Heath Street, Buxton

Protected Species Survey Report

nlg ecology ltd

Unit B1.1
Clarence Mill
Clarence Road
Bollington
Macclesfield
SK10 5JZ

Tel: 01625 560789
E-mail: info@nlgecology.com

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Report drafted by;
Andy Leese (Natural England Bat Class Survey Licence WML34A) and Helen Staton (Natural England Bat Class Survey Licence CLS00439)

Supervisor;
Neil Lee-Gallon (Natural England Class Bat Class Survey Licence WML CL18)

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Title: **Heath Street, Buxton**
Protected Species Survey Report

Client: Mr Gerald Mulryan

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Draft V1	04/02/2015	Andy Leese	Neil Lee-Gallon	
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SUMMARY

NLG Ecology Ltd (NLG) was commissioned to undertake a protected species survey by Mr Gerald Mulryan in January 2015 for a site off Heath Street, Buxton, Derbyshire. The site is shown as Figure 1 (appendix 1) and is centred on National Grid Reference; SK 05956 72909. It is proposed that the building be converted to dwelling with associated car parking spaces proposed on the existing hard standing yard, as well as the creation of a corner storage unit.

The initial building inspection was undertaken on the 3rd February, 2015. This report also includes the results of a walkover survey of accessible surrounding land for evidence or potential for protected species/groups including bats, nesting birds, great crested newt (*Triturus cristatus*) and badger (*Meles meles*) and a further bat activity survey undertaken in May 2015.

A thorough inspection of the interior and exterior of the building was carried out to identify possible use as a bat roost. Externally the roof, walls and any associated voids where safe and accessible were inspected for staining around potential entrance points, bat droppings, scratch marks and feeding remains. The walls, any entrance points and windowsills of the buildings were also inspected for the presence of bat droppings and feeding remains. Internally the walls and floors were inspected for the presence of bat droppings and feeding remains with the aid of ladders and a torch.

No evidence was found of bats using the interior or exterior of the building as a roost site. However, there are many cracks and gaps on the far west end of the building exterior stone wall. These were observed at close quarters where possible and no evidence of bats was found. However, many of the gaps extend far back into cavities and therefore present suitable roosting opportunities that couldn't be discounted by a single winter inspection visit alone. In addition the north side elevation could not be checked at close quarters, and due to the condition of the stonework at that location it is likely that there are further extending gaps in stonework that may provide roosting opportunities. The general surroundings are well built up with surrounding buildings on all sides with a general lack of close-by tree and vegetation cover. However, in the wider area there are areas of tree cover surrounding the church c. 40m north and a large amenity sports field c. 40m to the south that is surrounded by trees and may link bats commuting within the wider landscape. By taking account the lack of direct habitat connectivity, it was considered that the building exhibits low potential in light of the extending suitable gaps in stonework, and therefore a bat activity survey was recommended and subsequently undertaken.

During the bat activity survey which was carried out May 2015, no bats were recorded emerging from the building. Common pipistrelle bats were observed foraging around the site shortly after sunset. It is thought likely that they are roosting at a nearby site and using the courtyard for foraging only. Therefore no further action in relation to bats is required and the conversion of the property into residential accommodation can commence without the need of any additional surveys.

As a legal obligation, should be bats be found or suspected at any time during the renovation works, work in that area should cease immediately until further advice has been sought from Natural England and the Bat Conservation trust (Tel. No 020 7627 2629). BCT will be able to locate a bat worker who can move any bats present which might be harmed. If bats are exposed and vulnerable to immediate harm, use gloves or a container to move them to a quiet dark area. No evidence of nesting birds was observed during the survey. However, the lean-to extension has open flight access through which birds may commence nest building. Should bird nesting be subsequently discovered, work should stop until the young have fledged and any nests left undisturbed until such a time.

No other protected species issues were identified during the survey.

CONTENTS

1 INTRODUCTION

1.1 Background

1.1.1 NLG Ecology Ltd (NLG) was commissioned to undertake a protected species survey by Mr Gerald Mulryan in January 2015 off Heath Street, Buxton, Derbyshire. The site is shown as Figure 1 (appendix 1) and is centred on National Grid Reference SK 05956 72909. It is proposed that the building be converted to dwelling with associated car parking spaces proposed on the existing hard standing yard, as well as the creation of a corner storage unit.

1.1.2 The survey in respect of bats was to determine the potential presence of bat roosting within the buildings in addition; consideration has been given to the potential presence of breeding birds and other notable species such as barn owl (*Tyto alba*). Wider evidence of badger *(Meles meles)* and a search of water bodies within 250m of the proposal site for the possible presence of great crested newts *(Triturus cristatus).*

1.1.3 The building inspection was undertaken by Andrew Leese (MSc, MCIEEM, Bat Survey Class Licence WML-34A) on the 3rdFebruary 2015.

1.1.4 A subsequent bat activity survey was undertaken by Helen Station (BSc Hons, ACIEEM, Bat Survey Class Licence CLS00439) and James Arkell on 21st May 2015.

1.1.5 Relevant legislations that have informed survey effort are detailed as Appendix 1. Note that the text provides a brief summary of the legislation in relation to bats in England and Wales and the original Acts, Regulations and any amendments should be referred to for the precise wording.

1.2 Bat Biology

1.2.1 Within the British Isles there are 17 resident (i.e. breed) species of bat. Bats are nocturnal and feed entirely on insects. They use echolocation, a complex sonar system, to navigate around their surroundings and to forage.

1.2.2 Depending on the species of bat, habitat requirements vary widely although features such as traditional pasture, woodland edges, parkland, and wetland are particularly good for bats as insects are abundant within these areas (Mitchell-Jones 2004). Linear features such as hedgerows, tree lines and watercourses are important for commuting as they assist navigation.

1.2.3 Bats utilise different roosts at different times of the year, and roost requirements vary between species. Typical roost sites include caves, mines, trees, and buildings. Bats hibernate between October and March and usually within a damp, unexposed roost which can maintain a relatively stable temperature such as caves, cellars, mines. Around March bats emerge from hibernation and gradually move to their summer roosts and during spring females gather together to form maternity colonies to give birth and rear their young. Summer and maternity roosts are typically found within man-made structures or suitable crevices in trees.

1.2.4 Birthing usually occurs late June – mid July, with the young able to fly within three to five weeks (Altringham 2003). By the end of August, most of the young bats are independent and the colony begins to break up. Mating takes place between August and December either at autumn swarming sites or winter hibernation sites. Bat roost sizes can vary from individual bats found within summer roosts, to hundreds of bats found within maternity colonies or hibernation sites.

2 METHODOLOGY

2.1 Desk Study

2.1.1 A desk study provides background information on the ecological interest of a site and compliments data collected in the field by providing ecological context for the site and its wider landscape. The search area extended up to 1km and incorporated the following resources:

- Multi-Agency Geographic Information for the Countryside (MAGIC) www.magic.gov.uk was searched for European and National Statutory designated sites, to identify designations with criteria for bats;
- UK Biodiversity Action Plan (BAP) (http://jncc.defra.gov.uk/) was reviewed in respect of bats;
- Google Maps (www.google.co.uk/maps) were reviewed to help provide wider site context in respect of bat commuting. i.e. the presence of a continuous network of surrounding hedgerows may support findings drawn from field survey.

2.2 Building Assessment

2.2.1 The building assessment, adhered to guidance within the Bat Mitigation Guidelines (Mitchell-Jones 2004) and the Bat Survey Good Practice Guidelines (Hundt 2012), involved a detailed external and internal inspection of the building. Equipment used to support the assessment included close-focusing binoculars, high powered torches and ladders to aid access.

2.2.2 Externally, the roof and walls were inspected for evidence of use by bats. This evidence includes staining and scratch marks around potential entrance points, bat droppings, and feeding remains. The buildings were also assessed for their potential to provide suitable roosting conditions for bats.

2.2.3 Internally, where safe and accessible to do so, the internal building spaces were inspected for evidence of bats in the form of bat droppings and feeding remains, staining on or around crevices by fur oils or urine, prey residues (e.g. moth and butterfly wings) as well as live or dead bats. Potential bat access points were also noted.

2.2.4 Each building was assigned a value for its bat roost potential, as described in Table 1 and adapted from Hundt (2012).

Table 1: Visual Assessment Criteria for Buildings

Roost Potential Value	Value description	Reasoning
Confirmed Roost	Evidence of current or recent bat use	Sighting/hearing of bats (including emergence) Presence of fresh droppings/staining Small numbers of old droppings/staining, Smoothing near gaps, lacking cobwebs Roosts identified from reliable source (i.e. land owner)
High	Building with numerable bat roost features	Buildings with numerous access points; gaps under eves, loose lead flashing and roof tiles. Holes in brick work, open windows of old barns. Undisturbed voids that remain dark and of suitable humidity with

		available flying spaces. Good local context to include a good network of habitats that offer commuting and foraging opportunities.
Medium	Building with some bat roost features	Buildings with some of the above features, although to a lesser extent that they do not warrant High Roost Potential.
Low	Building with limited bat roost features	Well maintained buildings (i.e. sheet steel open structures) with few potential access points for bats. High levels of disturbance and regular lighting. Local context, to include poor surrounding habitats.
Negligible	Building with no features suitable for bats	No features throughout building that could be utilised by bats.

2.3 Bat Activity Survey

2.3.1 A bat emergence survey was carried out on 21st May 2015. The surveyors Helen Staton (Natural England Bat Class Survey Licence CLS00439) and James Arkell were in position at the property 15 minutes before sunset. They continuously monitored for emerging bats and bat activity for 2 hours after sunset. Checks throughout the survey were also made inside the property on the first floor.

2.3.2 Species identification was aided by using magenta heterodyne, a duet heterodyne as well as an Echometer EM3 real time expansion bat detector. The date of the survey and weather conditions are detailed in Table 2 below.

Table 2: Weather Conditions during the Bat Survey

Date	Dusk / Dawn	Sunset/Sunrise	Cloud	Wind	Weather
21/05/15	Dusk	21.10	50%	Light breeze	HS and JA. Start 20.50. Dry 10◦c, light breeze.

2.4 Breeding Birds

2.4.1 The building assessment included a visual search for nesting bird activity, to include identification of bird species either observed to be building or occupying a nest.

2.4.2 Particular focus was given to the potential occupation of barn owl (*Tyto alba*). To include a search for barn owl pellets, nests and liming within exterior buildings.

2.4.3 Relevant legislation afforded to birds is presented as Appendix 1.

2.5 Badger

2.5.1 The site and accessible land within 50m was searched for evidence of badger activity by looking for the following signs – badger setts, badger latrines or dung pits, badger snuffle holes and badger paths in the wider landscape.

2.6 Great Crested Newt

2.6.1 A search was made for great crested newt breeding habitat within 250m of the building. This involved consulting OS mapping and aerial photography, as well as a search of accessible land on the ground.

2.7 Survey limitations

2.7.1 During the inspection, access was occasionally restricted around the exterior of the building particularly along the north side elevation due to a close-by building and deep snow. However, the building was assessed as far as possible using binoculars and strong torchlight, and ladders where safe and accessible. Snow was present on the roof of the building which obscured the view of the roof during the inspection. However, the roof is considered to have a sub-optimal structure type for bat roosting, being corrugated asbestos cement sheeting. No snow or such limitations were present during the further emergence survey. Dust and debris was occasionally present within the upper floors, and stored items occasionally restricted internal access. However, a representative and thorough internal inspection could still be undertaken.

3 SURVEY FINDINGS

3.1 Desk Study

3.1.1 The desk study revealed that there are no statutory or non-statutory designated sites located on or adjacent to the survey area.

3.1.2 The building is surrounded by hard standing and other buildings including dwellings and local businesses. The positioning of the building is therefore limited on a site basis in terms of connecting vegetative structure. However, in the wider area there are areas of tree cover surrounding the church c. 40m north to and a large amenity sports field c. 40m to the south that is surrounded by trees and may well link bats to the wider landscape via commuting and foraging routes.

3.1.3 A search on the NBN Gateway shows100m presence records for bats at c. 1km west of the site. In addition, the wider surrounding habitat would be suitable to sustain common UK species, with limited foraging and roosting opportunities in the wider landscape as mentioned above.

3.2 Building Assessment External

3.2.1 The building is a large traditional stone barn building that is used as a joiner's workshop (Photographic plate 1). It has a single skin corrugated asbestos roof and ridge paneling. A single story open lean-to is present on the southeast side (Photographic plate 2) with a flat corrugated asbestos roof. The main roof had a covering of snow during the inspection. However, it is considered that the roof is structurally sub-optimal for bat roosting being constructed of single skin asbestos cement paneling.

3.2.2 The main external stonework on the external walls is in variable condition with many superficial gaps and cracks noted on the southeast side elevation. These gaps were found to be shallow, and none extending with just small recesses resulting from the shallow mortar loss. On the west side there are again superficial gaps. However, on the far western section (Photographic plate 3 and 4) there are several extending gaps between stonework that extend in significantly within the wall structure. Many of these holes could be viewed with ladder access and no evidence of bats was found throughout. However, due to the heights of some of the holes and the depths and angles that the holes extended into, not all sections could be viewed at close quarters. It is also possible that bat evidence may well have been blown or washed away through the winter months. The north side elevation also has several opportunities in stonework which is evident at the southwest end of the northern elevation where access was possible. Here, deep extending cracks were again noted. Because of the close-by building to the northwest, almost all of the northwest elevation could not be assessed or viewed in terms of gaps and opportunities available due to a lack of vantage points, deep snow between the buildings, and no ladder access possible (Photographic plate 5). There may therefore be more opportunities for roosting bats that could not be established by undertaking the inspection method alone. Towards the west side of the building there is a window and a door. These both have extending gaps and cavities above them. On the southeast side elevation there are also gaps above the main double door beneath the stairs which extend upwards, as well as above a small broken ground floor window adjacent to the lean-to extension.

3.2.3 The east side of the building meets the wall of a larger building at the eastern end. This building appears to have had recent renovation work undertaken and therefore no obvious bat roosting opportunities were observed.

3.3 Building Assessment Internal

3.3.1 The upper floor interior is separated into three main compartments (Photographic plates 6, 7 and 8) with the west and central sections accessed from external steps on the southeast side elevation of the building and the east side is accessed from internal steps. The far west upper floor area is a large upper floor room with bare timbers including purlins, rafters and ridge board present with brick and stone inner walls that are in good condition far the most part. There is an influx of light at the ridge and throughout due to skylights that will likely restrict potential bat use to crevice dwelling. A crack is present on the west wall that does not appear to extend in far enough for roosting, and the light filled ridge is considered suboptimal. There are occasional gaps at the eaves where the asbestos roof meets the walls, and occasionally where the purlins meet the walls. However, no bat evidence was found throughout. Many stored items are present but the space was easily accessed and inspected.

3.3.2 The central section has the same structure as the west side and has occasional large gaps in brickwork. This section is again light filled and no evidence was found throughout. The final east section is also the same with stored wood on the floor, and is again well lit with light protrusion at the ridge and skylights. The internal stonework is in general good condition with c. 3 extending gaps in the gable wall. However, no evidence was found throughout. The ground floor was also inspected with no bat evidence found.

3.3.3 The single story lean-to is open for flight access throughout with a corrugated asbestos roof. Internal access was restricted somewhat by stored items. However, the majority of the interior could be inspected and no evidence was found throughout. Dust and debris as well as occasional water seepage was also present.

3.4 Bat Activity Survey

3.4.1 Prior to the dusk an update survey of the interior of the building was carried out and no new evidence was recorded. During the dusk survey no bats were seen to emerge from the building.

3.4.2 Common pipistrelle bats were recorded foraging around the courtyard to the south of the building. One flew onto the site from a north west direction, along the track way which leads to the building. Another came from a southerly direction and foraged around the site and neighbouring gardens. Table 3 below summarises these results;

Table 3:Bat Activity Results

Survey Date	Dusk / Dawn	Time (PM)	Species	Description of Activity
21/05/2015	Dusk	9.33	Common pipistrelle	Commuted/foraged north west onto site. Did a loop and went in an easterly direction.
		9.34	Common pipistrelle	Commuted/foraged south onto site. Flew up track and looped around courtyard.
		9.44	Common pipistrelle	Foraging came from a westerly direction.
		9.46 till end of survey	Common pipistrelle	2 Foraging along track way. Seem to be doing a loop around the block, Heath street and the church. Showing a preference to gardens behind building. Two bats observed chasing each other and social calling.

3.5 Breeding Birds

3.5.1 No evidence of nesting birds was identified within any building section. The single story lean–to extension has open flight access which may provide nesting opportunities within.

3.6 Badgers

3.6.1 No evidence of badgers was found within 50m of the building.

3.7 Great Crested Newts

3.7.1 No suitable breeding habitat for great crested newts was found within 250m of the buildings and the building is surrounded by well- developed land on all sides.

3.8 Habitats

3.8.1 The building is surrounded by hard standing and therefore lacks ecological constraints.

4 CONCLUSION AND RECOMENDATIONS

4.1 Recommendations

4.1.1 No evidence was found of bats using the interior or exterior of the buildings as a roost site.However, there are many cracks and gaps on the far west end of the building exterior stone wall. These were observed at close quarters where possible and no evidence of bats was found. However, many of the gaps extend far back into cavities and therefore present suitable roosting opportunities that couldn't be discounted by a single winter inspection visit alone. In addition the north side elevation could not be checked at close quarters, and due to the condition of the stonework at that location it is likely that there are further extending gaps in stonework that may provide roosting opportunities. The general surroundings are well built up with surrounding buildings on all sides with a general lack of close-by tree and vegetation cover. However, in the wider area there are areas of tree cover surrounding the church c. 40m north to and a large amenity sports field c. 40m to the south that is surrounded by trees and may link bats to the wider landscape. By taking to account the lack of direct habitat connectivity, it was considered that the building exhibits low potential in light of the extending suitable gaps in stonework.

4.1.2 During the bat activity survey which was carried out May 2015, no bats were recorded emerging from the building. Common pipistrelle bats were observed foraging around the site shortly after sunset. It is thought likely that they are roosting at a nearby site and using the courtyard for foraging only. Therefore no further action in relation to bats is required and the conversion of the property into residential accommodation can commence without the need of any additional surveys.

4.1.3 As a legal obligation, should be bats be found or suspected at any time during the renovation works, work in that area should cease immediately until further advice has been sought from Natural England and the Bat Conservation trust (Tel. No 020 7627 2629). BCT will be able to locate a bat worker who can move any bats present which might be harmed. If bats are exposed and vulnerable to immediate harm, use gloves or a container to move them to a quiet dark area.

4.1.4 No evidence of nesting birds was observed during the survey. However, the lean-to extension has open flight access through which birds may commence nest building. Should bird nesting be subsequently discovered, work should stop until the young have fledged and any nests left undisturbed until such a time.

4.1.5 No other protected species issues were identified during the survey.

5 REFERENCES

Hundt, L, (2012). *Bat Surveys: Good Practice Guidelines, 2nd Edition*, Bat Conservation Trust.

Hutson, A. M, (1993). *Action plan for conservation of bats in the United Kingdom*. The Bat Conservation Trust, London.

IEEM, (2006). Guidelines for Ecological Impact Assessment in the United Kingdom, Final Draft, Institute of Ecology and Environmental Management

Mitchell-Jones, A.J, (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

6 PHOTOGRAPHIC PLATES

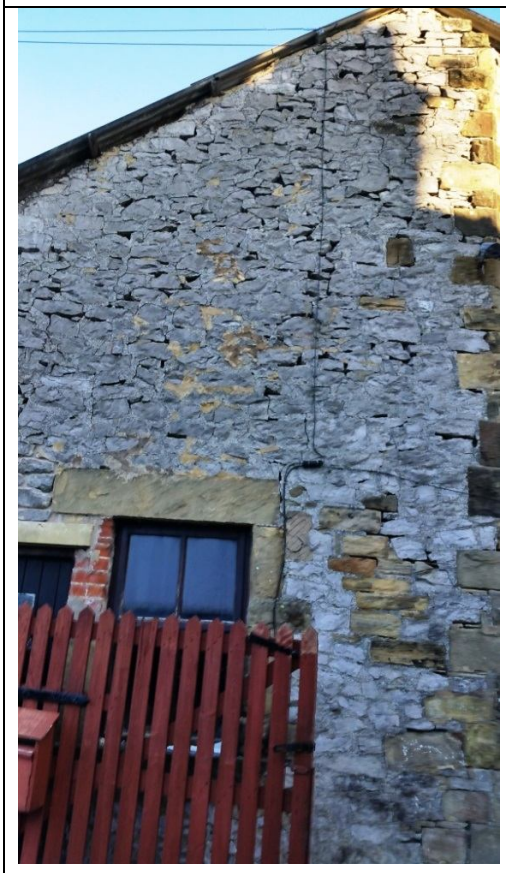
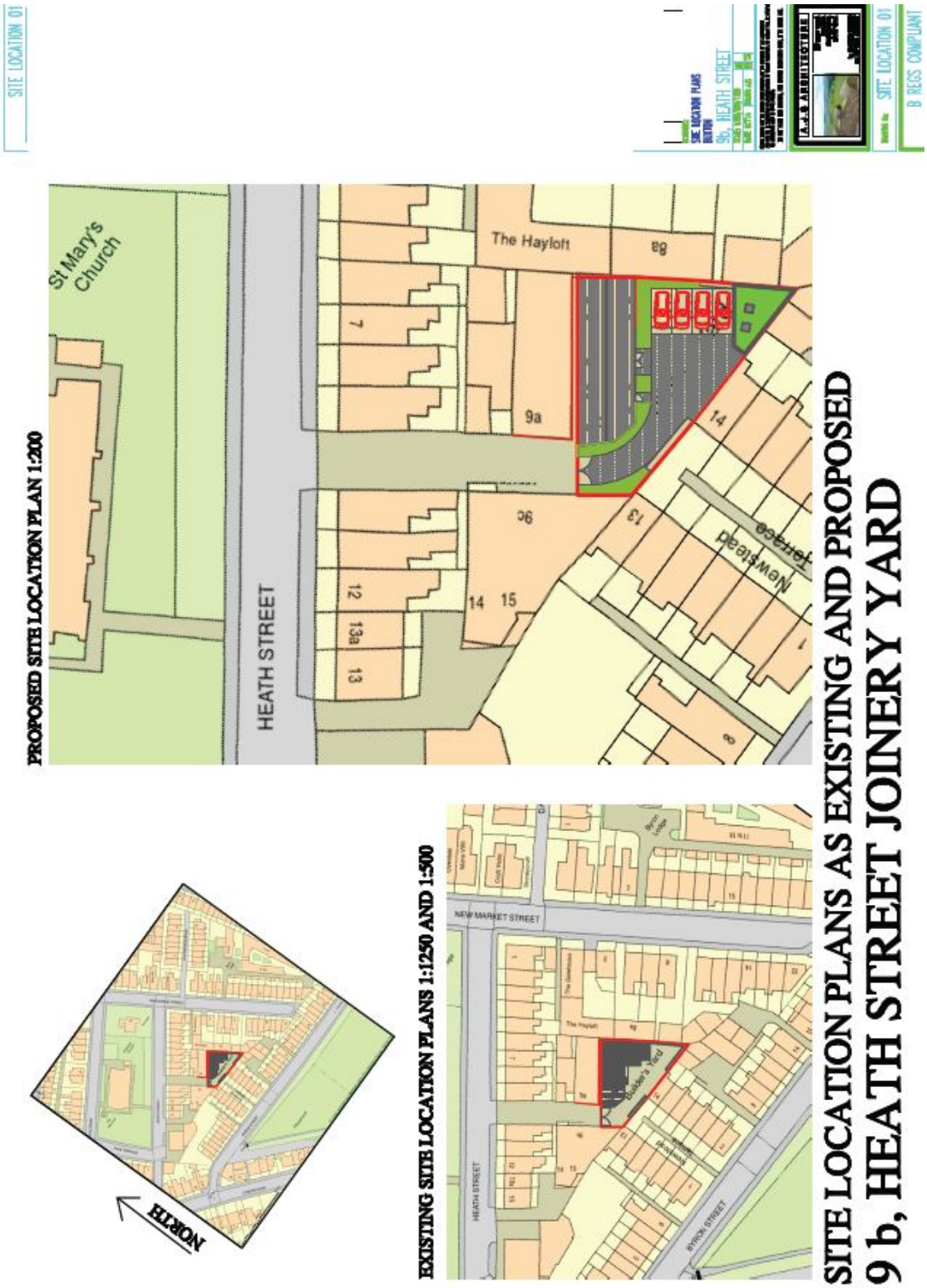
Plate 1 – Building exterior from the south side	Plate 2 – External view of lean to section
	
Plate 3 – View of far west side of building with extending gaps in stonework	Plate 4 – Close up example of extending gaps
	

Plate 5 – North side elevation with unknown bat potential	Plate 6 – Internal view of west main upper section
	
Plate 7-Internal view of main central upper section	Plate 8- Internal view of main east section
	

Plate 9- View of hard standing yard area	
	

APPENDIX 1: FIGURE 1

Figure 1 – Building Location Plan



APPENDIX 2: LEGISLATION

Bats

All seventeen wild bat species receive full protection (Schedule 5 species) under the Wildlife and Countryside Act 1981, which is further amended by the Countryside and Rights of Way Act 2000 and the Conservation of Habitats and Species Regulations 2010. Taking these Acts together, it is an offence to:

- Intentionally or recklessly disturb a bat while it is occupying a structure or place which it uses for shelter or protection (S9:4b).

- Intentionally or recklessly obstruct access to any structure or place used for shelter or protection by a bat (S9:4c).

- The term 'reckless' is defined by the case of Regina v Caldwell 1982. The prosecution has to show that a person either deliberately took an unacceptable risk, or failed to notice or consider an obvious risk.

A bat roost has been interpreted to mean any structure or place which is used for shelter or protection whether or not bats are present at the time. Bat roosts may be defined (Hunt, L, 2012) as either (i) Transition Roosts, (ii) Maternity roosts, (iii)Satellite Roosts, (iv) Mating Roost, (v) Hibernation roosts, (vi) Night Roost, (vii) Day Roost, (viii) Feeding Roost or (ix) Swarming Sites.

Bats are listed under Annexes IIa and IVa of the EC Directive on theConservation of Natural Habitats and of Wild Fauna and Flora, or the 'HabitatsDirective'. Inclusion on Annex IVa means bats are a EuropeanProtected Species (EPS) and protected under the Conservation of Habitats and Species Regulations 2010, thus it is an offence to:

- (a) deliberately capture, injure or kill any wild animal of an EPS,

- (b) deliberately disturb wild animals of any such species, in such a way as –

    - (i) to impair their ability to survive, to breed or reproduce, or to rear their young, or

    - (ii) in the case of animals of a hibernating or migratory species, to hibernate ormigrate, or

    - (iii) to affect significantly the local distribution or abundance of the species to which they belong;

A licence to disturb or take bats can be issued for certain purposes under Section 16 of the Wildlife and Countryside Act 1981 and under Regulation 44of the Conservation of Habitats and SpeciesRegulations 2010 permitting activities that would otherwise be illegal under the legislation. Licences can take up to thirty working days to be issued by Natural England. Where impacts on bats are unavoidable, mitigation will be required to maintain and enhance the favourable conservation status of bats. Losses of bat roosts must be compensated for by the provision of new roosting sites and planting of new foraging habitat. Mitigation measures will need to be designed on a site specific basis and only in consultation with an expert. All mitigation proposals must be agreed with Natural England and put in place prior to the commencement of works.

Birds

Under the Wildlife and Countryside Act 1981 (as amended) all wild birds, their nests and eggs are protected by law and it is an offence to;

- Intentionally kill, injure or take any wild bird
- Intentionally take, damage or destroy the nest of any wild bird while it is in use or being built
- Intentionally take or destroy the egg of any wild bird.

Barn owl (*Tyto alba*) is listed on Schedule 1 of the Wildlife and Countryside Act, 1981; therefore the birds, their nests, eggs and young are fully protected at all times throughout the UK. It is also an offence to intentionally or recklessly disturb barn owls at an active nest site with eggs or young or before eggs are laid, or to disturb the dependent young.

Loss of barn owl roosts to development must be compensated for by the provision of alternative roost and nest sites within 200 metres of the development, these should be made available at least 30 days prior to the start of works though the longer the better. Timing constraints will apply to avoid the periods when barn owl are nesting and raising dependant young. The provision of permanent roost and nest sites will be required within the redevelopment.

Badgers

Badgers and their setts are protected by the Protection of Badgers Act 1992. This makes it an offence to wilfully kill, injure or take a badger; cruelly ill-treat a badger; dig for a badger; intentionally or recklessly damage or destroy a badger sett, or obstruct access to it; or disturb a badger while it is occupying a sett.

Great Crested Newts

Great crested newts are a European protected species receiving full protection under the 1981 Wildlife and Countryside Act, the CROW Act 2000 and the Conservation of Species and Habitats Regulations 2010.