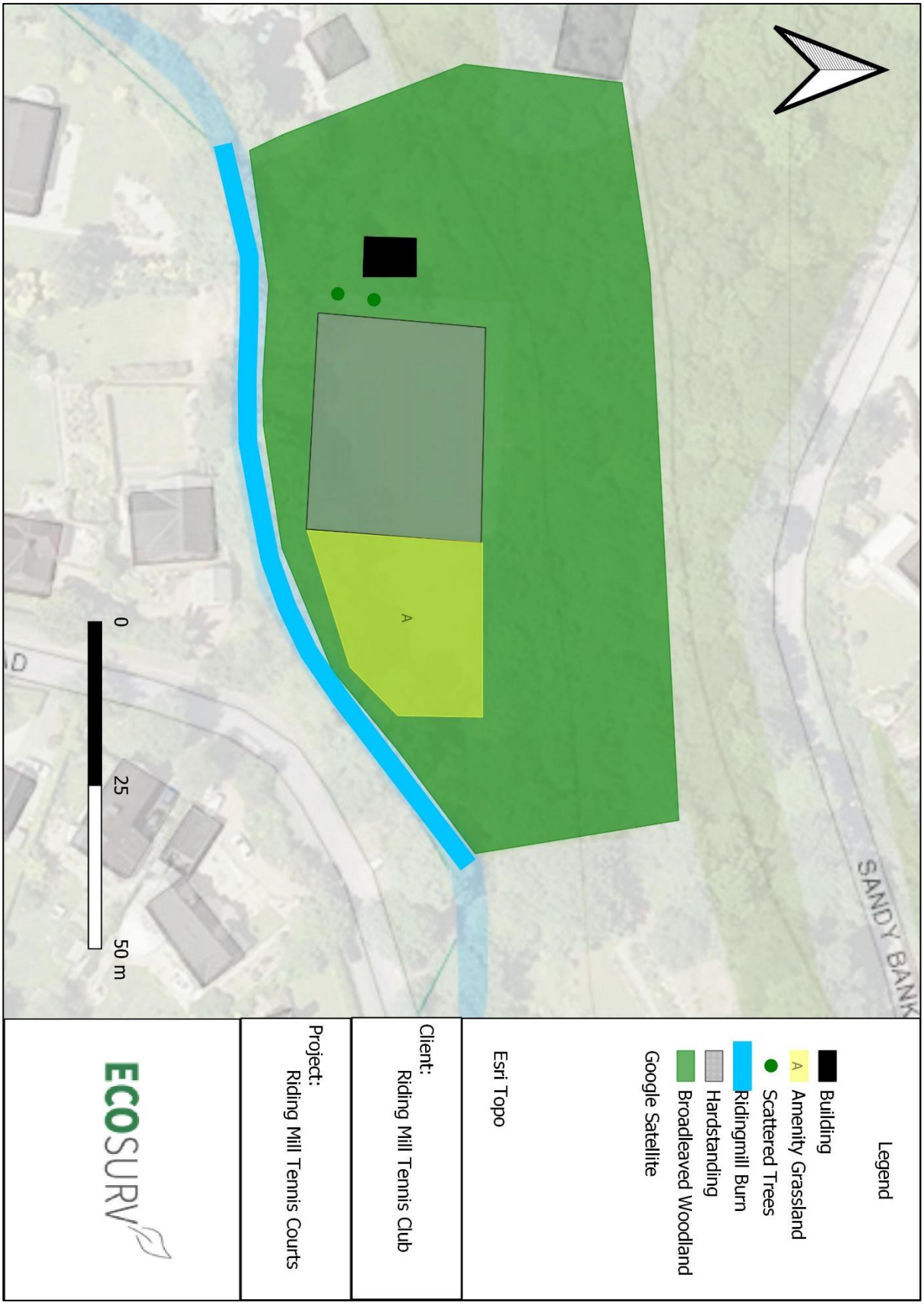

Figure 8. Phase One Habitat Map

9.4 Example Enhancement Features

Habibat Tree/Wall Mounted Nest Boxes

Habibat Integrated Nest Boxes; Sparrow Terrace (Left) and Swift Bricks (right)

Habibat Wall/Tree Mounted Bat Boxes

017 External Access Box

Triple Chambered Access Box