Ecological Appraisal and Bat Survey

Christon Bank Farm Building Northumberland

October 2022

E3 Ecology Ltd
Pasture House, Wark, Hexham, Northumberland, NE48 3DG
01434 230982
www.e3ecology.co.uk
mail@e3ecology.co.uk

CLIENT	George F White
PROJECT NAME	Christon Bank Farm
PROJECT NUMBER	5531

LEAD AUTHOR	Mary Martin
POSITION	Director
CONTACT DETAILS	Mary.martin@e3ecology.co.uk

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R03	Update	6.10.22	Updated site visit	MEM	BH	

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A. SUMMARY

E3 Ecology Ltd was commissioned by George F White in June 2018 to undertake an Ecological Appraisal and bat survey of a building at Christon Bank Farm. The bat survey comprised a daytime bat risk assessment. An updating site visit was undertaken on 30th September 2022.

It is proposed to demolish a farm shed and develop the site for up to 5 units. Outline planning permission was granted in 2018 (18/02965/OUT) with this current application addressing reserved matters.

Consultation with the MAGIC website[1] indicated that there are no statutorily designated sites within 2km, but the Northumbria Coast Ramsar and Special Protection Area (SPA) lie approximately 3.75km to the east, and there are several Special Areas of Conservation (SAC's) within 10km. The site lies within a SSSI Impact Risk Zone (IRZ) but this is for 10 units or more, and the proposal for the site is only for up to 5 units. There are no positive GCN records within 2km, but two ponds within 2km that were surveyed between 2017 and 2019 are shown with negative results. The nearest bat EPS licence is 1.9km to the east.

Ecological Appraisal indicated that the site comprises a large agricultural shed, used as stables and a schooling ring in 2018 but unused and roofless by 2022, a small former turn-out paddock, a small group of trees and ornamental shrubs, mature hedge and an area of hard standing with some ephemeral vegetation. The trees and mature hedge are of local habitat value, all other habitats are of low value.

The site is situated in an area dominated by arable and pasture fields, but with some tree and hedge lined boundaries and small blocks of woodland in the wider area. The site is linked to such habitats by a tree-lined drive. Overall, the habitats in the local area are of moderate to high suitability for use by bats.

The building to be demolished is a large shed with corrugated cement sheet roof and single skin breezeblock walls to around 2m. Upper walls comprise timber slats to three sides, with the southern elevation having no timber slats above the breezeblock walls. The roof was badly damaged during Storm Arwen in late 2021 and has since been removed. Overall, the building is considered to be of negligible suitability for use by bats.

Ground based assessment of the trees on site found that a small number of trees to the west of the site are of low suitability for supporting bat roosts, with some limited ivy cover but otherwise appearing well sealed.

A pond is shown on Ordnance Survey mapping lying within 40m of the site, to the south of Christon Bank Farmhouse, however, aerial imagery indicates that this was only created sometime between 2012 and 2013. A second pond is shown approximately 465m to the north-west. No access was possible to either of these ponds, which are in separate land ownership. The site itself provides only poor quality terrestrial habitat for great crested newt, being largely hard standing, built development, with only a small area of taller grassland, trees and the hedges providing slightly better habitat.

There are historic ERIC records (2005 most recent) of great crested newts within the area, in a pond approximately 880m away from both the site and the pond nearest the site. However, terrestrial habitat between this distant water body and the site and new pond is generally poor, being mainly arable fields. A further pond lies just to the east of this distant pond, but this is around 700m from the proposed development site. Arable land, the main London to Edinburgh

[1] MAGIC website: www.magic.gov.uk

railway line and the B1340 lie between these distant ponds and the proposed development. The road and the arable land are likely to form a moderate barrier to newt movement. The railway may also form a minor barrier, although newts have been known to cross railway lines. The risk of great crested newt having colonised the new pond from the pond with historic GCN records, should great crested newt still be present, is therefore considered low.

Given the distance from the site to the pond that is 465m away and the size of the site (~0.38ha), the risk of harm to great crested newt from the development, should this pond support the species, is considered low. This conclusion is supported by the Natural England rapid risk assessment calculator, which indicates that development of the site is highly unlikely to cause an offence were this pond to be a great crested newt breeding pond.

Although there is some habitat connectivity between the pond at 465m and the newer pond near the site, via woodland strips and the tree-lined drive, this connectivity link is around 790m in actual good quality links. More direct links are limited to arable fields. The risk of the new pond having been colonised by great crested newt since its creation is therefore considered likely to be low.

Taking all the above into account, it is considered that there is only a low risk that great crested newt will be present on site.

With regard to other protected or otherwise notable species, the trees and mature ornamental planting to the west have the potential to support a small number of nesting birds. The site does not provide any suitable sett creation habitat but badger may occasionally forage across the site. The trees within the site may provide a small area of suitable habitat for red squirrel, although no evidence of such use was recorded during the surveys. Hedgehog, brown hare and common toad, UK priority species, may be present on site at times. No other protected or otherwise notable species is likely to be directly affected by the proposals.

The proposed development is not predicted to have any direct impacts on statutory/non-statutory sites. It may, however, lead to indirect impacts on the coast through increased visitor numbers. A financial contribution to the Coastal Mitigation Service will be required by the County Council.

Based on the ecological assessment and design proposals, potential impacts of the development are likely to include:

- Potential indirect impacts on the SPA/Ramsar through increased recreational activities.
- Low risk of harm to great crested newt and amphibians should they be present in the area.
- Harm to birds should vegetation clearance be undertaken during the bird nesting period (March to August inclusive)
- Increased levels of disturbance and lighting impacting on surrounding bat foraging habitat.
- Risk of harm to mammals should any excavations be left open overnight during the construction period.
- Harm/damage to retained trees and hedges during the construction phase.

Key mitigation measures are likely to include:

- A financial contribution to the Coastal Mitigation Service will be required by Northumberland County Council.
- All works will follow a precautionary amphibian method statement.

- Vegetation clearance/tree felling will be undertaken outside of the bird nesting season (March to August inclusive) unless a checking survey by a suitably experienced ornithologist confirms the absence of active nests.
- The mature hedgerow boundary and trees will be retained as part of the landscape design.
- Lighting around the site boundaries will be low level and low lumen, with any light spill onto the retained tree-lined drive to be less than 2 lux.
- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- The roots and crowns of retained trees will be protected throughout the development through the provision of adequate construction exclusion zones in accordance with the guidance given by BS5837:2012.
- As enhancement, landscape design will include native trees, ideally of local provenance, and flower and berry bearing shrubs and plants.
- As enhancement new build will incorporate potential 5 bat roosting and 5 bird nesting opportunities.

The local planning authority is likely to require the means of delivery of the mitigation to be identified. It is recommended that mitigation and enhancement proposals are incorporated into the master-planning documents.

With the recommended mitigation and/or compensation detailed above, proposals can proceed with no significant direct adverse effect on notable species (including bats) and/or habitats. Proposals provide an opportunity for ecological benefit through creation of bird and bat roosting opportunities, contributing to local and national conservation targets.

If you are assessing this report for a local planning authority and have any difficulties interpreting plans and figures from a scanned version of the report, E3 Ecology Ltd would be happy to email a PDF copy to you. Please contact us on 01434 230982.

B. INTRODUCTION

E3 Ecology Ltd was commissioned to undertake an Ecological Appraisal and Bat Survey of land at Christon Bank Farm in 2018. Updating survey was completed in September 2022.

The purpose of this report is:

- To identify and describe all potentially significant ecological effects associated with the proposed development
- To set out the mitigation measures likely to be required to ensure compliance with nature conservation legislation and to address any potentially significant ecological effects
- To identify how mitigation measures will/could be secured
- To provide an assessment of the significance of any residual effects
- To identify appropriate enhancement measures

The site is located to the south of Christon Bank Village at an approximate central grid reference of NU2102 2238.

It is proposed to develop the site for up to 5 residential units. Proposed plans are shown below:

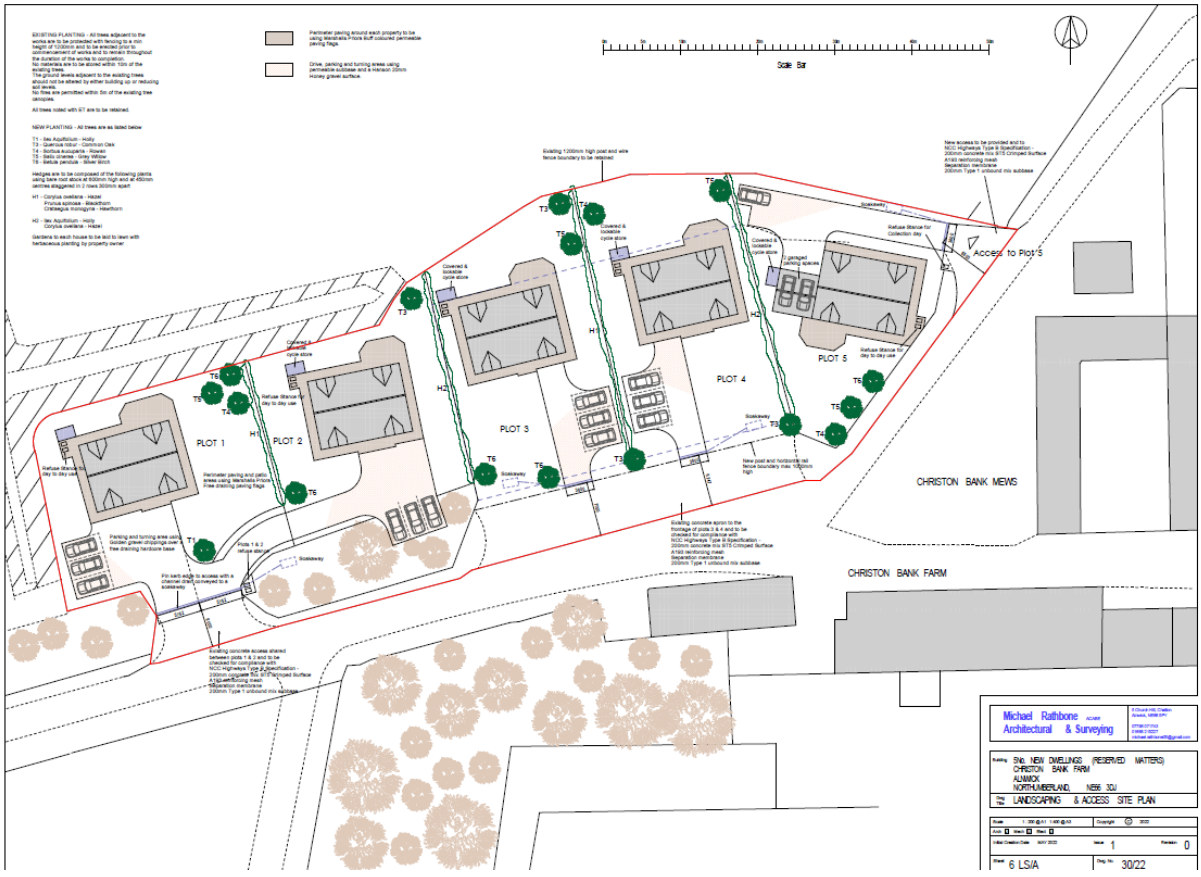

FIGURE 1: PROPOSED PLANS

C. PLANNING POLICY AND LEGISLATIVE CONTEXT

C.1 NATIONAL PLANNING POLICY

NATIONAL PLANNING POLICY

The table below details the key paragraphs from the National Planning Policy Framework (NPPF)[2] relating to the natural environment:

TABLE 1: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
Planning policies and decisions should contribute to and enhance the natural and local environment by: a) protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan); b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland; c) maintaining the character of the undeveloped coast, while improving public access to it where appropriate; d) minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures; e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and f) remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate	*174*
Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework[3]; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.	*175*
Great weight should be given to conserving and enhancing landscape and scenic beauty in National Parks, the Broads and Areas of Outstanding Natural Beauty which have the highest status of protection in relation to these issues. The conservation and enhancement of wildlife and cultural heritage are also important considerations in these areas, and should be given great weight in National Parks and the Broads[4]. The scale and extent of development within all these designated areas should be limited, while development within their setting should be sensitively located and designed to avoid or minimise adverse impacts on the designated areas.	*176*
When considering applications for development within National Parks, the Broads and Areas of Outstanding Natural Beauty, permission should be refused for major development[5] other than in exceptional circumstances, and where it can be demonstrated that the development is in the public interest. Consideration of such applications should include an assessment of: a) the need for the development, including in terms of any national considerations, and the impact of permitting it, or refusing it, upon the local economy; b) the cost of, and scope for, developing outside the designated area, or meeting the need for it in some other way; and c) any detrimental effect on the environment, the landscape and recreational opportunities, and the extent to which that could be moderated	*177*

[2] National Planning Policy Framework (July 2021), Department for Communities and Local Government,
[3] Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.
[4] English National Parks and the Broads: UK Government Vision and Circular 2010 provides further guidance and information about their statutory purposes, management and other matters.
[5] For the purposes of paragraphs 177 and 178, whether a proposal is 'major development' is a matter for the decision maker, taking into account its nature, scale and setting, and whether it could have a significant adverse impact on the purposes for which the area has been designated or defined.

TABLE 1: NATIONAL PLANNING POLICY FRAMEWORK: CONSERVING AND ENHANCING THE NATURAL ENVIRONMENT	
Statement	**Paragraph**
Within areas defined as Heritage Coast (and that do not already fall within one of the designated areas mentioned in paragraph 176), planning policies and decisions should be consistent with the special character of the area and the importance of its conservation. Major development within a Heritage Coast is unlikely to be appropriate, unless it is compatible with its special character.	*178*
To protect and enhance biodiversity and geodiversity, plans should: a) Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity[6]; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation[7]; and b) promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.	*179*
When determining planning applications, local planning authorities should apply the following principles: a) if significant harm to biodiversity 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; b) development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest; c) development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons63 and a suitable compensation strategy exists; and d) development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to improve biodiversity in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.	*180*
The following should be given the same protection as habitats sites: a) potential Special Protection Areas and possible Special Areas of Conservation; b) listed or proposed Ramsar sites[8]; and c) sites identified, or required, as compensatory measures for adverse effects on habitats sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites.	*181*
The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitats site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.	*182*

Section 40 of the Natural Environment and Rural Communities Act 2006, places a duty on all public authorities in England and Wales to have regard, in the exercise of their functions, to the purpose of conserving biodiversity.

Planning Practice Guidance[9] states:

[6] Circular 06/2005 provides further guidance in respect of statutory obligations for biodiversity and geological conservation and their impact within the planning system.
[7] Where areas that are part of the Nature Recovery Network are identified in plans, it may be appropriate to specify the types of development that may be suitable within them.
[8] Potential Special Protection Areas, possible Special Areas of Conservation and proposed Ramsar sites are sites on which Government has initiated public consultation on the scientific case for designation as a Special Protection Area, candidate Special Area of Conservation or Ramsar site.
[9] Planning Practice Guidance: Natural Environment (www.planningguidance.communities.gov) Updated July 2019

- Planning authorities need to consider the potential impacts of development on protected and priority species, and the scope to avoid or mitigate any impacts when considering site allocations or planning applications. (para. 016)
- Information on biodiversity and geodiversity impacts and opportunities needs to inform all stages of development (including site selection and design, pre-application consultation and the application itself). An ecological survey will be necessary in advance of a planning application if the type and location of development could have a significant impact on biodiversity and existing information is lacking or inadequate. (para. 018)
- Even where an Environmental Impact Assessment is not needed, it might still be appropriate to undertake an ecological survey, for example, where protected species may be present or where biodiverse habitats may be lost. (para. 018)
- As with other supporting information, local planning authorities should require ecological surveys only where clearly justified. Assessments should be proportionate to the nature and scale of development proposed and the likely impact on biodiversity. (para. 018)
- The National Planning Policy Framework encourages net gains for biodiversity to be sought through planning policies and decisions. Biodiversity net gain delivers measurable improvements for biodiversity by creating or enhancing habitats in association with development. Biodiversity net gain can be achieved on-site, off-site or through a combination of on-site and off-site measures. (para. 022)

C.2 PROTECTED SPECIES LEGISLATION

The table below details the relevant legislation for those protected species that may be present on this site.

TABLE 2: SUMMARISED SPECIES LEGISLATION

Species	Relevant Legislation	Level of Protection
Bats (All species)	• Protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Classified as European protected species under Conservation of Habitats and Species Regulations 2017 • Bats are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) and Conservation of Habitats and Species Regulations 2017 make it an offence to: • Intentionally kill, injure, or take any species of bat • Intentionally or recklessly disturb bats • Intentionally or recklessly damage destroy or obstruct access to bat roosts
Red Squirrel	• Full protection under the Wildlife and Countryside Act (WCA) (1981) (Listed on Schedule 5) - as amended • Red squirrels are also protected by the Wild Mammals (Protection) Act 1996	The WCA (1981) makes it an offence to: • Intentionally kill, injure, or take red squirrels • Intentionally or recklessly damage destroy or obstruct access to any place used by the animal for shelter or protection or disturb red squirrels whilst they are using such a place.
Birds	• Protection under the Wildlife and Countryside Act (1981) as amended with the exception of some species listed in Schedule 2 of the Act	The WCA (1981) makes it an offence to (with exceptions for certain species): • Intentionally kill, injure or take any wild bird • Intentionally take, damage or destroy nests in use or being built (including ground nesting birds) • Intentionally take, damage or destroy eggs • Species listed on Schedule 1 of the WCA or their dependant young are afforded additional protection from disturbance whilst they are at their nests
Badger	• Protection of Badgers Act 1992 • Badgers are also protected by the Wild Mammals (Protection) Act 1996	The Protection of Badgers Act (1992) makes it an offence to intentionally or recklessly: • Damage a badger sett or any part of it

TABLE 2: SUMMARISED SPECIES LEGISLATION		
Species	**Relevant Legislation**	**Level of Protection**
		• Destroy a badger sett • Obstruct access to, or any entrance of a badger sett • Disturb a badger whilst it is occupying a badger sett
Under the Countryside and Rights of Way Act 2000 (CROW Act) the offence in section 9(4) of the Wildlife and Countryside Act 1981 of damaging a place of shelter or disturbing those species given full protection under the act is extended to cover reckless damage or disturbance.		

C.3 INVASIVE SPECIES LEGISLATION

The table below details the legislation in relation to invasive species and lists those invasive species most likely to be found in this region.

TABLE 3: SUMMARISED INVASIVE SPECIES LEGISLATION		
Relevant Legislation	**Description of Offence**	**Species** *(Covered by the Legislation and most likely to be found in this Region)*
Listed on Part II of Schedule 9 of the Wildlife and Countryside Act (1981 as amended)	Section 14 of the WCA (1981) states: • If any person plants or otherwise causes to grow in the wild any plant which is included in Part II of Schedule 9, he shall be guilty of an offence.	Himalayan balsam Cotoneaster Montbretia Japanese knotweed Giant hogweed Rhododendron

C.4 WILDLIFE SITE POLICY AND LEGISLATION

Details of the legislation surrounding protected sites are provided in the appendices.

C.5 PRIORITY SPECIES

Although not afforded any legal protection, national priority species (species of principal importance, as listed in Section 41 of the NERC Act (2006)), and local and regional priority species, as detailed within the relevant biodiversity action plans, are material considerations in the planning process and as such have been assessed accordingly within this report.

The table below details the local biodiversity action plan relevant to the area within which this site lies, and the species/species groups and habitats listed as priorities within the plan.

TABLE 4: BIODIVERSITY ACTION PLAN					
Northumberland Biodiversity Action Plan					
Species			**Habitats**		
Barn Owl	Bats	Black Grouse	Blanket Bog	Built Environment	Brownfield Land
Coastal Birds	Common Seal	Dingy Skipper	Calaminarian Grassland	Coastal heathland	Fen, Marsh & Swamp
Dormouse	Farmland Birds	Freshwater Fish	Gardens & Allotments	Heather Moorland	Lowland Heathland
Freshwater Pearl Mussel	Garden Birds	Great Crested Newt	Lowland Meadows & Pastures	Maritime Cliffs & Slopes	Native Woodland
Grey Seal	Hedgehog	Otter	Ponds, Lakes & Reservoirs	Recreational & Amenity Space	Reed bed

TABLE 4: BIODIVERSITY ACTION PLAN					
Red Squirrel	River Jelly Lichen	Upland Waders	Rivers & Streams	Rocky Shore, Reefs & Islands	Saline Lagoons
Violet Crystalwort	Water Rock-bristle	Water Vole	Saltmarsh & Mudflat	Sand Dunes	Transport Corridors
White-Clawed Crayfish			Trees & Hedgerows	Upland Hay Meadows	Whin Grassland

D. METHODOLOGY

D.1 SCOPE OF STUDY

The scope of the study, in terms of the survey area and the desk study area, is based on professional judgement. The likely zone of influence of the proposal has been considered, including both potential direct effects such as habitat loss and potential indirect effects such as disturbance. Consideration has been given to potential effects both during the construction and operational phases of the development.

For this site the survey area comprised the white line survey boundary as defined within the figure below. The survey area included all potential roost sites within and adjacent to the survey area, which may be affected by the proposals.

The desk study included an assessment of land-use in the surrounding area and a data search covering a 2km buffer zone (see below for further detail).

The following types of ecological receptors have been considered:

- Statutorily designated sites for nature conservation
- Non-statutorily designated sites for nature conservation
- Species protected by law
- Species and/or habitats listed under the NERC Act (2009) as being of principal importance for conservation of biodiversity
- Species and/or habitats listed in relevant local biodiversity action plans

The level of survey effort employed at the site has taken account of the recommendations within the Bat Conservation Trust Good Practice Survey Guidelines[10].

The figures below firstly illustrate the site boundary and secondly, to provide context, the broad habitats present on site and within an approximate 500m buffer zone.

[10] Collins, J. (Ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

FIGURE 2: SITE BOUNDARY
(Reproduced under licence from Google Earth Pro.)

FIGURE 3: SITE AND SETTING
(Reproduced under licence from Google Earth Pro with circle delineating 500m.)

D.2 DESK STUDY

Initially, the site was assessed from aerial photographs and 1:25,000 Ordnance Survey maps. Following this, a data search was submitted to the Local Records Centre (ERIC) in June 2018, requesting data relating to protected or otherwise notable species and non-statutory sites for nature conservation within 2km of the survey area. In addition, a search was made of the MAGIC website[11] for all statutorily protected sites for nature conservation within 2km of the survey area. In addition, a search was also made on MAGIC of SPA and SAC sites within 10km to address potential indirect impacts. Given the small size of the site and limited habitats present, a data search with ERIC in 2022 concentrated on any updated great crested newt records as changes of these records may have impacted on the conclusions of this report (no new records were provided).

D.3 PRELIMINARY FIELD STUDY METHODOLOGY

D.3.1 PHASE 1 HABITAT SURVEY

The field survey of the proposed site was conducted using the methodology of the Joint Nature Conservation Committee's Phase 1 Habitat Survey, as outlined in their habitat-mapping manual[12]. Each parcel of land was assessed by a trained surveyor and classified as one of ninety habitat types. These were then mapped and the habitat information supplemented by dominant and indicator species codes and target notes where appropriate. Where areas within the study area do not fall into the Phase 1 Habitat Survey classification, alternative methods of classification have been used.

D.3.2 PRELIMINARY PROTECTED AND PRIORITY SPECIES APPRAISAL

Where there is a risk of legally protected species and/or otherwise notable species[13] being present, an initial appraisal was completed to inform the proposals. This appraisal included the following key elements:

- Structures and trees were assessed for the risk of supporting roosting bats and the potential suitability of the habitat for in relation to commuting and foraging activity by these species was also considered (see below).
- Wetlands, where present, were reviewed for their potential use by great crested newt, otter and water voles,
- If present, any trackways regularly used by badger were noted and any badger sett usage assessed by the presence of freshly dug earth or bedding at the entrance.
- The suitability of the suite of habitats present for use by reptiles was assessed.
- Likely use of the site by birds was assessed from the species seen during the survey, and the habitats present.
- Potential use by otherwise notable species was determined based on the broad habitat types present on site, any recent records obtained through the desk study and the geographical distribution of the species. Where specific habitat requirements for notable species have been recorded on site these have been noted, and used as part of this appraisal. The species groups assessed are limited to birds, freshwater fish, amphibians, reptiles, terrestrial mammals, butterflies and dragonflies.

[11] Multi Agency Geographic Information for the Countryside (www.magic.gov.uk)
[12] Handbook for Phase 1 habitat survey, A Technique For Environmental Audit, JNCC, 2010
[13] To include national priority species as listed in Section 41 of the NERC Act (2006) and local or regional priority species as listed within the relevant Biodiversity Action Plan

Where it is considered likely that there is a significant risk of protected or otherwise notable species being affected or where habitats are of particularly high value, additional specialist survey work has been recommended. Further survey work may also be recommended where development proposals have the potential to affect statutorily designated sites in the vicinity.

D.3.3 HABITAT SUITABILITY ASSESSMENT (BATS)

The potential suitability of the habitats within the survey area in relation to commuting and foraging bats was classified as negligible, low, moderate or high, based on guidelines provided by the Bat Conservation Trust[14] and detailed within the table below.

TABLE 5: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF HABITAT FEATURES WITHIN THE LANDSCAPE.
(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)

Suitability	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland tree lined watercourses and grazed parkland. Site is close to and connected to known roosts.

D.3.4 DAYTIME BAT RISK ASSESSMENT (STRUCTURES)

A daytime assessment was made of all structures affected by the proposed development, in order to evaluate their potential for supporting bat roosts, and, where present, to record signs of use by bats.

Structures were inspected both externally and internally. Binoculars and extendable ladders were used to assist with the inspection for droppings and other field signs.

The building was examined for potential roost access points indicated by clean crevices, urine marks, polished wood or stonework and droppings. Particular attention was given to sheltered areas under the eaves of buildings, window ledges and towards the tops of windows where droppings are less likely to have been washed off.

[14] Collins, J. (Ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

Structures were categorised as having negligible, low, moderate or high suitability to be used by roosting bats, based on guidelines provided by the Bat Conservation Trust[15] and detailed within the table below.

TABLE 6: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (STRUCTURES) *(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)*	
Suitability	**Roosting Habitats**
Negligible	Negligible habitat features on site likely to be used by roosting bats.
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 by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation).
Moderate	A structure 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A structure with one or more potential roost site 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.

Note that comments on the state of the structures within the site relate solely to their potential use by bats and must not be taken as a professional assessment of the structural integrity or safety of the structures. For example, descriptions of walls and roofs being in 'good' or 'poor condition' relate to likely provision of roost sites for bats, potential access routes to roost sites, and likely persistence of field signs such as droppings and feeding remains, which will not persist in exposed conditions. Maternity roosts are less likely to be present in cool, exposed, damp and draughty locations which may develop in a building in poor condition.

D.3.5 DAYTIME GROUND BASED BAT RISK ASSESSMENT (TREES)

A preliminary assessment was made, based on inspection from within the site boundaries, of any trees affected by the proposed development. Trees were inspected and assessed for their potential to support roosting bats and were categorised as negligible, low, moderate or high suitability for roosting bats based on guidelines provided within the Bat Conservation Trust Bat Survey: Good Practice Guidelines[16] and detailed within the table below.

TABLE 7: GUIDELINES FOR ASSESSING THE POTENTIAL SUITABILITY OF PROPOSED DEVELOPMENT SITES FOR BATS, BASED ON PRESENCE OF ROOSTING HABITAT FEATURES (TREES) *(TO BE APPLIED USING PROFESSIONAL JUDGEMENT, TABLE 4.1 BAT SURVEY GUIDELINES)*	
Suitability	**Roosting Habitats**
Negligible	Negligible habitat features on site likely to be used by roosting bats.
Low	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Moderate	A 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 (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).
High	A tree with one or more potential roost site 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.

[15] Collins, J. (Ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

[16] Collins, J. (Ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd Edition). Bat Conservation Trust

The assessment is based upon the age and species of the tree, the presence of features with potential to support roosting bats and the location of the tree and habitats present in the surrounding area. Any potential roosting locations and field signs that could indicate bat use, such as droppings, staining and scratch marks were noted.

D.3.6 PRELIMINARY SURVEY/RISK ASSESSMENT - EQUIPMENT

- High power LED torch.
- Opticron 8 x 32 binoculars
- Digital camera

D.3.7 PRELIMINARY SURVEY/RISK ASSESSMENT - ENVIRONMENTAL CONDITIONS

TABLE 8: DAYTIME SURVEY CONDITIONS

DATE	TEMPERATURE	CLOUD COVER	PRECIPITATION	WIND CONDITIONS
19.6.18	13.5c	100%	Dry	F2-3
30.9.22	14c	100%	Dry	F2

D.3.8 PRELIMINARY SURVEY/RISK ASSESSMENT - CONSTRAINTS

No access was available to the off-site ponds.

Certain plant species may not be identifiable throughout the year. However, it is considered that sufficient botanical identification was possible to facilitate a robust assessment of habitats for the purposes of this report.

Trees were only assessed from ground level and from within the site. Furthermore, tree assessments may sometimes need to be undertaken in summer, while in full leaf, which may obscure potential roosting features during the assessment of bat roosting potential. However, the trees were assessed from various angles on site using good quality binoculars and professional judgement was used based on the tree characteristics to supplement the assessment. Where trees could not be confidently assessed, further survey has been recommended.

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D.4 PERSONNEL

The table below details the personnel who undertook the survey work and/or lead activity surveys. Details of other surveyors who assisted with activity surveys are provided in the appendices.

TABLE 9: PERSONNEL

Name	Position	Professional Qualifications	Natural England Survey Licence Numbers
Mary Martin	Director	BSc MCIEEM	2015-12822-CLS-CLS

Further details of experience and qualifications are available at www.e3ecology.co.uk.

D.5 ASSESSMENT METHODOLOGY

The relative value of the ecological receptors (habitats, species and designated sites) was assessed using a geographical frame of reference. For designated sites this is generally a straightforward process with the assigned designation generally being indicative of a particular value, e.g. Sites of Special Scientific Interest are designated under national legislation and are therefore generally considered to be receptors of national value. The assignment of value to non-designated receptors is less straightforward and as recognised by the Guidelines for Ecological Impact Assessment produced by the Chartered Institute of Ecology and

Environmental Management[17], is a complex and subjective process and requires the application of professional judgement.

When assessing the value of species and habitats, relevant documents and legislation are considered including the lists of species and habitat of principal importance annexed to the NERC Act (2006) and those provided within relevant local Biodiversity Action Plans. Data provided through consultation is also considered. These data sources can provide context at a local, regional and national scale.

The table below provides examples of receptors of value at different geographical scales.

TABLE 10: ECOLOGICAL RECEPTOR VALUATION	
Level of Value	**Examples**
International	An internationally designated site or candidate site.
	A site meeting criteria for international designation.
	The site is of functional importance* to a species population with internationally important numbers (i.e. >1% of the biogeographic population)
National	A nationally designated site.
	The site is of functional importance* to a species population with nationally important numbers (i.e. >1% of the national population)
Regional	The site is of functional importance* to a species population with regionally important numbers (i.e. >1% of the regional population)
County	A Local Wildlife Site (LWS) or equivalent, designated at a County level
	The site is of functional importance* to a species population of county value (i.e. >1% of the county population)
District	A Local Wildlife Site (LWS) or equivalent, designated at a District level
	The site is of functional importance* to a species population of district value (i.e. >1% of the district population)
Parish	A species population considered to appreciably enrich the nature conservation resource within the context of the parish.
	Local Nature Reserves
Local	A species population that contributes to local biodiversity but are not exceptional in the context of the parish.
Low	Habitats that are unexceptional and common to the local area.
** Functional importance defined as 'a feature which, based on professional judgement, is of importance to the day to day functioning of the population, the loss of which would have a detectable adverse effect on that population',*	

17 Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

E. RESULTS

E.1 DESKTOP STUDY

E.1.1 PRE-EXISTING INFORMATION

ORDNANCE SURVEY MAPPING AND AERIAL PHOTOGRAPHY

The figures in Sections D show that the general land use in the surrounding area is arable and pasture land with small areas of woodland.

The most recent aerial photograph of the site (2021) indicates that habitats on site are dominated by a building and hard standing, with a small area of trees and hedgerows. Historic imagery suggests that the creation of hard standing and hedgerow planting was undertaken sometime between 2004 and 2006, with the area formerly being part of a large arable field. Aerial imagery indicates that the pond off-site to the south was created sometime between 2012 and 2013.

MAGIC WEBSITE[18]

There are no internationally and nationally statutorily designated sites within 2km of the survey area. The table below details the SPAs and SACs within 10km.

TABLE 11: DESIGNATED SITES

Designation	Site Name	Brief Reason for Designation	Distance from Survey Area
Ramsar & SPA	Northumbria Coast	Bird species including purple sandpiper, turnstone and little tern	3.75km
Special Area of Conservation	Newham Fen	Lowland short sedge fen	8.1km
	North Northumbria Dunes	Embryonic shifting dunes	3.5km
	Berwickshire & North Northumberland Coast	Mudflats and sand flats	5.7km

The site does not lie within a SSSI Impact Risk Zone for this type of development.

There are no priority habitats on or immediately adjacent to the site.

There is a single bat EPS licence recorded approximately 1.9km to the east at Embleton.

There are no GCN EPS licence or licence return records or positive survey records. There are two ponds within 2km, to the south west, where eDNA surveys were undertaken between 2017 and 2019 with a negative result.

E.1.2 CONSULTATION

LOCAL RECORDS CENTRE

The table below summarises the records provided by the local records centre. The full data search results can be provided on request.

[18] MAGIC Website: www.magic.gov.uk

TABLE 12: CONSULTATION RECORDS		
Species	**No of Records**	**Min of Approx. Distance (m)**
amphibian		
Great Crested Newt	3	886 (most recent 2005)
insect – butterfly		
Wall	6	
terrestrial mammal		
Bats	1	
Brown Hare	11	330
Brown Long-eared Bat	1	
Common Pipistrelle	5	
Eastern Grey Squirrel	3	708
Eurasian Red Squirrel	36	321
European Otter	2	1855
European Water Vole	1	2063
Natterer's Bat	1	
Pipistrelle Bat species	2	526
Roe Deer	3	1485
Soprano Pipistrelle	4	2047
West European Hedgehog	4	
Whiskered/Brandt's Bat	1	

They also provided records for 52 bird species recorded within 2km; the nearest, where distances are provided, was 1.79 km away (sparrowhawk).

No statutory sites or non-statutory sites were found within the search area

E.2 FIELD SURVEY

E.2.1 HABITATS

The site comprises a building, hard standing with some ephemeral short perennial, trees, hedgerows and grassland.

FIGURE 4: SITE HABITATS
(Reproduced under licence from Google Earth Pro

GRASSLAND

A small area of poor semi-improved grassland lies to the north and east of the site. This had a sward length of around 5-10cm at the time of survey in 2018 and was used as a temporary turn out paddock for horses whilst they are stabled. The grassland was rye grass *Lolium perenne* dominated with common forb species including broadleaf dock *Rumex obtusifolius,* creeping buttercup *Ranunculus repens,* dandelion *Taraxacum sp.,* ribwort plantain *Plantago lanceolata,* white and occasional red clover *Trifolium repens and pratense,* with pineapple weed *Matricaria discoidea,* and occasional woundwort *Stachys sylvatica* and white dead nettle *Lamium album* around the boundaries.


2018


2022

By 2022 the area to the east had become disused and had a sward height of around 30cm and around 4-6 species/m^2 with around 90:10 grass to forb ratio. Cocksfoot *Dactylis glomerata* is now the dominant species, along with hogweed *Heracleum sphondylium,* creeping thistle *Cirsium arvense* and common nettle *Urtica dioica.* Species recorded in 2018

are still present but coarser grasses and ruderal species are becoming more dominant. In addition, a single common knapweed *Centaurea nigra* plant was recorded.

The area to the north remained more patchy and ryegrass dominated around a small area of hard sanding.

A small triangle of closely mown amenity grassland lies to the south east. This was unchanged in 2022. Boundaries are post and rail fencing with a short length of wall between the two grassland areas.

HEDGES

To the west of the site, bordering the car parking/hard standing area, is an unmanaged mature hedgerow around 3-4m high. Species recorded include hawthorn *Crataegus monogyna,* elder *Sambucus nigra,* ash *Fraxinus excelsior,* apple *Malus sp.,* rose *Rosa sp.,* and dogwood *Cornus sp.* with bramble *Rubus fruticosus* at its base. Aerial imagery indicates that this hedgerow was planted between 2004 and 2006 and tree covers are still present on many of the plants.

WOODLAND

A small pocket of trees lies immediately to the south west of the building, forming a small triangle. This is a mix of ash, sycamore *Acer pseudoplatanus,* hazel *Corylus avellana,* elder, apple *Malus sp.,* cherry laurel *Prunus laurocerasus.,* conifers *Cypress sp.,* holly *Ilex sp.* and ornamental shrubs.

HARD STANDING/EPHEMERAL SHORT PERENNIAL
The majority of the western half of the site is hard standing used for car parking, but with some ephemeral short perennial developing around the edges where traffic has been less frequent. Species included creeping buttercup, willowherb *Epilobium sp.,* fescue *Festuca sp.,* meadow grass *Poa sp.* broadleaf plantain *Plantago major* and scentless Mayweed *Tripleurospermum inodorum.*

In addition, since the roof has been lost to the shed, some sparse vegetation is emerging through the sand that formed the schooling area within the shed, including mayweed, broad leaved dock and Yorkshire fog.

E.2.2 SPECIES (EXCLUDING BATS)

GREAT CRESTED NEWT
Two ponds are shown on ordnance survey mapping within 500m, one approximately 40m to the south east and one approximately 465m to the north-west. Aerial imagery indicates that the pond within 40m was formed sometime between 2012 and 2013. No access was available to either of these ponds, which are under separate ownership. The site itself provides only poor quality terrestrial habitat for great crested newts, comprising built development, a small area of improved pasture and hard standing, although the very small area of tree planting and hedgerows could provide some limited habitat.

There are records of great crested newt within Redstead quarry pond approximately 886m to the east dating from 1983 and 2005. A further pond lies just to the east of this pond, around 700m from the proposed development site. However, habitat between these ponds and both the two ponds closer to the site and the site itself is largely arable fields. The main London to Edinburgh railway line and the B1340, combined with the poor terrestrial habitat of arable fields, also have the potential to reduce the likelihood of newt movement westwards.

BIRDS
The hedgerows and trees will provide a small area of potential nesting opportunities for birds although no nests were noted during the survey.

BADGER
Badger are likely to be present within the wider area and may forage across the site at times, but the site does not provide any habitat suitable for sett creation.

OTTER & WATER VOLE

There are no watercourses in or adjacent to the site. An unnamed burn/stream lies approximately 400m away, within woodland, which may potentially be used by otter. The nearest otter record is around 1.8km away and no records of water vole were provided within 2km. The site itself provides only poor foraging habitat for otter. Both species are likely to be absent from the site.

REPTILES

The site lacks the mosaic of habitats suitable to support reptiles. There are no records provided of reptiles within 2km.

RED SQUIRREL

Red squirrel have been recorded within 340m of the site. The trees may provide a very small area of suitable habitat, and are connected to small blocks of woodland by roadside trees. No evidence of red squirrel were recorded during either the 2018 or 2022 survey.

INVERTEBRATES

The site lacks sufficient suitable habitat to support priority butterfly species.

NATIONAL PRIORITY AND LOCAL BAP SPECIES

Brown hare, hedgehog and common toad may be present at times.

E.3 DAYTIME RISK ASSESSMENT (BATS)

E.3.1 HABITATS

FORAGING HABITATS

Foraging habitats within the site are limited to the small group of trees and the hedgerow. Within the wider area are small blocks of woodland, arable and pasture fields.

COMMUTING ROUTES

The site is linked to some woodland areas via the tree-lined drive and some field margins.

SHELTERED FLIGHT AREAS

There are no sheltered foraging opportunities on site now the shed has lost its roof.

ALTERNATIVE ROOST LOCATIONS

Adjacent to the site lies a number of stone dwellings including the farm house and converted outbuildings which will provide potential roosting locations. The village of Christon Bank, approximately 450m to the north, will also provide potential roosting locations.

E.3.2 BUILDINGS

The following text provides building descriptions. Where recorded, field signs that confirm bat use are in bold.

- Agricultural shed which in 2018 was used as stables and an arena
- Breezeblock walls to around 2m
- Timber slatted walls to 3 sides above breezeblock, with no timber slats to southern elevation
- Formerly had a corrugated asbestos roof, which was badly damaged in Storm Arwen and has since been removed.
- Steel frame
- Negligible suitability

2018

2018

2022

2022

E.3.3 TREES

A small number of trees are of low suitability for supporting bat roosts, with some generally thin ivy cover, but overall the trees appeared well sealed where visible.

E.4 OVERVIEW OF SITE SUITABILITY

The table below provides an overview of site suitability in relation to bats.

TABLE 13: OVERVIEW OF SITE SUITABILITY FOR BATS

HABITATS AND SETTING[19]				
	NEGLIGIBLE	LOW	MODERATE	HIGH
HABITATS AND COVER WITHIN 200M	City Centre	Open, exposed arable, amenity grass or pasture	Hedges and trees linking site to wider countryside	Excellent cover with mature trees and/or good hedges
HABITATS WITHIN 1KM	City Centre	Little tree cover, few hedges, arable dominated	Semi-natural habitats e.g. trees, hedgerows	Good network of woods, wetland and hedges
ALTERNATIVE ROOSTS WITHIN 1KM	City centre	Numerous alternative roost sites of a similar nature	A number of similar buildings in the local area	Few alternative buildings and site of good quality for roosts
SETTING	Inner city	Urban with little green space	Built development with green-space, wetland, trees	Rural Lowland with woodland and trees.
DISTANCE TO WATER/ MARSH	>1km	500m-1000m	200m-500m	<200m
DISTANCE TO WOODLAND/ SCRUB	>1km	500m-1000m	200m-500m	<200m
DISTANCE TO SPECIES-RICH GRASSLAND	>1km	500m-1000m	200m-500m	<200m
COMMUTING ROUTES	Isolated by development, major roads, large scale agriculture	No potential flyways linking site to wider countryside	Some potential commuting routes to and from site	Site is well connected to surrounding area with multiple flyways
BUILDINGS[2]				
	MINIMAL	LOW	MEDIUM	HIGH
AGE (APPROX.)	Modern	Post 1940s	1900-1940	Pre 20th C

[19] Building and habitat risk assessment technique audited in a research project with York University which compared the risk assessment scoring with the results of detailed field assessment for over 100 sites. Statistically significant associations were found between habitat setting and building features and the presence of absence of different bat species. For example habitat connections and nearby woodland were significant for brown long-eared bats and the presence of species-rich grassland is important for many species.

TABLE 13: OVERVIEW OF SITE SUITABILITY FOR BATS				
BUILDING/ COMPLEX TYPE	Industrial complex of modern design	Single, small building	Several buildings, large old single structure	Traditional farm buildings, country house, hospital
BUILDING - STOREYS	N/A	Single storey	Multiple storeys	Multiple storeys with large roof voids
STONE/BRICK WORK	No detectable crevices	Well pointed	Some cracks and crevices	Poor condition, many crevices, thick walls
FRAMEWORK – TIMBERS/STEEL	Modern metal frame with sheet cladding	Timber purlins, sheet asbestos	Timbers kingpost or similar	Large timbers traditional joints
ROOF VOID	None	Small, cluttered void	Medium, relatively open	Large, open, interconnected
ROOF COVERING	None	Good condition or very open not weatherproof modern sheet materials	Some potential access routes, slates, tiles	Uneven with gaps, not too open, stone slates
ADDITIONAL FEATURES	None	No features with potential access	Some features with potential access	Hanging tiles, cladding, barge boards, soffits with access gaps
EXTERNAL LIGHTING	Extensive security lights covering much of the site	Widespread areas above 2 lux at night	Intermittent lights of low intensity	Minimal
BUILDING USE	Very noisy, dusty	Regular use	Intermittent use	Disused

It can be seen that although the site is set in moderate to good quality habitat for bats, the building itself is of negligible suitability.

F. SITE ASSESSMENT

F.1 HABITATS

The majority of habitats on site including the building, grassland and hard standing are considered to be of low habitat value. The mature trees and hedgerows are considered to be of local habitat value.

F.2 NOTABLE SPECIES (EXCLUDING BATS)

The risk of harm to great crested newt, should they be present within the pond 465m from the site, is considered low, given the size of the site, the habitat it contains and the distance from this pond. This conclusion is supported by the Natural England rapid risk assessment calculator, which indicates that it is highly unlikely that the development will cause an offence through harm to great crested newts.

Component	**Likely effect** (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
	Maximum:	0.005
Rapid risk assessment result:	**GREEN: OFFENCE HIGHLY UNLIKELY**	

Although there is some habitat connectivity between this pond and the new pond closer to the site, via woodland strips and the tree-lined drive, this connectivity link is around 790m in actual good quality habitat terms. More direct links are limited to arable fields. This new pond lies approximately 880m away from the pond to the east which has historic great crested newt records, but is separated from that pond by poor terrestrial newt habitat, and a road and railway line. The risk of the new pond having been colonised by great crested newt since its creation is therefore considered likely to be low. The site itself offers poor habitat for great crested newts, primarily comprising hard standing, short grassland and a large building, with only a small area of grassland, trees and hedge providing some limited terrestrial habitat. There remains a low residual risk of amphibians being present on site which will be addressed through a method statement.

Birds may use the trees and hedgerows for nesting, in small numbers. The site is likely to be of no more than local value to nesting bird species.

Badger and red squirrel may occasionally forage within the site, but no evidence of their presence was recorded during 2018 or 2022 survey and the site is considered likely to be of low value to both species.

Common toad, hedgehog and brown hare, all UK priority species, may be present at times.

No other protected species is likely to be affected by the proposals.

F.3 ASSESSMENT OF SURVEY FINDINGS (BATS)

The building is considered to be of negligible suitability for roosting bats. The trees and hedgerow will form a very small part of a wider network of foraging and commuting habitat.

G. IMPACT ASSESSMENT

The likely effects of the proposed development, without appropriate targeted mitigation and/or compensation, are detailed below.

G.1 POTENTIAL IMPACTS AND/OR EFFECTS[20]

G.1.1 HABITATS

- Harm/damage to retained trees and hedges during the construction phase.

G.1.2 SPECIES

- Low risk of harm to great crested newt and amphibians should they be present in the area.
- Risk of harm to mammals should any excavations be left open overnight during the construction period.
- Harm to birds should vegetation clearance be undertaken during the bird nesting period (March to August inclusive).
- Increased levels of disturbance and lighting impacting on surrounding bat foraging habitat.

G.2 POTENTIAL IMPACTS AND/OR EFFECTS ON STATUTORY AND NON STATUTORY SITES DESIGNATED FOR NATURE CONSERVATION

- Potential indirect impacts on the coastal SPA/Ramsar through increased recreational activities.

[20] An impact is defined as an action resulting in changes to an ecological feature. For example, construction works removing a hedgerow. An effect is defined as the outcome to an ecological feature from an impact. For example, the effect on a dormouse population of the loss of a hedgerow.

H. RECOMMENDATIONS

The mitigation strategy aims to minimise effects on biodiversity by:

- Avoiding significant negative impacts where possible through good design; and
- Developing approaches to mitigate any remaining unavoidable impacts.

Where any significant residual impacts on biodiversity are anticipated, compensation may then be proposed. This approach is in-line with CIEEM recommendations[21].

H.1 FURTHER SURVEY

For this site, as per the BCT guidelines, no activity surveys are considered to be required as the structures present are considered to have negligible suitability for use by roosting bats.

H.2 AVOIDANCE AND MITIGATION STRATEGY

- A financial contribution to the Coastal Mitigation Service will be required by Northumberland County Council.

H.2.1 SITE DESIGN

- The mature hedgerow boundary and trees are to be retained as part of the landscape design.
- External lighting that may reduce bat use of the site boundaries will be avoided. High intensity security lights will be avoided as far as practical, and any lighting in areas identified as being important for bats will be low level (2m) and low lumen. Light spillage to areas used by foraging or commuting bats should be less than 2 lux. Where security lights are required, these will be of minimum practicable brightness, be set on a short timer and will be motion sensitive only to larger objects.
- Landscape design will include native trees, ideally of local provenance, and flower and berry bearing shrubs and plants.
- New build will incorporate potential bat roosting and bird nesting opportunities.

H.2.2 TIMING OF WORKS

- Vegetation clearance will be undertaken outside of the bird nesting season (March to August inclusive) unless a checking survey by a suitably experienced ornithologist confirms the absence of active nests.

H.2.3 WORKING METHODS AND BEST PRACTICE

- Any excavations left open overnight will have a means of escape for mammals that may become trapped in the form of a ramp at least 300mm in width and angled no greater than 45°.
- The roots and crowns of retained trees will be protected throughout the development through the provision of adequate construction exclusion zones in accordance with the guidance given by BS5837:2012.
- All works will follow a precautionary amphibian method statement (see appendices).

[21] Chartered Institute for Ecology and Environmental Management (2016) Guidelines for Ecological Impact Assessment in the UK and Ireland - Terrestrial, Freshwater and Coastal

The following measures should be included as general good working practice:

- Timber treatments that are toxic to mammals will be avoided. If required, timber treatment will be carried out in the spring or autumn. Both pre-treated timbers and timber treatments will use chemicals classed as safe for use where bats may be present (see http://www.jncc.gov.uk/pdf/batwork_manualpt4.pdf).

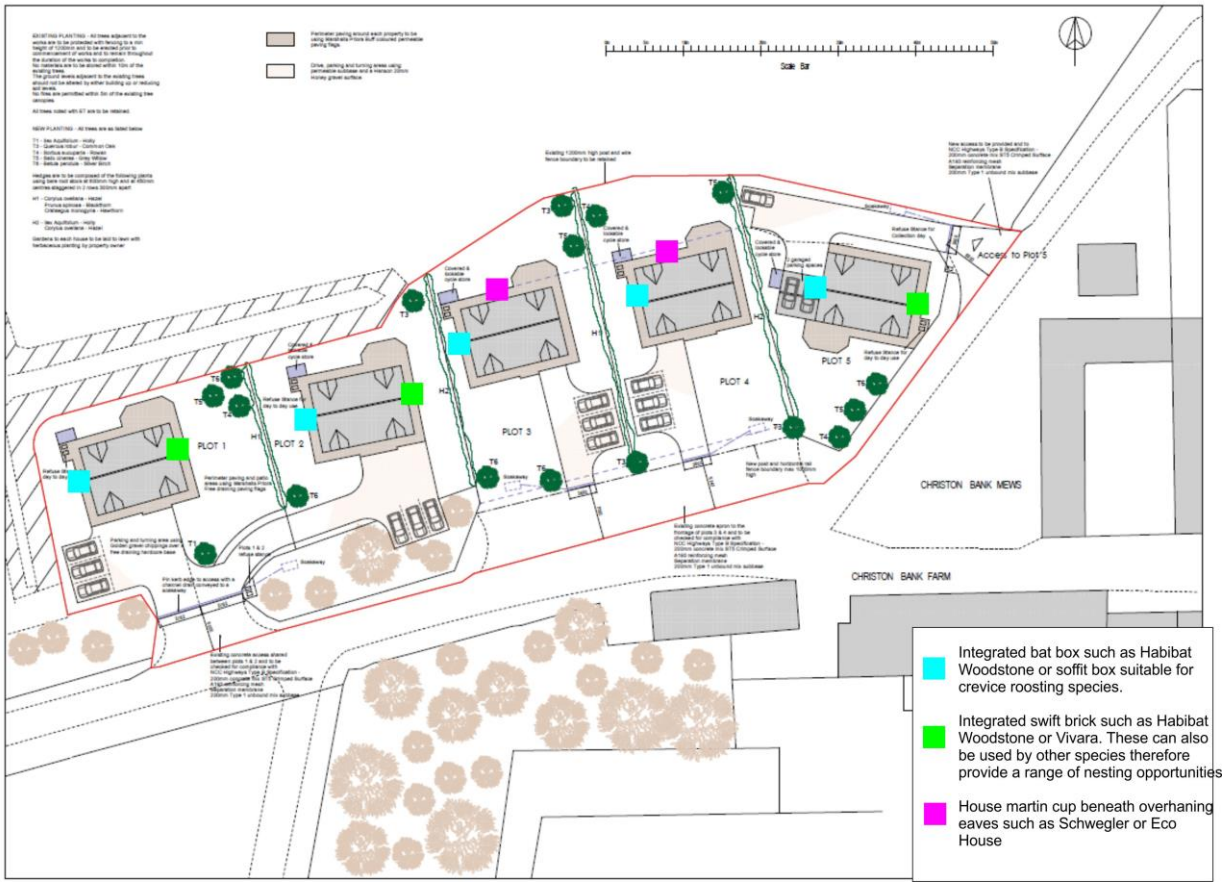
H.3 COMPENSATION STRATEGY

With the implementation of the above mitigation strategy it is not anticipated that there will be any significant adverse residual effects from the proposed development. As such, a compensation strategy is not required.

H.4 ENHANCEMENT

Five bat and five bird integrated boxes will be incorporated into the new dwellings. Bat boxes should be at eaves height or on gable ends, at least 3-4m high and suitable for crevice dwelling species. Bird boxes should include 3 suitable for swift, which should be a minimum of 4m high and north/east facing, and 2 house martin's cups which should be under eaves and again north/east facing.

Landscape planting will include native trees including holly, oak, rowan, grey willow and silver birch. Native hedges will include hazel, blackthorn, hawthorn and holly.



H.5 MONITORING

Given the nature of the proposed mitigation and/or compensation strategies, no monitoring is proposed.

I. CONCLUSIONS

With the recommended mitigation and/or compensation detailed above, proposals can proceed with no significant direct adverse effect on notable species (including bats) and/or habitats. Proposals provide an opportunity for ecological benefit through creation of bird and bat roosting opportunities, contributing to local and national conservation targets.

APPENDIX 1. STATUTORILY AND NON- STATUTORILY DESIGNATED SITES

STATUTORILY DESIGNATED SITES

Ramsar Sites
Ramsar sites are designated under the Convention on Wetlands of International Importance, agreed in Ramsar, Iran, in 1971. The Convention recognizes wetlands as important ecosystems and includes a range of wetland types from marsh to both fresh and salt water habitats. The wetlands can also include additional areas adjacent to the main water-bodies such as river banks or coastal areas where appropriate.

Special Protection Areas (SPAs)
SPAs are classified by the UK Government under the EC Birds Directive and comprise areas which are important for both rare and migratory birds.

Special Areas of Conservation
SACs are designated under the EC Habitats Directive and are areas which have been identified as best representing the range and variety of habitats and (non-bird) species listed on Annexes I and II to the Directive. SACs are designated under the Conservation of Habitats and Species Regulations 2017 (as amended) unless they are offshore.

Sites of Special Scientific Interest
SSSIs are designated as sites which are examples of important flora, fauna, or geological or physiographical features. They are notified under the Wildlife and Countryside Act 1981 with improved provisions introduced by the Countryside and Rights of Way Act 2000. They are often components of larger SACs or SPAs.

National Nature Reserves (NNRs)
NNRs are designated by Natural England under the National Parks and Access to the Countryside Act 1949 and the Wildlife and Countryside Act 1981 and support important ecosystems which are managed for conservation. They may also provide important opportunities for recreation and scientific study.

Country Parks
Country Parks are statutorily designated and managed by local authorities in England and Wales under the Countryside Act 1968. They do not necessarily have any nature conservation importance, but provide opportunities for recreation and leisure near urban areas.

NON-STATUTORILY DESIGNATED SITES

Local Nature Reserves (LNRs)
LNRs are designated under the National Parks and Access to the Countryside Act 1949 by local authorities in consultation with Natural England. They are managed for nature conservation and used as a recreational and educational resource.

Non-Governmental Organisation Property
These are sites of biodiversity importance which are managed as reserves by a range of NGOs. Examples include sites owned by the RSPB, the Woodland Trust and the Wildlife Trusts

Local Wildlife Sites (LWSs)
These are sites defined within the local plans under the Town and Country Planning system and are material considerations of any planning application determination. They are designated by the local authority although criteria can vary between authorities.

APPENDIX 2. AMPHIBIAN METHOD STATEMENT
FOR THE DEVELOPMENT AT CHRISTON BANK FARM

DATE:	6 October 2022
CLIENT:	George F White
PROJECT NUMBER:	5531
AUTHOR:	Mary Martin
POSITION:	Director
CONTACT DETAILS:	Mary.martin@e3ecology.co.uk

This statement must be copied to the site owner, designer, clerk of works, and to those contractors whose work may affect amphibians including those involved in all elements of the work detailed above. A signed copy should be kept at the site offices.

We have read and fully understood this method statement and this has been explained to the site operatives:

	Print Name	Signature	Date
Supervisor:			
Operative:			
Operative:			
Operative:			
Operative:			

This method statement contains information regarding:

- ***Species identificat*ion ecology**
- **Working methods.**

GREAT CRESTED NEWTS

Relevant Legislation

Great crested newts are protected under the Wildlife and Countryside Act 1981 (as amended), and the *Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.* As a result it is illegal to kill, injure or disturb a great crested newt or damage, destroy or obstruct access to its place of rest or shelter. **Prosecution could result in imprisonment, fines of £5000 per animal affected and confiscation of vehicles and equipment used.**

Ecology

Adult great crested newts are present in ponds during the spring period, generally February to June, where they lay their eggs. Larvae hatch out and emerge as small newts in the summer. Most of the year is spent on the land, generally in areas that provide good cover and an invertebrate food source such as woodland, hedges, marshy grassland and coarse grassland. The majority of newts will stay within 150m of the breeding pond, but some may be present up to 500m from a pond and can certainly move over greater distances than this.

Male great crested newt with a white flash along the tail and crest

Underbelly of a great crested newt, note the bright orange colouration.

Spots on the belly and under the chin

Male smooth newt underwater

Male great crested newt underwater.

Granular skin and white spots along the flanks.

Great crested newts (see photographs above) are up to 170mm long, larger than smooth or palmate newts, which are rarely longer that 100mm and have a coarse, dark (almost black) granular skin with very fine white spots on the lower flank and a brightly coloured orange-yellow belly, with dark spots.

Smooth newts are delicate, often yellow-brown in colour and significantly smaller than great crested newts being up to around 100mm in size. They have smoother skin and are much lighter in colour than the great crested newts. During the breeding season, males develop a crest, which is absent in palmate newts. Both males and females generally have spots under their chins (see photo above left).

No spots under the chin, with pearlescence evidence	Male palmate newt underwater

Palmate newts are slightly smaller than smooth newts, and are generally less spotty on the belly and under the chin. Males develop a widened tale during the breeding season and have black, webbed hind feet.

Newts are mainly active at night, particularly in warm and wet conditions, and are most likely to be found under stones and logs, discarded rubbish or within piles of rock, bricks and the like.

TOADS

The Common Toad is a UK Priority species.

The Common Toad is a widespread amphibian found throughout Britain although absent from Ireland. The Common Toad can be found in almost any habitat and is common in gardens. It prefers larger water bodies in which to breed and because toxins are also present in the skin of the tadpoles, they are able to breed in ponds and lakes containing fish which learn to avoid them. Common Toads congregate at breeding ponds in early April but for the rest of the year will move well away from water as they are far more tolerant of dry conditions than the Common Frog.

Common Toads feed on any moving prey small enough for them to swallow. They are most active at night when they search for food. If they find a good source of food they can become quite sedentary. Their life cycle is similar to that of the Common Frog, spawn is laid in strings (see picture) and the tadpoles are black and often move about in shoals. The toadlets emerge in August usually after heavy rain and in huge numbers. At this stage of their lives they are extremely small and speckled with gold.

Common frog

Common toad

Background

There are no ponds on site, however, there is a pond within a nearby garden around 40m away. Whilst suitable habitat for amphibians on site is limited, tall grasses, hedgebanks and the small woodland area provide some limited refugia.

Working Methods

Standard working methods, to minimise the risk of harming or killing amphibians should include the following:

- Any areas of rocks, brick rubble, rubbish or fallen timber that have been present within the area to be cleared for over 3 months are to be searched by hand before the start of works in that area
- Vegetation should be cleared progressively using hand tools to provide animals with an opportunity to move out of the area. Areas of tall grassland should be strimmed, and scrub cut down to ground level and removed.
- Following vegetation clearance the area should be left for several days to allow any animals to move out of the area before any excavation commences.
- Areas of standing water will not be allowed to persist for more than a week during the construction period.
- If amphibians (other than great crested newts) are found during the clearance operations they should be moved to adjacent areas of suitable habitat that are not affected by development.
- No insecticides/herbicides in areas where amphibians may be present will be used.
- If great crested newts are found at any time during the works, works will stop in that area immediately and the ecological consultant for this project (E3 Ecology Ltd. 01434 230982) will be contacted. If newts are likely to be harmed without immediate action handle them with care, place in a cool, humid and shaded receptacle and release them in tall grassland/scrub outside of the construction area in a location that will not be disturbed in the future.

In case of queries please contact the project ecologists E3 Ecology Ltd 01434 230982.