

Bat Survey Report

North Farm, Elwick

Fordy Marshall Ltd.

October 2015

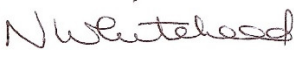

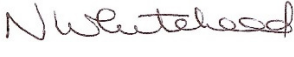


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1. EXECUTIVE SUMMARY

- 1.1.1. Durham Wildlife Services Ltd was commissioned by Fordy Marshall Ltd. in August 2015 to undertake a building risk assessment for bats at North Farm, Elwick, Hartlepool TS27 3ED. The approximate National Grid Reference for the centre of the site is NZ 45694 32458.
- 1.1.2. The survey is required to accompany a planning permission application a change of use of the site, including alterations, extensions and new build to create 14 dwelling and vehicular access to the site. The building risk assessment survey took place on 27th August 2015 and was undertaken by Natalie Whitehead (licensed bat worker no 2015-14550-CLS-CLS) and Taryn Rodgers (licensed bat worker no 2015-8676-CLS-CLS).
- 1.1.3. Based upon the building features recorded during the external and internal assessment, the habitats present within the local area and the usage of the area by bats evidenced by a previous report for the site Buildings A, C, C1, C2, D, D1, D2, D3, D4, E, F, G, H, and J were considered to have low to moderate potential to provide roosting opportunities for bats. Building B was considered to have low potential to support roosting bats and Building I was considered to have negligible potential to support roosting bats.
- 1.1.4. Two nocturnal surveys were recommended on buildings A, C, C1, C2, D, D1, D2, D3, D4, E, F, G, H, and J and a single nocturnal survey was recommended on Building B. These surveys were undertaken on the 7th September and 17th September 2015.
- 1.1.5. Following the discovery of a potential bat roost in Building B on the first nocturnal survey it was also included in the second survey on the 17th September 2015.
- 1.1.6. Eight small common pipistrelle roosts were identified during the surveys; seven of these, in buildings A, B, C, D, D1 and D2 were identified during the initial dawn re-emergence survey on the 7th September. The roost in building D2 was subsequently identified on the following dusk emergence survey on the 17th September, when an additional roost was identified in Building A was also identified.
- 1.1.7. Development proposals consist of the redevelopment of the site, this will include the demolition of buildings A, A1, B, C1 and C2, D-D5, and K and the conversion of buildings C and E-I into residential units. The proposals will result in the loss of

eight occasionally used common pipistrelle summer bat roosts, likely to comprise of single or small numbers of male and/or non-breeding female bats.

- 1.1.8. It is recommended that a European Protected Species Licence be sought from Natural England in order to facilitate the proposed works comprising an appropriate mitigation and compensation strategy to ensure that no bats are harmed during the works and the species present are maintained at a favourable conservation status in the long term.
- 1.1.9. A further nocturnal survey covering buildings A-J will be required during the 2016 bat season (May-September) prior to the application for an EPS Licence to ensure that the site has been surveyed at different times of year and sufficient information has been gathered to allow for an accurate assessment of how the site is being used by bats.
- 1.1.10. A mitigation strategy has been proposed and includes the provision of 1 x 2F Schwegler bat box to be positioned on a tree or a telegraph pole before work commences to provide interim roosting habitat while the work takes place. To compensate for the roosts which will be lost it is recommended that bat access tiles are incorporated into the roofs of three of the new properties on site and access to the wall tops is maintained in the barns which are being converted as part of the proposed development.

2.0 INTRODUCTION

2.1 Background

- 2.1.1 Durham Wildlife Services Ltd was commissioned by Fordy Marshall Ltd. in August 2015 to undertake a building risk assessment for bats at North Farm, Elwick, Hartlepool TS27 3ED. The approximate National Grid Reference for the centre of the site is NZ 45694 32458.
- 2.1.2 The survey is required to accompany a planning permission application for a change of use of the site, including alterations, extensions and new built to create 14 dwelling and vehicular access to the site. The building risk assessment survey took place on 27th August 2015 and was undertaken by Natalie Whitehead (licensed bat worker no 2015-14550-CLS-CLS) and Taryn Rodgers (licensed bat worker no 2015-8676-CLS-CLS).
- 2.1.3 Following this, a single nocturnal survey was recommended on Building B and two nocturnal surveys were recommended on the remaining buildings on site. These surveys were undertaken on the 7th September and 17th September 2015.

2.2 Site Description

- 2.2.1 The site is situated in Elwick, a small village situated 2.3km from Hartlepool (Figure 1, Appendix A). The survey area comprises a complex of farm buildings, the majority of which are regularly used and associated areas of hardstanding. The site is located in a rural location and is bordered by residential housing to the east and west, agricultural land to the north and Elwick Road to the south. In the wider area habitats are dominated by agriculturally managed land.

2.3 Survey Objectives

- 2.3.1 Surveys carried out between June and September 2015 were undertaken to:
- establish the presence / absence of bat roosts in the buildings on site,
 - assess the level of usage of confirmed roost sites and the status of the roost,
 - identify access points utilised by bats,
 - determine an appropriate mitigation strategy to minimise impacts on roosting bats arising from the proposed works.

3.0 METHODOLOGY

3.1 Desk Study

A request was issued to Durham Bat Group for any information regarding protected/controlled species on, or in the direct vicinity of the site. The Magic website was searched for the details of Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR) and Local Nature Reserves (LNR) within 2km of the site. A previous bat survey report for the site itself was also consulted for information on bat activity on site (Veronica Howard, 2007).

3.2 Survey Approach

- 3.2.1 The survey for bats involved external and internal examination of the properties following the methodology outlined in the Bat Worker's Manual (Mitchell-Jones and Mcleish 2004). The survey was undertaken by Natalie Whitehead (licensed bat worker no 2015-14550-CLS-CLS) and Taryn Rodgers (licensed bat worker no 2015-8676-CLS-CLS) on the 27th August 2015
- 3.2.2 The nocturnal assessments were undertaken in September 2015 which is within the main activity period for bats (BCT 2012).

3.3 Buildings

- 3.3.1 The building's exteriors were visually assessed for potential access points and evidence of bat activity in August 2015. Features which have potential as access points were sought, such as small gaps in barge/soffit/fascia boards, raised or missing ridge tiles or flashing and gaps at gable ends. Evidence that potential access points were actively used by bats including staining within gaps and bat droppings or urine staining under gaps was recorded. Indicators that potential access points were likely to be inactive included the presence of cobwebs and general detritus within the access.
- 3.3.2 The interior of the buildings were also visually assessed where possible for evidence of bat activity and/or for the potential to be used by bats. Evidence of a roost can be determined by the presence of a dead or live bat, concentrated piles or scattered droppings, food remains such as insect wing fragments as well as scratch marks and/or staining.

3.4 Nocturnal Surveys

- 3.4.1 All nocturnal surveys were conducted by surveyors equipped with BatBox Duet, EM3 or EM Touch bat detectors positioned to give a clear view of all sides of the building being surveyed. Emergence surveys commenced 15 minutes before sunset and continued until all bats were considered to have emerged in accordance with the Bat Conservation Trust Guidelines (BCT, 2012). Dawn surveys commenced 90 minutes before sunrise and continued until sunrise (BCT, 2012).

Date	Surveyor 1	Licence No	Additional Surveyors
07/09/2015	Natalie Whitehead	2015-14550-CLS-CLS	Taryn Rodgers (Licence number 2015-8676-CLS-CLS) Jonathan Pounder (Licence number CLS 2015-11439-CLS-CLS) Andrew Pounder David Pounder Charlotte Wade
17/09/2015	Natalie Whitehead	2015-14550-CLS-CLS	Ian Craft (Licence number 2015-15085-CLS-CLS) Karen Devenney (Licence Number 2015-11466-CLS-CLS) Taryn Rodgers (Licence number 2015-8676-CLS-CLS) Jonathan Pounder (Licence number 2015-11439-CLS-CLS) Andrew Bewick (Licence number 2015-10154-CLS-CLS) Claire Dewson (Licence number CLS01855) Sacha Elliott Dave Pounder Charlotte Wade

- 3.4.2 **Table 1** Survey dates and personnel

- 3.4.3 During surveys the main objective is to record any bats entering or leaving the surveyed property and the location of any entry/exit points. In addition surveyors record any other bat activity detectable from their survey position. Where possible the time of recording, species, number of bats, type of activity, and flight path of

observed bats is recorded. Bats entering or leaving a building are considered evidence of roost presence within the buildings on site.

3.5 Surveyor Experience

3.5.1 Natalie Whitehead (Licence number 2015-14550-CLS-CLS)

Natalie has been an active member of Durham Bat Group since 2011 and has held a bat licence for 2 years. She has approximately 6 year's commercial experience carrying out surveys ranging from initial risk assessments of buildings and trees to nocturnal activity surveys and transects. She has worked on projects of varying size and complexity including individual properties, single wind turbine developments and large complex buildings such as schools and hospitals.

3.5.2 Ian Craft (Licence number 2015-15085-CLS-CLS)

Ian has held a bat licence for around 7 years (no CLS01736) and has been carrying out commercial bat surveys for around 8 years. During this time he has carried out on average around 20-30 risk assessments each year and 50-100 nocturnal surveys for projects ranging from windfarms to large scale housing developments and individual barn conversions.

3.5.3 Karen Devenney (Licence Number 2015-11466-CLS-CLS)

Karen has been an active member of Durham Bat Group since 2006, through which she gained her scientific and conservation bat licence in 2008. She has been carrying out commercial bat surveys for around 8 years. During this time she has worked on a wide range of projects, from windfarms and large scale housing developments, through to schools, barns and individual houses. Carrying out a range of techniques from risk assessments, dusk and dawn surveys, transects, and sound analysis. She has also held numerous EPSM development bat licences.

3.5.4 Taryn Rodgers (Licence number 2015-8676-CLS-CLS)

Taryn has been an active member of Durham Bat Group since 2011, and has held a Class 1 Bat Survey Licence since February 2015. She has four years' experience undertaking bat surveys in a professional capacity, working on projects of varying size and complexity including individual properties, schools, hospitals, barns and trees.

3.5.5 Sacha Elliott

Sacha has conducted over 250hrs of bat work including carrying out risk assessments and dawn and dusk surveys on a variety of projects and properties. She's currently working towards a Class 1 bat licence and also carries out volunteer work with Durham Bat Group at Durham Cathedral.

3.5.6 Claire Dewson (Licence number CLS01855)

Claire has been an active member of Durham Bat Group for over ten years where she gained her scientific and conservation bat licences in 2003 (Licence number CLS01855). Claire has co-ordinated and undertaken a range of commercial surveys ranging from barns, individual properties to large complex buildings such as schools and housing estates. The surveys have included a range of techniques such as risk assessments through to dusk/ dawn surveys and transects. She has also been involved in preparing and submitting EPSM bat licences for a range of developments.

3.5.7 Andrew Bewick (Licence no. 2015-10154-CLS-CLS)

Andrew has 30 years' experience in the field of ecology and countryside management delivering a range of species and habitat protection measures, ecological impact assessments and species and habitat monitoring. He has commissioned and participated in bat studies and projects since 2005, primarily to inform development proposals and site management. His bat work has included daytime assessments, point and transect activity surveys, endoscopy and hibernation roost inspection. Andrew holds both science and conservation, and roost visitor licences, is a member of Durham Bat Group and a Volunteer Bat Worker for Natural England (since 2010).

3.5.8 Jonathan Pounder (Licence number 2015-11439-CLS-CLS)

Jonathan is a licensed member of Durham Bat Group (since 2007) and has been working on commercial bat surveys since 2003. Surveys have included risk assessments, small scale domestic surveys, barn conversions, larger commercial property's, traditional and heritage buildings, large scale developments and wind farm (development and monitoring); including emergence, dawn, feeding, transects, roost inspections, overseeing demolition work and contractors during work relating to licensed operations across the North of England.

3.5.9 Andrew Pounder

Andrew is a member of Durham Bat Group and is working towards his bat licence. Andrew has worked on commercial bat surveys since 2004. Surveys have included risk assessments, small scale domestic surveys, barn conversions, larger commercial property's, traditional and heritage buildings, large scale developments and wind farm (development and monitoring); including emergence, dawn, feeding, transects, inspections, overseeing demolition work and contractors during work relating to licensed operations across the North East of England.

3.5.10 David Pounder

David has worked on commercial bat surveys since 2005 including emergence, dawn and feeding surveys; firstly as a supported, but now an experienced surveyor. David has worked on risk assessments, small scale domestic surveys, barn conversions, larger commercial property's, traditional and heritage buildings, large scale developments and wind farm (development and monitoring); including emergence, dawn, feeding, transects across the North East of England.

3.5.11 Charlotte Wade

Charlotte is in her first season of bat survey work and has received in-house training to enable her to carry out dusk emergence surveys and dawn re-entry surveys on a wide range of developments.

4.0 SURVEY RESULTS

4.1 Desk Study and Consultation Response

- 4.1.1 The results obtained from the MAGIC search of designated areas show that there are no National Nature Reserves (NNRs), Sites of Scientific Interest (SSSIs) or Local Nature Reserve (LNRs) within 2km of the site.
- 4.1.2 A request was sent to Durham Bat Group seeking any information regarding bat species on, or within 2km of the site. The consultation data revealed seven roosts, two possible roosts and 20 field records within 2km of the site. The closest roost is on North Lane, approximately 290m to the west of the site.
- 4.1.3 A bat survey report by Veronica Howard submitted as part of a previous planning application dating from 2007 was also consulted regarding bat activity on site. The surveys were carried out in May and June 2007 and recorded very low levels of activity on site. Three bat species, common pipistrelle, soprano pipistrelle and natterer's bat were recorded on site across the two surveys. No roosts were recorded on the site.

4.2 Habitat Description

The site is located in a rural location and is bordered by residential housing to the east and west, agricultural land to the north and Elwick Road to the south. In the wider area habitats are dominated by agriculturally managed land. The nearest watercourse is Char Beck which flows west to east 270m to the south of the site with the nearest woodland associated with the watercourse approximately 400m to the south. The A19 runs north to south approximately 680m west of the site. Overall, connectivity into the wider countryside is relatively good, with hedgerows providing linear features, linking to areas of higher quality foraging habitat such as the watercourse to the south (Figures 1 and 2, Appendix A).

4.3 Internal/ External Surveys

- 4.3.1 Full details of the findings of the building assessment can be found in Table 3 overleaf with photographs in Appendix B and building plan shown in Figure 3, Appendix A. In summary, evidence of bats was noted in buildings B, C1 and E, in all three buildings this consisted of single or scattered droppings suggesting that the buildings are used by foraging bats. Building C had a hole in the north-east facing roof but aside from this most buildings on site were in a relatively good state of repair. Buildings B and E were had elevations that were open allowing easy access into the interior for foraging bats. All of the buildings had unlined roofs and

lacked roof voids. The roof of Building B had been designed to create airflow within the building meaning that there were clear gaps between all of the tiles in the roof. The buildings were roofed with a variety of materials including pan tiles, slate, corrugated asbestos sheeting and corrugated metal sheeting, slipped/missing roof tiles were noted on buildings D1, D3, F and G. Gaps at the ridges were noted in building A, at the north gable end, D3 and in Buildings F, G, H and I where no ridge tiles were present. Gaps along wall tops were noted on buildings A, A1, C2, D, D1, E and H. The interior of all of the buildings on site with the exception of J (farmhouse) were also inspected, gaps and cracks in the interior stonework of Buildings C, C1, C2, D, D4, E, F, G and I, these features have the potential to provide roosting opportunities once they have accessed the interior of the building. Gaps in the exterior brickwork of other buildings on site was noted in particular Building C where the gaps in the walls could potentially giving access to a rubble filled cavity wall.

4.3.2 Overall, Buildings A, C, C1, C2, D, D1, D2, D3, D4, E, F, G, I, and J were considered to have low to moderate potential to provide roosting opportunities for bats species due to the number of gaps suitable for roosting both in the exterior and interior of the buildings. Building B was considered to have low potential to support roosting bats due to the open nature of the buildings and the materials that it was constructed from, the single dropping found on the interior of the building was suspected to be from foraging, not roosting bats. Building K was considered to have negligible potential to support roosting bats due to the materials it is constructed from and the lack of suitable roosting opportunities for bats. Table 2 below shows the features considered when attributing a level of potential to a building.

4.3.3 **Table 2** Features typical of buildings within the different risk categories (BCT 2012).

Likelihood of bats being present	Feature of the building or built structure and its location
Higher	Pre-20th century or early 20th century construction. Agricultural buildings of traditional brick, stone or timber construction. Large and complicated roof void with unobstructed flying spaces. Large (>20 cm) roof timbers with mortise joints, cracks and holes. Entrances for bats to fly through. Poorly maintained fabric providing ready access points for bats into roofs, walls, bridges, but at the same time not too draughty and cool. Roof warmed by the sun, in particular south facing roofs. Weatherboarding and/or hanging tiles with gaps. Low level of disturbance by humans. Bridge structures, follies, aqueducts and viaducts over water and/or wet ground. For rarer species, buildings or built structures in the core area of their distribution. Buildings and built structures in proximity to each other providing a variety of roosting opportunities throughout the year.

	Buildings or built structures close to good foraging habitat, in particular mature trees, parkland, woodland or wetland, especially in a rural setting
Lower	<p>Modern, well-maintained buildings or built structures that provide few opportunities for access by bats.</p> <p>Small, cluttered roof space.</p> <p>Buildings and built structures comprised primarily of prefabricated steel and sheet materials.</p> <p>Cool, shaded, light or draughty roof voids.</p> <p>Roof voids with a dense cover of cobwebs and no sections of clean ridge board.</p> <p>High level of regular disturbance.</p> <p>Highly urbanised location with few or no mature trees, parkland, woodland or wetland.</p> <p>High levels of external lighting.</p>

4.3.4 **Table 3** Building Structural Features.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
A	Single storey brick built barn with a pitched corrugated asbestos fibre cement roof. Sliding metal doors with wooden lintel above the door and wooden framed windows.	✓	X	X	X	X	X	None.	Gap at ridge, southern end of the roof. Gap at wall top, northern elevation. Gap under ridge tiles at the apex of the north facing gable. Gap at north east corner of the building.	Unlined roof, no void present. Interior walls plastered.	None.
A1	Extension to A, single skin brick construction with a pitched corrugated metal roof. Open on the south and west elevations,	X	X	X	X	X	X	None.	Gaps at wall tops.	N/A	None
B	Double height storage shed with pitched corrugated asbestos fibre cement roof. Concrete and asbestos cement walls with wooden cladding on the southern elevation. Majority of the southern elevation open.	✓	✓	X	X	X	X	None.	Gaps under barge boards Internally gaps present between concrete and wooden beams below roof and at gables.	Concrete and wooden gaps	Bat droppings found in the north eastern end of the barn.
C	Two storey stone construction barn with a pitched pan tile roof. Window slits in east and west elevations. Wooden elevations present on southern elevation, Rubble filled cavity present. Mezzanine level present at east end of the building.	✓	X	X	✓	X	X	Roof is partial state of disrepair with hole in north facing pitch.	Hole in roof. Window slits have gaps into cavity wall. Gaps present under plaster in interior eastern gable. Gaps present under wooden fascia on southern elevation. Crack and gap in brickwork western gable Gap around door frame south western elevation. Crack and gaps in interior walls.	Unlined roof.	Extensive use by birds, starling and swallow nests noted. Butterfly wings present.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
									Gaps above window and door in the eastern elevation.		
C1	Brick and blockwork single storey extension to C with sloping asbestos fibre cement roof. Open in northern elevation.	X	X	X	X	X	X	Internal fan	Gaps in brickwork present	Roof unlined	Swallows nest
C2	Brick extension to C with a sloping asbestos cement roof.	X	X	X	X	X	X	None.	Gaps at wall tops. Gaps in brickwork above the door Internally gaps present above wooden beams.	Wooden beams supporting roof. Roof unlined	Dropping below wooden beams, south eastern corner.
D	Double height brick barn with a pitched slate roof with ceramic ridge tiles. Roof designed with gaps between the slates to allow good airflow within building. Metal fascia boards present on southern elevation.	✓	X	X	X	X	X	Stalls present within building	Gap above window and in brickwork on the western elevation. Gaps at wall tops and around purlins east end of building. Gaps under fascias and under ridge tiles on southern elevation. Gaps under tiles, western gable end. Missing mortar at wall tops, western gable end.	Unlined roof with skylights present in southern pitch of roof.	Extensive use by birds.
D1	Single storey brick extension to D with slightly sloping asbestos cement roof. Northern and eastern elevation open with brick columns supporting roof.	✓	X	X	X	X	X	None.	Gaps at wall tops. Gaps present under overhanging roof section on western gable end.	Wooden roof beams. Foam insulation present at western end of barn.	Birds nest present. Single butterfly wing.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
	Separate room at western end of extension. Roof over hangs wall tops at western end of building.										
D2	Single storey brick garage adjoin D and D1. Sloping asbestos fibre cement roof. Metal garage door.	✓	X	X	X	X	X	None.	Gap at wall top southern elevation.	Roof unlined	None.
D3	Single storey brick built storage room adjoining D4 with pitched pan-tile roof.	X	X	X	X	X	X	None.	Gaps under ridge tiles. Gaps present under roof tiles Gap above window	Unlined, wooden rafters and purlins.	Wasps nest present.
D4	Single storey brick barn with pitched corrugated metal roof. Adjoins southern elevation of D and D3. Wooden window frames.	X	X	X	X	X	X	None.	Slipped pane of glass in window on southern elevation. Internally gaps were present around window frames and at wall tops. A gap was also present in a wooden roof beam.	Roof unlined	Birds nest. Butterfly wings. Reported presence of wasps during summer months.
D5	Single storey brick storage room adjoining D. Pitched corrugated asbestos cement roof.	X	X	X	X	X	X	None.	None.	Concrete ceiling to room. Sealed with plastic paint due to former use as milk storage area.	None.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
E	Single storey brick and stone construction barn with pitched asbestos cement roof. Open on northern elevation. Internal dividing wall.	✓	X	X	X	X	X	None.	Gaps present at wall tops. Access to interior at ridge. Hole present in western interior wall	Roof unlined	Scattered bat droppings
F	Single storey terraced brick and stone construction barn with pitched roof, south west facing pitch consisted of pan tiles, north east facing pitch consisted of corrugated metal sheets. Open at ridge. Partially plastered on south facing exterior wall.	X	X	X	X	X	X	None.	Gap under plaster on exterior southern elevation Gaps under roof tiles Gaps around purlins in interior Cracks in interior walls Access to interior at ridge	Roof unlined Dovecotes present in interior walls Roof lights present	None.
G	Single storey terraced brick and stone construction barn with pitched roof, south west facing pitch consisted of pan tiles, north east facing pitch consisted of corrugated metal sheets. Open at ridge.	X	X	X	X	X	X	None.	Access to interior at ridge and under roof tiles Cracks in internal walls	Roof unlined Roof lights present	None
H	Single storey terraced brick and stone construction barn with pitched roof, south west facing pitch consisted of pan tiles, north east facing pitch consisted of corrugated metal sheets. Open at ridge. Stable door. Metal fascias on north east elevation.	X	X	X	✓	X	X	None.	Gap under fascia on north east elevation. Access to interior at ridge Gaps in internal windows	Roof unlined	None.

Building Code (Figure 3, Appendix A)	Building construction details	Structural features present						Other structural features of note	Potential bat access and roosting points	Internal features	Evidence
		Gables	Barge boards	Soffit Boards	Fascia Boards	Flashing	Roof void				
I	Single storey terraced brick and stone construction barn with pitched roof, south west facing pitch consisted of pan tiles, north east facing pitch consisted of corrugated metal sheets.	X	X	X	X	X	X	None.	Gaps present at wall tops Crack in eastern internal gable Gaps in brickwork of internal walls	Roof unlined Roof lights present	Evidence of birds using the building.
I1	Single storey brick extension to H with sloping fibre cement roof.	X	X	X	X	X	X	None.	Missing window pane on north eastern elevation Gap above door on north eastern elevation	Roof unlined.	None.
J	Two storey brick farmhouse adjoining H. Pitched slate roof with sandstone lintels. Generally well pointed and maintained.	X	X	X	X	X	✓	Internal passage present between this and an adjoin building to the west. Foam insulation in ceiling	Small gaps present in brickwork. Gaps above window on southern elevation.	No internal access possible.	None.
K	Double height storage shed. Roof and walls consist of corrugated metal sheeting. Metal barge boards present at gable ends.	✓	✓	X	X	X	X	None	Gap above door and at gable end giving access to interior of building.	None.	None.

4.4 Nocturnal Surveys

- 4.4.1 Dusk emergence and dawn re-entry surveys were undertaken in September 2015. The dates and surveyor details relating to the nocturnal surveys undertaken are given in Table 1. Weather conditions during the surveys were optimal with no wind/rain with ambient air temperatures and timings, as summarised below in Tables 4a-b.
- 4.4.2 In summary just four species of bat, common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus*, noctule *Nyctalus noctula* and an unidentified *Myotis* sp. bat were recorded commuting and feeding during the surveys. In addition to this eight small common pipistrelle roosts (Figure 4, Appendix A) were also recorded during the surveys, seven of these, in buildings A, B, C, D, D1 and D2 were identified during the initial dawn re-emergence survey on the 7th September. The roost in building D2 was subsequently identified on the following dusk emergence survey on the 17th September, when an additional roost was identified in Building A was also identified. (Figures 4-6, Appendix A).
- 4.4.3 *7th September 2015, Dawn Re-entry Survey:* Moderate amounts of activity were recorded across the site during the survey. Activity began 4 minutes after the start of the survey and continued until 13 minutes before sunrise. At 05:50 a single common pipistrelle was seen to return to a gap above the main door on the west elevation of building A (Roost 1, Figure 4, Appendix A), at the same time a single common pipistrelle was seen to return to a gap under the overhanging eaves of the western elevation of D1 (Roost 2, Figure 4, Appendix A). At 05:51 two common pipistrelle were seen to enter the northern end of Building B and were not seen to emerge, a further 11 common pipistrelle were seen to enter the building between 06:00 and 06:09 again with none seen to emerge (Roost 3). At 05:54 single common pipistrelle was seen to return to a gap under the 12 row of tiles down from the ridge on the western gable end of Building D (Roost 4, Figure 4, Appendix A)), a further 2 common pipistrelle were seen to return to the same roost at 05:56. At 05:56 a single common pipistrelle was seen to return to a hole in brickwork on the western gable end of Building C (Roost 5, Figure 4, Appendix B), the same bat was seen to emerge from the same hole a minute later. At 06:03 a single common pipistrelle was seen to return to a gap under the ridge tile at the apex of the southern gable of building A, a second common pipistrelle was seen to enter this roost at 06:04 (Roost 6, Figure 4, Appendix A). The final roost on site was identified at 06:05 when a single common pipistrelle was seen to return to a small gap under guttering on the south east elevation of building D2. Overall, seven roosts were

identified on site. The majority of activity on site can be attributed to common pipistrelle with a single soprano pipistrelle also recorded.

4.4.4 *17th September 2015, Dusk Emergence Survey:* Moderate amounts of activity were recorded during this survey with 67 bats recorded in total. Activity began at 19:10 5 minutes before sunset, when a single noctule was recorded commuting past the site. The first roost was identified at 19:29 when a single common pipistrelle was seen to emerge from a gap at the top of the wall of the south facing gable end of Building A. A second roost was identified at 19:32 when a single pipistrelle was seen to emerge from the same gap under the guttering of Building D2 that was identified during the dawn re-entry survey. The majority of the activity on site could be attributed to common pipistrelle.

4.4.5 All bat observations recorded during the surveys are given in Tables 4a-b. When bats were visually observed their flight paths were recorded and are shown in Figures 5-6 in Appendix C. Tables 4a-b give the Figure number on which each recorded flight path is shown.

4.4.6 **Table 4a** Nocturnal Survey results – 7th September 2015

Survey Type	Bat re-entry Survey				
Date	07/09/2015				
Weather	Dry, light/gentle breeze, start/end temp 11.2/10.5 °C				
Sunrise	06.22				
Start Time	04.52				
End time	06.22				
Figure	5				
Record ID	Time	Number	Species	Activity	Recorder
1	04:56	1	COMMON PIPISTRELLE	COMMUTE	NW (unseen)/ JP (unseen)/ CW (unseen)/ TR (unseen)
2	05:01	1	COMMON PIPISTRELLE	COMMUTE	CW (unseen)
3	05:03	1	SOPRANO PIPISTRELLE	COMMUTE	CW (unseen)
4	05:07	1	COMMON PIPISTRELLE	COMMUTE	CW (unseen)/ TR (unseen)
5	05:10	1	COMMON PIPISTRELLE	COMMUTE/ FEEDING	JP (unseen)/ CW (unseen)/

					DP (unseen)
6	05:14	1	COMMON PIPISTRELLE	COMMUTE	AP (unseen)
7	05:15	1	COMMON PIPSTRELLE	COMMUTE	NW (unseen)/ JP (unseen)
8	05:22	1	COMMON PIPISTRELLE	COMMUTE	NW/ CW (unseen)
9	05:33	1	COMMON PIPISTRELLE	COMMUTE	NW/JP
10	05:34	1	COMMON PIPISTRELLE	COMMUTE	AP (unseen)
11	05:34	1	COMMON PIPISTRELLE	FEEDING	TR/CW (unseen)
12	05:40	1	COMMON PIPISTRELLE	FEEDING	NW/JP
13	05:41	1	COMMON PIPISTRELLE	FEEDING	TR
14	05:41	1	COMMON PIPISTRELLE	FEEDING	TR
15	05:42	1	COMMON PIPISTRELLE	COMMUTE	AP (unseen)
16	05:43- 05:46	1	COMMON PIPISTRELLE	FEEDING/ FALSE RETURN	NW/ JP (unseen)
17	05:44	1	COMMON PIPISTRELLE	FEEDING	CW/ TR (unseen)
18	05:45	1	BAT SP	FEEDING/ COMMUTE	DP/ TR (unseen)
19	05:46	1	COMMON PIPISTRELLE	FEEDING/ COMMUTE	TR/JP
20	05:47	1	COMMON PIPISTRELLE	COMMUTE	AP
21	05:48	1	COMMON PIPISTRELLE	FEEDING	CW
22	05:48	1	COMMON PIPISTRELLE	COMMUTE	NW
23	05:48	1	COMMON PIPISTRELLE	COMMUTE/ FEEDING	JP
24	05:48	1	MYOTIS SP.	COMMUTE	TR
25	05:49	2	COMMON PIPISTRELLE	COMMUTE	JP
26	05:49	1	COMMON PIPISTRELLE	COMMUTE	AP
27	05:49	1	COMMON PIPISTRELLE	COMMUTE	TR
28	05:50	1	COMMON PIPISTRELLE	COMMUTE/ SOCIAL BEHAVIOUR	JP
29	05:50	1	COMMON PIPISTRELLE	COMMUTE	DP
30	05:50	1	COMMON PIPISTRELLE	COMMUTE	DP
31	05:50	1	COMMON PIPISTRELLE	ROOST 1	DP
32	05:50	1	COMMON PIPISTRELLE	ROOST 2	NW
33	05:51	2	COMMON PIPISTRELLE	ROOST 3	DP
34	05:51	2	COMMON PIPISTRELLE	FEEDING	CW/ TR (unseen)
35	05:51	1	COMMON PIPISTRELLE	FEEDING/ FALSE RETURN	JP
36	05:51	2	COMMON PIPISTRELLE	COMMUTE	NW
37	05:51	1	COMMON PIPISTRELLE	COMMUTE	NW
38	05:52	2	COMMON PIPISTRELLE	CHASING/	JP

				FALSE RETURN	
39	05:52	1	BAT SP	COMMUTE	NW
40	05:53	4	COMMON PIPISTRELLE	COMMUTE/ SOCIAL BEHAVIOUR	NW
41	05:54	1	COMMON PIPISTRELLE	COMMUTE	DP
42	05:54	1	COMMON PIPISTRELLE	ROOST 4	NW
43	05:55	1	COMMON PIPISTRELLE	COMMUTE/ FEEDING	CW/TR
44	05:55	2	COMMON PIPISTRELLE	COMMUTE/ FEEDING	CW/TR
45	05:56	2	COMMON PIPISTRELLE	ROOST 4	NW
46	05:56- 05:57	1	COMMON PIPISTRELLE	ROOST 5	TR/JP
47	05:59	1	COMMON PIPISTRELLE	COMMUTE	JP
48	06:00	5	COMMON PIPISTRELLE	ROOST 3	DP/TR
49	06:01	1	COMMON PIPISTRELLE	ROOST 3	DP
50	06:02	2	COMMON PIPISTRELLE	ROOST 3	DP
51	06:02	1	COMMON PIPISTRELLE	COMMUTE	JP (unseen)
52	06:03	1	COMMON PIPISTRELLE	ROOST 6	TR
53	06:03	1	COMMON PIPISTRELLE	FEEDING	CW
54	06:04	1	PIPISTRELLE SP.	FEEDING/ ROOST 6	TR/CW
55	06:05	1	COMMON PIPISTRELLE	ROOST 7	NW
56	06:05	2	COMMON PIPISTRELLE	ROOST 3	DP/TR
57	06:05	1	BAT SP	COMMUTE	CW
58	06:07	1	COMMON PIPISTRELLE	COMMUTE	CW
59	06:08	1	BAT SP	COMMUTE	CW
60	06:09	1	COMMON PIPISTRELLE	ROOST 3	DP

4.4.7 **Table 4b** Nocturnal survey results – 17th September 2015

Survey Type	Bat Emergence Survey				
Date	17/09/2015				
Weather	Dry, light/gentle breeze, start/end temp 14 °C				
Sunset/rise	19:20				
Start Time	19:05				
End time	20:35				
Figure	6				
Record ID	Time	Number	Species	Activity	Recorder
1	19:15	1	NOCTULE	COMMUTING	SE (unseen)
2	19:28	1	COMMON PIPISTRELLE	COMMUTING	CD (unseen)
3	19:29- 19:51	2	COMMON PIPISTRELLE	COMMUTING/ FEEDING	TR/AB (unseen)
4	19:29	1	COMMON PIPISTRELLE	ROOST 8	KD
5	19:29- 19:52	1	COMMON PIPISTRELLE	FEEDING	KD
6	19:31	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW
7	19:32	1	COMMON PIPISTRELLE	COMMUTING	NW
8	19:32	1	COMMON PIPISTRELLE	ROOST 7	NW

9	19:37-19:38	1	COMMON PIPISTRELLE	COMMUTING	NW/ JP/SE(unseen)
10	19:38	2	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW
11	19:38	>2	COMMON PIPISTRELLE	COMMUTING	NW
12	19:38	1	COMMON PIPISTRELLE	FEEDING	TR
13	19:39	2	COMMON PIPISTRELLE	FEEDING	TR
14	19:39	1	COMMON PIPISTRELLE	FEEDING	CD
15	19:40	1	COMMON PIPISTRELLE	FEEDING	JP (unseen)
16	19:40	1	COMMON PIPISTRELLE	COMMUTING	NW
17	19:40	2	COMMON PIPISTRELLE	FEEDING	AB
18	19:42	1	COMMON PIPISTRELLE	FEEDING	NW
19	19:43	1	COMMON PIPISTRELLE	FEEDING	NW/ JP(unseen)
20	19:44-19:45	1	COMMON PIPISTRELLE	FEEDING	TR
21	19:45	1	COMMON PIPISTRELLE	FEEDING	JP
22	19:44	1	COMMON PIPISTRELLE	COMMUTING	SE
23	19:46	2	COMMON PIPISTRELLE	FEEDING	NW/CW (unseen)
24	19:47	1	NOCTULE	COMMUTING	NW/TR/JP/ SE (unseen)
25	19:47	1	NOCTULE	COMMUTING	IC
26	19:48	1	COMMON PIPISTRELLE	FEEDING	JP/SE (unseen)
27	19:49	1	NOCTULE	COMMUTING	NW/JP (unseen)
28	19:49	1	COMMON PIPISTRELLE	COMMUTING	JP (unseen)
29	19:49	1	SOPRANO PIPISTRELLE	COMMUTING	SE
30	19:50	1	NOCTULE	COMMUTING	JP/NW/SE (unseen)
31	19:50	1	COMMON PIPISTRELLE	FEEDING	NW/TR
32	19:51	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	CW/ JP(unseen)
33	19:52-19:53	1	COMMON PIPISTRELLE	COMMUTING	CW/ KD(unseen)
34	19:52	1	COMMON PIPISTRELLE	FEEDING	NW/TR
35	19:53-19:54	3	COMMON PIPISTRELLE	FEEDING	NW/TR/AB
36	19:53	1	NOCTULE	COMMUTING	SE (unseen)
37	19:54	2	COMMON PIPISTRELLE	COMMUTING	NW
38	19:54	1	COMMON PIPISTRELLE	COMMUTING	JP/SE (unseen)
39	19:54	1	COMMON PIPISTRELLE	FEEDING	CD
40	19:55-19:56	1	COMMON PIPISTRELLE	FEEDING	AB/CD (unseen)
41	19:56	1	COMMON PIPISTRELLE	COMMUTING	NW
42	19:56	1	COMMON PIPISTRELLE	COMMUTING	JP/KD/AB (unseen)
43	19:57	1	NOCTULE	COMMUTING	SE (unseen)

44	19:57	1	COMMON PIPISTRELLE	COMMUTING	TR
45	19:58-19:59	1	COMMON PIPISTRELLE	COMMUTING	IC/SE/KD/ AB/CD (unseen)
46	20:00	1	COMMON PIPISTRELLE	COMMUTING	SE/CW/AB (unseen)
47	20:00	1	COMMON PIPISTRELLE	COMMUTING	KD
48	20:00	2	COMMON PIPISTRELLE	FEEDING	IC/CD
49	20:00	1	COMMON PIPISTRELLE	COMMUTING	IC/JP
50	20:00	1	COMMON PIPISTRELLE	FEEDING	CW
51	20:01	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW/DP (unseen)
52	20:02	1	COMMON PIPISTRELLE	COMMUTING	CW/AB
53	20:05-20:06	1	PIPISTRELLE	COMMUTING/ FEEDING	JP/DP/SE/ KD (unseen)
54	20:06	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW
55	20:08-20:09	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW/TR/JP/ SE/CD (unseen)
56	20:08-20:09	1	PIPISTRELLE	COMMUTING/ FEEDING	DP/AB/CD (unseen)
57	20:09	1	COMMON PIPISTRELLE	FEEDING	KD
58	20:10	1	COMMON PIPISTRELLE	COMMUTING	CW (unseen)
59	20:12	1	COMMON PIPISTRELLE	COMMUTING	NW (unseen)
60	20:13	1	COMMON PIPISTRELLE	COMMUTING	CW/KD/AB/ CD (unseen)
61	20:23-20:24	2	NOCTULE	COMMUTING/ FEEDING	NW/TR/JP/ SE (unseen)
62	20:23-20:27	1	COMMON PIPISTRELLE	COMMUTING	NW/JP (unseen)
63	20:29	1	COMMON PIPISTRELLE	COMMUTING	NW
64	20:30	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	TR (unseen)
65	20:32-20:35	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	NW
66	20:33-20:36	1	COMMON PIPISTRELLE	COMMUTING/ FEEDING	TR/DP/JP/ SE (unseen)
67	20:34	1	COMMON PIPISTRELLE	COMMUTING	SE (unseen)

5.0 ASSESSMENT

5.1 Constraints to Survey

- 5.1.1 The bat risk assessment survey was conducted in August, when bat species are likely to be active. Bat species utilise a number of roosts throughout the year and a lack of evidence should not therefore be considered proof of a lack of bat roost, as roosts remain protected throughout the year, including periods during which they are not occupied.

5.2 Potential Impacts of Development

5.2.1 *Short-term impacts: disturbance*

Without appropriate mitigation and method statement, potential impacts on the roost sites during the works will be from;

- The potential killing / injuring of individual bats during the works

- 5.2.2 Given the small size and status of the roosts and the likely availability of similar roost sites in the immediate surrounding area for bats to utilise it is considered that the impact arising from the disturbance of this roost site is likely to be low (Bat Mitigation Guidelines, Natural England, 2004). A colony of common pipistrelle bats are known to occupy several roost sites sometimes moving between roosts in a single season (Altringham, 2003).

5.2.3 *Long-term impacts: roost modification*

All roost sites will be lost, therefore impacts arising from roost modification are not considered to be applicable.

5.2.4 *Long-term impacts: roost loss*

The proposed development of the site will result in the loss of eight occasionally used summer roosts for a small number of common pipistrelle bats used by non-breeding females and/or male bats. Impacts arising from the loss of this roosting habitat are considered to be low (Bat Mitigation Guidelines, 2004).

5.2.5 *Long-term impacts: fragmentation and isolation*

There is limited foraging habitat on site so it is considered that the bats roosting on site will mostly be commuting off site to foraging grounds further afield. The proposed work will affect a small area of foraging habitat on the site, but this is considered to be of low impact to the overall foraging area likely to be used by the bats roosting on site. None of the habitat surrounding the site will be affected by the proposed works so the surrounding habitats and connectivity will remain intact.

Therefore, it is considered that the impact from fragmentation and isolation is very low.

5.3 Legislation

5.3.1 All bat species and their roosts in Britain are protected under the Wildlife and Countryside Act 1981 (as amended) (WCA) through their inclusion on Schedule 5. The implementation of the Countryside and Rights of Way Act 2000 (CRoW 2000) has amended the WCA 1981 to include 'reckless' damage to, or destruction of a roost, and disturbance of bats whilst in a roost.

5.3.2 Bats are also included on Annex IV of Council Directive 92/43/EEC of 21st May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora (known as the Habitats Directive). As a result of the United Kingdom ratifying this directive, all British bats are protected under The Conservation of Habitats and Species Regulations 2010. Combined, these make it an offence to kill, injure, capture or disturb bats or obstruct access to, damage or destroy roosts.

5.3.3 Paragraph 41(1) (b) of the Regulations states: A person who deliberately disturbs wild animals of any such (European Protected) species, is guilty of an offence. For the purposes of this paragraph, the disturbance of animals includes in particular any disturbance which is likely: -

- a. to impair their ability-
 - i. To survive, to breed or reproduce, or to rear or nurture their young, or
 - ii. In the case of animals of a hibernating or migratory species, to hibernate or migrate; or
- b. to affect significantly the local distribution or abundance of the species to which they belong.

5.3.4 Under the law, a bat roost is any structure or place used for shelter or protection e.g. a building, bridge or tree. Bats use many roost sites and feeding areas throughout the year and they tend to re-use the same roosts for generations.

5.4 National Planning Policy Framework

5.4.1 The NPPF outlines government planning policies and how they should be applied within local authorities. The framework places an emphasis on sustainable development, encouraging the re-use of land that has previously been developed over using land that has a higher environmental value and by minimising impacts

on biodiversity. The NPPF states that developments should aim to conserve or enhance biodiversity and encourages opportunities to incorporate biodiversity in and around developments.

5.5 UK and Local Biodiversity Action Plans (BAP)

- 5.5.1 The common pipistrelle was listed as priority species on the UK Biodiversity Action Plan in 1998 owing to the fact that there has been a 70% decline in their population between 1978 and 1993 (UKBAP, 1998). However, they are not listed under the 2007 UK Priority species list. However, common pipistrelle bats are included on the generic Local Biodiversity Action Plan for Durham.

5.6 Legal Implications of Proposed Development

- 5.6.1 Bat survey data indicates the presence of eight small, occasionally used common pipistrelle bat roosts within the site as a whole. Two roosts were identified in building reference A located in the south facing gable end of the building, a single common pipistrelle was seen to emerge from an area under the tiles during the dusk emergence survey and two common pipistrelle were seen to return to a gap at the apex of the roof during the dawn re-entry survey. A single roost was recorded on the west facing elevation of building C where a single bat was seen to enter, then re-emerge from a hole in the gable wall during the dawn re-entry survey. Buildings D, D1 and D2 each contained a small pipistrelle roost. A total of four common pipistrelle were seen to enter a gap under the 12th tile down from the apex of the roof on the west facing gable of Building D; it is likely that these bats are roosting on the wall top of the southern pitch of the roof. A single common pipistrelle was seen to return to a gap underneath the overhanging roof of Building D1 and a single common pipistrelle was seen to return to and emerge from a small gap at the top of the south facing wall of Building D2 during both of the surveys. Several bats were seen to enter Building B during the dawn re-entry survey as these bats were not seen emerging from the barn it is surmised that they are roosting within the western end of the barn. The exact roost location is not yet known.
- 5.6.2 Development proposals include the demolition of several buildings on site and the redevelopment of the remaining buildings, this will result in the loss of all eight bat roosts on site. All roost sites are protected by law and thus the proposed works would result in an offence being committed under The Conservation of Habitats and Species Regulations 2010 unless a European Protected Species Licence is obtained.

6.0 RECOMMENDATIONS AND MITIGATION

6.1 Survey Conclusions

- 6.1.1 Based upon the building features recorded during the external and internal assessment, the habitats present within the local area and the usage of the area by bats evidenced by a previous report for the site Buildings A, C, C1, C2, D, D1, D2, D3, D4, E, F, G, H, and J were considered to have low to moderate potential to provide roosting opportunities for bats. Building B was considered to have low potential to support roosting bats and Building I was considered to have negligible potential to support roosting bats. Therefore two nocturnal surveys were recommended on buildings A, C, C1, C2, D, D1, D2, D3, D4, E, F, G, H, and J and a single nocturnal survey was recommended on Building B. These surveys were carried out in September 2015.
- 6.1.2 Following the discovery of a possible roost in Building B during the dawn re-entry survey on the 7th September it was recommended that this building was also included in the second survey carried out on site.
- 6.1.3 Eight bat roosts were identified during the surveys in Buildings A, B, C, D, D1 and D2. Bat survey data indicated that the roosts in building reference A are located in the south facing gable end of the building, a single common pipistrelle was seen to emerge from an area under the tiles during the dusk emergence survey and two common pipistrelle were seen to return to a gap at the apex of the roof during the dawn re-entry survey. A single roost was recorded on the west facing elevation of building C where a single bat was seen to enter, then re-emerge from a hole in the gable wall during the dawn re-entry survey. Buildings D, D1 and D2 each contained a small pipistrelle roost. A total of four common pipistrelle were seen to enter a gap under the 12th tile down from the apex of the roof on the west facing gable of Building D; it is likely that these bats are roosting on the wall top of the southern pitch of the roof. A single common pipistrelle was seen to return to a gap underneath the overhanging roof of Building D1 and a single common pipistrelle was seen to return to and emerge from a small gap at the top of the south facing wall of Building D2 during both of the surveys. Several bats were seen to enter Building B during the dawn re-entry survey as these bats were not seen emerging from the barn it is surmised that they are roosting within the western end of the barn. The exact roost location is not yet known.

- 6.1.4 Due to the construction of the buildings on site with most buildings lacking a cavity wall and the lack of roof voids and lining on the interior of the roofs, it is considered highly unlikely that any of the buildings on site provide suitable opportunities to house a maternity roost. A further nocturnal survey covering buildings A-J will be required during the 2016 bat season (May-September) prior to the application for an EPS Licence to ensure that the site has been surveyed at different times of year and sufficient information has been gathered to allow for an accurate assessment of how the site is being used by bats.

6.2 Mitigation Measures

- 6.2.1 The following mitigation strategy has been designed to offset any impacts arising from the loss of an occasionally used bat roost and is in accordance with Natural England's Bat Mitigation Guidelines. Mitigation and compensation will be provided to maintain the population of bats affected at a favourable conservation status on completion of works with an overall net increase in available roost sites thereby also complying with current planning policy.
- 6.2.2 Replacement bat roosting habitat will be provided prior to the start of any works on site to provide roosting habitat during and after the construction phase. The proposed mitigation scheme detailed below will provide roosting habitat greatly in excess of the size of the roosting habitat lost.
- 6.2.3 The bat box to be installed will comprise a Schwegler 2F bat box to be positioned on the south, west or east elevation of a tree or telegraph pole before work commences to provide interim roosting habitat while the work takes place. Suitable Schwegler boxes can be bought from a number of retailers and further advice, if necessary, can be provided by Durham Wildlife Services Ltd. on construction details and siting arrangements.
- 6.2.4 Whereupon the following mitigation measures are proposed to compensate for the roosts to be lost as a result of the development; a single gap should be left at the wall tops of the south eastern elevations of the Building C and two gaps should be left at the wall tops of the remaining single storey buildings on site (E - H), allowing access into the cavity which should contain a chamber free of rubble or insulation where bats can roost. It is also recommended that 6 bat access tiles (to provide access, are installed in the roofs of three of the new properties within the site close proximity of where existing roosts are situated (locations show in Figure 8, Appendix D). Although the above provides adequate mitigation for the roost lost, the site could be further enhanced for bats by the installation of additional bat

access tiles in at least two more properties. Breathable roofing membranes are known to cause bat fatalities and therefore bituminous roofing felt must be used on all buildings where access tiles are going to be installed. Suitable bat access tiles can be bought from a number of retailers and further advice, if necessary, can be provided by Durham Wildlife Services Ltd. on construction details and siting arrangements.

- 6.2.4 In accordance with The Bat Mitigation Guidelines there are no timing constraints associated with an occasionally used roost and as such the works will be scheduled to commence following granting of the EPS Licence.
- 6.2.5 Short term mitigation measures will be employed during the works to ensure bats are not harmed during works. Immediately prior to the start of these works an inspection of the known roosting sites will be undertaken, facilitated through the use of a mobile elevation work platform (MEWP), ladder or scaffold to ascertain whether any bats are currently roosting within the building. Should it not be possible to conclusively determine the absence of bats using this method a dawn survey will be undertaken if weather conditions are suitable (ambient nocturnal air temperatures over 8°C, little/no wind/rain). If less than ten individual bats are recorded a controlled destructive search of all features considered suitable for use by roosting bats (e.g. roof tiles, lead flashing, soffit boxes) will be undertaken under the supervision of a license bat ecologist. Any bats discovered will be caught and moved to replacement roosting habitat (bat boxes) by the bat ecologist. In the unlikely event more than ten individual bats are recorded, the survey will be repeated until such time as there are five or less individuals present. On completion of the destructive search, the remaining works will proceed without the need for further surveys or supervision.
- 6.2.6 In the event additional evidence of roosting bats were to be discovered at any stage of works, operations would cease in that area immediately and further advice sought from Durham Wildlife Services Ltd and an amendment to the licence sought where required.
- 6.2.7 A small amount of foraging habitat is being lost on site as a result of the proposed plans, however this is considered to have a very low impact on the local bat population as better quality foraging habitat is present in close vicinity to the site; consequently no habitat mitigation/enhancements are proposed.

6.2.8 New Structures

- Any water tanks in the loft voids should be covered to stop any bats falling in and drowning.
- Timber treatments that are toxic to mammals will be avoided and any treatments will be carried out in the spring or autumn. Any proposed chemical treatments should be checked prior to administration.
- Breathable membranes are not recommended, bitumastic membranes are the only membranes currently accepted as 'bat friendly'.

6.3 **Mitigation Licence**

6.3.1 Bat survey data indicates the presence of seven small, occasionally used common pipistrelle bat roosts within building references A, B, C, D, D1 and D2. Non-breeding female and male pipistrelle bats are known to utilise a number of such roosting sites throughout the year. As such these roost sites are likely to be part of a larger network of roosting locations.

6.3.2 It is considered that an additional survey is required on site during the 2016 bat season (May-September) prior to the application for the mitigation licence to ensure that sufficient information has been collected to allow for an accurate assessment of the bat roost size and status and that the mitigation strategy proposed is appropriate to minimise any potential impacts of development proposals.

6.3.3 Development proposals consist of the redevelopment of the site, this will include the demolition of buildings A, A1, B, C1 and C2, D-D5, and K and the conversion of buildings C and E-I into residential units. The proposals will result in the loss of eight occasionally used common pipistrelle summer bat roosts, likely to comprise of single or small numbers of male and/or non-breeding female bats. The Bat Mitigation Guidelines (Natural England, 2004) suggests that the loss of such roost sites is likely to result in a low / negligible impact on the local population of the species. It is considered to result in a low impact on population viability in the long term as the affected individuals are likely to have alternate roost sites in the immediate locality.

6.3.4 Loss of a roost of any size requires a European Protected Species licence, which must be obtained prior to the work being carried out on the building. Furthermore, with appropriate compensation and mitigation implemented through this European Protected Species Licence, loss of the roosts on site are unlikely to have a significant effect on the conservation status of the species.

7.0 REFERENCES

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 Joint Nature Conservation Committee, Peterborough.

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APPENDIX A

Figures

The Green

Legend

- 2km buffer
- ★ Site location

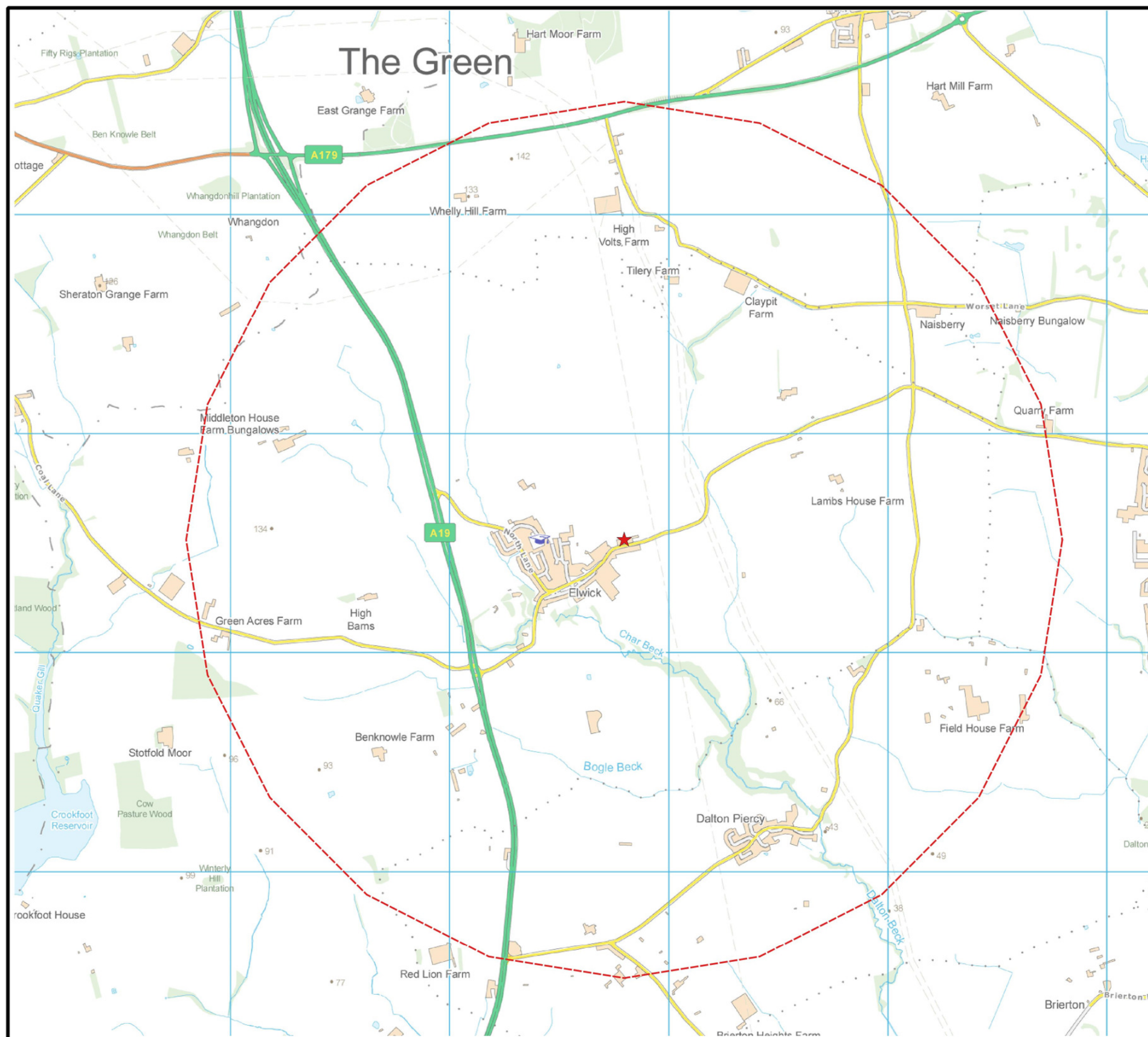
Contains Ordnance Survey data © Crown copyright and database right 2015



Rainton Meadows
Chilton Moor
Houghton-le-Spring
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DH4 6PU

info@dwsecology.co.uk
www.dwsecology.co.uk

Project	North Farm, Elwick
Title	Location Plan
Client	Fordy Marshall Ltd.
Date	17th September 2015
Ref	Figure 1





Legend

★ Site location

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Project	North Farm, Elwick
Title	Habitat Map
Client	Fordy Marshall Ltd.
Date	17th September 2015
Ref	Figure 2



Legend

Building reference

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Project	North Farm, Elwick
Title	Building Reference Plan
Client	Fordy Marshall Ltd.
Date	17th September 2015
Ref	Figure 3

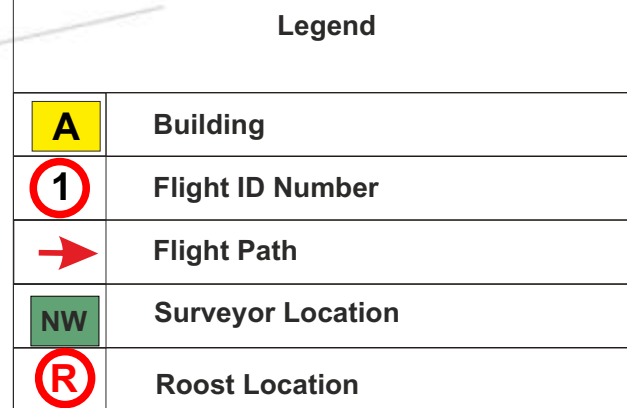


Legend	
A	Building
R	Roost Location



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Project	North Farm, Elwick
Title	Roost Locations
Client	Fordy Marshall Ltd.
Date	28th September 2015
Ref	Figure 4



North Farm, Elwick
Dawn Flight Map 07/09/2015
Fordy Marshall Ltd.

Figure 5

APPENDIX B

Selected Photographs

Photograph 1 Building A and A1 south elevation



Photograph 2 Building B south facing elevation



Photograph 3 Building C south-east facing elevation



Photograph 4 Building C and C1 east elevation



Photograph 5 Building C2



Photograph 6 Buildings D and D1 northern elevation



Photograph 7 Buildings D2, western gable of D and western gable of D3



Photograph 8 Building references D3 and D4, south east elevation



Photograph 9 Buildings E-I1 north west elevation



Photograph 10 Building J northern elevation



Photograph 11 Building J south west elevation



Photograph 12 Building K eastern elevation



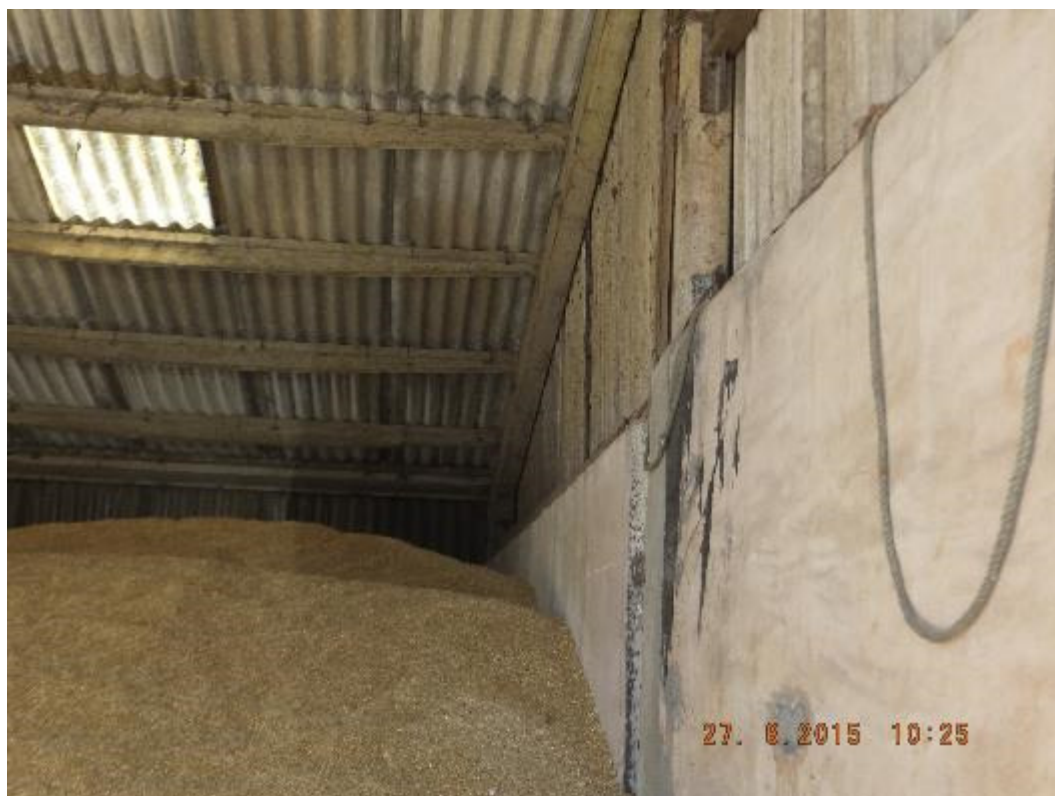
Photograph 13 Potential bat access point: Building A, gap at apex of northern gable



Photograph 14 Potential Bat access: Building A, gap above sliding door



Photograph 15 Interior of building B



Photograph 16 Hole in roof of Building C



Photograph 17 Gap under mortar Building C, east elevation



Photograph 18 Potential bat access point, Building C gap under fascia board



Photograph 19 Interior of C gaps in tiles and cracks in interior walls noted.



Photograph 20 Potential bat access point Building C2 – gap in brickwork above door



Photograph 21 Evidence of bat use in building C1: Bat dropping and a butterfly wing



Photograph 22 Potential bat access Building D1 western elevation under overhanging roof



Photograph 23 Potential bat access Building D4, slipped pane of glass



Photograph 24 Potential bat access under tiles building D



Photograph 25 Interior building E



Photograph 26 Potential bat roosting point crack in in building F



Photograph 27 Potential bat access point Building H gap at wall top



Photograph 28 Location of Roost 1, west elevation of Building A



Photograph 29 Location of Roosts 2 and 7, west facing gable of Building D1 and southern elevation of Building D2



Photograph 30 Location of Roost 4, west facing gable of Building D



Photograph 31 Location of Roost 5, west facing gable of Building C

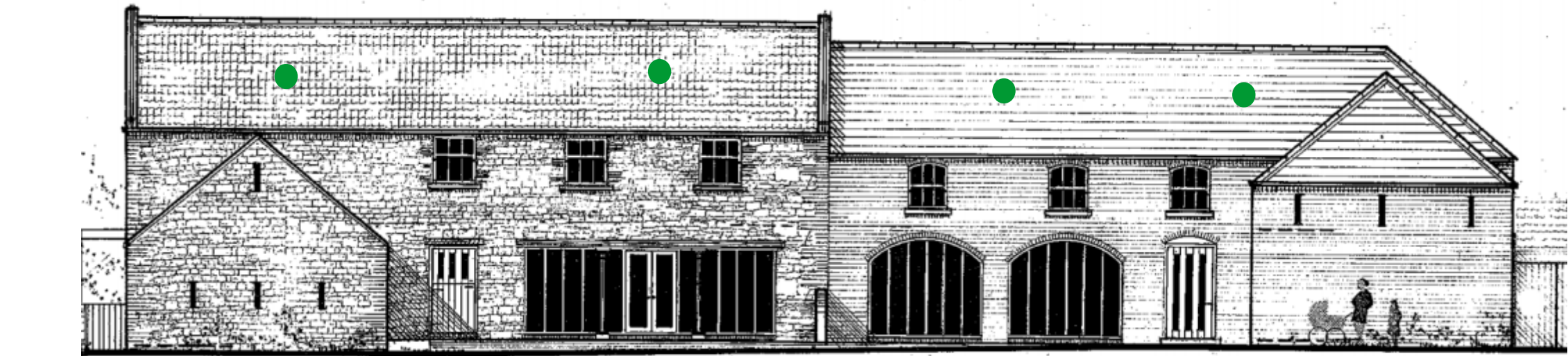
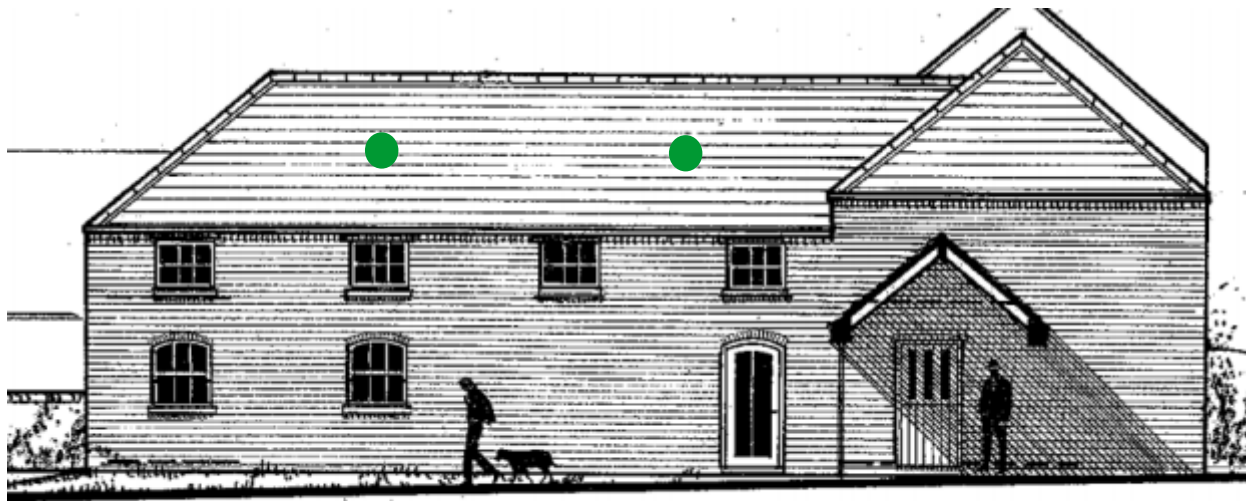
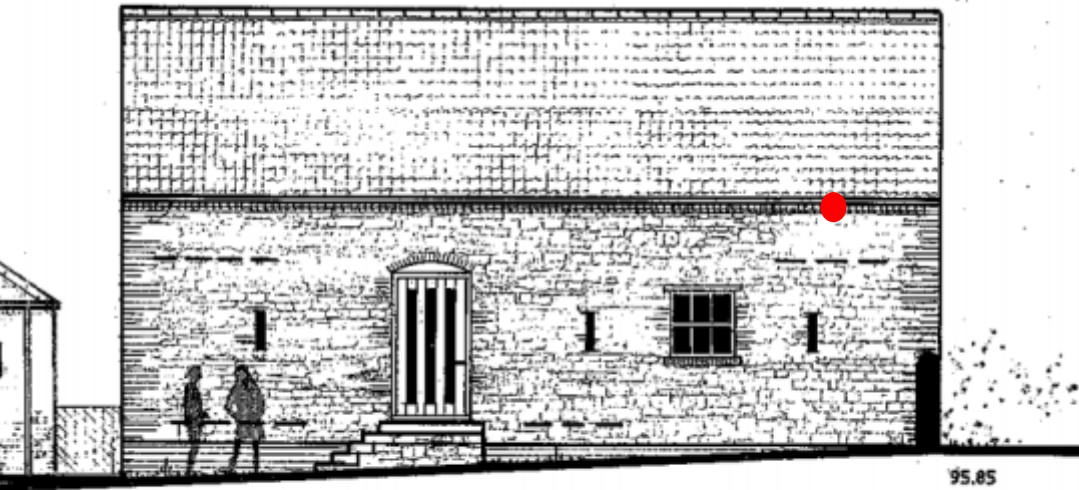
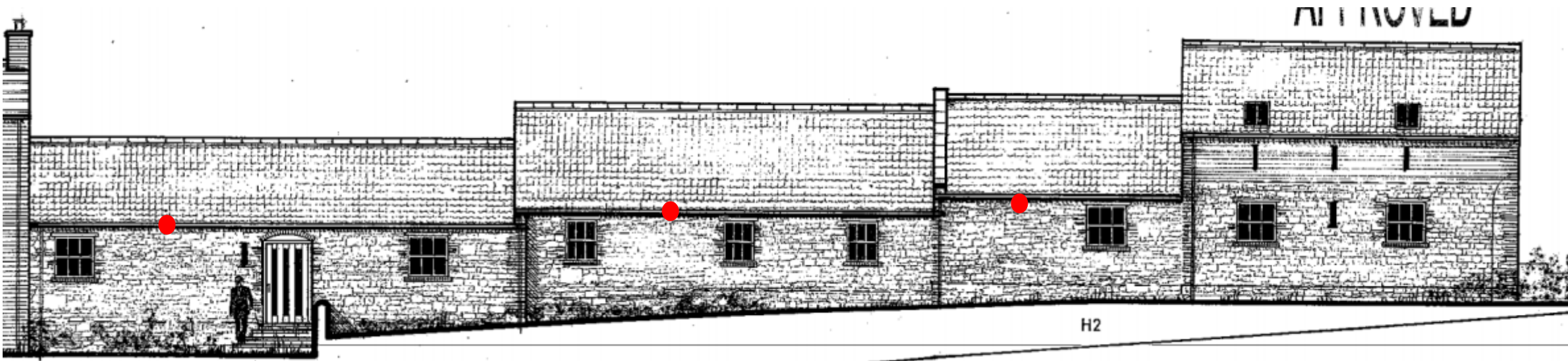


Photograph 32 Location of Roosts 6 and 8, south facing gable of Building A



APPENDIX C

Mitigation Plans



Legend

- Proposed approximate mortar gap locations
- Proposed approximate bat access tile locations



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Project	North Farm, Elwick
Title	Mitigation Plan
Client	Fordy Marshall Ltd.
Date	6th October 2015
Ref	Figure 7

APPENDIX D

Report Conditions

DURHAM WILDLIFE SERVICES

REPORT CONDITIONS North Farm, Elwick

This report is produced solely for the benefit of Fordy Marshall Ltd. and no liability is accepted for any reliance placed on it by any other party unless specifically agreed in writing otherwise.

Unless otherwise instructed any records collected will be submitted to the body holding environmental records for the area.

This report is prepared for the proposed uses stated in the report and should not be used in a different context without reference to Durham Wildlife Services. In time improved practices, fresh information or amended legislation may necessitate a re-assessment. Opinions and information provided in this report are on the basis of Durham Wildlife Services using due skill and care in the preparation of the report.

This report refers, within the limitations stated, to the environment of the site in the context of the surrounding area at the time of the inspections. Environmental conditions can vary and no warranty is given as to the possibility of changes in the environment of the site and surrounding area at differing times.

This report is limited to those aspects reported on, within the scope and limits agreed with the client under our appointment. It is necessarily restricted and no liability is accepted for any other aspect. It is based on the information sources indicated in the report. Some of the opinions are based on unconfirmed data and information and are presented as the best obtained within the scope for this report.

Reliance has been placed on the documents and information supplied to Durham Wildlife Services by others but no independent verification of these has been made and no warranty is given on them. No liability is accepted or warranty given in relation to the performance, reliability, standing etc. of any products, services, organisations or companies referred to in this report.

Whilst skill and care have been used, no investigative method can eliminate the possibility of obtaining partially imprecise, incomplete or not fully representative information. Any monitoring or survey work undertaken as part of the commission will have been subject to limitations, including for example timescale, seasonal and weather related conditions.

Although care is taken to select monitoring and survey periods that are typical of the environmental conditions being measured, within the overall reporting programme constraints, measured conditions may not be fully representative of the actual conditions. Any predictive or modelling work, undertaken as part of the commission will be subject to limitations including the representativeness of data used by the model and the assumptions inherent within the approach used. Actual environmental conditions are typically more complex and variable than the investigative, predictive and modelling approaches indicate in practice, and the output of such approaches cannot be relied upon as a comprehensive or accurate indicator of future conditions.

The potential influence of our assessment and report on other aspects of any development or future planning requires evaluation by other involved parties.

The performance of environmental protection measures and of buildings and other structures in relation to acoustics, vibration, noise mitigation and other environmental issues is influenced to a large extent by the degree to which the relevant environmental considerations are incorporated into the final design and specifications and the quality of workmanship and compliance with the specifications on site during construction. Durham Wildlife Services accept no liability for issues with performance arising from such factors

February 2008