
Former Holly Lodge Girls' College, Queens Drive

Protected Species Survey Report (Bats).

Compiled by Ecology Services Ltd.

Employees are members of the Chartered Institute of Ecology and Environmental Management

on behalf of

Redrow Homes Ltd

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Report Version: 2

1.0 Introduction

- 1.1 Ecology Services Limited was commissioned by Redrow Homes Ltd in January 2015, to carry out a preliminary bat roost assessment of buildings and trees at the former Holly Lodge Girls' College, Queen's Drive, West Derby, Liverpool, L12 7JA; National Grid Reference; (NGR) 339182 392703. See Map 1 Showing the location of the site.
- 1.2 Following the initial preliminary roost assessment, additional trees that will be affected by the proposals were identified. These trees were subject to a survey in March 2016 and the report has been updated.
- 1.3 The aim of the preliminary roost assessment was to:
 - Undertake a visual inspection of the site to establish baseline conditions;
 - Complete an assessment to ascertain if potential or evidence of use existed for bat species;
 - Undertake a off the ground visual assessment with the aid of a trained Arborist and endoscope, where required.
 - Determine if there are requirements for further and/or more detailed surveys.
 - Following the preliminary roost assessment further surveys have been recommended, the results of which are to be provided as an addendum report.
- 1.4 It is understood that the proposals at the site include the refurbishment of some buildings, the demolition of others buildings and the re-development of the site for residential use, which will result in the loss of some trees. Proposals are shown on Map 2.
- 1.5 As part of the Local Authority's environmental policies, surveys are required to be undertaken for schemes which may have the potential to affect protected species, i.e. bats.

2.0 Statutory and Planning Context

Bats and their Requirements

- 2.1 All British bats and their roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended).
- 2.2 When dealing with cases where a European Protected Species (EPS) (all UK bats) may be affected, a Local Authority is a 'competent authority' within the meaning of regulation 7 of the Conservation of Habitats & Species Regulations 2010 (as amended). The Local Authority must therefore exercise their functions under the provisions made within the 2010 Regulations and planning decisions should only be made when European Protected Species and their habitats are fully taken into account.
- 2.3 The National Planning Policy Framework (NPPF) places a clear responsibility on Local Planning Authorities to conserve and enhance biodiversity and to encourage on the consideration that should be given to Protected Species where they may be affected by development. The Office of the Deputy Prime Minister (ODPM) Circular 06/2005 provides administrative guidance on the application of the law in relation to planning and nature conservation. This is supported by a guide to good practice entitled 'Planning for Biodiversity and Geological Conservation: Building in Biodiversity' in which paragraphs 5.34 and 5.35 identify that species such as bats are highly dependant upon built structures for survival and that roosts can be easily incorporated into existing and new developments/conversions to benefit these species.

- 2.4 A Local Planning Authority (LPA) has a duty to ensure that protected species and habitats within the UK are a “material consideration” in the determination of a planning application. Therefore, a LPA is unlikely to determine an application until all relevant information relating to protected species or habitats is submitted in support of the application. Relevant information includes; adequate surveys and a method statement (the latter only if required) for their approval which will need to be submitted along with the planning application.
- 2.5 Where bats are affected by development then a licence to derogate from the Conservation of Habitats and Species Regulations 2010 (as amended) would be required. European Protected Species (EPS) mitigation licence applications are processed and issued by Natural England and the EPS licence can only be applied for, once planning permission is granted, if planning permission is required.
- 2.6 Natural England may grant an EPS mitigation licence for the purpose specified in paragraphs 2 of the Regulation. The purposes are:-
- 53(2)e preserving public health or safety or other imperative reason of overriding public interest including those of a social or economic nature and beneficial consequence of primary importance for the environment.
 - 53(2)f preventing the spread of disease.
 - 53(9)a that there is no satisfactory alternative.
 - 53(9)b that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable status in their natural range.
- 2.7 A bat roost may be defined in several ways:
- a) Maternity roost
 - b) Summer roost
 - c) Mating roost
 - d) Feeding roost
 - e) Hibernation roost
 - f) Transitional or temporary (night/day) roost
- 2.8 Roost selection is often closely correlated, to suitable foraging habitat within a reasonable commuting distance from the roost. Different sites are used throughout their active season which is dependent upon insect densities and abundance. Climatic conditions can also affect their ability to successfully forage. All British bats are insectivorous.

3.0 Methodology

Preliminary Roost Assessment Survey Method

Buildings/Structures

- 3.1 The optimum time to investigate buildings for evidence of a bat roost is between May and August. Inspections and assessments may be conducted outside of this time and can often provide conclusive results which can save expense and time for Planning Applicants.

Buildings/Structure Roost Criteria

- 3.2 The initial Roost assessment for buildings/structures follows the below system which is based upon the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2012).

“Negligible” No features likely to be used by bats (roosting).

"Low"	No features that could be used by bats (roosting). Small number of potential (opportunistic) roosts, isolated habitat, isolated site that is not connected by suitable linear features.
"Moderate"	Several potential roosts, habitat could be used by foraging bats and the site is connected to suitable habitat with the wider survey area.
"High"	Significant features for roosting bats, high quality habitat for foraging, site is connected with the wider landscape and is close to known roost sites or bat foraging/commuting.
"Confirmed"	Evidence that the building is being used by bats; bats seen roosting, droppings, carcasses, feeding remains, bats are recorded/observed, or bats are heard within the building/structure.

Trees

- 3.3 The optimum time to investigate trees for bat roosting potential is from October to April, when trees are not in leaf and crevices can be more easily seen. Evidence of a bat roost is best determined from May to August although inspections and assessments may be conducted outside of this time and as with the buildings/structures inspections can often provide conclusive results.

Roost Sites

- 3.4 Most tree roosts are present as one or a combination of two or more of the following:
- Old woodpecker holes;
 - Splits in trunk, bough or large branches;
 - Rot holes in trunk, bough or large branches;
 - Holes formed by two boughs or branches growing in contact;
 - Underneath loose or lifting bark;
 - Underneath a covering of dense latticed creeper, usually Ivy (*Hedera helix*).

Tree Roost Criteria

- 3.5 In February 2015, the criteria for roost assessment was based upon the following determinants which is based upon the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2012):

<i>Confirmed</i>	A tree where positive signs are found; e.g. emerging bats, droppings found or pre-emergence sounds heard;
<i>Category 1*</i>	A tree that has multiple, highly suitable features capable of supporting larger roosts and is situated in or near good foraging habitat or near a good commuting route leading to such habitat;
<i>Category 1</i>	A tree that has definite features of potential for roosting bats, supporting fewer suitable features than Category 1* trees (above) or with potential for use by single bats but are less than ideal in some way, for example, may have cluttered access;
<i>Category 2</i>	A tree that has no obvious potential, although the tree is of a size and

age that elevated surveys may result in cracks or crevices being found; or the tree supports some features that may have limited potential to support bats;

Category 3 A tree that has no potential to support roosting bats.

- 3.6 In March 2016 new guidance was issued: 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016) which supersedes the 2012 guidance.
- 3.7 The preliminary roost assessment and aerial surveys undertaken in March 2016 adhered to the Bat Conservation Trust 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016), see Appendix 2.
- 3.8 For both methodologies it should be borne in mind that inspections can also be inconclusive and if potential was found or the results of the survey were undetermined, then recommendations would indicate the requirement for further detailed activity surveys. Further activity (dusk emergence/pre dawn re-entry) surveys for buildings can only be undertaken at the site, during the active season for bats, which is between May and September. Further activity surveys for trees can only be undertaken between May and September. The results, conclusions and recommendations are based upon surveyor experience and knowledge of bat ecology.
- 3.9 A thorough interior and exterior inspection of the buildings and ground level inspection of the trees for bat roosting and potential was undertaken. Signs surveyed for were droppings, dead bats, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around crevices and down walls, and any noises such as scratching and audible bat calls. A Clulite one million candlepower lamp and close focussing binoculars were used to check any features of interest. High resolution photographs and videos were taken for later review.
- 3.10 During the survey the surrounding area was assessed in relation to suitable habitat that may be of value to bats.

Off the Ground Visual Assessment of Trees Survey Methodology

- 3.11 A number of trees were known to hold Category 1 (moderate) to Category 1* (high) potential to support bat species. Therefore further more detailed off the ground visual assessments were required. A fully trained Arborist climbed the trees noted with bat roosting potential to search for bats and/or evidence of bat activity such as droppings, feeding remains (beetle, moth and butterfly remains), urine staining and grease marks around potential. Ladders, safety harnesses and tree climbing ropes and an Explorer Premium 8803AL endoscope which is able to record images were used to further assess potential features.
- 3.12 Surveys were conducted following the Bat Conservation Trust Bat Survey Good Practice Guidelines (2012) and the Bat Surveys for Professional Ecologists: Good Practice Guidelines' (2016).

Personnel

- 3.13 All daytime survey works were undertaken by Principal Ecologist Mrs. L. Eccles-Sargeant, who holds a Bat Class Licence (Registration number CLS00572) and Senior Bat Ecologist Mrs. S. O'Neill, who holds a Bat Class Licence (Registration number CLS00694).

- 3.14 The additional daytime survey works were undertaken by Principal Ecologist Mrs. L. Eccles-Sargeant, who holds a Bat Class Licence (Registration number 2015-13762-CLS-CLS) and experienced Ecologist Mrs. Z. Foster who holds a Bat Class Licence (Registration number 2015-17219-CLS-CLS). The off the ground visual tree assessment were undertaken by Arborist Mr. K. Harrison who holds a National Certificate in Arboriculture (N.C. Arb.).

Timing

- 3.15 The daytime survey was conducted on the 10th and 24th of February 2015 when the buildings and trees that will be affected by the proposed works were inspected for potential places that may be of value to bats and if evidence of use was present.
- 3.16 The daytime survey was conducted at a time when bats will be in a state of torpor/hibernating characterised by a lower metabolic heart rate, body temperature and slowed breathing due to a lack of food. Bats will roost on their own or in small groups at suitable hibernation sites. Presence of bats may be identified although evidence of bat occupation such as droppings and urine stains may be less obvious. However, depending upon species and roost location, it is possible to locate evidence of previous bat occupation even if the roost is only used seasonally.
- 3.17 The additional daytime survey of trees and the off ground visual tree assessment were conducted on the 18th of March 2016 when the trees that will be affected by the proposed works were inspected for potential features that may be of value to bats and if evidence of use was present.
- 3.18 The daytime survey was conducted at a time when limited bat activity is beginning to occur as the nights become warmer and prey becomes available. In times of bad weather bats may still revert to a state of torpor (hibernation). Presence of bats may be identified but evidence of bat occupation such as droppings and urine stains may be limited. However, depending upon species and roost location, it is possible to locate evidence of previous bat occupation even if the roost is only used seasonally.

Constraints

- 3.19 The survey was conducted outside of the active season of bats and when maternity colonies will not be in occupation as a result the presence of droppings, on external elevations, which may have been deposited during the summer months, tends to be more unlikely due to the effects of wind and rain.
- 3.20 Internal access into the Buildings was gained where ever possible with the exceptions of the following:-
- B No access to loft areas to south-west and central eastern roof hatches, due to height of hatch for health and safety reasons.
 - C No access to the northern loft hatch, due to the height of the hatch for health and safety reasons. No access was gained to the tower.
 - D No access to two loft areas to north-west part of the building, due to the height of the hatches nor to the small roof void above the vaulted ceiling of the Assembly Hall.
 - G1 & G2 No access to the small vaulted loft area small loft at the top of the stairs.
 - I No access was gained into this building.
 - L No access to the vaulted ceilings on the upper floors of the small loft hatch at the top of the stairs which was too small to gain entry.

- 3.21 Dense mature ivy was present on a number of trees which restricted visibility and may have resulted in areas of bat roosting potential not being observed.
- 3.22 Due to access issues, not all of the site could be accessed and therefore some of the trees could not be fully assessed, as detailed in the following sections.
- 3.23 Overall, there are limitations to the survey undertaken and these have been taken into consideration when conclusions, impacts and recommendations have been made.

4.0 Survey Results

Desktop Study

UK Species of Principal Importance

- 4.1 Section 41 of the Natural Environment and Rural Communities Act 2006 (NERC) lists several bat species as UK Species of Principal Importance, as follows:
- Noctule (*Nyctalus noctula*)
 - Soprano pipistrelle (*Pipistrellus pygmaeus*)
 - Brown long-eared (*Plecotus auritus*)
 - Lesser horseshoe (*Rhinolophus hipposideros*)
 - Greater horseshoe (*Rhinolophus ferrumequinum*)
 - Barbastelle (*Barbastella barbastellus*)
 - Bechstein's (*Myotis bechsteinii*)

National Status

- 4.2 There are 18 species of bat that are native to the United Kingdom. Little is known about the status of most species although the available evidence suggests a general decline in populations nationally (Harris, S. et al. 1995). The commonest species of bats are the pipistrelle family (*Pipistrellus* sp), although these are also estimated to have declined in numbers by 70% between 1978 and 1993.

Local Biodiversity Action Plan NORTH

- 4.3 North Merseyside Biodiversity Action Plans (LBAP) list eight bat species as being present in North Merseyside, these are as follows:-
- Brown long-eared
 - Whiskered (*Myotis mystacinus*)
 - Brandt's (*Myotis brandtii*)
 - Daubenton's (*Myotis daubentonii*)
 - Noctule
 - Common pipistrelle (*Pipistrellus pipistrellus*)
 - Soprano pipistrelle
 - Natterer's (*Myotis nattereri*)
- 4.4 Nine native species of bat have been recorded in North Merseyside, which include the above list, with the addition of Nathusius pipistrelle (*Pipistrellus nathusii*). In addition to this an individual record of the non-native Savi's Pipistrelle (*Pipistrellus savii*) was recorded which is thought to have arrived in the UK on a ship bound for Liverpool.

Local Status

- 4.5 Populations of bats in many parts of North Merseyside are comparable in size and importance to some of the best areas in the country and the size and changes are believed to mirror national trends.

- 4.6 Pipistrelle bats occur in all four of the Merseyside districts and are widely distributed in North Merseyside, being the most encountered bats roosting within built structures and foraging in urban areas.
- 4.7 Brown long-eared and Noctule are found throughout North Merseyside but are less common.
- 4.8 The distribution of Daubenton's, which feed predominately over water are localised with records from Sefton, Liverpool and St Helens.
- 4.9 Whiskered/Brandt's and Natterer's are rare locally, Whiskered being recorded in Sefton and St. Helens and Natterer's only recorded in St. Helens so far.

Preliminary Roost Assessment Survey Results

- 4.10 The site is located in an urban area to the south-west of West Derby and to the east of Tuebrook. The site contains trees and a water-body. The land directly surrounding the site is comprised of a school, with school playing fields to the north and east; the Ernest Cookson Special School and playing fields to the south and the A5058 Queen's Drive West Derby road to the west, beyond which are residential houses and a hotel.
- 4.11 There are a number of features that would provide suitable habitat for roosting and foraging bats within the wider survey area. These include Liverpool Norris Green which is located c850m to the north of the site and contains areas of broad-leaved trees and open green space and Croxteth Country Park which is c800m to the north-east. Within the 500 acre Croxteth Country Park is Croxteth Local Nature Reserve which contains several woodlands including Cocked Hat Wood and Dam Wood as well as rough grassland, pasture and numerous ponds. The River Alt also flows through the Country Park. The 121 acre Newsham Park is c1.5km to the west, and contains large fishing lakes and areas of broad-leaved woodland. The Liverpool Loop Line is located c200m to the north-east of the site. This follows the old rail line and passes through wooded cuttings and leads to other suitable habitats which could be utilised by bats such as Sanfield Park which is located c440m to the south-east of the site.
- 4.12 Overall, habitats within the immediate and wider survey area are considered to be of moderate value for bat species. Where suitable habitat is present in close proximity to buildings then there is an increased use of the buildings for roost sites given the presence of suitable foraging habitat.
- 4.13 A description of the buildings and trees can be found in the table 1 below and overleaf.

Table 1: Description of Buildings/Structures and Trees.

Building A
Description:
A number of various buildings joined together and located to the north west of the site. The buildings comprise of a single pitched gabled linking corridor structure attached to more modern gently sloping single pitched gable structures by flat roof extensions and buildings.
The larger more modern structures are of a lower brick construction with upper uPVC panels and windows. The most northern of which is taller with fewer windows. The roofs are of metal formed sheeting with metal ridges and wooden fascias were present but

were located on a metal frame.

The adjacent single pitched gabled linking corridor building is of a brick construction with composite roofing tiles and roof lights. Wooden fascia boards were observed on the western and eastern elevations.

To the north west of these buildings is a two storey height brick structure with wooden horizontal cladding. Wooden fascia boards were present on this building. Security lights were observed around these buildings.

Internal access was gained into the single pitched linking corridor, it has a vaulted wooden clad ceiling with a small loft area that was not accessible and several velux windows.

Roost potential signs:

A large area of missing mortar was observed at the south eastern elevation of the single storey linking corridor that would allow access under the roof tiles. A security light was present on this elevation. Minor gaps were present at the northern and southern wooden fascia board on the storey linking corridor although these were heavily cobwebbed from the areas that could be clearly seen.

Some of the uPVC windows are ill-fitting and have gaps at the top and plastic cladding is present at the south western upper gable of the taller buildings with gaps at the roof verge above the plastic and areas of rendering.

Gaps were observed at brick work on the southern elevation of the mainly uPVC and windowed building, and ill-fitting gaps were seen at the top of windows on the south eastern elevations. Gaps at brick work and missing mortar were observed at the roof verge on the taller modern structure however the presence of plastic would reduce the usage of such potential by bat species.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use. Internally the vaulted ceiling in the single pitched linking corridor could be suitable for crevice dwelling species.

The buildings are considered to have an overall **low to moderate** potential for roosting bats.

Building B

Description:

A mainly brick built single storey structure with a steep single gabled roof. The roof is of composite formed tiles with ridge tiles present. A small flat roof area was located to the north east of the buildings with metal anti-climb barriers. The building is attached to Building A to the north east and Building C to the south. Wooden eaves and fascia boards were present on the southern and northern elevations and barge boards were observed on the northern and southern elevations. Ivy was present growing up the south-western corner of the building. A single storey wooden structure was observed located at the north eastern elevation with a similar roofing construction of the adjacent buildings. The north eastern soffit of this wooden structure overhangs the adjacent single pitched linking corridor of Building A. Some areas of the roof could not be viewed due to access issues.

Internally access was gained. There are three loft hatches, one to the south-west, one to the central eastern section and one to the northern hipped roof.

Due to the height of the loft hatches, the south-west and central eastern loft hatches were not accessed. The northern loft was accessible, it is a large loft void that is

approximately 3m high and is clad with vertical sarking boards. The roof is supported by a steel frame. Light is visible in the north-west corner. Several wasp nests and mouse droppings are present.

Roost potential signs:

Gaps were observed between the wooden structure and the brick wall on the southern elevation. Gaps were also present behind the large soffit of the wooden structure. Minor gaps were present along the south eastern fascia boards and larger gaps were observed on the north western elevation. Gaps at the fascia, above a window and at missing mortar within cracked brickwork on the southern elevation. Access behind the wooden soffits could be gained through the large opening at soffit ends. Gaps were present at a missing chimney and at missing mortar on the northern roof verge.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use. Where access permitted internally, the northern loft area is considered to be suitable for crevice and loft dwelling species.

The building is considered to have **moderate** potential for roosting bats.

Building C

Description:

A two storey brick built building which is located to the north east of Queens Drive. The roof is of various structures with flat roof, single ridge and cross ridge gables. The roof construction is of slate with ridge tiles the flat areas were not observed. The building is rendered and painted on all elevations except the north west. Windows comprise of uPVC and small balconies are present to the south west and north east. Windows are boarded both internally and externally and a basement with access from the south west through a door.

External flood lighting was observed in areas and it is unknown if these are active as the building is currently vacant. The building is joined to Building D by a two storey walkway. There is a three storey tower, possibly a chimney, within the roof-line to the centre of the building that has a lead covered roof. Wooden soffits were present in areas and vegetation was observed growing out of some drain areas. Some areas of the building are degrading with cracks and lifted paint work. All of the roof could not be observed although some areas were viewed from adjacent buildings.

Internal access was gained. Building C has a vaulted ceiling but there are three small loft areas to the north east, eastern and south eastern section of the building. These were each approximately 2m high, 3m wide and 5m long. Bitumen roofing membrane, non breathable roofing membrane and boarded sections are present.

There are a further three loft areas to the north of the building, of which one was not accessed as the hatch was painted shut. The two northern loft areas that were accessed, contained sarking boards with smaller areas of non breathable roofing membrane, these were supported by beams in a King post roof design with additional supports. The northern loft areas were large with a height of approx 3m.

No access was gained to the tower.

Roost potential signs:

The brickwork on the three storey tower/chimney has degrading brickwork and a hole was observed at the top of the drain area. A roof balcony area has been removed and asphalt has been used as a form of repair which is lifted in areas leaving gaps behind.

Gaps were observed at the wooden soffit near a drain on the north eastern elevation. Missing and lifted roof and ridge tiles were observed on areas of roof that could be viewed.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use. Where access permitted, the lofts were considered suitable for crevice dwelling bats with the larger lofts also suitable for void dwelling species.

The building is considered to have **low to moderate** potential for roosting bats.

Building D

Description:

A two storey brick built structure with a complex roof structure of slate roof tiles and ridge tiles. The northern roofs are of a hip construction with a flat connecting section that contains two glass lantern roof lights, there is a single ridge gable construction to the south-east with a small section of flat roof located to the north east and central part of the buildings. The walls continue up to form parapets and restricted the view of the roof. Ornate wooden fascias were present on some of the parapet walls. A single storey flat roofed extension is present on the southern elevation. The windows are a mix of metal and uPVC.

Internal access was gained and there are two loft hatches located in the north western part of the building which were not accessed due to their height. The south eastern part of the buildings contains the Assembly Hall, which has a vaulted ceiling. There is a small void present which is less than 1m in height and there was no access to the void. The ceiling behind the stage was also vaulted but covered with painted sarking boards and supported by a steel frame.

Roost potential signs:

Minor gaps were observed at the ornate fascia and wider gaps were present at the wooden fascia boards. Gaps were present in areas of brick work at the top of the parapet walls, above a window and behind fascia boards, at the roof where roof and ridge tiles were missing and lifted especially along the north eastern elevation. A further ridge tile was broken and a gap was observed that would allow access behind and along the ridge. Gaps were present where mortar was missing above a door on the south eastern elevation and where a wooden lintel had been removed. An area of lifted lead flashing was observed which was located over the wooden ornate fascia.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **moderate** potential for roosting bats.

Building E

Description:

A three storey building with a flat roof. The building is constructed of brick and panelling. The roof-line on the eastern elevation is tight, with no gaps in the mortar, however there are gaps in the brickwork. uPVC double glazed windows and windows with wooden frames are present at each storey, with flat concrete panelling beneath and panelling above each window unit. There were open windows to the rear of the building at the time of the survey. Security lighting is present and there are metal roller shutters over the

doors. There is a lift present at the south-west of the building which is clad in tiles. Internally there is no loft space.

Roost potential signs:

Apart from the gaps in the brickwork at the eastern elevation there were no features observed which could be utilised by roosting bats. There is no internal loft space present within the building.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **low** potential for roosting bats.

Building F

Description:

A single storey building with a lean-to style roof. The walls are of brick but on the southern elevation there is panelling above the UPVC windows. The doors are covered by metal shutters. The roof material was not observed but was of prefabricated material. The roof line is tight with no gaps observed. There was an open rear window at the time of the survey.

Roost potential signs:

There is no internal loft space in the building and no features were observed which could be utilised by roosting bats.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **negligible** potential for roosting bats.

Building G1

Description:

A three-storey rendered building with a complex roof composed of flat felt covered sections and ridged slate sections. The parapet restricted visual access to the roof. There are several brick-built chimney stacks present. The windows on the first floor are single glazed with wooden framed windows. The windows on the ground floor on the western elevation have been covered over with ply wood boards, but the windows on the northern elevation have not been boarded over. There are broken glass panels and an open window on the northern elevation. Some of the windows have ornamental wooden fascias above them. The doors are constructed of wood and the glass panels have been boarded up in the front door. Building G1 is attached to Building G2 via a single storey, flat felt roofed brick-built building which has boarded up windows.

An internal examination of the building revealed that the ceiling was vaulted but there were several small loft areas, some of which are over 1m in height, while others are considerably lower. Not all of the loft areas could be accessed due to the height and space restrictions. The loft spaces were present all around the edge of the building. The floors of the lofts are littered with material and are damp. The loft hatch at the top of the stairs was not accessed due to the height of the loft hatch.

There is a cellar present which was accessed and examined but there were no

opportunities for bats to access the cellar.

Roost potential signs:

There are gaps in the slates on the north west ground floor lean-to. There were some minor gaps present behind the ornamental wooden fascias above the windows on the northern elevation. There is also a small hole under the pelmet on the south-western corner of the building.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

Access was gained to some of the loft spaces and a thorough examination of these spaces was conducted, where possible, in addition to the rest of the interior and exterior of the building.

The building is considered to have **low to moderate** potential for roosting bats.

Building G2

Description:

A single storey brick built building with a slate roof which has a multi pitched gable roof with hipped ends on the eastern and western elevations. The roof verges appear to be covered by roofing felt. There is a brick-built chimney present on the eastern section of the roof. There are three glass roof lights in the southern roof. The single glazed windows have wooden frames and the doors are also constructed of wood.

An internal examination of the building revealed that the building has a vaulted ceiling with a small inaccessible loft area above the vaulted ceiling.

Roost potential signs:

There are gaps underneath the lifted roofing felt on the southern side of the roof and along the roof line. There are slipped and lifted roof tiles present. There is mortar missing from between the bricks on the chimney. Where Building G1 joins Building G2 there are gaps present at the soffits where the wood has rotted away.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **low to moderate** potential for roosting bats.

Building H - (6th Form) Drummond Building

Description:

A mainly one storey building with a two storey section located to the southern area. The building is of a flat roof construction comprising of brick walls with an upper band of horizontal wooden cladding. A metal tower is located to the east on the two storey section. Doors and windows comprise of wood and the lower base of which are panels. Some of the windows have external bars.

The building is of a flat roof construction and it is considered unlikely that there will be any loft space located within this building.

Roost potential signs:

Gaps were observed at the cladding where wood is lifted or is missing. Gaps were also present at the base of the cladding between the wood and the walls. There were areas of wide gaps at the base of cladding and some missing frames leaving easy access behind the cladding along the north eastern and south western elevations. Areas of missing

wood were also observed here. A hole was observed where it appears a pipe may have been located on the eastern elevation. Some of the second storey windows were open which may allow internal access.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground outside showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

Internal inspection of the buildings was not undertaken.

The building is considered to have **moderate** potential for roosting bats.

Building I - (Garage)

Description:

A single storey lean to style building comprising of concrete panel and post walls with upper vertical wooden cladding. The southern wall of the building is brick built. The roof comprises of corrugated metal sheeting which is covered in vegetation. Wooden fascia boards were present on the northern elevation. Metal double doors were present on the south eastern elevation. There is some degrading of mortar and brickwork on the brick wall and ivy is also present.

Internal access into this building was not gained therefore descriptions of internal structures and roofing material could not be determined.

Roost potential signs:

Gaps were observed behind the wooden fascias but these were wide and are not considered to provide suitable roosting potential. Wide gaps were present above the metal garage doors which may allow internal access into the garage. Limited potential exists at the degrading mortar and within the ivy coverage.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground outside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

Internal inspection of the buildings was not undertaken due to access constraints.

The building is considered to have **negligible to low** potential for roosting bats.

Building J – (Gordon Hall)

Description:

A two storey brick building with stone lintels over windows. The windows frames are wooden and the lower windows are barred externally. Some of the lower windows are open. The roof is of a single gable construction with a part slate roof and corrugated steel roof and ridge tiles. Evidence of a previous lean to structure was observed on the north eastern elevation. The gable ends have stone capping and lead flashing is present in some areas. A small lean to brick building is present to the north of the building with wooden fascia boards present this is single storey and has a formed metal sheet roof.

Internal access was gained and the building internally is completely painted black with a vaulted ceiling, there is no loft area. The lean-to extension has a hung ceiling.

Roost potential signs:

Mortar is missing at a number of locations around lintels at the windows, at the roof verge on the eastern gable and at the door around the wooden frame on the south eastern elevation. Gaps were present in the brickwork where previous lean to joists have been removed on the north eastern elevation which would allow access into the cavity wall. Gaps were observed at the base of fascia boards on the lean to structure. On the south

western roof tiles are slipped, missing and lifted in areas and mortar is missing at the ridge.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **moderate** potential for roosting bats.

Building K

Description:

A single storey brick-built building with a flat roof. Windows are of uPVC. There are strips of lead-flashing present above the windows. The doors are constructed of wood and there are security lights attached to the building. Internally there is no loft space present.

Roost potential signs:

There are gaps present above and below the lead-flashing located above the windows on the south-western elevation which could provide access into the building. There were gaps in the brickwork below the security lighting on the south-western corner and possibly above the windows on the north-western elevation.

There are no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

The building is considered to have **low to moderate** potential for roosting bats.

Building L – (Sandheys)

Description:

An amalgamation of a large Victorian style building with a new modern extension situated to the north western elevation.

The modern extension is two storeys in height with approximately 1metre of brick wall with an upper rendered exterior. It has a flat roof. The windows are wooden framed with double glazing and lower panels. Security lights were present and the building is attached to the adjacent Victorian style building by a two storey glass and panel structure.

The Victorian part of the building comprises of rendered and painted walls with a various roof structure of a pyramid hip roof and gable and hipped roof extensions. Attic room windows were observed within the roof structure and hanging tiles were located on these window structures, the building is of three storeys. The windows are a mix of wooden and uPVC. Wooden soffits were present and wire mesh venting was observed in areas. A basement door was open and internal lighting was observed – although internal access was not undertaken due to health and safety concerns as asbestos has been recorded present in the cellar. Roof lights were present within the roof located on the south western elevation. Chimneys are also present on the roof areas.

Internal access was gained. The rooms within the Victorian part of the building contained vaulted ceilings and the only loft area was approx 1.5m high, this small loft area was not accessed as the loft hatch was too small to safely enter.

Roost potential signs:

Gaps were present where the two buildings join between the metal and wall. Roof tiles were lifted in places in particular at the hanging roof tiles on the attic windows and further minor lifting on the main roof. Further lifted, missing and slipped roof tiles were observed

on the south western elevation.

There are no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground and inside the building showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

No access to the cellar was permitted for health and safety reasons.

The building is considered to have **low to moderate** potential for roosting bats.

Building M

Description:

A single storey small brick-built sub-station building with a flat roof. There are no windows and the door was boarded with metal sheeting to prevent access. There is no loft space internally.

Roost potential signs:

There are several gaps in the brickwork which would permit entry into the building.

There were no grease stains or other rubbing marks which would have been caused by bats accessing these areas. There was debris on the ground showing the area had not been cleaned prior to arrival. No droppings or any other evidence of the presence of bats was identified which suggested present or historic use.

Internal inspection of the buildings was not undertaken due to access constraints.

The building is considered to have **low** potential for roosting bats.

Tree 1

Description:

An Indian bean tree that is mature in age and c.17m in height. There is evidence of previous management in the form of limb removal and historic damage that has headed over. There is a gap on the eastern elevation at c.3metres that appears to recede into the tree. Potential crevices are present at c.5m on the northern elevation where a branch has been removed and where the crevices may recede.

This tree was subject to an off the ground inspection. On the northern elevation a branch had been removed but the gap has no depth. The gap on the eastern elevation at c.3m above the ground did not recede. There were three other damaged limbs but none of them held any potential for roosting bats. On the northern elevation there was a split c.7m above the ground which was both horizontal and vertical. It had very minor potential and was likely to flex in the wind, with the crack opening and closing. There was a new split on the northern elevation which was narrow, vertical and open to the elements. There was also a small, dry hole on the northern elevation c.4m above the ground which receded into the main trunk and upwards.

The tree is considered to hold **Category 1/Moderate** potential for roosting bats.

Group 1

Description:

2 Common hawthorn shrubs which are mature in age and c.8m in height. They are slightly asymmetric in form and are covered in ivy. There are no obvious features that would be suitable for roosting bats.

The group is considered to be **Category 3**

Tree 2

Description:

A Sycamore tree that is mature in age and c.18m in height. There is damage to the

northern bough c.4m up and possibly a hole is present, although it was not possible to see whether it receded back into the tree. The tree is considered to hold Category 1/Moderate potential for roosting bats.
Tree T3
Description: A Crab apple tree that is mature in age and c.6m in height. Although there are areas of loose bark there is negligible potential for bats to utilise them. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree T4
Description: A Cherry sp. tree that is mature in age and c.6m in height. The view of the trunk is restricted by an extensive covering of ivy. The tree is considered to hold Category 2 potential for roosting bats.
Tree T5
Description: A Sycamore tree that is mature in age and c.17m in height. There is a hole located at the base of the tree but on further examination it does not recede into the tree. The tree is considered to hold Category 2 potential for roosting bats.
Tree T6
Description: A Sycamore tree that is early-mature in age and c.13m in height. There is some ivy present on the trunk. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree T7
Description: A sycamore tree that is mature in age and c.15m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 8
Description: A Lime sp. tree that is early-mature in age and c.11m in height. There is a hole present c.4m up the trunk but it does not seem to recede into the tree. The tree is considered to hold Category 2 potential for roosting bats.
Tree 9
Description: A Crab apple tree that is mature in age and c.8m in height. There is a slight twisting of the limbs but no crevices have formed as a result. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .

Tree 10
Description:
A cherry tree that is mature in age and c.7m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 11
Description:
A Sycamore tree that is early-mature in age and c.12m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 12
Description:
A Lime sp. tree that is early-mature in age and c.12m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 13
Description:
A Cherry sp. tree that is mature in age and c.4m in height. There are areas of lifted bark but there is negligible potential for bats to utilise them. The tree is considered to be Category 3 .
Tree 14
Description:
An Common ash tree that is mature in age and c.14m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 15
Description:
A Holly tree that is mature in age and c.8m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 16
Description:
An unknown species of tree that is early-mature in age and c.9m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 17
Description:
A Sycamore tree that is mature in age and c.16m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .

Tree 18
Description:
A London plane tree that is mature in age and c.17m in height. There are 2 holes c.3m up on the western limb where branches have been removed. The bark is fissured and there is the potential for bats to over-night in the fissures. The tree is considered to hold Category 1/Low - moderate potential for roosting bats.
Tree 19
Description:
A Cherry sp. tree that is mature in age and c.7m in height. There are minor crossed limbs present which have limited potential to support roosting bats. The tree is considered to hold Category 2 potential for roosting bats.
Tree 20
Description:
A Cherry sp. tree that is mature in age and c.8m in height. There is a hole present at ground level but it does not recede into the tree trunk. The tree is considered to be Category 3 .
Group 21
Description:
A mixed species group composed of 2 x Whitebeam, a Cotoneaster, 3 x Cockspur thorns and a Cherry sp. They are mature in age. There are no obvious features that would be suitable for roosting bats. The group is considered to be Negligible .
Tree 21
Description:
A Silver birch tree that is mature in age and c.13m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 22
Description:
A Silver birch tree that is early-mature in age and c.9m in height. The view of the tree was restricted by an extensive coverage of very dense ivy. The tree is considered to hold Category 2 potential for roosting bats.
Tree 23
Description:
An Indian bean tree that is mature in age and c.11m in height. The view of the tree was restricted by an extensive coverage of very dense ivy. The tree is considered to hold Category 2 potential for roosting bats.
Tree 24
Description:
A Holly tree that is early-mature in age and c.6m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .

Tree 25
Description:
A Holly tree that is mature in age and c.9m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 26
Description:
An Alder sp. tree that is early-mature in age and c.9m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 27
Description:
A Sycamore tree that is semi-mature in age and c.8m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 28
Description:
A Silver birch that is c.12 metres in height and of semi-mature to mature in age. The lower trunk of the tree is covered in dense ivy and the tree is located within and areas of planted shrub. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 29
Description:
A Cherry sp. that is located within an open grassland area and is semi-mature to mature in age. The tree is c.7metres in height and crossed limbs were observed, although there are no cavities present. The tree has been subject to decoration and areas of bark are covered in knitted wool areas. No cavities or crevices were observed where the tree limbs cross. The tree is considered to be Category 3 .
Tree 30
Description:
A Cherry sp. tree that is early-mature in age and c.4m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 36
Description:
A Holly tree that is mature in age and c.8m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 38
Description:
A Cotoneaster that is mature in age and c.8m in height. There are no obvious features

that would be suitable for roosting bats. The tree is considered to be Negligible
Group 7
Description:
A group of six Holly trees and one cherry which are all mature in age and c.13m in height. It was not possible to access these trees to inspect them.
Group 9
Description:
A group of Holly trees which are mature in age and c.9m in height. The trees were only partially inspected from the road as there was no access. Some of the trees are partially covered in ivy.
Tree 47
Description:
A Goat willow tree that is mature in age and c.10m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Group 10
Description:
A row of cherry laurel which are mature in age and c.8m in height. It was not possible to access these trees to inspect them, they are considered unlikely to contain bat roost potential.
Group 11
Description:
A mixed species group of trees which include sycamore, lime, horse chestnut, holly which are all semi-mature in age and c.12m in height. These trees were partially inspected as they could only be seen from the north-east due to access issues with fences and dense scrub. From east to west, in order; The sycamore was ivy clad and there was no potential observed. Lime - there is a hole in a western, up-turned branch c.10m above the ground. There is also a hole in the same branch c.13m above the ground and there is a hole in the centre of a branch c.14m above the ground. Lime – there are dead branches present and one on the northern elevation possibly contains a hole which is c.13m above the ground and a further hole which is higher up the same branch. On the western elevation there is a branch which has been removed and there is possibly a hole present but it was not possible to obtain a clear view. Sycamore – ivy clad with some areas of lifted bark and some limbs have been removed but it was not possible to obtain a clear view. Horse chestnut – there are no visible features but the view was restricted. The holly, cherry laurel and Cyprus had no features present which could potentially support roosting bats.
Group 12
Description:
A mixed species group of tree which are mature in age and c.12m in height. The species are predominantly holly and clad in ivy. No features were observed that have the

potential to support roosting bats. The group is considered to be Low
Tree 48
Description: Standing dead wood tree very extensive ivy coverage. No features were observed that have the potential to support roosting bats. The tree is considered to be Negligible .
Tree 50
Description: A False acacia tree that is early-mature in age and c.9m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Negligible .
Tree 52
Description: A sycamore tree that is early-mature in age and c.10m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Negligible .
Tree 54
Description: Standing dead wood tree. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Tree 55
Description: A western red cedar tree that is mature in age and c.11m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Negligible .
Group 14
Description: A group of holly trees which are mature in age and c.9m in height. No features were observed that have the potential to support roosting bats. The group is considered to be Category 2 .
Tree 57
Description: A False acacia tree that is mature in age and c.16m in height. Three features were identified from the ground. On the northern elevation there is a small hole c.10m from the ground where the branch splits. There is a hole, which is c.15cm wide, on the northern split branch c.5m along the branch, this feature could not be climbed to, to carry out a further inspection. This tree was subject to an off the ground inspection. There is a hole/area of split bark on the northern split branch but it did not recede. There are three areas of loose bark on the lower levels of the western elevation of the tree on the main trunk. These areas were examined with the endoscope and no evidence of roosting bats were discovered,

however, the potential to support roosting bats does remain. The tree has been down graded to Category 1/Moderate potential for roosting bats.
Tree 58
Description: A sycamore tree that is mature in age and c.16m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Tree 59
Description: A common ash tree that is mature in age and c.20m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Tree 60
Description: A beech tree that is semi-mature in age and c.7m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Tree 61
Description: A lime tree that is mature in age and c.20m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Group 16
Description: A mixed species group of two Lawson's Cypress and holly trees which are early-mature in age and c.8m in height. The species are predominantly holly and clad in ivy. No features were observed that have the potential to support roosting bats. The group is considered to be Category 2 .
Tree 64
Description: A hazel that is early-mature in age and c.6m in height. No features were observed that have the potential to support roosting bats. The tree is considered to be Category 3 .
Tree 65
Description: A Common beech tree that is mature in age and c.19m in height. There are old pruning wounds at c.5m high with some surface decay present. There may be some gaps present but the view was restricted by holly. This tree was subjected to a further inspection and it was found that the wounds did not recede.
Roost potential signs: The tree was considered to hold Low - moderate potential for roosting bats, but the

endoscope survey, the tree has been down graded to Negligible potential for roosting bats.
Tree 66
Description:
A Sycamore tree that is mature in age and c.15m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 67
Description:
A Sycamore tree that is mature in age and c.16m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 68
Description:
A Common beech tree that is mature in age and c.19m in height. The tree is considered to hold Category 2 potential for roosting bats.
Tree 69
Description:
A Scots pine tree that is early-mature in age and c.9m in height. There is a hole present and some lifted bark. This tree was subjected to a further inspection and the hole was found to recede by c.10cm but it was cobwebbed and exposed to the elements, at the time of the survey. The tree was considered to hold Category 1 (low - moderate) potential for roosting bats, but has now been downgraded to Category 2 potential for roosting bats.
Group 17
Description:
A mixed species group of trees composed predominantly of mature holly, with early-mature lime and elm. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Group 18
Description:
A group of seven beech trees which are early-mature in age and c.15m in height. There were no features present which have the potential to support roosting bats. The group is considered to be Negligible .
Group 19
Description:
A group of 16 mature Holly trees with some minor cavities present. The group is considered to be Category 3 .
Tree 70
Description:
A Scots pine tree that is mature in age and c.14m in height. There is minor lifting of the

bark in some areas. The tree is considered to hold Category 2 potential for roosting bats.
Tree 71
Description:
A Lawson's cypress tree that is mature in age and c.10m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 72
Description:
A Lawson's cypress tree that is mature in age and c.14m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Group 20
Description:
A mixed species group of trees composed of Hazel, Cherry sp. and 6 x small fruit trees. They are semi-mature in age and c.7m in height. There are no obvious features that would be suitable for roosting bats. The group is considered to be Category 3 .
Tree 73
Description:
A Holly tree that is mature in age and c.10m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 74
Description:
A Western red cedar tree that is early-mature in age and 12m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 75
Description:
A Holly tree that is mature in age and is c.8m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Tree 76
Description:
A wild cherry tree that is mature in age and c.14m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Group 23
Description:
A group holly and oak trees which are semi-mature in age and c.8m in height. There are no obvious features that would be suitable for roosting bats.

The group is considered to be Negligible .
Group 24
Description:
A mixed species group which are semi-mature in age and c.6m in height. There are no obvious features that would be suitable for roosting bats. The group is considered to be Negligible .
Tree 79
Description:
A Rowan tree that is mature in age and c.7m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Category 3 .
Group 25
Description:
A group of Crab apple and Cherry sp. trees which are mature in age and c.7m in height. There are no obvious features that would be suitable for roosting bats. The group is considered to be Category 3 .
Tree 81
Description:
A yew tree that is mature in age and c.12m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Group 26
Description:
A mixed species group of trees which is predominantly holly, which are mature in age and c.10m in height. There are no obvious features that would be suitable for roosting bats. The group is considered to be Negligible .
Tree 82
Description:
A yew tree that is early-mature in age and c.5m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 83
Description:
A sycamore tree that is mature in age and c.15m in height. There is a covering of ivy on the trunk and a bird box. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 88
Description:
A yew tree that is mature in age and c.13m in height. There are no obvious features that would be suitable for roosting bats.

The tree is considered to be Negligible .
Tree 90
Description:
An elderberry that is early-mature in age and c.6m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 99
Description:
A goat willow tree that is semi-mature in age and c.8m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 100
Description:
A sycamore tree that is mature in age and c.17m in height. The tree is extensively covered in ivy but there are no obvious features that would be suitable for roosting bats. The tree is considered to be Low .
Tree 101
Description:
A sycamore tree that is mature in age and c.18m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 102
Description:
A sycamore tree that is mature in age and c.18m in height. The tree is extensively covered in ivy but there are no obvious features that would be suitable for roosting bats. The tree is considered to be Low .
Tree 103
Description:
A wild cherry tree that is mature in age and c.17m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Group 28
Description:
A mixed species group containing magnolia, silver birch, sycamore and cherry, which are semi-mature in age and c.7m in height. There are no obvious features that would be suitable for roosting bats however there is a bird box located on the magnolia. The tree is considered to be Negligible .
Tree 104
Description:
A silver birch tree that was semi-mature in age and c.9m in height. The tree has been removed at the time of the survey and only a short stump remained. The tree is considered to be Negligible .

Group 30
Description:
A group of sycamore trees which are early-mature in age and c.11m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .
Tree 118
Description:
A common ash tree that is mature in age and c.20m in height. There are no obvious features that would be suitable for roosting bats. The tree is considered to be Negligible .

5.0 Conclusion

Buildings

- 5.1 From the results of the initial inspection survey Buildings B, D, H and J were found to contain **moderate** bat roost potential.
- 5.2 Buildings A, C, G1, G2, K, L and M were found to contain **low to moderate** bat roost potential.
- 5.3 Building E and M were found to contain **low** bat roost potential.
- 5.4 Building I was found to contain **negligible to low** bat roost potential.
- 5.5 Building F was found to contain **negligible** bat roost potential.
- 5.6 No evidence of past or present use of the buildings by roosting bats was identified.

Trees

- 5.7 From the results of the tree inspection and assessment surveys, Trees 1 (Moderate), 2 (Moderate), 18 (Low to moderate) and 57 (Moderate) were found to be **Category 1/Moderate**, containing varying levels of potential to support roosting bats.
- 5.8 Trees 2 and 18 were found to be Category 1/Moderate trees; these trees are not going to be affected by the proposed development and are therefore not considered again in this report.
- 5.9 From the results of the tree inspection and assessments, Trees 4, 5, 8, 19, 22, 23, 68, 69, 70, 100 and 102 and Groups 12, 14 and 16 were found to be **Category 2/Low**.
- 5.10 From the results of the tree inspection and assessment surveys, Trees 3, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 24, 25, 26, 27, 28, 29, 30, 36, 38, 47, 48, 50, 52, 54, 55, 58, 59, 60, 61, 64, 65, 66, 67, 71, 72, 73, 74, 75, 76, 79, 81, 82, 83, 88, 90, 99, 101, 103, 104 and 118 and Groups 1, 17, 18, 19, 20, 21, 23, 24, 25, 26, 28 and 30 were found to be **Category 3/Negligible**.
- 5.11 The following groups of trees could not be inspected or fully inspected; Groups 7, 9, 10 and 11.

- 5.12 Tree 104 was found to have already have been removed.
- 5.13 No evidence of past or present use of the trees by roosting bats was identified.

6.0 Implications and Recommendations

Buildings

- 6.1 From the results of the initial inspection survey Buildings B, D, H and J were found to contain **moderate** bat roost potential and further activity surveys are required.
- 6.2 Buildings A, C, G1, G2, K, L and M were found to contain **low to moderate** bat roost potential and further activity surveys are required.
- 6.3 Building E and M were found to contain **low** bat roost potential and a further activity survey is required.
- 6.4 Building I was found to contain **negligible to low** bat roost potential. It is recommended that areas of potential are subject to soft demolition under the supervisor of a licensed Ecologist.
- 6.5 Building F was found to contain **negligible** bat roost potential and no further activity surveys are required.
- 6.6 For Buildings listed above in Sections 6.1 to 6.3, there may be implications with regard to bats and the proposed development and further activity surveys are required to establish if bats are using these buildings.
- 6.1 The Bat Surveys Good Practice Guidelines produced by the Bat Conservation Trust (2016), recommends a minimum number of presence/absence activity surveys which are required to provide confidence in negative preliminary roost assessments results from buildings and built structures and trees in summer. These are determined for each building by the level of potential assigned to the individual structure. See Appendix 3 for the full table.
- 6.2 Activity surveys can only be undertaken between May and September and need to be undertaken in line with the Bat Conservation Trust (2016).
- 6.3 If bats are discovered emerging/re-entering any of the buildings during the surveys, then the survey schedule should be appropriately adjusted to increase the survey effort so that sufficient information can be collected to apply for a European Protected Species licence.

Trees

- 6.4 **Category1 /Moderate** trees affected by the proposals include; Trees 1 and Tree 57.
- 6.5 Tree 1 contains a single feature that can be fully endoscoped from ground level, with the use of a ladder. No evidence of bat occupation was observed during the preliminary endoscope survey, therefore it is recommended that the feature is fully endscoped by a licensed ecologist prior to felling. If no evidence of use or bats are found on the inspection prior to felling, then on two occasions the absence of bats will have been confirmed.
- 6.6 Tree 57 contains moderate bat roost potential, therefore two further activity surveys are recommended.

- 6.7 The Bat Surveys Good Practice Guidelines produced by the Bat Conservation Trust (2016, recommends a minimum number of presence/absence activity surveys which are required to provide confidence in negative preliminary roost assessments results from buildings and built structures and trees in summer. These are determined for each building by the level of potential assigned to the individual structure. See Appendix 3 for the full table.
- 6.8 Activity surveys can only be undertaken between May and September and need to be undertaken in line with the Bat Conservation Trust (2016).
- 6.9 If bats are discovered emerging/re-entering/or during the pre-felling inspection from any of the trees during the surveys/inspection, then the survey schedule should be appropriately adjusted to increase the survey effort so that sufficient information can be collected to apply for a European Protected Species licence.
- 6.10 **Category 2/Low** trees 4, 5, 8, 19, 22, 23, 68, 69, 70, 100 and 102 and Groups 12, 14 and 16 were found to be Category 2. In line with 2016 guidance no further activity surveys are required.
- 6.11 **Category 3/Negligible** trees 3, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 21, 24, 25, 26, 27, 28, 29, 30, 36, 38, 47, 48, 50, 52, 54, 55, 58, 59, 60, 61, 64, 65, 66, 67, 71, 72, 73, 74, 75, 76, 79, 81, 82, 83, 88, 90, 99, 101, 103, 104 and 118 and Groups 1, 17, 18 19, 20, 21, 23, 24, 25, 26, 28 and 30 were found to be Category 3/Negligible. In line with 2016 guidance no further activity surveys are required.
- 6.12 If at any time a bat/s or evidence of bat/s is/are suspected or found during tree felling works, all works must cease immediately and advice should be sought from either Natural England or the acting Consultant.
- 6.13 The groups of trees (Groups 7, 9, 10 and 11) could either not be inspected or fully inspected. Therefore it is recommended that surrounding scrub/shrub vegetation obscuring view and restricting the access to these trees is removed to permit a full preliminary inspection. The dense scrub should be checked for nesting birds prior to removal and if any are found then works should be delayed until such time that the birds have finished breeding. If potential is observed further activity surveys to determine presence/absence shall be required.
- 6.14 If the works require planning approval or demolition consent, the Local Planning Authority will require the results of the activity surveys in support of any planning application or demolition consent, in line with current Planning Policy for both a presence or absent result.
- 6.15 If bats or evidence of a roost/s is/are located during the activity survey work then a method statement will also be required to support the planning application or demolition consent to ensure that there is no detrimental affect upon roosting bats.
- 6.16 If a bat roost/s is/are located during the activity surveys and a bat roost is affected, then the work at the site would be delayed until such time that a European Protected Species Licence (EPSL) is applied for and granted to legally permit work to commence which would affect bats or their roost.
- 6.17 A European Protected Species Licence can only be applied for once planning permission is gained, if planning permission is required. Natural England, the licensing authority, will

require the species, numbers and use of a roost to be ascertained before granting a licence and there may be delays in obtaining an EPSP and time constraints as to when mitigation can be undertaken.

- 6.18 If at any time a bat/s or evidence of bat/s is/are suspected or found, all works must cease immediately and advice should be sought from either Natural England or the acting Consultant.
- 6.19 As bats are mobile creatures and can form new roosts at any time if works are not started within one year of this report then it may be necessary to repeat certain surveys.

7.0 References

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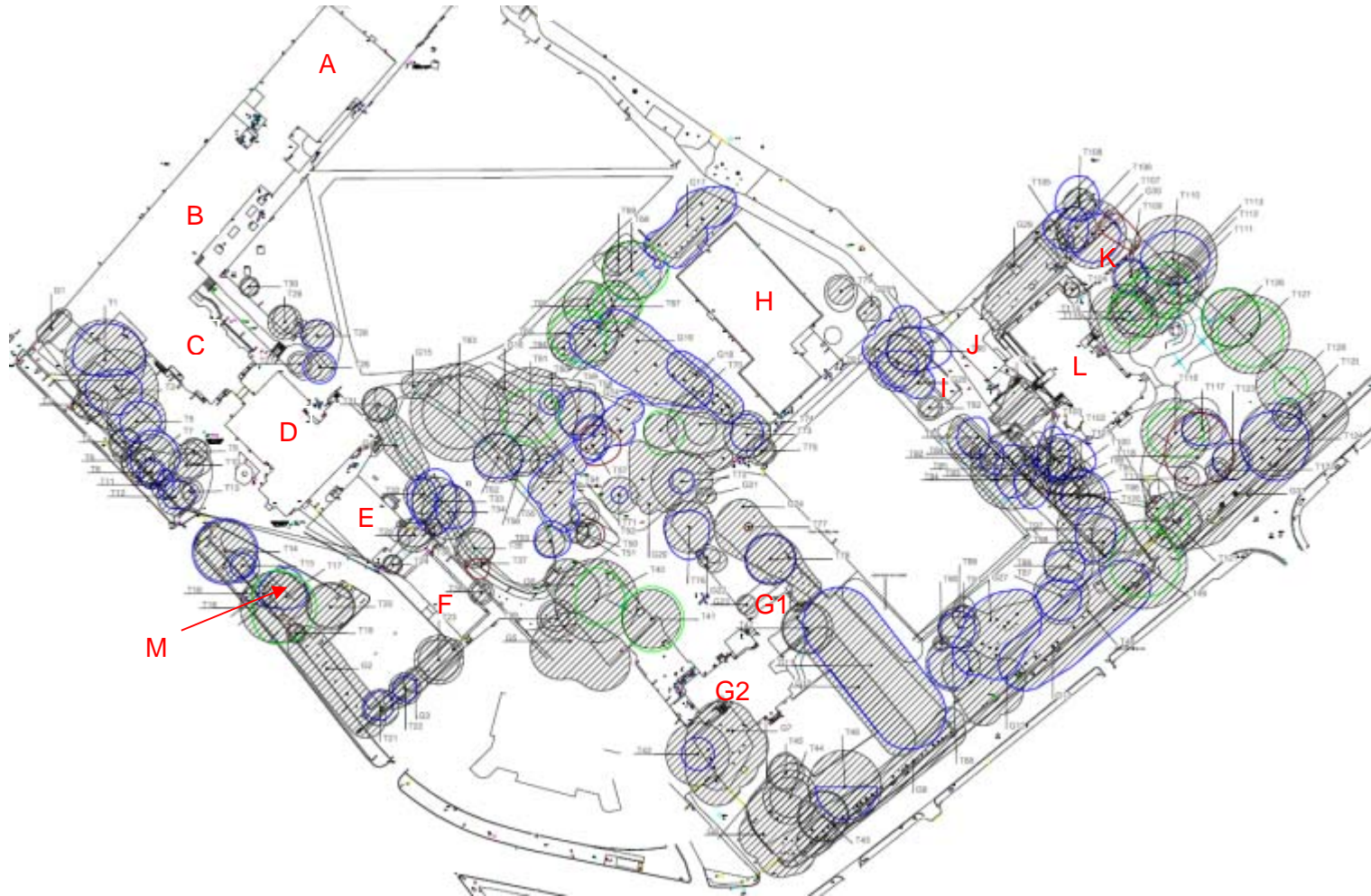
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Map 1:

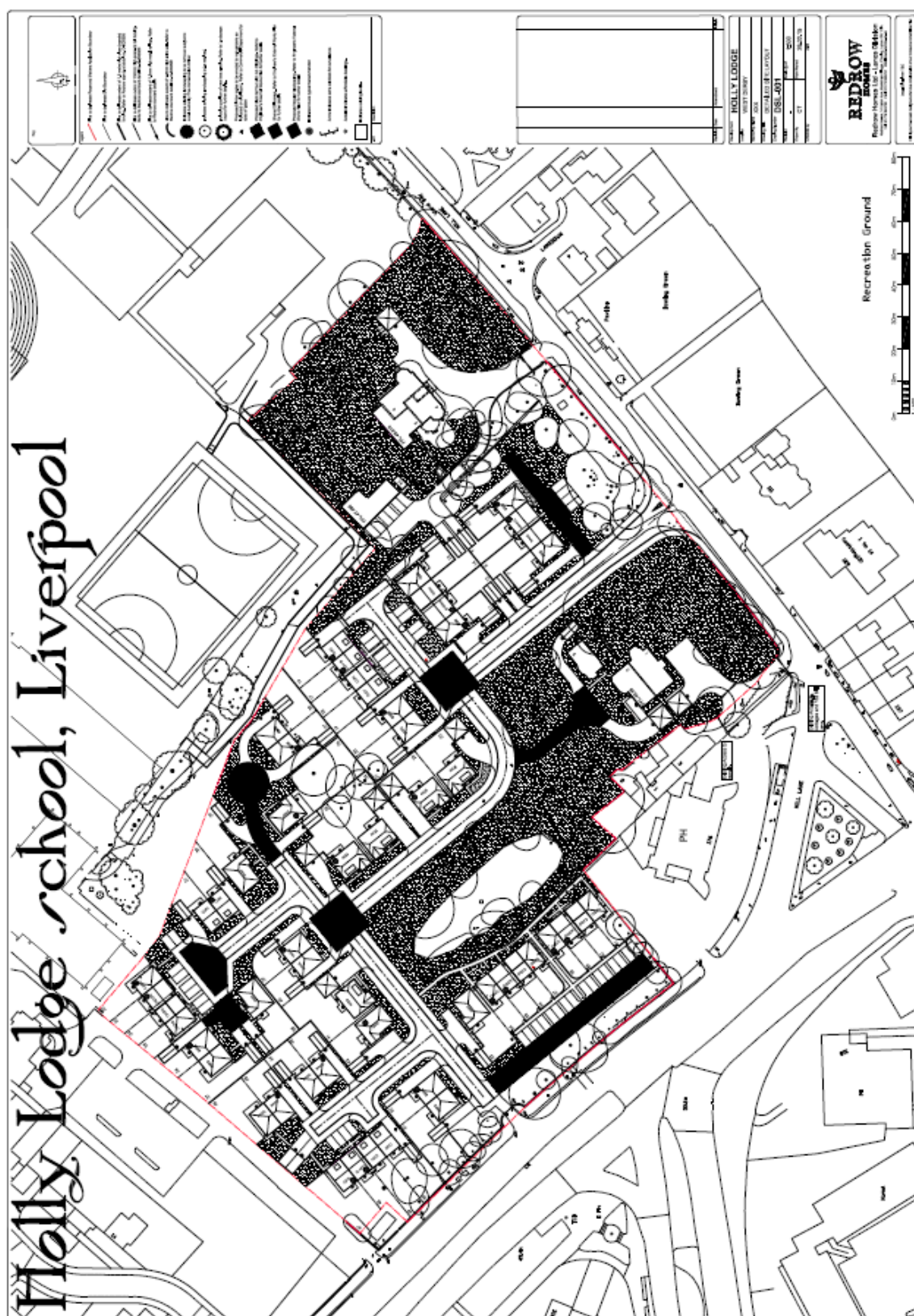
Buildings & Tree Location Plan



Key:

No. Building Locations

Map 2:
Proposals for the Development at the Site



Appendix 1:**Table 8.4** Protocol for visual inspection of trees due to be affected by arboricultural work, to assess the value of the trees to bats. (2012 Guidance)

Tree category and description	Stage 1 Initial survey requirements	Stage 2 Further measures to inform proposed mitigation	Stage 3 Likely mitigation
Known or confirmed roost	Follow SNCO guidance and these guidelines wherever possible, to establish the extent to which bats use the site. This is particularly important for roosts of high risk species and/or roosts of district or higher importance and above.		The tree can be felled only under EPS licence following the installation of equivalent habitats as a replacement.
Category 1* Trees with multiple, highly suitable features capable of supporting larger roosts.	Tree identified on a map and on the ground. Further assessment to provide a best expert judgement on the likely use of the roost, numbers and species of bat, by analysis of droppings or other field evidence. A consultant ecologist is required.	Avoid disturbance to trees, where possible. Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required.	Felling would be undertaken taking reasonable avoidance measures ³ such as 'soft felling' to minimise the risk of harm to individual bats.
Category 1 Trees with definite bat potential, supporting fewer suitable features than category 1* trees or with potential for use by single bats.	Tree identified on a map and on the ground. Further assessed to provide a best expert judgement on the potential use of suitable cavities, based on the habitat preference of bats. A consultant ecologist is required.	Avoid disturbance to trees, where possible. More detailed off the ground visual assessment. Further dusk and pre-dawn survey to establish more accurately the presence, species, numbers of bats present and the type of roost, and to inform the requirements for mitigation if felling is required.	Trees with confirmed roosts following further survey are upgraded to Category 1* and felled under licence as above. Trees with no confirmed roosts may be downgraded to Category 2 dependent on survey findings.
Category 2 Trees with no obvious potential, although the tree is of a size and age that elevated surveys may result in cracks or crevices being found; or the tree supports some features which may have limited potential to support bats.	None. A consultant ecologist unlikely to be required.	Avoid disturbance to trees, where possible. No further surveys.	Trees may be felled taking reasonable avoidance measures. Stop works and seek advice in the event bats are found, in order to comply with relevant legislation.
Category 3 Trees with no potential to support bats.	None. A consultant ecologist not required unless	None.	No mitigation for bats required.

	<i>new evidence is found.</i>		
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Appendix 2:**Table 4.1** Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement (Taken from the Bat Conservation Trust Bat Surveys for Professional Ecologists: Good Practice Guidelines, 2016).

Suitability	Description	
	Roosting habitats	Commuting & foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	<p>A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions¹ and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation²).</p> <p>A tree of sufficient size and age to contain PRF's but with none seen from the ground or features seen with only very limited roosting potential³.</p>	<p>Habitat that could be used by small numbers of commuting bats such as gappy hedgerow or un-vegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat.</p> <p>Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) of a patch of scrub.</p>
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ¹ and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	<p>Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back to gardens.</p> <p>Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland and water.</p>
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ¹ and surrounding habitat.	<p>Continuous, high quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge.</p> <p>High quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broad-leaved woodland, tree-lined watercourses and grazed parkland.</p> <p>Site is close to and connected to known roosts.</p>

¹For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.

²Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten *et al.*, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.

³ This system of categorisation aligns with BS8596:2015 Surveying for bats in trees and woodland (BSI, 2015).
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Appendix 3:

Table 7.1 & 7.3 Recommended timings and minimum number of survey visits for presence/absence surveys to give confidence in a negative result for structures (also recommended for trees but unlikely to give confidence in a negative result). (2016)

Low roost suitability	Moderate roost suitability	High roost suitability
<p>Structures: One survey visit. One dusk emergence or dawn re-entry survey¹. May to August.</p> <p>Trees: No further surveys required.</p>	<p>Structures and Trees: Two separate survey visits. One dusk emergence and a separate dawn re-entry survey². May to September³ with at least one of surveys between May and August²</p>	<p>Structures and Trees: Three separate survey visits. At least one dusk emergence and a separate dawn re-entry survey. The third visit could be either a dusk or dawn². May to September with at least two of surveys between May to August²</p>
<p>¹Structures that have been categorised as low potential can be problematic and the number of surveys required should be judged on a case-by-case basis. If there is a possibility that quiet calling, late-emerging species may be present then a dawn survey may be more appropriate, providing weather conditions are suitable. In some cases, more than one survey may be needed, particularly where there are several buildings in this category.</p> <p>²Multiple survey visits should be spread out to sample as much of the recommended survey period as possible; it is recommended that surveys are spaced at least two weeks apart, preferably more, unless there are specific ecological reasons for the surveys to be closer together (for example, a more accurate count of maternity colony is required but it is likely that the colony will soon disperse). If there is potential for a maternity colony then consideration should be given to detectability. A survey on the 31st August followed by a mid-September survey is unlikely to pick up a maternity colony. An ecologist should use their professional judgement to design the most appropriate survey regime. A dawn survey immediately after a dusk one is considered only one visit.</p> <p>³September surveys are both weather and location dependant. Conditions may become more unsuitable in these months, particularly in more northerly latitudes, which may reduce the length of the survey season.</p>		

Appendix 4:
Site Photographs



Building A – View from the



Building B – Viewed from the



Building B - Viewed from the



Lifted roof tiles on Building B



Building C – View from the



Gaps in brickwork and roofing tiles



Building C - View from the



Building D – View from the



Building C – Viewed from the

Building D – Viewed from the



Building D – Gaps under soffits



Building E - Viewed from the south



Building E – Viewed from the north



Building F



Building G 2 – Viewed from the north west



G1- Building G1 Viewed from the north west



Gaps in the soffits



Gaps in the tiles



Gaps where the tiles have slipped



Building G 1 – Viewed from the south east



Building G2 - Viewed from the south east



Building H



Gaps in the panelling



Building I



Building J – Viewed from south-west, gaps in brickwork



Building J - Viewed from south-east



Building K –Viewed from north west



Building K - Viewed from south-west, gaps between concrete roof and flashing



Building L – Viewed from south with adjoining modern building to the north



Building M - Gaps in brickwork on north-east and south-west elevations