NYMNPA

12/08/2019



# Preliminary Ecological Appraisal and Bat Survey Report 20 Dikes Lane, Great Ayton TS9 6HA



August 2019

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## **Document Title:**

Preliminary Ecological Appraisal and Bat Survey Report 20 Dikes Lane, Great Ayton, TS9 6HA

Date and version	Producer
Version 1	Rachel Hepburn
FINAL 28/01/2019	
Version 2 – Bat Report DRAFT 11/08/2019	Checker
	PJ and MH

#### Disclaimer:

Bat surveys are carried out in good faith, to the relevant professional guidelines. Where variation from these guidelines is necessary, this is outlined in the report. Any comments regarding condition of buildings are in relation to the use of the building by bats and birds, and should not be considered as an opinion on the building fabric.

Bats are highly mobile mammals which can access small gaps in buildings. This report presents a robust assessment of potential roosting opportunities. Residual risk for other species is always present and as such the working method statement should be followed during all site works.

The client should be aware that the mitigation recommendations in reports are often translated directly into planning conditions, and as such these should be studied closely and agreed with any contractors in advance of site works commencing.

Mitigation recommendations should be clearly marked on the Architect's Plans submitted with any planning or other consent.

Data from surveys will be submitted to local biological record centres and local-interest groups unless the client requests otherwise.

Reports are presented to the client in draft, with the final report issued once payment has been received. Only upon final issue does the copyright pass from the author to the client. Reports cannot be used to support planning applications until the copyright has passed to the client or their agent.

## IT IS THE CLIENTS' RESPONSIBILITY TO COMMISSION ANY MITIGATION MEASURES OR RECOMMENDATIONS DETAILED WITHIN THIS REPORT.

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## Contents

# Preliminary Ecological Appraisal and Bat Survey Report GRIBDALE STABLES, DIKES LANE, GREAT AYTON, TS9 6HA

## Summary

RH Ecological Services were commissioned to carry out a Preliminary Ecological Appraisal report at Gribdale Stables, Dikes Lane, Great Ayton (NZ 58327 11118). The proposal is for the conversion of a redundant equestrian building to provide habitable holiday accommodation, a cycle hire shop and café.

The building has evidence of bats and nesting birds. It is used as a day roost by common pipistrelle (*Pipistrellus pipistrellus*) and natterers' (*Myotis nattereri*) bats. Bat droppings were found in several locations throughout the building. DNA analysis is deemed unnecessary as species identification of natterers bat in the hand by licenced bat surveyors negates the need.

Examples of features suitable for roosting bats:

- Gaps between asbestos roof sheets
- Gaps in the breeze blocks into cavities
- Access along the wall tops
- Gaps behind fascia board
- Access via open windows and doors

Two bat surveys were carried out in June and August 2019 to get a better understanding of the use of the building by bats. This was undertaken in accordance with the Bat Conservation Trust Bat Survey guidelines (2016).

Two natterers bats were noted entering the building from within the open barn on the south east elevation. Three common pipistrelle bats were noted entering the building *via* a gap below the window on the north east elevation.

A Natural England Mitigation Licence is deemed <u>necessary</u> for the proposed development as the bat roost entrance on the south east elevation with the open barn will be affected. Work should take place between September and April (inclusive) to avoid any risk to the small roosts.

A bat loft should be created during the renovation works. Integrated features suitable for bats will be required to be incorporated. Full details will be provided with the Natural England Mitigation Licence application.

Bats are known to actively forage around the building. Any additional lighting should be discussed with the project ecologist and follow the ILP/BCT guidance (2018). In particular the SE and SW elevations should remain as dark as possible, with only low-level directional lighting PIR if essential. This is to reduce disturbance to foraging and roosting bats<sup>1</sup>.

Modern (Breathable) Roofing Membranes should not be used within the proposed renovation<sup>2</sup>. Currently the only 'bat safe' roofing membrane is bitumen 1F felt that is a non-woven short fibred construction.

Supervision work by the project ecologist <u>will be required</u> during the construction phase of the development. Areas of the roof such as fascia boards, roof sheeting, flashing and guttering should be removed by hand, with the project ecological checking that no bats are present.

Tawny owl pellets were present in the open barn. A tawny owl nest box should be added to the south east elevation of the building<sup>3</sup>.

The building has evidence of vacant birds' nests and bird droppings. If construction work takes place during the bird nesting season (March to August inclusive) a suitably qualified ecologist should confirm that no nesting birds are present in/on the building prior to works commencing.

Precautionary Working Methods for wildlife are included in this report. There is scope to provide enhancements for biodiversity through landscaping.

This report is valid for 2 years. An updated assessment will be required should work not commence by August 2021.

<sup>&</sup>lt;sup>1</sup> Institution of Lighting Professionals (2018) Advice note 08/18

<sup>&</sup>lt;sup>2</sup> www.bats.org.uk/our-work/buildings-planning-and-development/bats-in-buildings

<sup>&</sup>lt;sup>3</sup> www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-owls-and-kestrels/tawny-owl-boxes/ RH Ecological Services – Gribdale Stables Bat Report – August 2019

## 1. Proposed works

The proposal is for the conversion of a redundant equestrian building (NZ 58327 11118) to provide habitable holiday accommodation, a cycle hire shop and café. No planning reference was available.

The building will be retained more or less as existing but with the asbestos roof covering replaced with lightweight tiles. The top half of the walls will have natural cedar wood cladding with lower half rendering decorated in a local heritage colour. Existing widows will be enlarged, and together with additional units will be double glazed with softwood/aluminium frames in a local heritage colour. Existing door openings will be retained with additional units as indicated within the attached drawings. The existing sliding doors to the front will be retained and conceal a modern door system. There will be an oak framed entrance foyer providing access to the café together with two new wrought iron staircases to provide access to the first floor apartments.

A survey area was determined. The development boundary is shown in figure 1.



<sup>&</sup>lt;sup>4</sup> Reproduced with permission from Google Earth (2018)

RH Ecological Services – Gribdale Stables Bat Report – August 2019

## 2. Relevant legislation

The following principal protected species were considered in this report:

- Bats
- Birds

The applicable legislations and policies are:

- Conservation of Habitats and Species Regulations (2017)
- Directive 79/409/EEC on the Conservation of Wild Birds- 'The Birds Directive'
- Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora 'The Habitats Directive'
- National Planning Policy Framework (NPPF)
- Natura 2000
- Natural Environment and Rural Communities Act (2006)
- Wildlife and Countryside Act (2017)

Full details on legislation and policy can be found in **appendix 3**.

## 3. Methodology

## 3.1 Desktop survey

Natural England's MAGiC on the Map website was accessed for details of any designated wildlife sites within 2km.

Records were requested from North Yorkshire Bat Group.

Google Earth Pro was used to assess the distance to habitat features close to the site such as ponds, woodlands and waterways.

The NBN Atlas<sup>5</sup> is a free online tool that provides a platform to engage, educate and inform people about the natural world. It aims to help improve biodiversity knowledge, open up research possibilities and change the way environmental management is carried out in the UK. This data is not available on a suitable scale for commercial purposes, as protected and sensitive species are only viewable on large scale maps; however, it was checked to ascertain if species such as badger, otter or water vole were present in the wider area.

<sup>&</sup>lt;sup>5</sup> nbnatlas.org RH Ecological Services – Gribdale Stables Bat Report – August 2019

#### 3.2 Site survey

The Preliminary Ecological Appraisal (carried out 21st January 2019) was conducted according to the Chartered Institute of Ecology and Environmental Management's Guidelines for Preliminary Ecological Appraisal (CIEEM, 2012). The weather was cold with the ground covered in frost, a slight breeze and 80% cloud cover.

The surveyors assessed the building for signs of bats and birds. Access was available to the internal rooms of the building and the external elevations. The building was checked inside and out for any signs of bats; including live or dead bats, droppings, feeding remains, clawing or scuff/grease/urine marks at roost entrances, and potential roost features such as cavities or gaps in roofing tiles, soffits, loose mortar etc. The survey followed the Bat Conservation Trust's Bat Surveys Good Practice Guidelines (2016) on Preliminary Roost Assessment.

The surveyors used a headtorch, handheld torch, Opticron 42x8 binoculars and PowerFix inspection camera (endoscope) with photograph functionality.

#### 3.3 Bat surveys

The bat dusk activity surveys started ~20 minutes before sunset and ended 90 minutes after in optimal weather conditions and at a suitable time of year. The bat dawn (re-entry) survey started 2 hours before sunrise and ended shortly after sunrise. The surveys were carried out in optimal weather conditions and at a suitable time of year. Surveys are conducted in accordance with the Bat Conservation Trust's *Bat Surveys for Professional Ecologists, Good Practice Guidelines* (3<sup>rd</sup> edition, 2016) except where indicated.

Surveyors are placed around the site to ensure that all sides and features of the building are visible. On site, the time bats were first encountered, the species of bat where possible and information on direction of flight and behaviour are recorded. Where bats are seen entering or exiting the building the exact location is logged onto the site plan. The data is recorded by surveyors in the field on data sheets and plans of the site, or *via* voice recordings.

The aim is to build a picture of general bat activity whilst focussing on the building in question, and as such every individual bat is not recorded where it does not add to the understanding of bats' use of the building in question. Bat calls are recorded for later analysis on all surveys. Surveyors used a Batbox Duet and an Anabat SD2/Express.

Prior to the bat activity surveys areas with bat droppings present were swept down and cleared away. This was to allow the surveyors to check if the building was currently being used by bats.

#### 4. Licenced surveyors

Rachel Hepburn is an experienced ecologist and an associate member of the Chartered Institute of Ecology and Environmental Management since 2013 with 12 years' experience in ecological surveying. She holds a class 2 Natural England Licence for bat surveys (reference (2015-12969-CLS-CLS). Tricia Snaith (2015-14858-CLS-CLS) assisted.

## 5. Site description

The building (NZ 58327 11118) is a former stable block located to the north west of Great Ayton within the North York Moors National Park. The site is approximately 0.36ha with the building footprint  $\sim$ 161m<sup>2</sup>.

The surrounding area consists of tree-lined grassland fields and woodlands; a very rural area within the North York Moors National Park.

- There are extensive woodlands located 40 metres south (with a watercourse running through). Another woodland is located 200 metres to the north west.
- Two large waterbodies are present 650 metres south west.

There is good habitat connectivity for wildlife and foraging opportunities for bats.





Figure 2. Approx. 2km area around the site<sup>6</sup>

<sup>&</sup>lt;sup>6</sup> Reproduced with permission from Google Earth (2018)

# 6.1 Designated Sites

MAGiC on the Map<sup>7</sup> was used to view all Designated Sites within 2km.

Designated Site	Distance	Notes
North York Moors National Park	Site within National Park	National Parks are run by National Park Authorities for the purpose of conserving and enhancing the natural beauty, wildlife and cultural heritage and to provide opportunities for the understanding and enjoyment of the Park by the public.
Moorland line	300 metres SE	The moorland line encloses land within England which has been defined as predominantly semi- natural upland vegetation, or predominantly of rock outcrops and semi-natural vegetation, used primarily for rough grazing. The moorland line encloses some 42% of LFA land.



7 magic.defra.gov.uk

Designated Site	Distance	Notes
North York Moors SSSI	830 metres E	The North York Moors contain the largest continuous tract of heather moorland in England. The site is of national importance for its mire and heather moorland vegetation communities and of international importance for its breeding bird populations, particularly merlin and golden plover. The vegetation displays a transition between blanket bog and dry heath land and supports diverse and extensive upland plant communities. The moorland plateaux are dominated by dry heath on the central and western moors and wet heath and mire communities on the northern and eastern moors. The plateaux are defined by a number of valleys, the sides of which support extensive strands of bracken and small areas of native woodland. Acid grasslands occur along some of the moorland edges.
		Along streams, narrow bands of alder woodland occur with ash and herbs such as yellow pimpernel. Natural regeneration on some of the peripheral moors, where grazing and burning pressures are low, has resulted in the presence of scattered trees including oak, birch and, in places, Scots pine over an understorey of dry heath. Juniper is locally rare and exists only as single shrubs or small clusters in a few remote gills and moor edges where burning is absent. The site supports a nationally important assemblage of moorland breeding birds including merlin, golden plover, snipe, curlew, redshank, whinchat, ring ouzel, hen harrier, peregrine and short-eared owl. The populations of breeding merlin and golden plover are of international importance.
Cliff Ridge SSSI	890 metres NW	Fine exposures in the upper quarries at Cliff Ridge show the Cleveland Dyke in full cross-section and in contact with thermally altered metamorphosed sediments.
North York Moors SPA	900 metres E	This is a predominantly upland area, dominated by open heather moorland, intersected by long valleys, which contain valley mires, pastures and fringing deciduous or conifer woodlands. Areas are mostly managed for grouse by rotational burning and with extensive sheep grazing. Bracken has become dominant over extensive areas that were formerly dominated by ericaceous species. There are boggy flushes with rushes and valley mires with <i>Sphagnum</i> mosses, sedges, and other plants characteristic of fens and bogs. The moors are important for breeding upland birds, notably raptors and breeding waders.
		Qualifying species during the breeding season include golden plover and merlin.

Designated Site	Distance	Notes
North York Moors SAC	900 metres E	Habitats present include inland water bodies, bogs, marshes, water fringed vegetation, fens, heath, scrub, <i>maquis</i> and <i>garrigue</i> , <i>phygrana</i> , dry grassland, steppes, humid grassland, mesophile grassland, broad-leaved deciduous woodland, coniferous woodland and mixed woodland.
Roseberry Topping SSSI	1.3km N	A site of geological importance. Roseberry Topping is famous for its Middle Jurassic plant bed laid down about 170 million years ago. This has yielded a large assemblage of fossils totalling some seventy species. The fossil flora includes <i>Pachypteris papillosa</i> , noteworthy for its xeromorphic features suggesting that this species was a saltmarsh inhabitant in contrast to the vast majority which were either land or freshwater marsh plants. This is a nationally important palaeobotanical site.

A full map can be found in **appendix 4**.

The building falls within the SSSI Impact Risk Zones. No impact is expected. Potential impacts are discussed in the table below:



Category	Impact	Description		
Infrastructure	N/A	Pipelines, pylons and overhead cables. Any transport proposal including road, rail and by water (excluding routine maintenance). Airports, helipads and other aviation proposals.		
Wind & solar energy	N/A	Solar schemes with footprint > 0.5ha, all wind turbines.		
Minerals, oil & gas	N/A	Planning applications for quarries, including new proposals, Review of Minerals Permissions (ROMP), extensions, variations to conditions <i>etc</i> . Oil & gas exploration/extraction.		
Rural non- residential	N/A	Large non-residential developments outside existing settlements/urban areas where net additional gross internal floorspace is > 1,000m <sup>2</sup> or footprint exceeds 0.2ha.		
Residential	N/A	Residential development of 50 units or more.		
Rural residential	N/A	Any residential development of 10 or more houses outside existing settlements/urban areas.		
Air pollution	N/A	Any industrial/agricultural development that could cause air pollution (including industrial processes, livestock & poultry units with floorspace > 500m <sup>2</sup> , slurry lagoons > 200m <sup>2</sup> & manure stores > 250t).		
Combustion	N/A	General combustion processes >20MW energy input. Including energy from waste incineration, other incineration, landfill gas generation plant, pyrolysis/gasification, anaerobic digestion, sewage treatment works, other incineration/combustion.		
Waste	N/A	Landfill. Including inert landfill, non-hazardous landfill, hazardous landfill.		
Composting	N/A	Any composting proposal with more than 500 tonnes maximum annual operational throughput. Including open windrow composting, in-vessel composting, anaerobic digestion, other waste management.		
Water supply	N/A	Large infrastructure such as warehousing / industry where net additional gross internal floorspace is >1,000m <sup>2</sup> or any development needing its own water supply.		

## 6.2 **Priority Habitats**

Priority Habitats are listed in the table below. A full map can be found in **appendix 5**. No impact is expected on these habitats.

Habitat	Distance (nearest)
Deciduous woodland	~100 metres NE
Ancient & semi-natural woodland	~230 metres NW (Slacks Wood)
Ancient replanted woodland	~300 metres N (Slacks Wood)
No main habitat but additional habitats present: Lowland meadows and pastures	~500 metres NE
Good quality semi-improved grassland	~560 metres N
Upland heathland	~710 metres SE ~900 metres E
No main habitat but additional habitats present: European dry heaths Northern Atlantic wet heaths with <i>Erica tetralix</i> Wet heath (upland)	~840 metres SE
Grass moorland	~1km NE
Wood-pasture and parkland BAP	~1.2km NW
Lowland dry acid grassland	~1.6km NW
Lowland heath	~1.9km NE

## 6.3 Species data

Due to the nature of the development data from the Environmental Records and Information Centre North East (ERIC) was not requested. The NBN Atlas<sup>8</sup> was checked for species to ensure the Precautionary Working Method Statement was inclusive. This data is not available on a suitable scale for commercial purposes, as protected and sensitive species are only viewable on large scale maps; however it was checked to ascertain if species are present in the locality.

There are no records of badger (*Meles meles*) from the 2km grid square the site is located in, but suitable habitat is present close to the site.

There are no records of water vole (*Arvicola amphibius*) within 2km. However from personal knowledge Rachel Hepburn is aware of the presence of a stronghold in central Middlesbrough to the north.

There are no records of otter (*Lutra lutra*) within 2km. However, there are scattered records from within 10km.

<sup>8</sup> nbnatlas.org

Species	Site	Quantity	Year	Comment	Proximity
Unknown	Cockshaw Cottage, Dikes Lane, Great Ayton	Unknown	2005	Bats inside building.	~80 metres NE
Common Pipistrelle	The Barn, 3 Dikes Lane, Great Ayton	153	2005	Maternity roost. NZ583112. 153 bats counted	~460 metres SW
Common Pipistrelle	Aireyholme Farm, Great Ayton	4	2012	Foraging	600 metres NW
Common Pipistrelle	Undercliffe Hall, Great Ayton	60	2002	Maternity roost	630 metres W
Brown Long-eared Bat	Undercliffe Hall, Great Ayton	2	2002	Roost	630 metres W
Pipistrelle species	Great Ayton	1	1992/19 94/2000	Female bat	870 metres NW
Natterer's Bat	Cliff Rigg Quarry	1	2013	Hibernating bat	1.5km NW
Whiskered / Brandt's Bat			2014	In flight	1.6km NW

Records from North Yorkshire Bat Group have been received. The full set of records will be made available in **appendix 2**.

There are **no records of EPSLs granted within 2km** on MAGiC on the Map. The nearest record is 2.4km south west:

Case reference	EPSM2012-4976
Species	Common pipistrelle, brown long-eared, natterers, whiskered and soprano pipistrelle
Licence start date	14/05/2013
Licence end date	31/08/2014
Impact	Impact on breeding site Destruction of breeding site Destruction of a resting place

## 7. Site walkover

This report was commissioned to analyse any potential impact on bats and birds from the renovation of the building. There has been no recent site or building management. Access was available to all external elevations and internal rooms.

## 7.1 The building

The property, the subject of this application is a redundant, steel frame and blockwork with asbestos sheet roof. This former agricultural building is a poor state of repair – the whitewashed walls were peeling in places and moss is growing where areas are holding water. This has caused wooden features such as window frames to rot away.

The building is constructed of concrete blocks with sand/cement rendering. The roof has a steel frame with asbestos/cement sheets and a shallow pitch. Insulation sheets are present. Windows are painted softwood casements. Doors are sliding timber to the front with a steel security door to the rear ground floor and a timber entrance door to the first-floor rear. There is also a wrought iron staircase at the back providing access to the first floor. Externally the walls are covered in pebble-dash, which is crumbling in places.

The building does not appear to have a heating system currently working or working electrics. A solar panel is present, which may provide electricity to the building.

Due to the condition of the building there were several potential access points noted internally:

- Gaps between asbestos roof sheets
- Gaps in the breeze blocks into cavities
- Access along the wall tops
- Gaps behind fascia board (TN15)
- Access *via* open windows and doors

#### **Upper floor**

The upper floor is a large open area, with a small toilet area in the north west corner (T**N10**). No loft void is present with the ceiling open to the roof panelling; however crevices were present between the asbestos sheets. These were inspected *via* an endoscope with photographic functionality. No bats were seen.

The wooden boarded floor is in good condition and the premises are dusty and in a poor state of repair. Droppings from bats, bird and potentially rodents were noted scattered around the walls, wall tops and floor.

Internally signs of damp can be seen underneath the roof, particularly in the corners. In places the whitewash from the breeze block constructed walls is peeling. The single glazed windows in wooden frames are in a poor state of repair and the rot damage has created access gaps to the outside. Bird droppings were noted in the upper floor, but no evidence of nests.

Bat droppings were noted across most of the upper floor (**TN8**) with a couple of areas where they were denser, suggesting access/roost locations. These were predominately in the north west, north east and south east corners (**TN10**). Gaps were present between asbestos sheets in the roof. Endoscope inspection showed very few cobwebs present in these gaps.

Two gaps in the floorboards along the northern elevation (eastern end) were noted (TN7) – these are directly above where bat droppings were concentrated on the floor below. Butterfly wings consistent with feeding remains from brown-long-eared bat were found in the centre of the room (TN8).

#### Ground floor – stable area

The area is entered along the western elevation by a barn door, which appears to be always partially ajar. Small single glazed windows in wooden frames are present and in open position. This area is very dusty.

A vacant bird's nest was noted on a wooden beam just inside the entrance (TN9).

The concrete floor has bird droppings present, with some butterfly wings (consistent with bat feeding remains) present towards the south east corner (**TN11**). A few bat droppings were noted scattered across the area, with a concentration in the north east corner – in the region of where gaps are present in the floorboards from the upper floor (**TN7**).

Harlequin ladybird (*Harmonia axyridis*)<sup>9</sup> was noted in large numbers hibernating in clusters within this section; primarily around the entrance on the south western elevation (**TN9**).

<sup>&</sup>lt;sup>9</sup> "The harlequin ladybird was introduced to North America in 1988, where it is now the most widespread ladybird species on the continent. It has already invaded much of north western Europe and arrived in Britain in summer 2004." – harlequin-survey.org

## Ground floor – storage area open on south eastern elevation

The south eastern lower room (**TN12**) in the building is fully open on facing south western overlooking the watercourse and woodland.

Bat droppings were noted in the north eastern corner (**TN10**) of this section, on the ground and up the walls around the corner. A wooden fascia board is present, although this was too high to see into the gap behind it (**TN15**).

A concentration of owl pellets was noted in this area and small number of feathers. No other signs of owl were noted (**TN12**). The pellets do not look recent and are consistent with belonging to tawny owl (*Strix aluco*). A remnant bird's nest (consistent with house martin - *Delichon urbicum*) was noted in the upper north east corner.

## 7.2 The site

The northern site boundary is delineated by an established predominantly beech (*Fagus sylvatica*) hedgerow (**TN3**). Birds were heard singing throughout the site walkover.

A large sycamore (*Acer pseudoplatanus*) -**TN2**- is located on the north eastern tip of the site. This mature tree is located in close proximity to the building and is covered in ivy (*Hedera helix*). The presence of ivy can often cover any potential roosting features in trees.

Branches from this sycamore are overhanging the building and may account for some of the moss growth on the asbestos sheet roofing. The branches overhanging the building were assessed and there were no features suitable for roosting bats on either the small branches overhanging the roof or on the large branch (TN14) running parallel to the road.

A tree (**TN4**) is present by the site entrance (**TN5**) and is in poor condition. An access track can still be seen under the encroaching flora leading to the building.

The grassland (**TN16**) slopes steeply down towards the woodland and watercourse. It was damp underfoot and tussocky in nature. Flora species on site appeared to be of no particular note. However, the ground frost did compromise identification to species level:

- Bedstraw (Galium sp.)
- Black knapweed (Centaurea nigra)
- Broadleaved dock (Rumex obtusifolius)
- Clover (*Trifolium* sp.)
- Cocks foot (Dactylis glomerata)
- Coltsfoot (Tussilago farfara)
- Common hogweed (Heracleum sphondylium)
- Common nettle (Urtica dioica)
- Cow parsley (Anthriscus sylvestris)
- Creeping buttercup (Ranunculus repens)
- Dandelion (Taraxacum officinale agg.)
- Meadow grass (Poa sp.)
- Lamb's ear (Stachys byzantine)
- Ribwort plantain (*Plantago lanceolata*)
- Sorrel (*Rumex sp.*)
- Spear thistle (Cirsium vulgare)
- Teasel (Dipsacus fullonum)
- Yarrow (Achillea millefolium)

Lack of site management in recent years has led to the grassland being rank in nature.

## Woodland

The woodland (**TN17**) located to the south and east of the site appears to be a mixed plantation woodland. A watercourse (**TN18**) is running along the northern edge. This appears to be a well-established woodland; however most of the trees are tall, thin and spindly. There are occasional small sprigs of holly (*Ilex aquifolium*) scattered throughout.

Additional species present within the woodland include:

- Deadnettle (Labium sp.)
- Hart's tongue fern (Asplenium scolopendrium)
- Wood-sorrel (Oxalis acetosella)

Evidence of moles and deer were noted within the woodland. The trees have extensive damage consistent with the actions of deer and the carcase of a young deer was discovered (**TN19**). Various mammal tracks were noted – consistent with both deer and rabbit.

A stream flows from east-west along the north-west boundary of the woodland. It is shallow and sandy. Several holes are present that are consistent with water vole, but also could be caused by the water washing the substrate out from between tree roots.

The ground within the woodland is very damp with boggy areas. Some of the trees are showing signs of rot around their bases.

An ephemeral pond has formed on the woodland edge (**TN18**). This has no plants associated with wetland habitats, is approximately 2 metres x 15 metres and 100% shaded. There are some holes present along the north west of the water body; one at ground level and another slightly higher up. No tracks or other signs were noted.

The woodland appears suitable for badger, but no signs noted, and no setts found. A single grouse (*Lagopus lagopus*) was seen.

## 7.3 Annotated site map

Target note	Description		
1	Dikes Lane.		
2	Sycamore tree.		
3	Hedgerow.		
4	Tree by entrance.		
5	Site entrance.		
6	Proposed parking area.		
7	Area of bat droppings on ground floor and gaps in the upper		
	floorboards.		
8	Upper floor covers whole footprint of the building.		
9	Harlequin ladybirds by doorway.		
	Vacant bird's nest internally on the wooden beams.		
10	Concentration of bat droppings.		
11	Ground floor butterfly wings.		
12	Owl p <mark>elle</mark> ts.		
13	Existing hardstanding.		
14	Large branch of sycamore.		
15	Fascia board.		
16	Tussocky, damp grassland field sloping down to the woodland		
	and watercourse.		
17	Ephemeral pond.		
18	Watercourse.		
19	Evidence of deer.		



Figure 4. Annotated map – target notes described above<sup>10</sup>

<sup>10</sup> Reproduced with permission from Google Earth (2019)



Figure 5. Annotated map – target notes described above<sup>11</sup>

<sup>11</sup> Reproduced with permission from Google Earth (2019)

## 7.4 Site photos

Endoscope images are available if required.



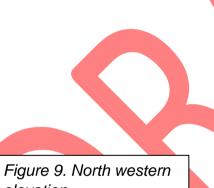
Figure 6. North west corner of the site with boundary hedge row



Figure 7. Ivy-covered sycamore tree (**TN2**)



Figure 8. Sycamore with overhanging branches (**TN2**)



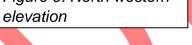




Figure 10. North western elevation

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Figure 11. Dikes Lane looking north; the building and sycamore (**TN2**) can be seen

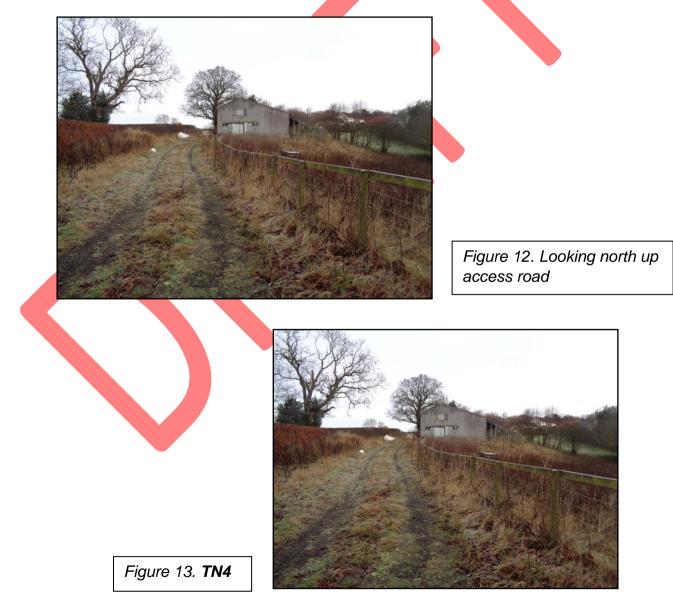




Figure 14. Area proposed for carparking (**TN6**)



Figure 15. Scrubby grassland (**TN16**) dropping downhill towards the woodland



Figure 16. Woodland

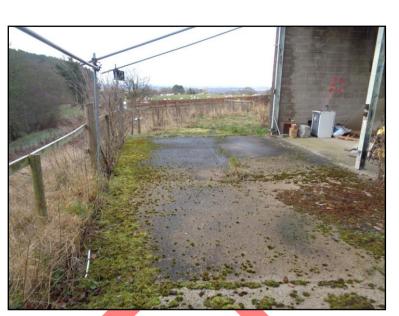


Figure 17. Hardstanding next to the south eastern elevation

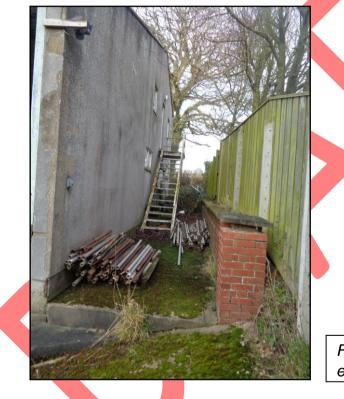


Figure 18. North eastern elevation



Figure 19. South eastern elevation with fascia board present

Figure 20. Window frames are rotten and in a poor state of repair





Figure 21. Example of potential access point



Figure 22. Gap behind fascia board on south eastern elevation



Figure 23. South western elevation



Figure 24. Example of first floor windowsills



Figure 25. First floor open room (W.C. in far corner)





Figure 29. Butterfly wings – possible bat feeding remains

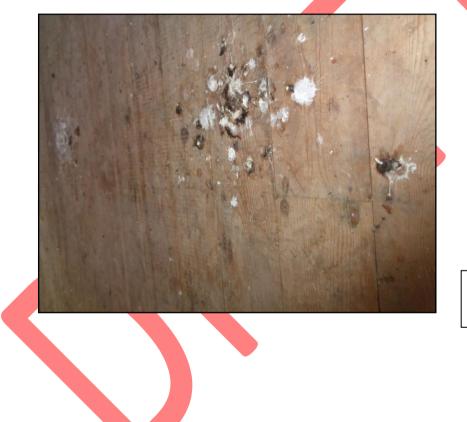


Figure 30. Bird droppings noted on first floor



Figure 31. Bat droppings scattered across the first floor – on the floor, walls and wall tops

Figure 32. Bat droppings scattered across the first floor – on the floor, walls and wall tops

Figure 33. Open barn on south eastern elevation. Remnant bird's nest and potential bat roost entrance marked





Figure 34. Area of owl pellets in south east barn (**TN12**)

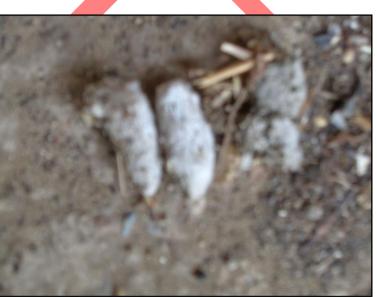


Figure 35. Owl pellets; possibly belonging to tawny owl (**TN12**)



Figure 36. Bat droppings scattered in corner of south eastern barn below possible roost entrance Figure 37. Bat droppings across walls in the corner of south eastern barn below possible roost entrance





Figure 38. Main room on the ground floor



Figure 39. Butterfly wings on the ground floor – possible bat feeding remains



Figure 40. Remnant bird's nest on the ground floor (**TN9**)

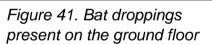




Figure 42. Harlequin ladybird



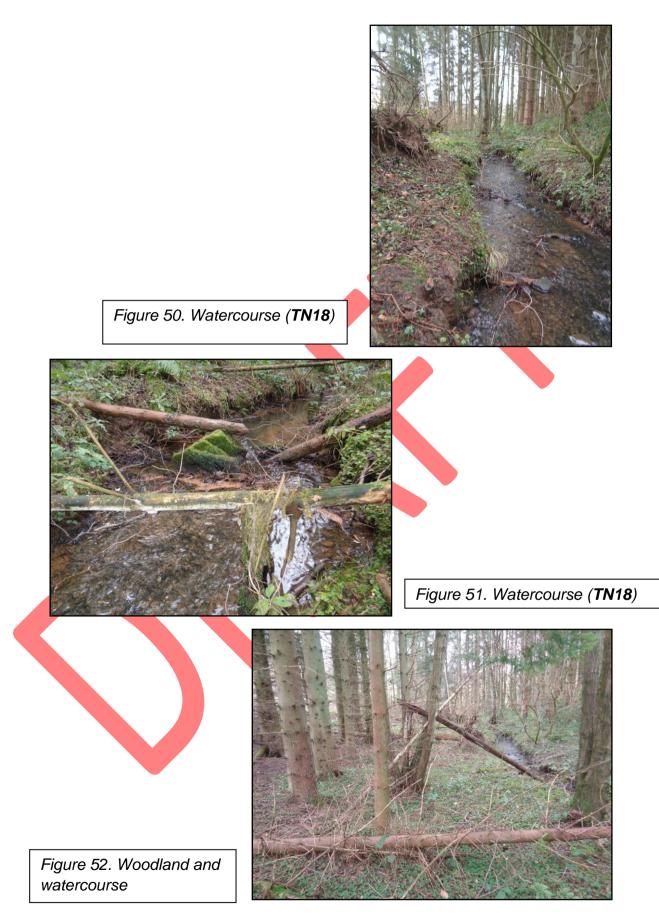


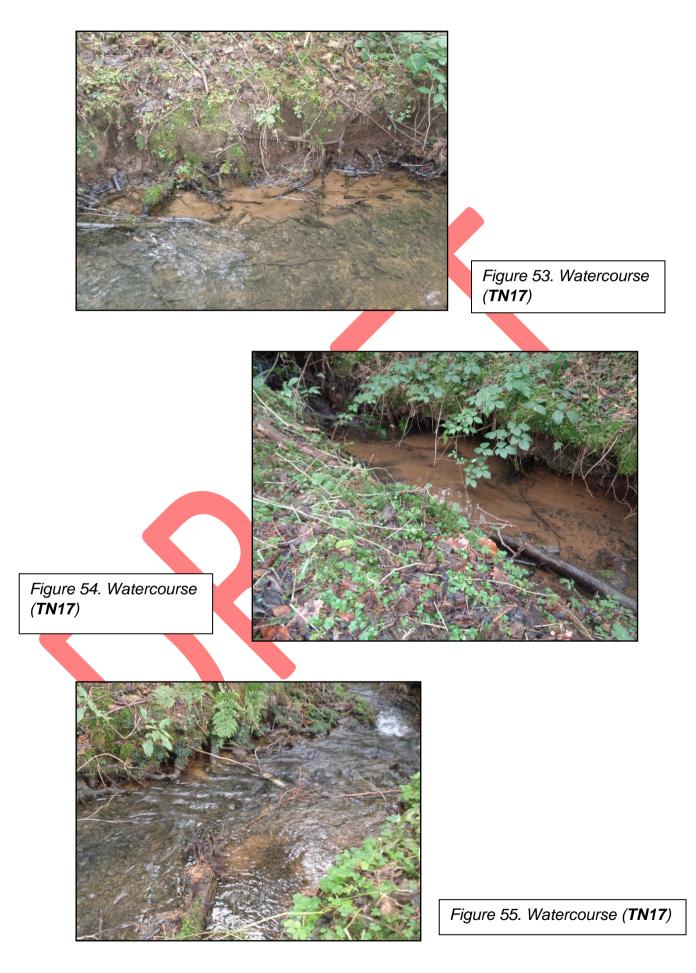


Figure 48. Ephemeral pond



Figure 49. Holes by ephemeral pond (pen for scale) – **TN17** 





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Figure 56. Watercourse leaving woods to the south

# 8. Bat surveys

Bat activity during surveys are discussed below. The full dataset is available upon request.

Date	19 <sup>th</sup> June 2019	8 <sup>th</sup> August 2019
Start time	21:25	03:25
Sunset/sunrise	21:44	05:30
End time	23:45	05:30
Weather	14°C	12°C
	Still, dry, no cloud cover	Still, dry

# 8.1 Dusk survey – 19/07/2019

Time	Species	Notes
22:21	Common pipistrelle ( <i>Pipistrellus pipistrellus</i> )	37 minutes after sunset. Heard but not seen.
From 22:27	Common pipistrelle <i>Myotis</i> <sup>12</sup>	Heard and seen flying around the building for the duration of the survey.
23:45	Noctule (Nyctalus noctula)	Heard but not seen.

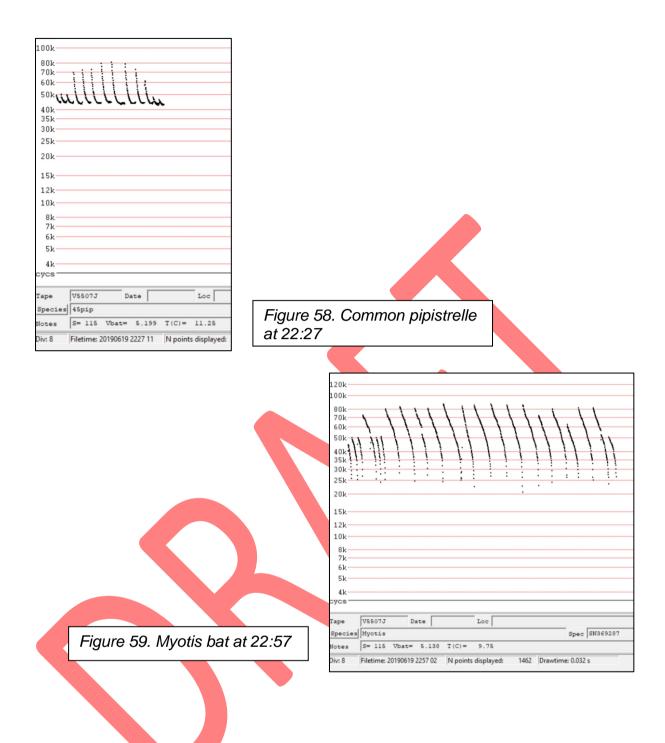
Although bat activity was constant throughout the survey, surveyors noted this appeared to be a low number of bats circling the building.



Figure 57. Flight lines and surveyor locations<sup>13</sup>

<sup>&</sup>lt;sup>12</sup> Includes natterers, Daubenton's, whiskered and Brandt's bat species.

<sup>&</sup>lt;sup>13</sup> Reproduced with permission from Google Earth (2019)



# 8.2 Dawn survey – 08/08/2019

Time	Species	Notes	
03.17	Natterer's ( <i>Myotis nattereri</i> )	Surveyors noted a single Natterer's bat flying around upper room when they entered to set up an Anabat static detector. Identification took place in the hand when the bat landed.	
03.20	Natterer's	Bat recorded flying in room after surveyors left.	
03:20	Common pipistrelle	Low numbers (assumed <3 individuals) looping the building for the duration of the survey.	
03:41 03.42	Noctule	Heard not seen.	
03:46 03.52 03:54	Bat social call	Recorded.	
From 03:45 until 04:44	<i>Myotis</i> (assumed Natterer's).	The <i>Myotis</i> family of bats can be difficult to separate and call recording quality varies depending on location of bat/Anabat/habitat.	
04.44	pipistrelle	Clear identification calls are therefore noted separately. Almost constant looping of the building by bats from this point.	
03:46 03.47 04:00 04:05 04:25	Natterer's	Confirmed from clear sound recordings. Recorded externally by the surveyor to the NW of the building from this point.	
04:26 04:27 04:28		Looping around building.	
04:30 04:31 04:32	Natterer's	Confirmed from clear sound recordings. Surveyor to SE of the site noted 2 natterer's bats foraging/swarming in the barn. Didn't exit the barn.	
04:32	Natterer's	Static Anabat in upper room recorded a natterer's bat. This is consistent with re-entry into the building.	
04:18	Common pipistrelle	Seen flying N-S along the south western elevation of the building.	
04:29	Noctule	Heard not seen.	
04:39 04:40 04:43	Common pipistrelle	Three bats (individually) noted swarming around the lower end of the left-hand window. Entering around window ledge.	
04:44	Bat activity ends.		

The site is used by low numbers of natterers' and common pipistrelle bats.

A common pipistrelle roost of 3 bats was noted around the window ledge on the SW elevation left hand window. Closer examination from inside the building revealed an external gap which led into the wall cavity. A natterers' roost of 2 bats is located in the upper room of the building. The bats enter the premises *via* a gap in the upper south west corner of the open barn.

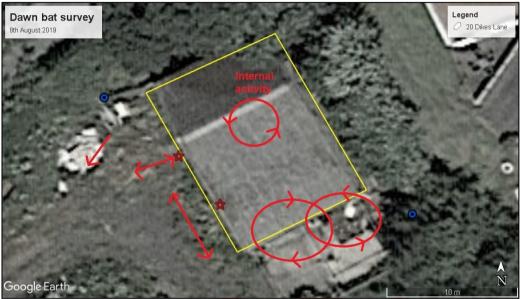


Figure 60. Flight lines, roost entrances and surveyor locations<sup>14</sup>



Figure 61. Natterer's bat in upper room

<sup>&</sup>lt;sup>14</sup> Reproduced with permission from Google Earth (2019)

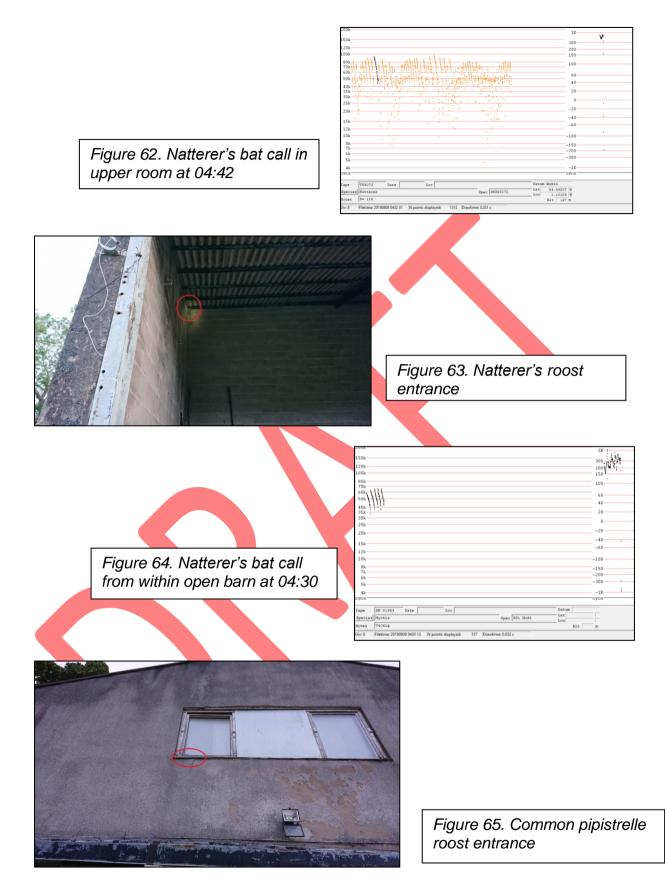




Figure 66. Common pipistrelle roost internally



Figure 67. Crevice roost of common pipistrelle roost entrance – plastic sheeting temporarily removed.

Figure 68. Common pipistrelle swarming around roost entrance at 04:40

120k 100k 80k 70k lili 50k 40k 35k 30k 25k 20k 15k 12k 10k-8k 7k 6k 5k 4k vcs V5507I ape Date Loc Species 45pip Notes S= 205 Filetime: 20190808 0440 57 N points displayed: v: 8

# 9. Conclusion and Impact Assessment

## 9.1 Summary

- The site has excellent connectivity to the woodland and nearby watercourse.
- The building is used by tawny owl (*Strix aluco*). A tawny owl nest box should be added to the south east elevation of the building<sup>15</sup>.
- The building has a small natterers (*Myotis nattereri*) roost and a separate small common pipistrelle (*Pipistrellus pipistrellus*) roost.
- A Natural England Mitigation Licence is deemed necessary for the proposed development as the bat roost entrance on the south east elevation with the open barn will be affected. Work should take place between September and April (inclusive) to avoid any risk to the small roosts.
- Integral bat roosting features<sup>16</sup> will be required to be incorporated into the renovation works. A bat loft should be provided for Natterer's bats on the southern end of the building. Details will be discussed with the client and provided in the Natural England licence application.
- Ecological supervision will be required by the project ecologist during the construction phase.

The following recommendations should be translated into conditions placed on any planning consent. They are intended to reduce the impact of this development to protected species. These recommendations are included in the Method Statement (**appendix 1**) which must be followed by all of those working on the site.

Factors supporting the recommendations are discussed below:

## 9.2 Limitations

The PEA was undertaken outside the peak season for ecological survey so suitable areas for bats and birds were less likely to have field signs present. However, the assessment is also made on the potential for bats, which is discussed later. Flora species were hard to identify to species level due to the layer of ground frost across the site.

The trees located to the north east of the building restricted viewing of the building during the bat surveys.

<sup>&</sup>lt;sup>15</sup> www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-owls-and-kestrels/tawny-owl-

<sup>&</sup>lt;sup>16</sup> Gunnell, K. *et al* (2013). Designing for Biodiversity: A technical guide for new and existing buildings. BCT.

# 9.3 Impact Assessment and mitigation

# 9.3.1 Bats

## **Potential impacts**

- Destruction and/or disturbance to bat roosts.
- Change of use of buildings will alter temperature conditions for any roosts.
- Increased lighting levels are likely to affect foraging and commuting routes for nocturnal animals.

# **Discussion and proposed mitigation**

The surrounding habitats with connectivity to woodland and watercourse provide excellent foraging habitats for a wide variety of species. Damage to the external breeze block walls has created additional cavities that may be used by bats.

Prior to the bat activity surveys areas with bat droppings present were swept down and cleared away. This was to allow the surveyors to check if the building was currently being used by bats. <u>Fresh bat droppings were noted when the building was</u> <u>checked during the dawn survey.</u>

During bat surveys two natterer's bats were noted entering the building from within the open barn on the south east elevation. Three common pipistrelle bats were noted entering the building *via* a gap below the window on the north east elevation.

A Natural England Mitigation licence<sup>17</sup> is required as retention of day roosts and their entrances for bats is unlikely to be an option with full conversion proposals. Even if roost entrances could be left, the proposed conversion works would alter the climatic conditions, such as temperature. This could lead to disturbance of a bat roost or cause the bats to leave and not return. Roost entrances should be clearly marked so contractors are aware of the areas to avoid.

The building is not thought to be a maternity roost. It is a day roost for low numbers of common pipistrelle and natterer's bats. The evidence of feeding remains such as butterfly wings, is often a sign of the presence of brown long-eared/natterers bats.

The plastic sheet on the windowsill covering the common pipistrelle roost MUST be left *in situ*. Removal will alter the roost conditions and may constitute a criminal offence. A bat loft for natterer's bats should be created during the renovation works. Integrated features suitable for bats will be required to be incorporated. Full details will be provided with the Natural England Mitigation Licence application.

<sup>&</sup>lt;sup>17</sup> www.gov.uk/government/publications/bats-apply-for-a-mitigation-licence

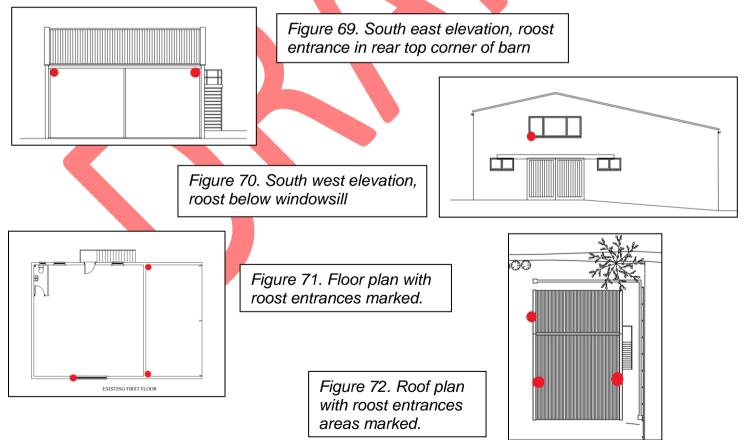
Bats are known to actively forage around the building. Any additional lighting should be discussed with the project ecologist and follow the ILP/BCT guidance (2018). In particular the SE and SW elevations should remain as dark as possible, with only low-level directional lighting PIR if essential. This is to reduce disturbance to foraging and roosting bats.

No Modern (Breathable) Roofing Membranes should be used in the development as these have been shown to entangle bats<sup>18</sup>. Currently the only 'bat safe' roofing membrane is bitumen 1F felt that is a non-woven short fibred construction.

Ecological supervision work will be required during the construction phase. Areas of the roof such as fascia boards, roof sheeting, flashing and guttering should be removed by hand, with the project ecological checking that no bats are present. Some post-development monitoring may be conditioned. Mitigation measures / roost replacement details will be discussed with the client and specified in the licence application.

If bats are discovered all work in the area will immediately cease, and a licensed ecologist should be called to the site. Any bats must be left *in situ* if this is safe until the project ecological arrives.

#### **Bat roost entrances**



Diagrams from plans provided by Alan Vandrome.

<sup>&</sup>lt;sup>18</sup> www.bats.org.uk/our-work/buildings-planning-and-development

# 9.3.2 Birds

## **Potential impacts**

- Disturbance to nesting birds / destruction of nests during the construction phase.
- Loss of barn owl feeding area.

## **Discussion and proposed mitigation**

Signs of birds (remnant nests and droppings) were noted in the building. Owl pellets were also found, consistent with tawny owl. A tawny owl nest box should be added to the south east elevation of the building<sup>19</sup>.

If construction work takes place during the bird nesting season (March to August inclusive) a suitably qualified ecologist should confirm that no nesting birds are present in/on the buildings. Integral bird boxes (such as bricks and tiles) are recommended to be installed during the construction phase.

## 9.3.3 Watercourse

## **Potential impacts**

Construction run-off polluting nearby watercourse.

## Discussion and proposed mitigation

There is approximately 30 metres between the development site and the watercourse. A Pollution Prevention Plan should be drawn up before construction work begins. This should be based on 'Works in, near or over watercourses; PPG5: prevent pollution' (now withdrawn)<sup>20</sup>.

<sup>&</sup>lt;sup>19</sup> www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-owls-and-kestrels/tawny-owlboxes/

<sup>&</sup>lt;sup>20</sup> Environment Agency, 2007

## 9.3.4 Trees

#### **Potential impacts**

- Damage to nearby trees; particularly the root systems.
- Damage/loss with regard to trees in close proximity to the building.

### **Discussion and proposed mitigation**

Some of the nearby trees have Potential Roost Features with regard to bats. No work should take place on the trees without consultation with the project ecologist.

There were no features suitable for roosting bats on either the small branches overhanging the roof or on the large branch running parallel to the road. These branches can be removed if required. The extent of the area proposed for carparking should be carefully considered to ensure there is enough room for large vehicles without impact to the hedgerows or nearby trees.

A Tree Root Protection Plan should be drawn up by a suitability qualified arborist. Root protection zones to be clearly marked out prior to construction work. Refer to BS 5837:2012 Trees in relation to design, demolition and construction.

## 9.3.5 Designated Sites

#### **Potential impacts**

Negligible impact expected.

#### Discussion and proposed mitigation

The building sits within the SSSI Impact Risk Zone, but no impact is expected.

# 9.3.6 Other

### **Potential impacts**

- There is potential for species such as hedgehog, badger, rabbit and deer to be present near the site.
- Loss of biodiversity due to increased recreation disturbance on site, such as dogs.
- Hibernation potential across site could be lost/reduced.

## Discussion and proposed mitigation

- Precautionary Working Methods (appendix 1) should be following during the construction phase.
- Any storage of materials on site, or removal of the scrub, brash and rubble piles in the garden are likely to create suitable hibernacula for several species and therefore should only be moved by hand.
- Any pits or holes dug during construction phase must be covered up overnight or fitted with exit ramps (scaffolding planks) for mammals to be placed at an angle of 30° from base to top.
- Additional site planting should be with species of a native and local provenance.

## 10. References

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## APPENDIX 1. Precautionary Working Method Statement

# METHOD STATEMENT FOR CONTRACTORS 20 Dikes Lane, Great Ayton TS9 6HA

#### A Natural England Mitigation Licence is required for the conversion works.

The renovation of the building may bring contractors into contact with a range of protected species including bats and breeding birds.

The following precautions are necessary to prevent a legal offence being committed. All species of breeding birds, otter and bats are protected by law. Deliberate or reckless disturbance of these animals is a legal offence, punishable by fines and/or imprisonment. These are likely to be translated into conditions placed on any planning consent. They are intended to reduce the impact of this development to protected species and must be followed by all of those working on the site.

#### Method statement for bats:

Example only – full details will be provided in the Natural England licence.

- The plastic sheet on the windowsill covering the common pipistrelle roost MUST be left *in situ*. Removal will alter the roost conditions and may constitute an offence until the appropriate mitigation is in place.
- Bat loft to be created during the renovation works.
- Additional lighting should be discussed with the project ecologist and follow the ILP/BCT guidance (2018). In particular the SE and SW elevations should remain as dark as possible, with only low-level directional lighting PIR if essential.
- No Modern (Breathable) Roofing Membranes should be used in the development as these have been shown to entangle bats<sup>21</sup>. Currently the only 'bat safe' roofing membrane is bitumen 1F felt that is a non-woven short fibred construction.
- Ecological supervision work will be required during the construction phase. Areas of the roof such as fascia boards, roof sheeting, flashing and guttering should be removed by hand, with the project ecological checking that no bats are present.
- If bats are discovered all work in the area will immediately cease, and a licensed ecologist should be called to the site. Any bats must be left *in situ* if this is safe until the project ecological arrives.

<sup>&</sup>lt;sup>21</sup> www.bats.org.uk/our-work/buildings-planning-and-development

# Method statement for birds:

- A tawny owl nest box should be added to the south east elevation of the building<sup>22</sup>.
- If construction work takes place during the bird nesting season (March to August inclusive) a suitably qualified ecologist should confirm that no nesting birds are present in/on the buildings.

Integral bird boxes (such as bricks and tiles) are recommended to be installed during the construction phase.

# Reduction of impact on the nearby watercourse:

Due to the close proximity of the waterways a Pollution Prevention Plan should be drawn up before construction work begins. This should be based on 'Works in, near or over watercourses; PPG5: prevent pollution' (now withdrawn)<sup>23</sup>.

# Method statement for working around trees:

Some of the nearby trees have Potential Roost Features with regard to bats. No work should take place on the trees without consultation by the project ecologist.

- A Tree Root Protection Plan should be drawn up by a suitability qualified arborist.
- The extent of the area proposed for carparking should be carefully considered to ensure there is enough room for large vehicles without impact to the hedgerows or nearby trees.
- Root protection zones to be clearly marked out prior to construction work. Refer to BS 5837:2012 Trees in relation to design, demolition and construction.

## General method statement for other species and habitats:

- Any storage of materials on site, or removal of the scrub, brash and rubble piles in the garden are likely to create suitable hibernacula for several species and therefore should only be moved by hand.
- Any pits or holes dug during construction phase must be covered up overnight or fitted with exit ramps (scaffolding planks) for mammals to be placed at an angle of 30° from base to top.

Additional site planting should be with species of a native and local provenance.

<sup>&</sup>lt;sup>22</sup> www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/nestboxes/nestboxes-for-owls-and-kestrels/tawny-owlboxes/

boxes/ <sup>23</sup> Environment Agency, 2007

# Signed by Owners

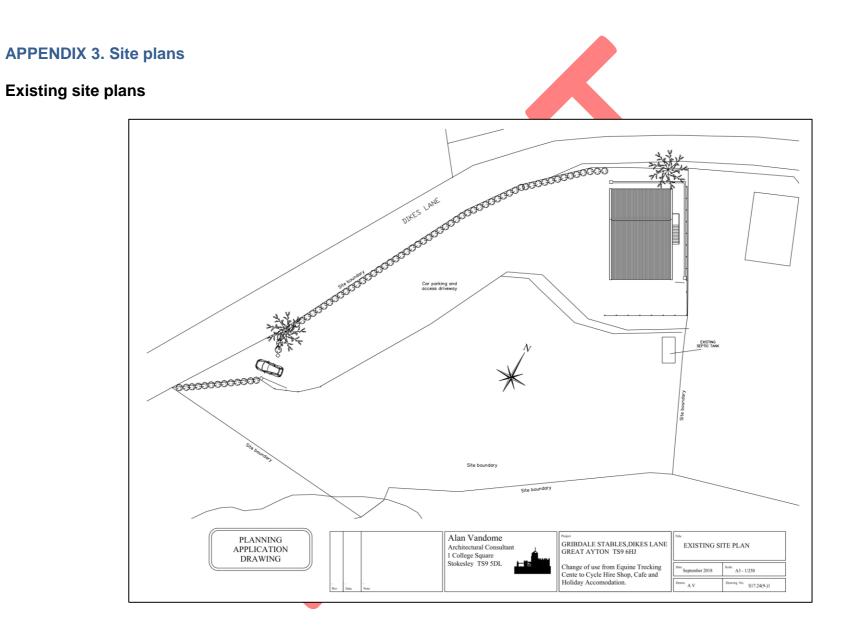
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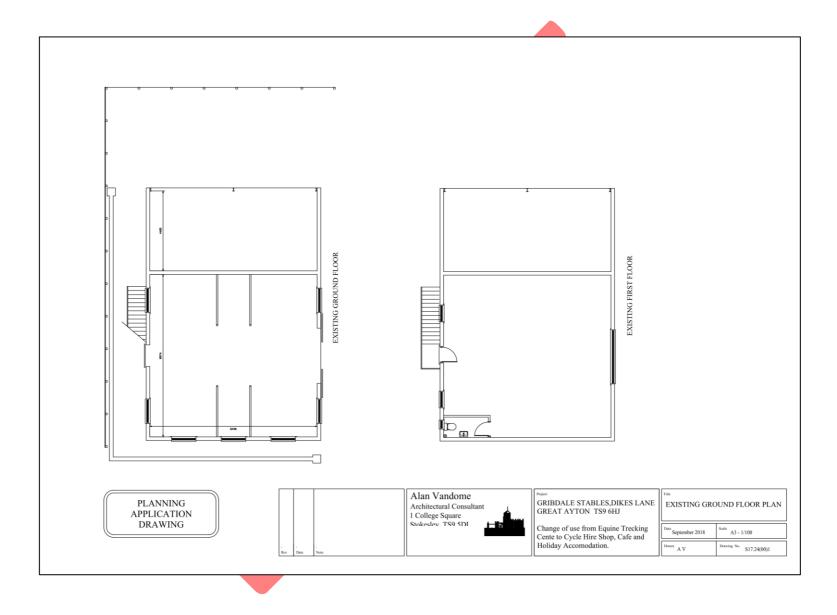
# Signed by Contractors

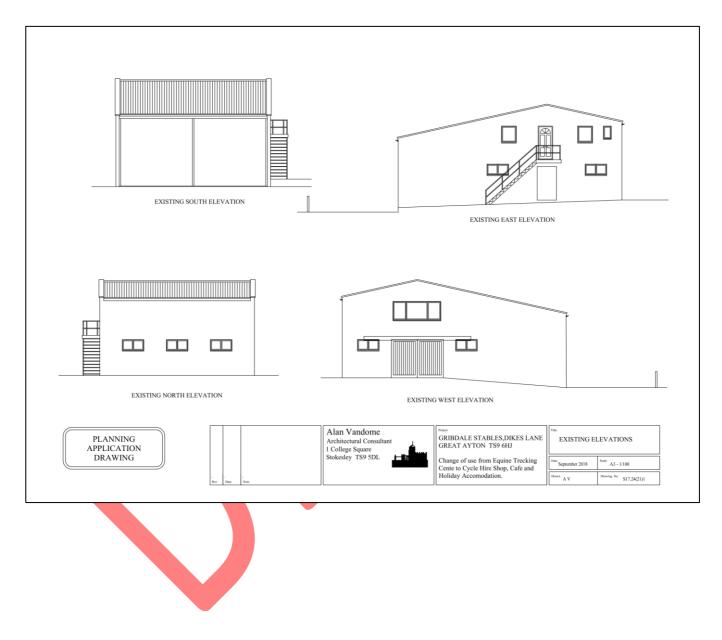
Name	Job Title	Date	Signature

# APPENDIX 2. North Yorkshire Bat Group data

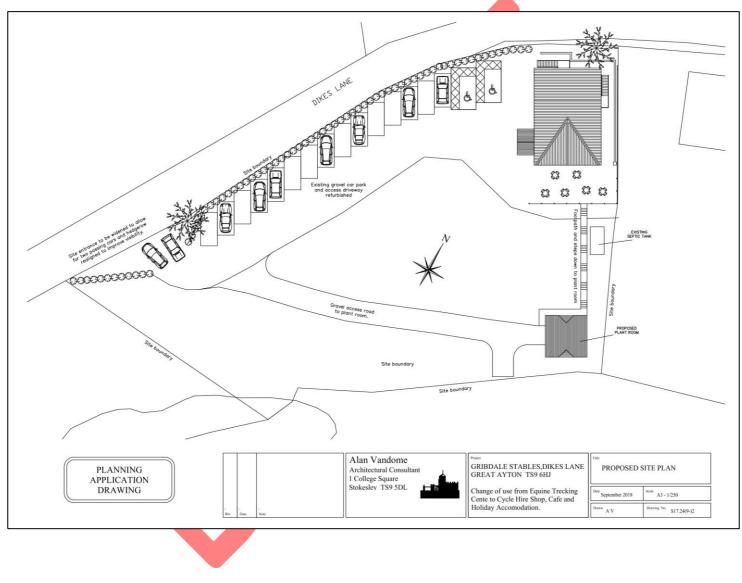
Species	Site	Number	Year	Comment
Natterer's Bat	Cliff Rigg Quarry	1	2013	Hibernating bat
Common Pipistrelle	The Barn, 3 Dikes Lane, Great Ayton	153	2002	Maternity roost
Common Pipistrelle	Undercliffe Hall, Great Ayton	60	2002	Maternity roost
Common Pipistrelle	Borough Green Farm, Low Easby	1	2009	In flight
Common Pipistrelle	NZ587093	1	2009	Deceased bat
Common Pipistrelle	Aireyholme Farm, Great Ayton	4	2012	In flight
Common Pipistrelle	Airyholme Farm, Great Ayton	2	2012	Foraging
Common Pipistrelle	NZ5712	50	2014	In flight
Common Pipistrelle	Great Ayton	1	2004	
Common Pipistrelle	Greystones, Carlton	1	2004	
Brown Long-eared Bat	Undercliffe Hall, Great Ayton	2	2002	Roost
Pipistrelle species	Friends' School, Great Ayton		1990	Building demolished spring 1993
Pipistrelle species	Great Ayton	1	1992	
Pipistrelle species	Great Ayton	1	1994	
Pipistrelle species	NZ5610	1	2000	Male bat
Pipistrelle species	Friends' School		2000	
Pipistrelle species	NZ5711	1	2000	Female bat
Pipistrelle species	NZ5711	1	2000	Female bat
Whiskered / Brandt's Bat	NZ5712		2014	In flight
Unknown	3 Dikes Lane, Great Ayton		2001	Roost
Unknown	Cockshaw Cottage, Dikes Lane, Great Ayton		2006	Bats inside building



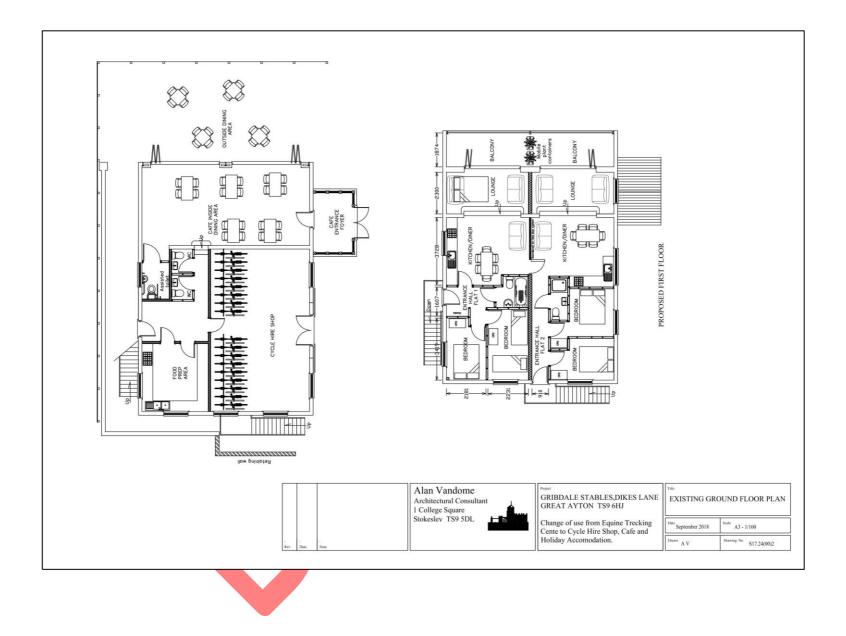


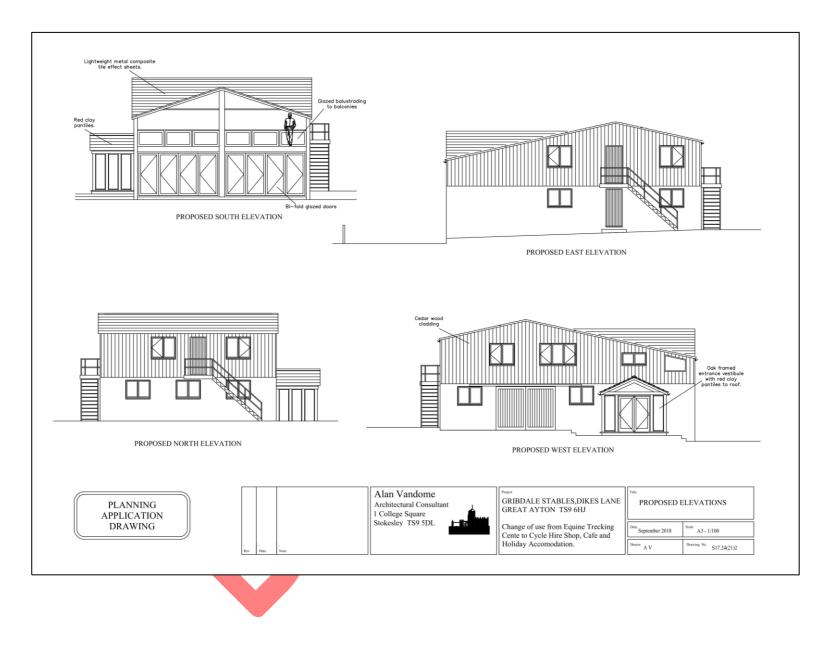


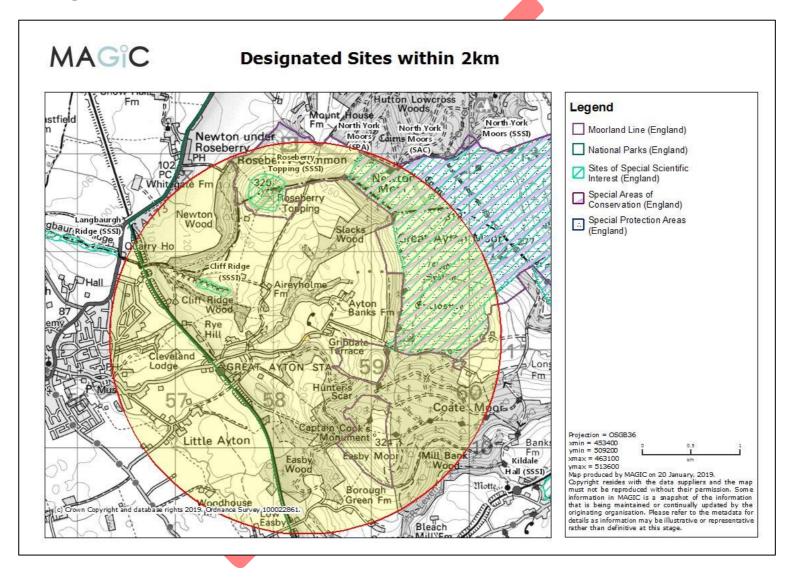
# **Proposed plans**



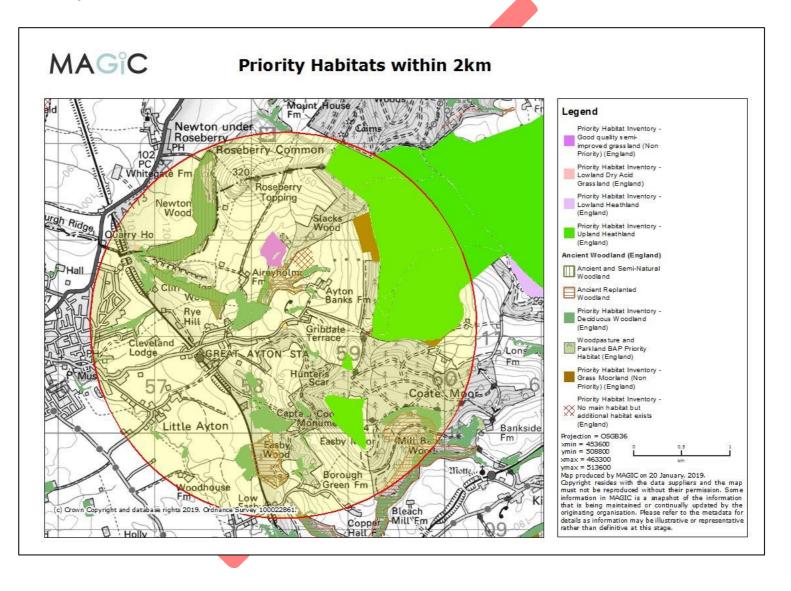
RH Ecological Services – Gribdale Stables Bat Report – August 2019







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