



Site: Hill End Lane, Mapplewell

Survey: Bat Survey

Client: Nicol Thomas Ltd

Reference: 0106/13/RE01
Version: 001
Date Submitted: 21st August 2013

Report by: Jenny Clarke BSc (Hons) MSc MCIEEM

Checked by: Bill Lever BSc (Hons) MCIEEM

BL Ecology Ltd
Ground Floor
Weaver's Cottage
830 Harrogate Road
Bradford
BD10 0RA

Tel: 01274 416067
Web: www.bl-ecology.co.uk
Email: jenny@bl-ecology.co.uk

Table of Contents

1	INTRODUCTION	4
1.1	Background to Development.....	4
1.2	Objectives and Agreed Brief	4
2	METHODOLOGY	5
2.1	Desk Study	5
2.2	General	5
2.3	Daytime Inspection for Signs of Roosting Bats	5
2.4	Daytime Inspection for Bat Roost Potential	5
2.5	Dusk Emergence Surveys	6
3	RESULTS	7
3.1	Desk Study	7
3.2	Surrounding Habitat	7
3.3	Daytime Inspection for Signs of Roosting Bats	7
3.4	Daytime Inspection for Bat Roost Potential	7
3.5	Dusk Emergence Surveys	8
3.6	Other Ecological Considerations	8
4	RECOMMENDATIONS	9
4.1	Current Status of Bats on Site	9
4.2	Potential Impacts of the Development	9
4.3	Legal and Planning Policy Status	9
4.4	Recommendations	10
5	REFERENCES	12
5.1	Cited References	12
6	FIGURES	13
6.1	Figure 1 – Site Location	13
6.2	Figure 2 – Photographs	13
6.3	Figure 3 – Dusk Emergence Survey Results	13
7	APPENDIX 1 – PROPOSED SITE LAYOUT	14
8	APPENDIX 2 – BATS.....	15
8.1	Biology.....	15

8.2	Protection	15
8.3	Planning Policy	16
8.4	UK BAP and Species of Principal Importance.....	16
8.5	References	16
9	APPENDIX 3 – DESK STUDY RESULTS	17
10	APPENDIX 4 – CREATING BAT ACCESS POINTS.....	18

Disclaimer

Copyright BL Ecology Ltd. All rights reserved.

No part of this report may be copied, altered or reproduced by any means without prior written permission from BL Ecology Ltd.

This report has been prepared for the exclusive use of the client stated on the front sheet and unless otherwise agreed in writing by BL Ecology Ltd, no other party may use this report with the exception of the relevant Planning Authority or their ecological records centre.

1 Introduction

1.1 Background to Development

1.1.1 A planning application is being prepared which details plans to remove and replace a number of outbuildings at Hill End Lane, Mapplewell into residential dwellings. Hill End Lane is located in Mapplewell, north of Barnsley, in South Yorkshire (hereby referred to as 'the site'). The site is located at Ordnance Survey grid reference SE 3338 0950, as shown in Figure 1.

1.1.2 The plans involve the removal of 6 buildings to be replaced with 25 residential houses. The plans are provided within Appendix 1 and are hereby referred to as 'the development'.

1.2 Objectives and Agreed Brief

1.2.1 On 26th June 2013, BL Ecology Ltd was commissioned by Nicol Thomas to undertake bat surveys at the site. The agreed brief was to:

- Undertake a desk study with South Yorkshire Bat Group;
- Undertake a daytime scoping assessment of the buildings impacted by the proposed development;
- Undertake a dusk emergence survey of the buildings impacted by the proposed development; and
- Submit a full technical report with associated mapping, highlighting the methods, results, legal and planning policy constraints and how these may be overcome through mitigation and licensing.

2 Methodology

2.1 Desk Study

- 2.1.1 A desk study was undertaken with the South Yorkshire Bat Group who provided records within 2km of the site. Desk studies are undertaken to find historic records of roosting bats within the immediate vicinity of the proposed development in order to assess the likely impact on bats.

2.2 General

- 2.2.1 A survey area was defined which included buildings B1-B6 and a number of scattered deciduous trees, scrub and herbaceous plants, the location of these are shown in Figure 2.

2.3 Daytime Inspection for Signs of Roosting Bats

- 2.3.1 The daytime inspection was undertaken on 2nd July 2013 by Gareth Parkinson, who holds a Natural England Scientific class licence for bats reference CLS2345. The weather was warm (13°C) with a strong south-west breeze, dry and overcast.
- 2.3.2 The buildings were surveyed for signs of bat presence, which involved an internal and external inspection. All trees present on the site which will be affected by the proposed development were also inspected for signs of roosting bats.
- 2.3.3 The exterior walls, the floor, windows and ledges of buildings were assessed for signs of roosting bats using binoculars and a high powered torch. Where access was safe to do so, the interior roof voids were inspected for signs of roosting bats. Signs searched for included bat droppings on external surfaces, the roof void floor or on roof beams, dead juvenile bats, scratch and grease marks around entrances, and noises of bats calling from within the roost.
- 2.3.4 Trees were assessed for signs of roosting bats from ground level using binoculars. Signs searched for included bat droppings on the trunk and base of the trees, dead juvenile bats, and grease marks around entrances, and noises of bats calling from within the roost.

2.4 Daytime Inspection for Bat Roost Potential

- 2.4.1 An assessment was also made of the potential the buildings and trees had to support bats at other times of year. Suitable bat roosting features were searched for throughout the buildings, features searched for included cracked/missing/loose roof tiles, gaps in soffits/fascias/barge boards, gaps in brickwork, presence of a cavity wall, access into the eaves, access into the ridge tiles, and any other crack or gap at least 10mm in size.
- 2.4.2 Suitable bat roosting features were searched for on the trees, features searched for included loose bark, woodpecker holes, rot holes, mature ivy, dead wood, and stress splits.
- 2.4.3 Each building and tree was then awarded a level of potential to support roosting bats in summer, the breeding period, transitionally and in winter (roost requirements can be found in Appendix 2). The level of potential is defined by

the presence of suitable roosting features together with the locality, environmental conditions, age and proximity to suitable bat foraging habitat. The levels of potential are defined below:

- **Negligible** – Building or tree with no roosting potential and located in poor bat foraging habitat.
- **Low** – Building or tree with limited roosting potential with limited suitable bat foraging habitat. No suitability for breeding and/or hibernating bats.
- **Moderate** – Building or tree with some roosting potential of varying types and sizes, connected to some optimal bat foraging habitat. Some suitability for breeding bats and/or hibernating bats.
- **High** – Building or tree with multiple potential roosting cavities of varying types and sizes. High suitability for breeding bats and/or hibernating bats and connectivity to a range of optimal bat foraging habitats.
- **Confirmed roost** – Presence of droppings found internally, underneath roost access points or the presence of bats confirmed.

2.5 Dusk Emergence Surveys

2.5.1 Four ecologists were located around the buildings and trees to ensure all potential roosts were covered sufficiently. Each surveyor was equipped with a Batbox Duet bat detector linked to an mp3 recorder. Surveyors tracked bat movements around the site through the use of a Yukon night vision monocular and Binatone long range radios, which allowed audio contact to remain throughout the survey period. The surveyors watched the potential roost exit or entry points constantly and noted any bats emerging from or returning to potential roost points. All activity was marked on a map. .

2.5.2 Timings and other survey parameters are provided within Table 1 below.

Table 1: Survey Timings

Date	22/07/13	
Sunset time	21:19	
	Start	End
Survey timings	21:04	24:44
Temperature	21 °C	18.5 °C
Precipitation	Dry	Dry
Wind speed	Beaufort 2	Beaufort 2
Wind direction	North-easterly	North-easterly
Cloud cover	1/8 Oktas	7/8 Oktas

2.5.3 The dusk emergence survey was undertaken by the following personnel:

- Gareth Parkinson (Bat Licence number CLS2345;
- Maria Hoggett, a senior ecologist with eight years of bat survey experience;
- Joanna Dodsworth, a graduate ecologist with one year of bat survey experience; and
- Rochelle Meah, a graduate ecologist with one year of bat survey experience.

3 Results

3.1 Desk Study

- 3.1.1 The desk study revealed numerous records within the 2km search area including one within 1km of the site. The closest record was of a female common pipistrelle (*Pipistrellus pipistrellus*) taken into care approximately 650m south east of the site. Records of Daubenton's bats (*Myotis daubentonii*) are associated with the river Dearne which is located 700m south of the site. Noctule records (*Nyctalus noctula*) were also associated with the river Dearne as well as various areas in the north of Barnsley. The results of the desk study can be seen illustrated on Figure 1 and full details can be found within Appendix 3.

3.2 Surrounding Habitat

- 3.2.1 The site is located on the southern periphery of the village of Mapplewell. Whilst industrial and residential land use bound the site on the north, west and south aspects, the eastern aspect is bordered by a recreation area of rough grassland and scrub that reaches south to the River Dearne, 700m to the south of the site. Suitable bat foraging habitat is therefore present within the vicinity of the site.

3.3 Daytime Inspection for Signs of Roosting Bats

- 3.3.1 BL Ecology Ltd found no evidence of roosting bats during the daytime inspection, however, it should be noted that external signs can be removed by wind and rain and therefore, a negative result cannot positively prove absence of bats. All trees within the site were considered to hold **negligible potential for roosting bats** being immature and/or well pruned.

3.4 Daytime Inspection for Bat Roost Potential

- 3.4.1 A description of each building and their potential bat roosting features are provided within Table 1 below, photographs of each building/feature are shown within Figure 2. The site consists of a derelict builder yard with areas of hard standing that has been colonised by trees, scrub and herbaceous plant such as willow (*Salix spp.*), bramble (*Rubus fruticosus agg.*), birch (*Betula spp.*), ash (*Fraxinus excelsior*) and butterfly bush (*Buddleja davidii*).

Table 1: Bat Roost Potential Results

Building/ feature number	Description	Potential features	Roost potential
1	Late C20 th Single storey barn/warehouse. Base walls concrete block with corrugated cement sheet above. Corrugated cement sheet roof. Concrete and steel beams. Access to the exterior NE, NW and SW elevations was not possible.	Wall sheets on NW (rear) and SE (elevation) appear to be dual layer with insulation between, damage may allow access into cavity. Large door permanently open allowing access to interior.	Low
2	Late C20 th single storey hanger style workshop with metal sheet roof and rear elevation. Front elevation (NE) concrete block. Access to the NW and SW elevations	Some holes and cracks in NE elevation. Pedestrian door open and broken skylight which could allow bat access.	Low

Building/ feature number	Description	Potential features	Roost potential
	was not possible.		
3	Late C20 th single storey flat roof garage/workshops. Single skin concrete block walls with insulated corrugated metal sheet roof. Access to the NW elevation of the building was not possible.	Some gaps in pointing in interior blockwork. Front of workshops open which could allow access.	Low
4	Late C20 th single storey flat roof garage/workshop with small office. Concrete block walls with concrete corrugated sheet roof. False ceiling in garage area. Access to the NW elevation of the building was not possible.	Soffit boarding on NE and SE elevations with gaps behind. False ceiling in garage area with damage which could allow bat access. Front doorway open allowing access into interior. Damaged blockwork on northern elevation with gaps.	Low
5	Late C20 th single storey shed. Concrete block walls with corrugated metal roof.	Open at NW end which could allow access to interior. Some gaps in blockwork.	Low
6	Pre-fabricated "porta-cabin" type unit. Wooden boards with felt roof.	Some gaps behind wooden fascias.	Negligible
7	Walls on site boundary. Concrete block, some with copings.	In some places there are many gaps which the wall has been damaged or has moved.	Low

3.5 Dusk Emergence Surveys

3.5.1 BL Ecology Ltd observed no bats emerging from any buildings on site.

3.5.2 Common pipistrelles and noctules were recorded in the vicinity during the survey. The first bat heard was a common pipistrelle at 21:40 heard faintly towards the north of the site. The timing of this bat at 20 minutes after sunset suggests a roost is likely to be nearby based on based on an average emergence time of 20 minutes after sunset for common pipistrelle (Jones and Rydell, 1994). One common pipistrelle was observed shortly afterwards at 21:43 flying within poplar trees (*Populus nigra* L. var *italica*) on the south-west aspect of Building 1, followed by foraging around the building and repeatedly flying in and out of it until 22:20. One common pipistrelle was also observed foraging adjacent to and within Building 3.

3.5.3 Foraging activity was intermediary throughout the surveying period, with most of the activity observed near to Buildings 1-4; no activity was associated with the surrounding walls or Buildings 5-6. The levels of foraging activity were within the levels expected for a site with low bat potential surrounded by suitable foraging habitat.

3.6 Other Ecological Considerations

3.6.1 Evidence of bird nests was recorded in buildings 1, 2 and 3, although they were inactive at the time of the inspection. Kestrel (*Falco tinnunculus*) and many goldfinch (*Carduelis carduelis*) were recorded foraging on site. None of the buildings are considered to offer nesting potential for barn owl (*Tyto alba*).

3.6.2 A species of cotoneaster (*Cotoneaster spp.*) was recorded on the site.

4 Recommendations

4.1 Current Status of Bats on Site

- 4.1.1 Although bats were absent from the buildings and trees, they are mobile mammals and low numbers of future roosting bats within the site cannot be ruled out. This survey has satisfied minimum standards (BCT 2012), and therefore a careful working approach to demolition is considered acceptable as a precaution in the unlikely event that bats are present. The presence of a maternity roost or hibernacula is highly unlikely due to the size and nature of the potential roost areas.

4.2 Potential Impacts of the Development

- 4.2.1 The proposed development involves the demolition of all 6 existing buildings on site to be replaced with 25 residential buildings, together with re-building of boundary walls. The potential for crevice dwelling species to exploit opportunities within the existing buildings and walls will be lost through the development, with the low potential for bats to be killed or injured during demolition works. Buildings 1 and 3 were utilised as a sheltered foraging area by nearby roosting bats, the loss of these buildings is therefore likely to have a minor adverse impact on the local bat population. Indirect impacts to bats through the development may include disrupting foraging through an inappropriate lighting design.
- 4.2.2 The existing 15 trees on the eastern border of the site will be retained, whilst 4 on the east and west borders will be removed. The trees located within the site offer negligible roosting potential, however their removal may cause an indirect impact through a loss of foraging habitat.
- 4.2.3 The bird nests identified within the site will be lost through the development, if the demolition works are undertaken at an inappropriate time of year (i.e. during breeding season) there is the potential to kill and injure birds.
- 4.2.4 The cotoneaster found on the site will be removed under the current plans.

4.3 Legal and Planning Policy Status

- 4.3.1 The following legislation makes it an offence to injure or kill a bat and also to deliberately, recklessly or intentionally disturb a bat whilst in its roost or to destroy/obstruct a roost:
- The Conservation of Habitats and Species Regulations 2010;
 - Wildlife and Countryside Act 1981 (as amended); and
 - The Countryside and Rights of Way Act 2000.
- 4.3.2 In addition, the National Planning Policy Framework (NPPF) (2012) requires planning authorities to use the planning system to enhance the natural and local environment by minimising impacts on biodiversity and providing net gains in biodiversity where possible.
- 4.3.3 The Barnsley Biodiversity Action Plan aims to establish sustainable populations of all listed South Yorkshire Priority Species. In order to achieve this, the Council has resolved to “*ensure that bats and their habitats are protected and promoted*”

through appropriate regional and local planning policy instruments” and to “seek to protect existing valuable habitats from threats” (Barnsley Council, 2008).

- 4.3.4 All wild birds are afforded protection through the Wildlife and Countryside Act 1981 (as amended), which prohibits the killing, injuring, taking, or selling, of any wild bird or their nests or eggs.
- 4.3.5 Cotoneaster species are listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended) and are therefore subject to the conditions placed in Section 14 of the Act. Section 14 prohibits the planting of this species in the wild or actions which would otherwise cause it to grow. These provisions are necessary to prevent the establishment of non-native plant species which may be detrimental to our native wildlife.

4.4 Recommendations

Bats

- 4.4.1 Due to the residual potential of bats being present at other times of year or at a later date, all roofing materials, including tiles and corrugated sheets, should be removed carefully by hand. All personnel working on the site should be made aware of the risk of bats being found during the works. If bats are found all works should cease immediately and advice sought from a bat ecologist (BL Ecology can be contacted on 01274 416067). It is likely that a licence would be required from Natural England to proceed with the project if bats were found.
- 4.4.2 If work has not commenced within 12 months of this report an update emergence survey should be undertaken between May and August to check for new roosts created in the interim period.
- 4.4.3 Under the NPPF and the NERC Act, all developments should contribute to and, where possible, provide net gains in biodiversity, as well as enhance possible habitats for protected species. It is therefore recommended that bat roosting features are incorporated into the design of the new development to compensate for the loss of potential roosting sites. It is recommended that two bat tubes (for example Schwegler 1WI) are inserted into the residential properties, one at the apex on the southern gable end of property 10 and one at the apex on the western gable end of property 16; these are located adjacent to nearby established gardens and within known bat foraging areas to increase likelihood of usage.
- 4.4.4 In order to reduce interference from lighting associated with the development, any security lighting installed on the new houses should be shaded and pointed away from potential bat roosting and foraging habitat, particularly along the tree-lined boundaries. A maximum of 2000 lumens (150W) lamp should be used, which ideally should be fitted with a movement sensor with the timer set to the minimum amount of 'lit time' (Institute of Lighting Engineers, 2007). Street lighting should be avoided where possible but where it is unavoidable, low/high pressure sodium lamps should be used in preference to mercury. Lighting should be directed to where it is needed, and light spillage avoided using accessories such as hoods, cowls, louvers and shields to direct the light. The height of the lighting columns should be as short as is possible. Pedestrian lighting could take the form of low level lighting that is below 3 lux at ground level (Institute of Lighting Engineers/BCT, 2007).

- 4.4.1 The planting of hedges to delineate residential plots should be used in preference to fencing; a variety of species should be planted to provide food throughout the year, including willows (*Salix spp.*) and blackthorn (*Prunus spinosa*) for early season nectar, hawthorn (*Crataegus monogyna*), bramble (*Rubus fruticosus agg.*) and rose (*Rosa spp.*) for summer flowers and autumn berries, together with ivy (*Hedera helix*) for autumn nectar and late winter berries. Where fencing is necessary, climbers should be planted to increase the insect diversity and hence foraging opportunities for bats. Climbing species should include old man's beard (*Clematis vitalba*), ivy, common jasmine (*Jasminum officinale*) and honeysuckle (*Lonicera periclymenum*). Standard trees should be planted within residential gardens. This will provide sheltered areas for foraging to compensate for the loss of foraging areas within the buildings.

Breeding Birds

- 4.4.2 Works on the buildings likely to exclude birds from their nesting sites should take place outside the breeding bird season, i.e. between October and February inclusive to avoid the killing or injury of birds breeding within the buildings.
- 4.4.3 In response to the NPPF and NERC Act it is recommended that bird nesting features are incorporated into the design of the new development to compensate for the loss of known nesting sites. It is therefore recommended that two sparrow terraces are inserted under the eaves of two houses, one on the northern aspect of property 21 and one on the northern aspect of property 1. These locations are both near to vegetation for foraging, have clear flight paths leading up to them, and are located on the northern aspect to avoid overheating.

Vegetation

- 4.4.4 The cotoneaster should be removed from site with care, ensuring that the plants and surrounding soil are disposed of at an appropriate landfill site to prevent the species being spread onto other sites.
- 4.4.5 Landscaping on the site should use locally native species. The Natural History Museum has created a useful website that provides lists of locally native species, known as the Postcode Plants Database, which could be consulted for this purpose (<http://www.nhm.ac.uk/fff/>). Teasel (*Dipsacus fullonum*) should be included in the landscaping plan to provide a food source for the gold finches identified currently utilising the site.

5 References

5.1 Cited References

- 5.1.1 Barnsley Council (2008). Barnsley Biodiversity Action plan.
<http://www.barnsleybiodiversity.org.uk/Barnsley%20BAP%202008-12.pdf>
- 5.1.2 Bat Conservation Trust (2012). Bat Surveys: Good Practice Guidelines. BCT, London.
- 5.1.3 Department for Communities and Local Government (2012). National Planning Policy Framework. Department for Communities and Local Government, London.
- 5.1.4 Entwistle, A.C., Harris, S., Hutson, A.M., Racey, P.A., Walsh, A., Gibson, S.D., Hepburn, I., and Johnston, J. (2001) Habitat Management for Bats: A Guide for Land Managers, Land Owners and their Advisors. JNCC, Peterborough.
- 5.1.5 Institute of Lighting Engineers (2007). Bats and Lighting in the UK. Bats and the Built Environment Series
- 5.1.6 Jones, G. & Rydell, J. 1994. Foraging strategy and predation risk as factors influencing emergence time in echolocating bats. *Philosophical Transactions of the Royal Society: Series B*. **346**, 445-455
- 5.1.7 Mitchell- Jones, A .J. (2004). Bat Mitigation Guidelines. Natural England. Peterborough.
- 5.1.8 West Yorkshire Ecology WYE (2008). Minimum Standards for a Bat Survey in West Yorkshire (v3 Sept 2009). WYE, Wakefield.

6 Figures

6.1 Figure 1 – Site Location

6.2 Figure 2 – Photographs

6.3 Figure 3 – Dusk Emergence Survey Results

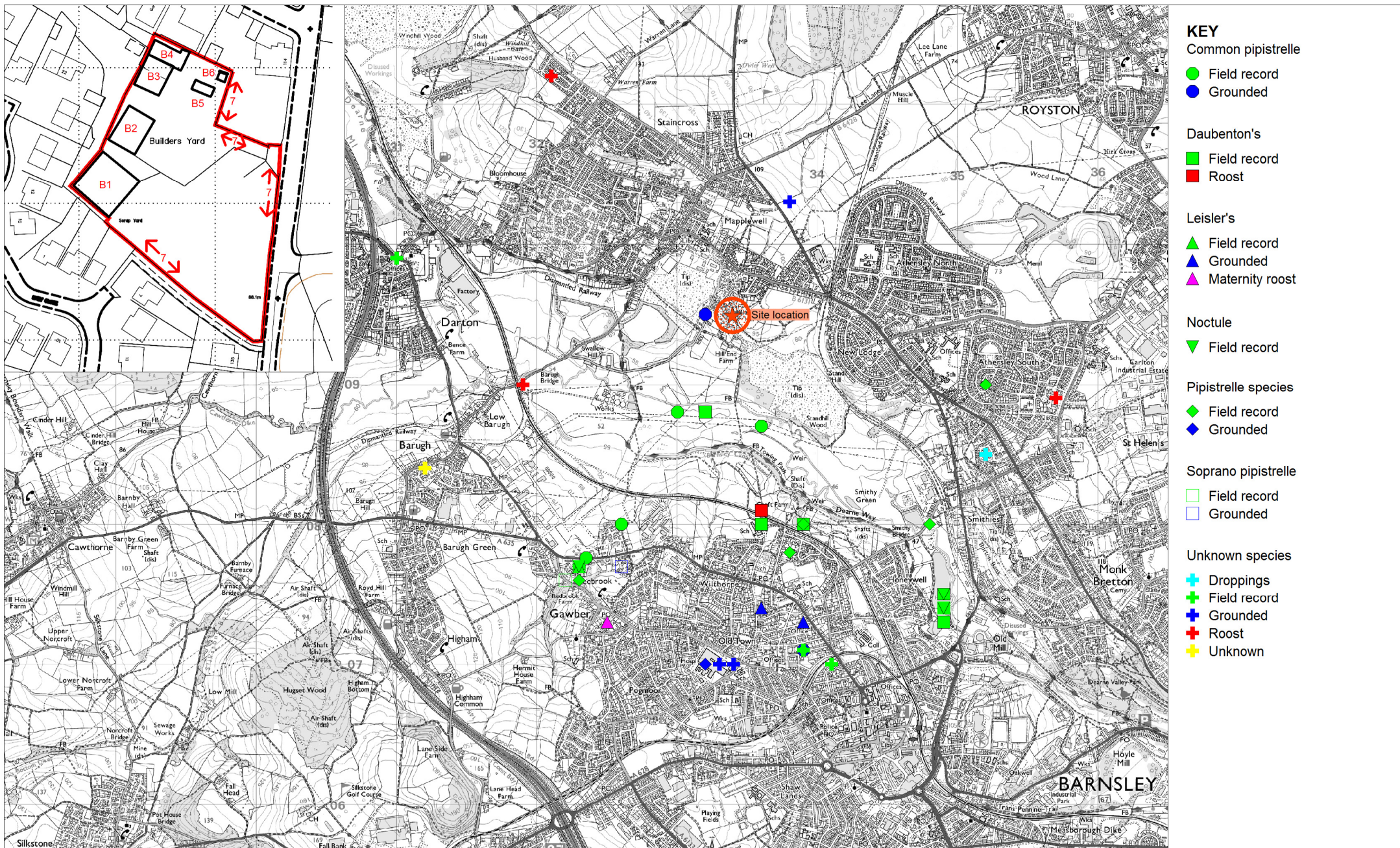


Figure 1 - Site Location and Desk Study Results

Hill End Road, Mapplewell – Bat Survey

Ordnance Survey Crown Copyright. All Rights Reserved.
Licence Number 100049706



Page	1 of 1
Map reference	0106_13/RE01 - FIG 1
Approved by	Jennifer Clarke
Scale	1:35'000 at A4



Photograph 1: External of B1



Photograph 2: Internal of B1



Photograph 3: External of B2



Photograph 4: Internal of B2



Photograph 5: External of B3



Photograph 6: Internal of B3



Photograph 7: External of B4



Photograph 8: Internal of B4



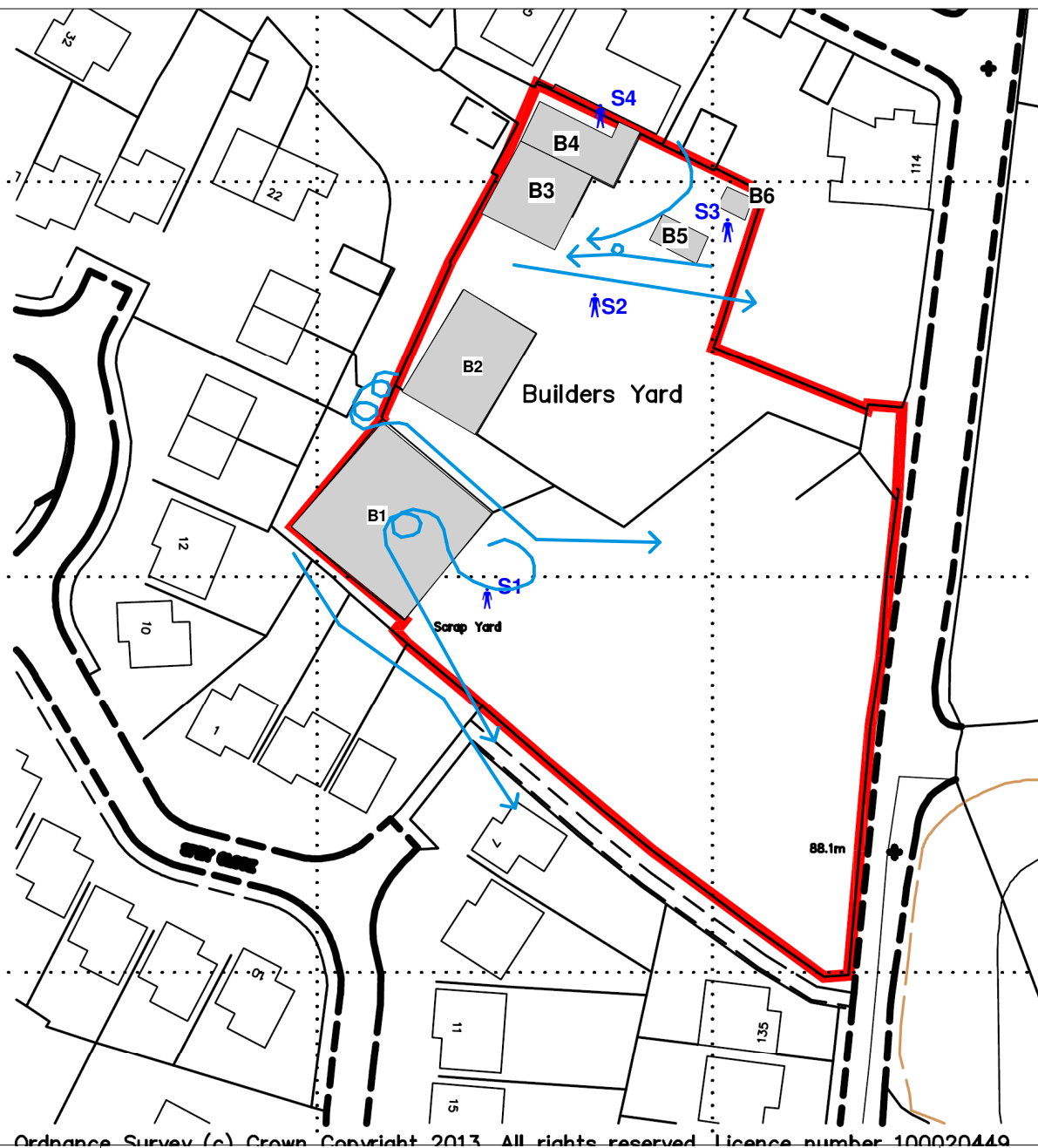
Photograph 9: External of B5



Photograph 10: External of B6



Photograph 11: Gaps in boundary wall



Key	
	Survey boundary
	Building
	Common pipistrelle flight path
	Surveyor location

Ordnance Survey (c) Crown Copyright 2013. All rights reserved. Licence number 100020449

Figure 3 - Dusk Emergence Survey Results

Hill End Lane, Mapplewell - Bat survey

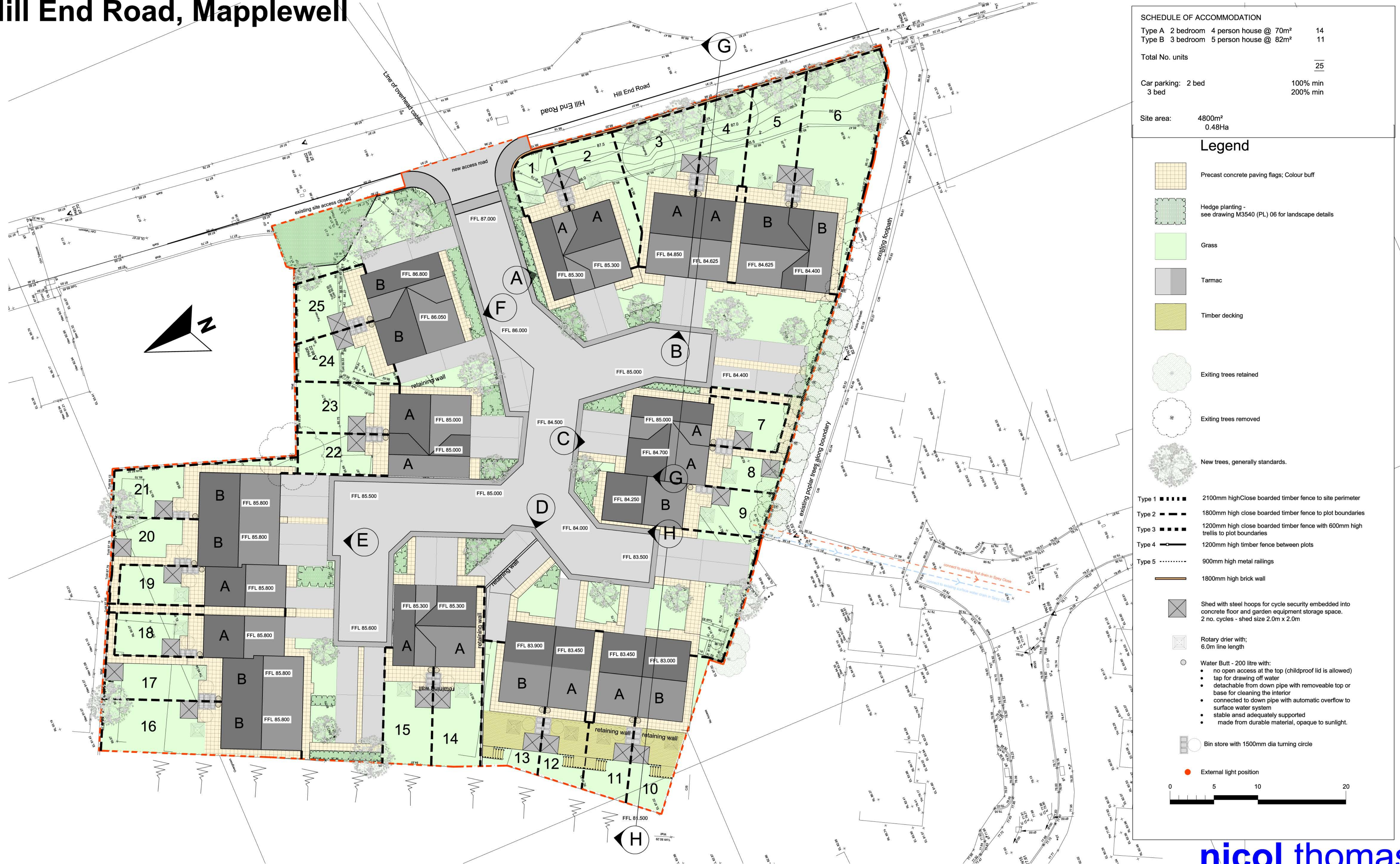
Basemap provided by Nicol Thomas, drawing number N3540



Page	1 of 1
Map reference	0106_13/RE01 - FIG 3
Approved by	Jennifer Clarke
Scale	NTS

7 Appendix 1 – Proposed Site Layout

Hill End Road, Mapplewell



nicol thomas

nicol thomas
architects project managers construction cost consultants CDM co-ordinators
Registered in England and Wales. Reg No. 2140639
Quality Assured to BS EN ISO 9001:1994 Certificate Number GB 4723

Heyside House Blackshaw Lane Heyside Royton Oldham OL2 6NS
t:01706 290088 f:01706 290099 e:oldham@nicolthomas.com

Also at Birmingham (Registered office)

Do not scale from this drawing. All dimensions must be checked and verified before preparing production drawings or commencing works. This drawing and its design is the copyright of Nicol Thomas Ltd and may not be reproduced in any form whatsoever without their prior express written consent.

Client:		SEDDON		
Job:		HILL END ROAD, MAPPLEWELL		
Drawing title:		PROPOSED LAYOUT		
Drawing Number: (Job number)	M3540	(PL)	03	Revision:
Scale:	1:200 @ A1			
Date:	DEC 2012			
Drawn by/ checked by: CH/RF				

8 Appendix 2 – Bats

8.1 Biology

- 8.1.1 Bats make up 20% of all mammal species in the world, the order *Chiroptera* has over 1100 species with 17 species of those being native to the UK.
- 8.1.2 All British bats are insectivores and eat a range of prey from midges and mosquitoes to beetles and spiders. Their nocturnal feeding habits mean they are secretive and often utilise less developed areas such as woodlands, grasslands, watercourses and hedgerows. Bats can however be seen in more urban areas with the most common bats species, common pipistrelle, preferring to roost in buildings throughout the summer.
- 8.1.3 Bats have varying requirements for roosting throughout the year and this also varies vastly between species. Certain species are fairly restricted to trees throughout the year such as the barbastelle and noctules. General bat roosting habitats can include caves, mines, trees, buildings and churches.
- 8.1.4 Female bats require warmer temperatures in the summer where they can raise their young, these summer breeding sites are often used year after year and depending on species can range between 20 individuals to several hundred. Some roosts have been recorded at over 1000 individuals. Females begin to find breeding roosts in May and are normally present all summer.
- 8.1.5 Male bats spend most of the year segregated away from females in solitary roosts or in small numbers. In autumn after the females have had their pups in summer, male bats begin to either seek out breeding females to mate with or create mating roosts or harems. After mating bats disperse to their hibernation sites and fertilisation is delayed until the following spring.
- 8.1.6 In winter when insect prey is at a minimum, bats begin to seek hibernation sites where they can slow their bodies into torpor and save energy. Hibernation sites tend to support stable temperatures with high humidity, these sites are often in caves, tree hollows or deep in stone walls. Upon warming in spring bats begin their yearly cycle once again and pregnant females begin to form their maternity colonies once more.

8.2 Protection

- 8.2.1 Because of the fragility of bats roosting habitats and their massive decline over the last century, bats are now a fully European protected species. The legislation makes it an offence to:
- Deliberately or intentionally capture, injure or kill a bat;
 - Deliberately disturb bats in such a way as to be likely significantly to:-
 - Impair their ability to survive, breed or rear or nurture their young, or to impair their ability to hibernate or migrate; or
 - Affect significantly the local distribution or abundance of that species;
 - Damage, destroy or obstruct a breeding site or resting place of bats.
- 8.2.2 Actions which are likely to cause one or more of the offences listed above can be licensed by Natural England.

- 8.2.3 In addition to this greater and lesser horseshoe, barbastelle and Bechstein's bats are included on Annex II of the Habitats Directive (Conservation (Natural Habitats etc.) Regulations 1994 (as consolidated by the Conservation of Habitats and Species Regulations 2010). This legislation requires that areas Special Areas of Conservation (SACs) are designated in suitable areas to protect the habitat of these species.

8.3 Planning Policy

- 8.3.1 The NPPF states that impacts to biodiversity should be minimised and also biodiversity should be enhanced where possible. Bats are therefore considered under the NPPF; this document is therefore a material consideration when assessing planning applications.

8.4 UK BAP and Species of Principal Importance

- 8.4.1 Barbastelle, Bechstein's, greater and lesser horseshoe, brown long-eared, noctule and soprano pipistrelle are Priority Biodiversity Action Plan (BAP) species. These Priority species are transposed into the Natural Environment and Rural Communities Act 2006. The act means all government departments must conserve these species and promote others to conserve them and their habitats.

8.5 References

- 8.5.1 Bat Conservation Trust (2012). Bat Surveys: Good Practice Guidelines. BCT, London.
- 8.5.2 Entwistle, A.C., Harris, S., Hutson, A.M., Racey, P.A., Walsh, A., Gibson, S.D., Hepburn, I., and Johnston, J. (2001) Habitat Management for Bats: A Guide for Land Managers, Land Owners and their Advisors. JNCC, Peterborough.
- 8.5.3 Highways Agency (1996). Design Manual for Roads and Bridges, Volume 10 Environmental Design and Management: Section 4 The Good Roads Guide- Nature Conservation, Part 6 Nature Conservation Management Advice in Relation to Bats.
- 8.5.4 HM Government (1995). Biodiversity: The UK Steering Group Volume 2: Action Plans. JNCC, Peterborough.
- 8.5.5 Mitchell-Jones, A.J. & McLeish, A.P. (1999). Bat Workers' Manual (2nd Edition). Joint Nature Conservancy Committee, Peterborough
- 8.5.6 Office of the Deputy Prime Minister (2005). Planning Policy Statement 9; Biodiversity and Geological Conservation.
- 8.5.7 Russ, J. (1999). The Bats of Britain and Ireland. Alana Ecology, Shropshire.

9

Appendix 3 – Desk Study Results

Table 3: South Yorkshire Bat Group records within 2km of Hill End Lane, Mapplewell

Species	Location	Notes	Grid reference	Date	Number
Myotis sp.	Willowbank	In flight	SE3308	18-Jun-88	
Noctule	Willowbank	In flight	SE3308	18-Jun-88	2
Pipistrelle sp.	Willowbank	In flight	SE3308	18-Jun-88	2
Unknown	Church Street	In flight	SE310099	09-Aug-99	
Daubenton's	Monkey Tunnel	In roof crevice	SE336081	06-Sep-02	6
Daubenton's	Monkey Tunnel	Roosting in small joint crevice	SE336081	06-Sep-02	6
Unknown	86 Charles Street	Bat found in house	SE338103	08-Sep-03	1
Unknown	Barugh Bridge	Probable roost site	SE319090	11-Jan-04	
	Wind Hill Avenue	Bats seen under ridge tile	SE321112	11-Apr-05	
Unknown	Wind Hill Avenue	Bats found under ridge tile by builders	SE321112	12-Apr-05	1
Unknown	Wind Hill Avenue	Bats found under ridge tile by builders	SE321112	12-Apr-05	1
Common pipistrelle	Wilthorpe marsh	Roost	SE336087	22-Mar-11	15
Common pipistrelle	Wilthorpe marsh		SE332088	23-Jul-11	2
Daubenton's	Wilthorpe marsh		SE332088	23-Jul-11	1
Common pipistrelle	Carr Green Lane, Blacker Hill, Staincross	In care	SE332095	08-Apr-13	1

10 **Appendix 4 – Creating Bat Access Points**

