

**MILL RYTHE HOLIDAY VILLAGE,
HAYLING ISLAND, HAMPSHIRE**

BAT SURVEYS

A Report to: Avison Young

Report No: RT-MME-153320

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REPORT VERIFICATION AND DECLARATION OF COMPLIANCE

This study has been undertaken in accordance with British Standard 42020:2013 "Biodiversity, Code of practice for planning and development".

Report Version	Date	Completed by:	Checked by:	Approved by:
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The information which we have prepared is true, and has been prepared and provided in accordance with the Chartered Institute of Ecology and Environmental Management's Code of Professional Conduct. We confirm that the opinions expressed are our true and professional bona fide opinions.

DISCLAIMER

The contents of this report are the responsibility of Middlemarch Environmental Ltd. It should be noted that, whilst every effort is made to meet the client's brief, no site investigation can ensure complete assessment or prediction of the natural environment.

Middlemarch Environmental Ltd accepts no responsibility or liability for any use that is made of this document other than by the client for the purposes for which it was originally commissioned and prepared.

VALIDITY OF DATA

The findings of this study are valid for a period of 12 months from the date of survey. If works have not commenced by this date, it may be necessary to undertake an updated survey to allow any changes in the status of bats on site to be assessed, and to inform a review of the conclusions and recommendations made.

NON-TECHNICAL SUMMARY

In August 2020 Avison Young commissioned Middlemarch Environmental Ltd to undertake Bat Surveys at the site of a proposed development at Mill Rythe Holiday Village in Hayling Island, Hampshire.

Middlemarch Environmental Ltd previously completed a suite of ecological surveys and assessments at the site in 2016 and 2017 to inform a planning application associated with the refurbishment of the wider site. Permission for the development was granted by Havant Borough Council in May 2017 (Application Number: APP/16/01237), after which Middlemarch Environmental Ltd prepared a number of documents to discharge various planning conditions. It is now understood that a new planning application is to be submitted to seek to vary the development commenced under APP/16/01237. The proposal relates to three separate red-line areas within the site, although the amendments are submitted under one application and should be viewed as a variation of the existing permission. A suite of updated ecological survey and assessment work is required to support this new planning application.

To fulfil the above brief to assess the potential for the existing buildings and trees on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 5th August 2020. Further survey work, in the form of Dusk Emergence and Dawn Re-Entry Surveys, was undertaken between 20th August and 18th September 2020.

Preliminary Bat Roost Assessment

The survey area possessed a large number of buildings of various types, construction and materials which ranged in size from small units up to much larger complexes of buildings. The buildings were subject to external inspections and were categorised according to their potential to support bat roosts.

Buildings with 'High' Bat Roosting Potential

Six buildings (Buildings 1, 8, 11, 22, 26 and 41) were considered to have high potential to support bat roosts, due to the presence of features such as gaps in brickwork, lifted sections of wooden boarding, lifted/missing tiles, weep holes and gaps between fascias/weatherboarding and brick walls.

Buildings with 'Moderate' Bat Roosting Potential

Ten buildings (Buildings 7, 24, 25, 27, 28, 30, 36, 37, 42 and 43) were considered to have moderate potential to support bat roosts, due to the presence of occasional features comprising lifted sections of weatherboarding. Although these features mostly appeared to be cobweb-filled with dirt and debris present, some sections were noted to be clear, offering potential access locations to roosting areas.

Buildings with 'Low' Bat Roosting Potential

The majority of single storey accommodation chalets (Buildings 2, 3, 4, 5, 9, 10, 15, 16, 17, 18, 19, 20, 21, 31, 32, 33, 38), staff accommodation (Buildings 29, 34 and 40) and the kitchen stores and diner (35) were all in good or excellent condition and were considered to offer very limited bat roost potential.

Buildings with 'Negligible' Bat Roosting Potential

The following units were all in good or excellent condition and were considered to offer negligible roost potential: Buildings 6, 12, 13, 14, 23 and 39.

Trees

The trees within the site were noted to be in good condition, subject to professional tree management and with no obvious features that could provide potential roosting locations for bats. It is understood that the majority of trees within the site will be retained as part of proposed site development works.

Dusk Emergence and Dawn Re-Entry Surveys

The following bat roosts were identified during the surveys:

- A maternity roost for soprano pipistrelles within the two-storey accommodation block known as 'Seaton' (Building 24), located in the south-eastern corner of the site;
- A day roost for a low number of soprano pipistrelles within the two-storey accommodation block known as 'Tenby' (Building 27), located within the south-eastern corner of the site; and
- A day roost for a single common pipistrelle within the two-storey accommodation block known as 'Harrow' (Building 36), located centrally within the southern part of the site.

Commuting and foraging activity by three species of bat (common pipistrelle, soprano pipistrelle and noctule) was recorded during the surveys. Soprano and common pipistrelle activity was recorded across much of the site, however soprano pipistrelle activity was concentrated in the eastern part of the site and common pipistrelle activity was concentrated in the western part of the site in the vicinity of the car parking areas, pockets of scattered trees and amenity grassland. Noctule activity comprised one or two commuting passes, indicative of bats flying high over the site.

Following the bat surveys, the following recommendations have been made:

R1 Buildings 24, 27 and 36 ('Seaton', 'Tenby' and 'Harrow')

As a bat roost/resting place has been identified in Buildings 24, 27 and 36, no unlicensed work can be undertaken which will contravene the legislation outlined in Appendix 1. Examples of works which will breach this legislation are detailed in Chapter 6.

Prior to any works being undertaken which are likely to result in a breach of the legislation, a development licence must be obtained from Natural England. The licence application process will include the submission of a method statement detailing the current status of bats on site and how the favourable conservation status of the bat population will be maintained. Prior to a licence being issued, planning permission must be granted and relevant conditions relating to protected species and habitat issues must be discharged.

Dusk emergence and dawn re-entry survey data, in line with Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016), is required to inform the licence application. To ensure that the data submitted is current and appropriate for assessment by Natural England, surveys need to be carried out during the peak bat activity season closest to the start date of the proposed development. The peak bat activity season extends from May to August. An appropriate level of survey work has been undertaken within this study, however should any delays occur in the planning process which results in a delay in the bat licence application beyond March 2021, the bat activity surveys may have to be updated.

R2 Remaining Properties

The remaining properties have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed buildings have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the buildings in the interim. Updated Preliminary Bat Roost Assessments can be undertaken at any time of year. Updated surveys requiring dusk or dawn assessment will need to adhere to the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) with the surveys undertaken between April and September inclusive. In the unlikely event that a bat is found during site works all works in that area must immediately cease and a suitably qualified ecologist should be contacted.

R3 Lighting

In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Further information is provided in Chapter 6.

R4 Habitat Enhancement

In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle. In general, bats seek warm places and for this reason boxes should be located where they will receive full/partial sun, although installing boxes in a variety of orientations will provide a range of climatic conditions. Position boxes at least 4 m above ground to prevent disturbance from people and/or predators. The planting of species which attract night flying insects is encouraged as this will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.

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1. INTRODUCTION

1.1 PROJECT BACKGROUND

In August 2020 Avison Young commissioned Middlemarch Environmental Ltd to undertake Bat Surveys at the site of a proposed development at Mill Rythe Holiday Village in Hayling Island, Hampshire.

Middlemarch Environmental Ltd previously completed the following assessments at the site in 2016 and 2017 to inform a planning application associated with the refurbishment of the wider site:

- Preliminary Ecological Appraisal (Report RT-MME-123420-01);
- Preliminary Roost Assessment (Report RT-MME-123420-02); and,
- Endoscope Bat Survey (Report RT-MME-124714-Rev A).

Due to the proximity of the site to Chichester and Langstone Harbours Ramsar wetland and Special Protection Area (SPA), Solent Maritime Special Area of Conservation (SAC), Solent and Isle of Wight Lagoons SAC, and Portsmouth Harbour Ramsar wetland and SPA, Middlemarch Environmental Ltd also completed a Habitat Regulations Assessment: Stage 1 Screening Report (RT-MME-123420-06-Rev C) in 2017.

Permission for the development was granted by Havant Borough Council in May 2017 (Application Number: APP/16/01237). Middlemarch Environmental Ltd subsequently prepared a Construction Ecological Management Plan (CEcMP, Report RT-MME-125561-01) and a Landscape and Ecological Management Plan (LEMP, Report RT-MME-125561-02 Rev B) in order to discharge two conditions of the planning permission.

It is now understood that a new planning application is to be submitted to seek to vary the development commenced under APP/16/01237, to allow for further redevelopment of the holiday site, including the demolition of redundant chalets, siting of new caravans and creation of a wildlife area within the former pitch and putt golf course located in the eastern part of the site. The proposal relates to three separate red-line areas within the site, although the amendments are submitted under one application and should be viewed as a variation of the existing permission. A suite of updated ecological survey and assessment work is required to support the planning application.

In addition to the Bat Surveys, Middlemarch Environmental Ltd has completed a Preliminary Ecological Appraisal (Report RT-MME-153231-01) and a Reptile Survey (Report RT-MME-153231-02) at the site in 2020.

Middlemarch Environmental Ltd has also been commissioned to prepare an Ecological Mitigation Strategy (Report RT-MME-153231-03) and an updated Shadow Habitat Regulations Assessment: Stage 1 Screening and Stage 2 Appropriate Assessment (Report RT-MME-153231-04), the latter of which is to be informed by Winter Bird Surveys.

To fulfil the above brief to assess the potential for the existing buildings and trees on site to support roosting bats, a Preliminary Bat Roost Assessment was undertaken on 5th August 2020. Further survey work, in the form of dusk emergence and dawn re-entry surveys, was undertaken between 20th August and 17th September 2020. This report details the results of the Preliminary Bat Roost Assessment, as well as the dusk emergence and dawn re-entry surveys.

All UK bat species are European protected species and they are capable of being material considerations in the planning process. A summary of the legislation protecting bats is included within Appendix 1. This section also provides some brief information on the ecology of British bat species.

1.2 SITE DESCRIPTION AND CONTEXT

The site comprises an irregular parcel of land approximately 13 ha in size, located on the eastern coast of Hayling Island, centred at National Grid Reference SU 7292 0061. The site effectively divides into two discrete areas. The western half of the site is dominated by the existing Mill Rythe Holiday Village, encompassing a number of self-catering accommodation units and associated leisure facilities. At the time of the survey, the site included approximately 50 buildings, tennis courts, structured play areas, bowling green,

swimming pool, boating lake, car parking, access roads and associated hard and soft landscaping, the latter including extensive areas of formal mown grassland. The eastern half of the site is dominated by a former pitch and putt golf course of just over 2.5 ha in extent which is no longer in use and has developed a ranker sward with scattered blocks of scrub and tall ruderal vegetation. In the north-east corner of the former pitch and putt course is a large triangular lake.

Bordering the site to the north and east are a range of intertidal habitats separated from the surveyed areas by sea defences frequently occupied by dense scrub. To the south is Tournerbury Golf Course and to the west are a series of medium-scale fields occupied by rough grazed pasture and arable crops delineated by well-timbered boundaries.

The site is adjacent to a number of statutory designated sites including Chichester and Langstone Harbours Ramsar wetland, Site of Special Scientific Interest and Special Protection Area and Solent Maritime Special Area of Conservation. These sites form large estuarine systems comprising habitats such as mud and sand flats and salt meadows.

1.3 DOCUMENTATION PROVIDED

The conclusions and recommendations made in this report are based on information provided by the client regarding the scope of the project. Documentation made available by the client is listed in Table 1.1.

Document Name / Drawing Number	Author
3877-410 Rev R / Proposed Site Plan	A&M Architectural Partnership LLP

Table 1.1: Documentation Provided by Client

2. METHODOLOGY

2.1 DESK STUDY

As part of the Preliminary Ecological Appraisal (Report RT-MME-153231-01) an ecological desk study (which included a search for records of bats) was undertaken within a 2 km radius of the site. The consultee for the desk study was Hampshire Biodiversity Information Centre.

Middlemarch Environmental Ltd then assimilated and reviewed the desk study data provided by this organisation. Relevant bat data are discussed in Chapter 3. In compliance with the terms and conditions relating to its commercial use, the full desk study data are not provided within this report.

The desk study included a search for statutory nature conservation sites designated for bats within a 10 km radius of the site.

2.2 PRELIMINARY BAT ROOST ASSESSMENT

In line with the specifications detailed in Bat Mitigation Guidelines (English Nature, 2004) and Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), a Preliminary Bat Roost Assessment of the buildings and trees on site was conducted during daylight hours. A visual assessment was undertaken to determine the presence of any potential roost features, together with a general appraisal of the suitability of the site for foraging and commuting bats. Any accessible PRFs were inspected using binoculars, a torch and endoscope for evidence of possible bat presence. Buildings were only surveyed externally; an internal assessment was not undertaken due to COVID-19 restrictions. For reasons of health and safety, the survey was only undertaken in areas accessible from 3.5 m ladders. For trees, a Preliminary Ground Level Roost Assessment was undertaken.

Based on the potential roost features present, the survey area was assessed using the suitability classes detailed within Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), as detailed in Table 2.1.

Suitability	Building	Tree
High	A structure/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 and surrounding habitat.	
Moderate	A structure/tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions 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).	
Low	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 conditions 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 hibernation).	A tree of sufficient size and age to contain potential roost features but with none seen from the ground or features seen with only very limited roosting potential.
Negligible	Negligible habitat features on site likely to be used by roosting bats.	

Table 2.1: Classification of Buildings and Trees with Bat Roosting Potential (Adapted from Collins, 2016)

Table 2.2 provides a summary of potential roost features that may be found within buildings and trees.

Habitat	Examples of Potential Roost Features	
Buildings	<u>Externally</u> • Access through window panes, doors and walls; • behind peeling paintwork or lifted rendering; • behind hanging tiles; • weatherboarding; • eaves; • soffit boxes; • fascias; • lead flashing; • gaps under felt (even including those of flat roofs); • under tiles/slates; • existing bat and bird boxes; and, • any gaps in brickwork or stonework permitting access into access to cavity- or rubble-filled walls.	<u>Internally</u> • behind wooden panelling; • in lintels above doors and windows; • behind window shutters and curtains; • behind pictures, posters, furniture, peeling paintwork; • peeling wallpaper, lifted plaster and boarded-up windows; • inside cupboards and in chimneys accessible from fireplaces. • within attic voids; • the top of gable end or dividing walls; • the top of chimney breasts; • ridge and hip beams and other roof beams; • mortise and tenon joints; • all beams (free-hanging bats); • the junction of roof timbers, especially where ridge and hip beams meet; • behind purlins; • between tiles and the roof lining; and, • under flat felt roofs.
Trees	• Bat, bird and dormouse boxes on trees; • Cankers (caused by localized bark death) in which cavities have developed; • Compression forks with included bark, forming potential cavities; • Cracks/splits in stems or branches (both vertical and horizontal); • Crossing stems or branches with suitable space between for roosting; • Ivy stems with diameters in excess of 50 mm with suitable roosting space behind (or where a roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk); • Man-made holes (e.g. cavities that have developed from flush cuts); • Natural holes (e.g. knot holes) arising from naturally shed branches, or cavities created by branches tearing out from parent stems; • Other hollows or cavities, including rot holes and butt rots; • Partially detached or loose, platy bark; • Woodpecker holes; or, • Other features that offer a place of shelter.	

Table 2.2: Potential Roost Features (Adapted from Collins 2016 and BSI 2015)

2.3 DUSK EMERGENCE AND DAWN RE-ENTRY SURVEYS

2.3.1 Overview of Dusk Emergence and Dawn Re-entry Surveys

In line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), buildings/ structures classed as having high potential to support roosting bats during the daytime survey were subject to three bat surveys, consisting of two dusk emergence bat survey and one dawn re-entry bat survey. Buildings classed as having moderate potential to support roosting bats during the daytime survey were subject to two separate bat surveys, consisting of one dusk emergence bat survey and one dawn re-entry bat survey. Buildings classed as having low potential to support roosting bats during the daytime survey were subject to a single dusk emergence or dawn re-entry survey.

The aim of these surveys was to detect whether bats are roosting within the buildings, and to enable a profile of site utilisation by bats to be compiled.

2.3.2 Dusk Emergence Bat Surveys

In line with the specifications detailed Bat Surveys: Good Practice Guidelines (Collins, 2016), the dusk surveys commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. The dusk emergence surveys were conducted using electronic bat detectors (Echo Meter Touch and Bat Box Duet with associated recording devices) to facilitate the detection of bats and to aid in the determination of species of bat using the site. Subsequent computer analysis of recordings allowed all species of bat using the site to be identified.

2.3.3 Dawn Re-entry Bat Surveys

Bats swarm at their roost site 10-90 minutes prior to entering the roost at dawn (Mitchell-Jones & McLeish, 2004). Surveying for dawn swarming by bats is an efficient way of detecting bat roosts. In line with the specifications detailed by Bat Surveys: Good Practice Guidelines (Collins, 2016) the dawn surveys commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. To facilitate the detection of bats and to aid in the determination of species of bat using the site, the dawn surveys were conducted using electronic bat detectors (Echo Meter Touch and Bat Box Duet with associated recording devices). Computer analysis of bat detector information collected was utilised to identify all species recorded on the site.

3. DESK STUDY

3.1 STATUTORY NATURE CONSERVATION SITES

The site is not located within 10 km of any statutory nature conservation sites designated for the presence of bats.

3.2 SPECIES RECORDS

Records of bat species within a 2 km radius of the survey area provided by Hampshire Biodiversity Information Centre are summarised in Table 3.1. It should be noted that the absence of records should not be taken as confirmation that a species is absent from the search area.

Species	No. of Records	Most Recent Record	Proximity of Nearest Record to Site	Species of Principal Importance?	Legislation / Conservation Status
Mammals – Bats					
Common pipistrelle <i>Pipistrellus pipistrellus</i>	101	2019	+Potentially on site	-	ECH 4, WCA 5, WCA 6
Soprano pipistrelle <i>Pipistrellus pygmaeus</i>	56	2019	+Potentially on site	✓	ECH 4, WCA 5, WCA 6
Serotine <i>Eptesicus serotinus</i>	16	2019	30 m south-west	-	ECH 4, WCA 5, WCA 6
Pipistrelle <i>Pipistrellus</i> sp.	21	2019	180 m west	#	ECH 4, WCA 5, WCA 6
Unidentified long-eared bat <i>Plecotus</i> sp.	6	2019	200 m south-west	#	ECH 4, WCA 5, WCA 6
Unidentified myotis <i>Myotis</i> sp.	15	2019	380 m west	-	ECH 4, WCA 5, WCA 6
Brown long-eared bat <i>Plecotus auritus</i>	3	2017	690 m west	✓	ECH 4, WCA 5, WCA 6
Nathusius' pipistrelle <i>Pipistrellus nathusii</i>	2	2019	860 m north	-	ECH 4, WCA 5, WCA 6
Unidentified bat <i>Chiroptera</i> sp.	5	2013	1 km north-west	#	#
Daubenton's bat <i>Myotis daubentonii</i>	3	2019	1 km south	-	ECH 4, WCA 5, WCA 6
Noctule <i>Nyctalus noctula</i>	3	2019	1.40 km north-west	✓	ECH 4, WCA 5, WCA 6
Leisler's bat <i>Nyctalus leisleri</i>	1	2015	1.55 km south	-	ECH 4, WCA 5, WCA 6
Brandt's bat <i>Myotis brandtii</i>	1	2002	1.80 km south	-	ECH 4, WCA 5, WCA 6
Barbastelle <i>Barbastella barbastellus</i>	1	2019	1.90 km north	✓	ECH 2, ECH 4, WCA 5, WCA 6
Bechstein's bat <i>Myotis bechsteinii</i>	1	2009	*Potentially within a 2 km radius	✓	ECH 2, ECH 4, WCA 5, WCA 6
Natterer's bat <i>Myotis nattereri</i>	1	2009	*Potentially within a 2 km radius	-	ECH 4, WCA 5, WCA 6
Key: +: Grid reference provided was six figures and as such, the record may be located within 100 m of the study site. #: Dependent on species ECH 2: Annex II of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest whose conservation requires the designation of Special Areas of Conservation. ECH 4: Annex IV of the European Communities Council Directive on the Conservation of Natural Habitats and Wild Fauna and Flora. Animal and plant species of community interest in need of strict protection. WCA 5: Schedule 5 of Wildlife and Countryside Act 1981 (as amended). Protected animals (other than birds). WCA 6: Schedule 6 of Wildlife and Countryside Act 1981 (as amended). Animals which may not be killed or taken by certain methods. Species of Principal Importance: Species of Principal Importance for Nature Conservation in England.					

Table 3.1: Bat Species Records Within 2 km of Site

3.3 PREVIOUS BAT SURVEYS

A Preliminary Roost Assessment (Report RT-MME-123420-02) was undertaken at the site in September 2016. This revealed that a number of the buildings had low potential to support roosting bats, although the majority were considered to have negligible potential. An Endoscope Survey (Report RT-MME-124714 Rev A) was subsequently undertaken, utilising ladders and a mobile elevated working platform to provide safe access to potential roost features at height which had not been possible to fully assess during the Preliminary Roost Assessment. No evidence of bat presence was identified within any of the buildings surveyed. However, the soffits on one building (Building 5) and the wooden cladding and lead flashing on another building (Building 10) were considered to offer potential summer roost locations for individual bats.

4. SURVEY RESULTS

4.1 PRELIMINARY BAT ROOST ASSESSMENT

4.1.1 Introduction

The Preliminary Bat Roost Assessment was conducted on 5th August 2020 by Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17) and Tim Hextell (Principal Technical Ecological Consultant).

Weather conditions were recorded and are presented in Table 4.1.

Parameter	Conditions
Temperature (°C)	25
Cloud Cover (%)	0
Precipitation	Nil
Wind Speed (Beaufort)	F2-3

Table 4.1: Weather Conditions During the Preliminary Bat Roost Assessment

4.1.2 Constraints

An internal assessment of the buildings was not possible due to COVID-19 restrictions.

4.1.3 Survey Results – Buildings/structures

The Mill Rythe Holiday complex possessed a large number of buildings/structures concentrated at the western end of the survey area. These ranged in size and age and are described in more detail below. For ease of reference the surveyed buildings/structures have been classified according to their functions/use e.g. accommodation chalets, accommodation blocks, restaurant and so forth.

Drawing C153320-01, illustrating the layout of the buildings on site, is provided in Chapter 7.

Single Storey Accommodation Chalets/Units (Building 2, 4, 5, 9, 10, 14, 15, 16, 17, 18, 19, 20, 21, 29, 31, 32, 33, 34, 36, 38, 39 and 40)

The survey area possessed a large number of accommodation chalets scattered across the western half of the surveyed area. These chalets ranged in age from older type units up to more modern and recently installed units. The older chalet units were brick buildings with rendered walls and pitched roofs with interlocking concrete tiles and uPVC soffits (Plate 4.1). Wooden framed windows and doors were set into the various elevations and were observed to be in overall good condition with no obvious features recorded around the frames that could provide potential access points for bats into interior areas. The areas of external brickwork and render were noted to be in generally good condition and similarly provided no potential access points for bats into roosting areas.

In some of the accommodation units air bricks were present. These air bricks possessed very narrow apertures which were externally and internally covered with dense cobwebs, dirt and debris. The air bricks were considered to provide no access or roosting potential for bats.

Units possessed canopy features held up by rendered brick pillars and steel uprights (Plate 3). Located high within the gable end walls of the various accommodation chalet blocks were a series of small access panels/doors providing an inspection point into the void spaces of the various units (Plate 4.2). These were generally noted to be tightly fitted into their frames and were considered to offer negligible access potential for faunal species including bats. Soffit areas were tightly fitted to wall tops and provided no obvious access points for bats into roosting locations.

To the east of the main reception building and entertainment complex were a series of small staff accommodation units. These were also single-storey units of brick construction and windows/doors set within uPVC frames with uPVC soffit areas/weatherboards. However, where they differed from other units was that they possessed flat roofs covered with tightly fitting bitumen felt.

Overall, these staff accommodation units were in good condition and although weathered were considered to provide few features that could be exploited by roosting bats. Very narrow gaps were present around the

eaves of the buildings between the wall tops and the soffit/weatherboarding but on inspection with a torch could be seen to be covered internally with dense cobwebbing, dirt and debris. No evidence of bat presence was recorded during the inspection of these structures.



Plate 4.1: Older accommodation chalets – front elevation



Plate 4.2: Gable end elevation with inspection hatch present in apex



Plate 4.3: Canopy feature on frontage of accommodation chalets



Plate 4.4: Tightly sealed soffitleave area accommodation chalets

In addition to the older type of chalets, the surveyed area included a selection of more modern units and deluxe chalets with individual car-parking areas and hot tub and outdoor space (Plates 4.5 and 4.6). These features were in excellent condition, primarily constructed from uPVC with pitched and half-pitched roofs of interlocking tiles and 'tile-effect' plastic sheeting. These units were observed to provide no access or roosting locations for bats.



Plate 4.5: Most recent accommodation chalets in north of holiday complex



Plate 4.6: Row of more modern chalets on southern edge of holiday complex

Two-storey Accommodation Blocks (Buildings 3, 24, 25, 27, 28, 30 and 42)

Located in the south-eastern corner of the main holiday complex were a series of two-storey accommodation blocks (Plates 4.7 to 4.9). These blocks were constructed from brick with wooden/uPVC fascias, trim, panelling, soffit areas and weatherboarding.

Some of the elevations possessed balcony features on their upper floors which possessed roofing sections which were boarded out on their ceilings. The weatherboarding around the upper storeys of these sections was largely close-fitting to the walls, although in one or two areas was noted to possess a narrow aperture. Through binoculars these gaps were largely observed to be densely cobwebbed with dirt and debris also present indicating no recent use by faunal species.

In general, these two-storey units were considered to offer limited bat roost potential and no bats or evidence of bats were recorded during the external assessment. A further contra-indicator of the occurrence of bat roosts was the presence of exterior lights on upper and lower floors providing a degree of illumination of all units. The presence of artificial lighting is likely to reduce the suitability of buildings/structures for bats, particularly those species which are more sensitive to light.

Overall, the two-storey accommodation units were generally in good condition with negligible potential for use by roosting bats and few features visible that could provide access points to roosting locations.



Plate 4.7: Two-storey accommodation chalets – front elevations and balcony areas



Plate 4.8: Gable end of two-storey accommodation block with access stairs



Plate 4.9: Two-storey accommodation blocks in south-eastern corner of survey area

Restaurant, Entertainment, Indoor Swimming Pool and Leisure Areas (Building 1)

An extensive and multi-faceted complex of linked buildings/structures occupies a central area of the main holiday complex in the western half of the survey area (Plate 4.10). These structures were primarily composed of brick with both pitched and flat roofed sections. The pitched roof sections were covered by interlocking tiles whilst the majority of flat roofs were covered by bitumen felt (where visible).

Many elevations possessed glazed sections set into metal/wooden/uPVC frames whilst weatherboarding/eave areas were formed from similar materials. The gable end above the main entrance into the complex was composed of wooden panelled sections.

A range of features were present around this complex that could provide potential access points into roosting locations, including lifted boarding and lead flashing, gaps in brickwork and loose metal fascias (Plates 4.11 and 4.12). It was not possible to inspect these features due to the height at which they were located and as such it was not possible to establish if bats had used these features to enter a roost location at the time of surveying.

The gaps in the brickwork had accumulated bird droppings on the brickwork beneath and internal nest material was visible, indicating their use as nesting locations for birds. No evidence of roosting bats was identified during the external assessment of this building complex.



Plate 4.10: Main entrance/reception area into entertainment complex



Plate 4.11: Damaged/lifted wooden boarding (arrowed)



Plate 4.12: Gaps in brickwork (arrowed)

The Boathouse (Building 11)

This large structure in the south-west of the survey area was multi-faceted, with pitched and flat roof sections (Plate 4.13). The exterior walls were composed of horizontal wooden panels. These were generally in good condition although at the rear of the structure occasional damaged and missing sections of wooden panelling were recorded, which were considered to offer potential access locations into interior areas for bats (Plate 4.14).

The roof areas were largely composed of corrugated metal/asbestos sheeting, which was observed to be very well weathered and covered with moss/lichen, dirt and organic debris. The flat sections were covered in what appeared to be close-fitting bitumen felt. The potential features suitable for use by bats could not be accessed due to the height at which they were located. No evidence of roosting bats was identified during the external assessment of this structure.



Plate 4.13: The Boathouse – north-western elevation



Plate 4.14: The Boathouse – rear (south-eastern) elevation

Boating Lake Shed (Building 6)

A small unit was located towards the north-eastern corner of the boating lake in the north-western corner of the survey area (Plate 4.15). This irregularly shaped wooden structure possessed a hexagonal pyramid roof structure covered in a bitumen felt material that was noted to be tightly fitted and provided no access or roosting potential for bats. The overall structure was weathered and worn but provided no obvious features that could be exploited by roosting bats and no evidence of their presence or usage was recorded during the field survey.



Plate 4.14: Boat House – viewed from south

Outdoor Swimming Pool Building (Building 12)

This comprised a single storey rendered building with a pitched roof covered by interlocking concrete tiles (Plate 4.15). This structure appeared to be in overall good condition and was considered to provide negligible bat roost potential.



Plate 4.15: Outdoor swimming pool building

Coffee Lounge Building (Building 13)

Located within the north of the holiday complex and surrounded by closely mown amenity grassland, this medium-sized structure was largely composed of large glazed window panels set into wooden frames and with an angled roof covered in tight fitting bitumen felt (Plate 4.16). This building was considered to provide negligible bat roost potential and no evidence of their presence or usage was recorded during the field survey.



Plate 4.16: Coffee Lounge Building

Former Performing Arts Club (Building 23)

This comprised an 'L' shaped structure located at the eastern end of the holiday complex. This building was single storey constructed from brick with uPVC fascias, trims and weatherboarding. The majority of the windows were enclosed by security panelling/boarding. The roof was covered in close fitting bitumen felt and the brickwork was noted to be in overall good condition. The weatherboarding was noted to be tightly fitted to the brickwork and overall the building was considered to provide no bat roost potential.



Plate 4.17: Former Performing Arts Club Building

Boiler Houses (Buildings 8, 22, 26 and 41)

The survey area possessed four boiler houses scattered across the main holiday complex area (Plates 4.18 to 4.20). These structures possessed external brick walls, some of which were rendered, with both flat and pitched sections of roof covered in bitumen felt. The brickwork was in reasonably good condition, although the southern boiler house possessed missing bricks in places with loss of mortar and weep holes also recorded.

Around the eaves of the boiler house structures gaps were evident between the weatherboarding/fascia areas. These were inspected and were observed to largely possess cobwebbing, dirt and debris between the boarding and the brickwork and it was therefore concluded that no faunal species had accessed these areas in the recent past. Lower features where bricks were missing and gaps evident, particularly on the southern pumphouse feature, were inspected with a torch and endoscope and found to possess no evidence of usage by bat species. Some features were present at a height which could not be accessed for purposes of survey and it was therefore concluded that they may have some potential to provide roosting locations for bats.



Plate 4.18: Southern boiler house – southern elevation



Plate 4.19: Southern boiler house – northern and western elevations



Plate 4.20: Western boiler house



Plate 4.21: Eastern boiler house

Maintenance Workshop (Building 7)

This structure was a medium-sized rectangular building, single storey and constructed from wooden panelling with a pitched roof covered in very well weathered bitumen felt covered extensively in moss/lichen (Plate 4.22). This structure was rather poor in places with damaged sections of soffit/eave providing a potential access point into the interior for faunal species (Plate 4.23). No evidence of bat presence/activity was recorded during the external survey of this structure. There was a noticeable chemical odour emanating from this structure and therefore it was concluded that it was sub-optimal to support roosting bats. Although internal access was not possible it could be seen through eave gaps that the internal structure was rather simple with the roof located directly onto a simple wooden framework.



Plate 4.22: Maintenance workshop building



Plate 4.23: Damaged eave section on maintenance workshop building

Kitchen Stores/Diner (Building No 35)

This structure was located immediately to the east of the main reception/entertainment complex and comprised a brick structure with a steeply pitched corrugated metal roof (Plate 4.24). This structure was in overall good condition with tight/soffit eave areas and with uPVC trim, doors and window frames. It was considered that this structure provided negligible bat roost potential and no evidence of bat presence/usage was recorded during the external assessment.



Plate 4.24: Kitchen/Diner Unit on right hand side of image

Laundrette

This was a large two storey block constructed from brick with uPVC fascias, window/door frames and soffit areas with a flat roof covered by close fitting bitumen felt. Overall, it was considered that this unit was in good condition and appeared to provide no obvious access points or potential roosting locations that could be exploited by bats.

Storage Buildings

A mixture of basic units including sheds and containers were present across the site, all of which were deemed to have no bat roost potential.

4.1.4 Survey Results – Trees

Scattered trees were present within the western extent of the holiday complex occurring on the areas of mown amenity grassland and adjacent to the various buildings and structures (Plates 4.26 to 4.29). Species included aspen *Populus tremula*, Leyland cypress *X Cupressocyparis leylandii*, cedar *Thuja* sp., Norway maple *Acer palanoides*, field maple *Acer campestre*, white poplar *Populus alba*, oak *Quercus* sp., pine *Pinus* sp., ash *Fraxinus excelsior*, cherry *Prunus* sp. and apple *Malus* sp. Trees ranged in age from semi-mature to mature and were largely in overall very good condition, with no obvious features that could be used by roosting bats.



Plate 4.26: Scattered trees adjacent to chalets – well manged and in good condition



Plate 4.27: Mature poplars and oak adjacent to chalets



Plate 4.28: Mature and well managed oak tree adjacent to The Boathouse



Plate 4.29: Landscaped trees over amenity grassland adjacent to chalets at the eastern end of the holiday complex

4.1.5 Site and Surrounding Habitats

The development site was dominated by buildings and areas of hardstanding in the west, with the east of the site dominated by grassland and a large lake. A number of scattered trees, hedgerows and areas of scrub were also present within the site, providing suitable foraging and commuting habitat for bats. The west of the site is likely to be well lit due to the presence of a large number of holiday let buildings and entertainment facilities, thereby reducing the value of the site to support roosting, foraging and commuting bats.

Habitats within 1 km of the site suitable for roosting, commuting and foraging include:

- Running and standing water bodies, with Emsworth Harbour/Mill Rythe running to the north and east.
- Agricultural fields and grassland with tree and hedge lined boundaries.
- Residential housing and associated gardens in Mill Rythe Village to the west.
- Schools with associated grounds.
- Golf course with associated open grassland habitats, hedges and trees (Tournerbury Golf Course is located to the south).

There is some connectivity between habitat features and the wider landscape via the boundary hedges and scrub.

4.2 DUSK EMERGENCE AND DAWN RE-ENTRY SURVEYS

Drawing C153320-02, illustrating an overview of bat activity recorded during the dusk and dawn surveys, together with bat roost locations identified, is provided in Chapter 7.

4.2.1 First Dusk Emergence Survey

The first dusk emergence survey was undertaken on 20th August 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Marco Bartellini (Field Assistant);
- Rodrigo Batistela (Field Assistant); and,
- Sophie Hextell (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.2.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	18	17
Cloud Cover (%)	75	90
Precipitation	Nil	Light drizzle
Wind Speed (Beaufort)	F2	F2-3

Table 4.2: Weather Conditions During First Dusk Emergence Survey

The dusk emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 20:15 hrs (BBC Weather Centre Data for Haying Island). Two species of bat, common pipistrelle *Pipistrellus pipistrellus* and soprano pipistrelle *Pipistrellus pygmaeus* were recorded during the survey.

Common pipistrelle

A common pipistrelle was recorded to the south of the 'The Boathouse' (Building 11) at the western end of the survey area at 20:38 hrs (23 minutes after sunset). A common pipistrelle, likely to be the same bat, was noted shortly after, at 20:41 hrs, over the trees to the north of the southern car park. Additional foraging activity was noted at 20:56 and 21:01 hrs in a similar area. No common pipistrelles were recorded emerging from any buildings/trees at the western end of the survey area.

Sporadic common pipistrelle activity was also recorded to the west of the 'Dover' accommodation block (Building 3) from 20:45 hrs until the conclusion of the survey. Numbers of bats were considered to be small and activity was centred upon the northern boundary of the holiday camp where tree/scrub vegetation and coastal habitats beyond are considered to offer a rich foraging area.

Additional common pipistrelle activity was recorded to the north of the indoor swimming pool complex and adjacent to the tennis courts. At 20:46 hrs (31 minutes after sunset) a single common pipistrelle was detected but no visual contact made. It was considered that this individual was flying over, or adjacent to, the tennis courts area. Further contacts were made in this area from 21:00 hrs (45 minutes after sunset) with presumed foraging taking place with a small number of bats (less than 3) seemingly patrolling on an east/west axis towards the 'Exeter' accommodation block and the tree cover on the amenity grassed areas to the east. Intermittent foraging by a small number of common pipistrelles was noted until the conclusion of the field survey.

Soprano pipistrelle

Sporadic soprano pipistrelle was recorded from 20:49 hrs to the east of the tennis courts and adjacent to the York and Wells accommodation blocks. Activity was rather sparse, and it was considered that only a very small number of bats were present (fewer than five). Sporadic activity was recorded throughout the survey and up to its conclusion.

No soprano pipistrelles were observed to emerge from any roost locations within the survey area.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not identify any further species of bat.

4.2.2 First Dawn Re-Entry Survey

The first dawn re-entry survey was undertaken on 21st August 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Marco Bartellini (Field Assistant);
- Rodrigo Batistela (Field Assistant); and,
- Sophie Hextell (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.3.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	16	16
Cloud Cover (%)	60	50
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F2	F2

Table 4.3: Weather Conditions During First Dawn Re-entry Survey

The dawn re-entry survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 05:20 hrs (BBC Weather Centre Data for Hayling Island). Three species of bat, common pipistrelle, soprano pipistrelle and noctule *Nyctalus noctula*, were recorded during the survey.

Soprano pipistrelle

Soprano pipistrelle activity was recorded from the commencement of the dawn survey at 03:20 hrs with large amounts of bat passes and foraging activity recorded at the eastern end of the survey area to the east and west of the accommodation chalets and extending to the northern and southern boundaries of the holiday complex. Foraging activity appeared to be centred around the scattered mature trees located within the spaces between the various accommodation blocks (principally the 'Norfolk' and 'Otley' blocks) and the eastern boiler house. A large amount of activity was recorded in this area at 04:50 hrs, although from 05:10 hrs activity declined, and bats were observed to move southwards towards 'Seaton' and 'Ryde' accommodation blocks.

At 05:09 hrs, a minimum of five individuals were noted foraging around a large oak located just to the north of the two-storey 'Seaton' accommodation block (Building 24). At 05:29 hrs, several bats were recorded 'swarming' around the north-western corner of the 'Seaton' accommodation block. From 05:36 hrs individual soprano pipistrelles were observed flying up to the corner of the eave area of this building and landing briefly before again flying around the near vicinity. From 05:38 hrs the first bat entered a roost location on the corner of this block beneath the fascia panelling. Subsequently, a minimum of 10 soprano pipistrelles were recorded to have entered this roost location, with the last bat entering the roost at 05:42 hrs.

From 05:21 hrs, several soprano pipistrelles were recorded foraging within the open space area between the accommodation blocks 'Tenby', 'Seaton' and Solent'. At 05:31 hrs the majority of soprano pipistrelle activity was recorded in the north of this area and associated with 'Seaton' block. At 05:40 hrs a single soprano pipistrelle was observed to fly up to the first-floor balcony area of 'Tenby' (Building 27) and enter a roost location between a section of wooden panelling in the roof area of the balcony.

Common pipistrelle

Brief contacts but no visuals were made with single common pipistrelles foraging to the south and west of 'The Boathouse' at the western end of the survey area at 05:12 and 05:16 hrs.

Noctule

A single pass by a noctule was recorded at 04:51 hrs over the south-western corner of the survey area but no visual observation was made of this individual. Based on the contact it was considered that this particular bat was flying at height away to the south/south-west.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

4.2.3 Second Dusk Emergence Survey

The second dusk emergence survey was undertaken on 3rd September 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Elizabeth Davies (Ecological Project Officer);
- Rodrigo Batistela (Field Assistant); and,
- Sophie Hextell (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.4.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	18	16
Cloud Cover (%)	100	100
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F2-3	F2-3

Table 4.4: Weather Conditions During Second Dusk Emergence Survey

The dusk emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 19:43 hrs (BBC Weather Centre Data for Hayling Island). Three species of bat, common pipistrelle, soprano pipistrelle and noctule were recorded during the survey.

Soprano pipistrelle

The first individual emerged from the roost location on the north-west corner of 'Seaton' accommodation block (Building 24) at 19:51 hrs (8 minutes after sunset) and flew off to the north-west. Subsequently a minimum of eight further individuals emerged from this roost location with the last to emerge at 20:13 hrs (although the surveyor stationed at this location believed a further one to two individuals may have left the roost at 20:35 hrs). Bats emerging from this roost generally followed the same route out after leaving the roost, flying to the north and north-west, with intermittent foraging recorded around the trees to the north and forming a dispersal corridor northwards towards the sea wall and the northern boundary of the Mill Rythe complex.

At 20:03 hrs (20 minutes after sunset) three soprano pipistrelles were observed to emerge from the upper balcony roof/canopy area of 'Tenby' accommodation block (Building 27) and began to forage around the open grassy area to the north of this block. Foraging activity was recorded in this area sporadically until approximately 20:11 hrs before the bats dispersed into the wider area beyond the various units. Thereafter, occasional contacts were made with soprano pipistrelles in the surrounding area up until the conclusion of the field survey.

Common pipistrelle

At 20:09 hrs (26 minutes after sunset), a common pipistrelle appeared to enter the survey area from the south, flew past the boiler house building (Building 26) and foraged around the structures in this area for several minutes before dispersing unseen and undetected. At 20:29 hrs a common pipistrelle was detected to the south of the accommodation block 'Solent' and thereafter at least two common pipistrelles were detected in this area foraging up until the conclusion of the survey. The majority of activity appeared to be centred along the southern boundary hedgerow/fenceline and along the margin of the adjacent golf course, with occasional forays into the open grassy areas within, and adjacent to the accommodation blocks 'Tenby', 'Seaton' and Solent'.

Noctule

A noctule was detected at 20:26 but no visual observation was made. Due to the signal pattern it was considered that this bat was passing high over the site on the eastern edge of the main complex and flying from the south to the north over the survey area.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

4.2.4 Second Dawn Re-entry Survey

The second dawn re-entry survey was undertaken on 4th September 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Elizabeth Davies (Ecological Project Officer);
- Rodrigo Batistela (Field Assistant); and,
- Sophie Hextell (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.5.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	14	14
Cloud Cover (%)	70	50
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F2-3	F2-3

Table 4.5: Weather Conditions During Second Dawn Re-entry Survey

The dawn re-entry survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 06:23 hrs (BBC Weather Centre Data for Hayling Island). Two species of bat, soprano pipistrelle and common pipistrelle, were recorded during the survey.

Soprano pipistrelle

Soprano pipistrelle activity was recorded from the commencement of the dawn survey at 03:23 hrs. The majority of activity was centred around the south-east of the holiday complex area around accommodation blocks 'Tenby', 'Seaton' and Solent'. However, additional activity was recorded to the north of this area around the open spaces adjacent to the accommodation blocks 'Oxford' and 'Otley'. Patterns of activity were much as previously recorded during activity surveys in these areas. From 05:53 hrs activity in the vicinity of the 'Seaton' block (Building 24) roost location increased and from 06:01 bats started to access the roost location with at least eight recorded and the last noted at 06:11 hrs.

Soprano pipistrelle activity was also recorded to the south with the open space formed by Tenby', 'Seaton' and 'Solent'. At 06:03 hrs two soprano pipistrelles were noted in this area and at 06:07 hrs both flew towards the 'Tenby' block (Building 27), considered likely to have entered the roost location on the first-floor balcony area.

Common pipistrelle

Sporadic foraging by common pipistrelles was recorded in the west of the survey area from 04:59 hrs and continued until 05:55 hrs (28 minutes before sunrise). Activity levels were low, with a peak of two individuals recorded at any one time. No common pipistrelles were noted to have entered any roost locations within the site, instead flying off site to the west.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

4.2.5 Third Dusk Emergence Survey

The second dusk emergence survey was undertaken on 17th September 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Penny Rees (Senior Ecological Consultant);
- Elizabeth Davies (Ecological Project Officer); and,
- Rodrigo Batistela (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.6.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	17	15
Cloud Cover (%)	0	0
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F3	F3

Table 4.6: Weather Conditions During Third Dusk Emergence Survey

The dusk emergence survey commenced 20 minutes prior to sunset and continued until 120 minutes after sunset. Sunset was at 19:13 hrs (BBC Weather Centre Data for Hayling Island). Two species of bat, common pipistrelle and soprano pipistrelle, were recorded during the survey.

Soprano pipistrelle

The first individual was detected at 19:39 hrs (26 minutes after sunset) to the east of the accommodation block 'Ganton' (Building 30). This individual was noted to fly off in a north-easterly direction. Additional contacts with soprano pipistrelles were made from 19:48 hrs and until the conclusion of the survey, generally centred around the scattered trees towards the accommodation blocks 'Tenby', 'Seaton' and Solent' in the south-east of the main holiday complex. Numbers of individual bats were deemed to be low.

Common pipistrelle

The first individual was detected at 19:44 hrs (31 minutes after sunset) to the east of the accommodation block 'Ganton' (Building 30). Subsequently, activity recorded was low with often only faint detections made and limited visual contacts made. This infrequent common pipistrelle activity continued until the completion of the survey and no emergences from any roost locations were recorded. It was thought that the majority of activity was located to the south/south-east of the main complex and focused along the southern boundary hedgerow and the area to the west of 'The Boathouse' (Building 11).

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

4.2.6 Third Dawn Re-entry Survey

The third dawn re-entry survey was undertaken on 18th September 2020 by:

- Jemma Gaskin (Principal Technical Ecological Consultant, Licensed Bat Worker under bat class licence 18);
- Tom Docker (Managing Director, Licensed Bat Worker under bat class licence 17);
- Tim Hextell (Principal Technical Ecological Consultant);
- Elizabeth Davies (Ecological Project Officer);
- Rodrigo Batistela (Field Assistant); and,
- Sophie Hextell (Field Assistant).

The weather conditions recorded at the time of the survey are detailed in Table 4.7.

Parameter	Conditions	
	Start	Finish
Temperature (°C)	13	12
Cloud Cover (%)	0	10
Precipitation	Nil	Nil
Wind Speed (Beaufort)	F1-2	F1-2

Table 4.7: Weather Conditions During Third Dawn Re-Entry Survey

The dawn re-entry survey commenced 120 minutes prior to sunrise and continued until 15 minutes after sunrise. Sunrise was at 06:45 hrs (BBC Weather Centre Data for Hayling Island). Two species of bat, soprano pipistrelle and common pipistrelle, were recorded during the survey.

Soprano pipistrelle

Soprano pipistrelle activity was recorded from 05:27 hrs. Activity levels were low, with only a small number of bats recorded. Activity was recorded in the vicinity of Building groups 34, 35 and 36.

No bats were observed to enter any roost locations within this area and from their patterns of activity and behaviour were considered to have moved out of the areas occupied by Building groups 34, 35 and 36 well before sunrise, heading towards the south-eastern corner of the holiday complex.

Common pipistrelle

At 06:19 hrs (26 minutes before sunset) a common pipistrelle was recorded around Building 34. At 06:24 hrs this individual was noted to be flying along a short transect on the northern side of Building 36 ('Harrow') and eventually entered a roost location on the northern elevation on the side of block within a narrow aperture between the uPVC fascia and a supporting section of brick pier/wall.

No other species of bat were detected or observed during this survey. Analysis of the sound recordings did not detect any further species of bat.

5. DISCUSSION AND CONCLUSIONS

5.1 SUMMARY OF PROPOSALS

The description of proposed development is as follows:

“Application for full planning permission, pursuant to APP/16/01237, for the redevelopment of the holiday site including the demolition of redundant chalets, use of land for the siting of 112 holiday caravans with areas of open recreational space, cease the use of the land for pitch and putt purposes and retain the remaining pitch and putt area as a managed wildlife area including the provision of an ecology bund & ditch, landscaping, the siting of three bird hides with bat roost in their roof spaces and a mown ‘circular wildlife walkway’.”

5.2 SUMMARY OF PRELIMINARY BAT ROOST ASSESSMENT

The survey area possessed a large number of buildings of various types, construction and materials which ranged in size from small units up to much larger complexes of buildings. The buildings were subject to external inspections and were categorised according to their potential to support bat roosts.

Buildings with ‘High’ Bat Roosting Potential

Six buildings (Buildings 1, 8, 11, 22, 26 and 41) were considered to have high potential to support bat roosts, due to the presence of features such as gaps in brickwork, lifted sections of wooden boarding, lifted/missing tiles, weep holes and gaps between fascias/weatherboarding and brick walls.

Buildings with ‘Moderate’ Bat Roosting Potential

Ten buildings (Buildings 7, 24, 25, 27, 28, 30, 36, 37, 42 and 43) were considered to have moderate potential to support bat roosts, due to the presence of occasional features comprising lifted sections of weatherboarding. Although these features mostly appeared to be cobweb-filled with dirt and debris present, some sections were noted to be clear, offering potential access locations to roosting areas.

Buildings with ‘Low’ Bat Roosting Potential

The majority of single storey accommodation chalets (Buildings 2, 3, 4, 5, 9, 10, 15, 16, 17, 18, 19, 20, 21, 31, 32, 33, 38), staff accommodation (Buildings 29, 34 and 40) and the kitchen stores and diner (35) were all in good or excellent condition and were considered to offer very limited bat roost potential.

Buildings with ‘Negligible’ Bat Roosting Potential

The following units were all in good or excellent condition and were considered to offer negligible roost potential: Buildings 6, 12, 13, 14, 23 and 39.

Trees

The trees within the site were noted to be in good condition, subject to professional tree management and with no obvious features that could provide potential roosting locations for bats. It is understood that the majority of trees within the site will be retained as part of proposed site development works.

5.3 SUMMARY OF BAT SURVEYS

Roosting Bats

Three bat roosts were identified during the suite of dusk emergence and dawn re-entry surveys completed at the site. Roost locations are shown on Drawing C153320-01 in Chapter 7 and are described below.

A maternity roost for soprano pipistrelles (at least 10 individuals) was identified in the south-eastern corner of the survey area, located within the two-storey accommodation block known as ‘Seaton’ (Building 24). The roost access point was high on the north-western edge of the block beneath the fascia/weatherboarding.

A day roost for a low number of soprano pipistrelles was recorded beneath the roof area of the upper canopy/balcony of the two-storey accommodation block known as ‘Tenby’ (Building B27).

A day roost for a single common pipistrelle was recorded on the north-facing elevation of the two-storey accommodation block known as 'Harrow' (Building B24). The roost location was recorded adjacent to a fascia panel.

Commuting/Foraging Bats

Commuting and foraging activity by three species of bat (common pipistrelle, soprano pipistrelle and noctule) was recorded during the surveys. Soprano and common pipistrelle activity was recorded across much of the site, however soprano pipistrelle activity was concentrated in the eastern part of the site and common pipistrelle activity was concentrated in the western part of the site in the vicinity of the car parking areas, pockets of scattered trees and amenity grassland. Noctule activity comprised one or two commuting passes, indicative of bats flying high over the site.

5.4 SITE EVALUATION AND ASSESSMENT OF POTENTIAL IMPACTS

Following the suite of survey work undertaken on site it can be confirmed that three of the surveyed properties contain bat roosts. Two roosts are used by soprano pipistrelles and one property contains a bat roost used by common pipistrelle. Therefore, no unlicensed works can be undertaken which are likely to impact the buildings containing the roosts. A recommendation regarding the licence application to Natural England is made in Chapter 5.

No bats emerged from or re-entered any of the other buildings, and given the generally low levels of activity, it is concluded that there are no bat roosts present in these buildings. Therefore, the proposed works to these buildings are not expected to impact roosting bats, and as such may proceed as scheduled.

Any new lighting, either temporary or permanent, at the site has the potential to impact foraging and commuting bats. Therefore, a recommendation regarding sensitive lighting is made in Chapter 6. An additional recommendation regarding habitat enhancement measures is also provided in Chapter 6.

6. RECOMMENDATIONS

All recommendations provided in this section are based on Middlemarch Environmental Ltd's current understanding of the site proposals, correct at the time the report was compiled. Should the proposals alter, the conclusions and recommendations made in the report should be reviewed to ensure that they remain appropriate.

R1 Building 24, 27 and 36 ('Seaton', 'Tenby' and 'Harrow')

As a bat roost/resting place has been identified in Buildings 24, 27 and 36, no unlicensed work can be undertaken which will contravene the legislation outlined in Appendix 1.

Examples of works which will breach this legislation include:

- Roof modifications/repairs/removal;
- Timber treatment;
- Noise, vibrations and storage of odorous and dangerous chemicals;
- Alterations to bat entrance/exit points;
- Investigations works in the roof as this can cause bats to abort their young/awake from hibernation and can alter the roof temperature/humidity; and,
- Works in the main body of the building.

N.B. This is not an exhaustive list and a bat worker should be consulted to determine if the works are likely to breach any legislation.

Prior to any works being undertaken which are likely to result in a breach of the legislation, a development licence must be obtained from Natural England. The licence application process will include the submission of a method statement detailing the current status of bats on site and how the favourable conservation status of the bat population will be maintained. Prior to a licence being issued, planning permission must be granted and relevant conditions relating to protected species and habitat issues must be discharged.

Dusk emergence and dawn re-entry survey data, in line with Bat Surveys: Good Practice Guidelines published by the Bat Conservation Trust (Collins, 2016), is required to inform the licence application. To ensure that the data submitted is current and appropriate for assessment by Natural England, surveys need to be carried out during the peak bat activity season closest to the start date of the proposed development. The peak bat activity season extends from May to August. An appropriate level of survey work has been undertaken within this study, however should any delays occur in the planning process which results in a delay in the bat licence application beyond March 2021, the bat activity surveys may have to be updated.

R2 Remaining Properties

The remaining properties have been subject to a full suite of activity surveys in line with Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016), and no bat roosts were identified. The survey data obtained for the site is valid for 12 months from the survey date. If development works to the surveyed buildings have not commenced within this timeframe it will be essential to update the survey effort to establish if bats have colonised the buildings in the interim. Updated Preliminary Bat Roost Assessments can be undertaken at any time of year. Updated surveys requiring dusk or dawn assessment will need to adhere to the Bat Surveys for Professional Ecologists: Good Practice Guidelines (Collins, 2016) with the surveys undertaken between April and September inclusive. In the unlikely event that a bat is found during site works all works in that area must immediately cease and a suitably qualified ecologist should be contacted.

R3 Lighting

In accordance with best practice guidance relating to lighting and biodiversity (Miles et al, 2018; Gunnell et al, 2012), any new lighting should be carefully designed to minimise potential disturbance and fragmentation impacts on sensitive receptors, such as bat species. Examples of good practice include:

- Avoiding the installation of new lighting in proximity to key ecological features, such as trees, hedgerows and woodland edges.
- Using modern LED fittings rather than metal halide or sodium fittings, as modern LEDs emit negligible UV radiation.

- The use of directional lighting to reduce light spill, e.g. by installing bespoke fittings or using hoods or shields. For example, downlighting can be used to illuminate features such as footpaths whilst reducing the horizontal and vertical spill of light.
- Where the use of bollard lighting is proposed, columns should be designed to reduce horizontal light spill.
- Implementing controls to ensure lighting is only active when needed, e.g. the use of timers or motion sensors.
- Use of floor surface materials with low reflective quality. This will ensure that bats using the site and surrounding area are not affected by reflected illumination.
- For internal lights, recessed light fittings cause significantly less glare than pendant type fittings. The use of low-glare glass may also be appropriate where internal lighting has the potential to influence sensitive ecological receptors.

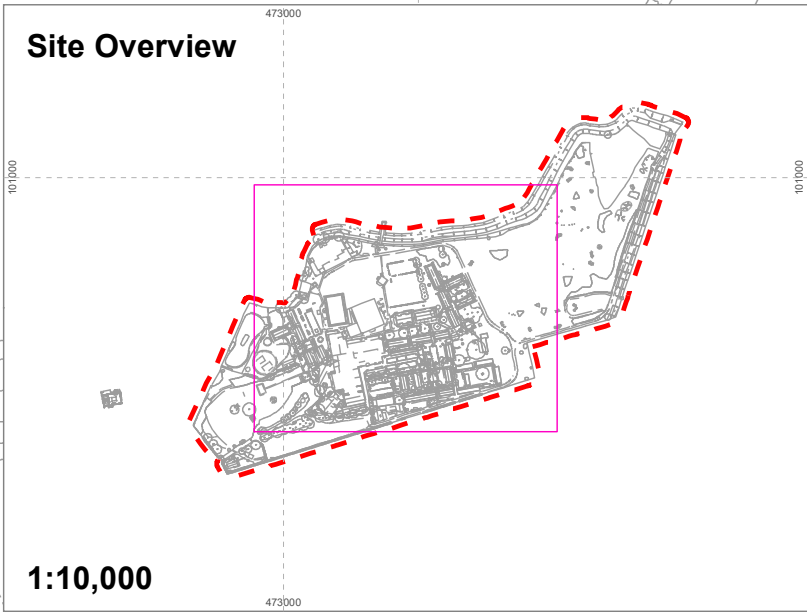
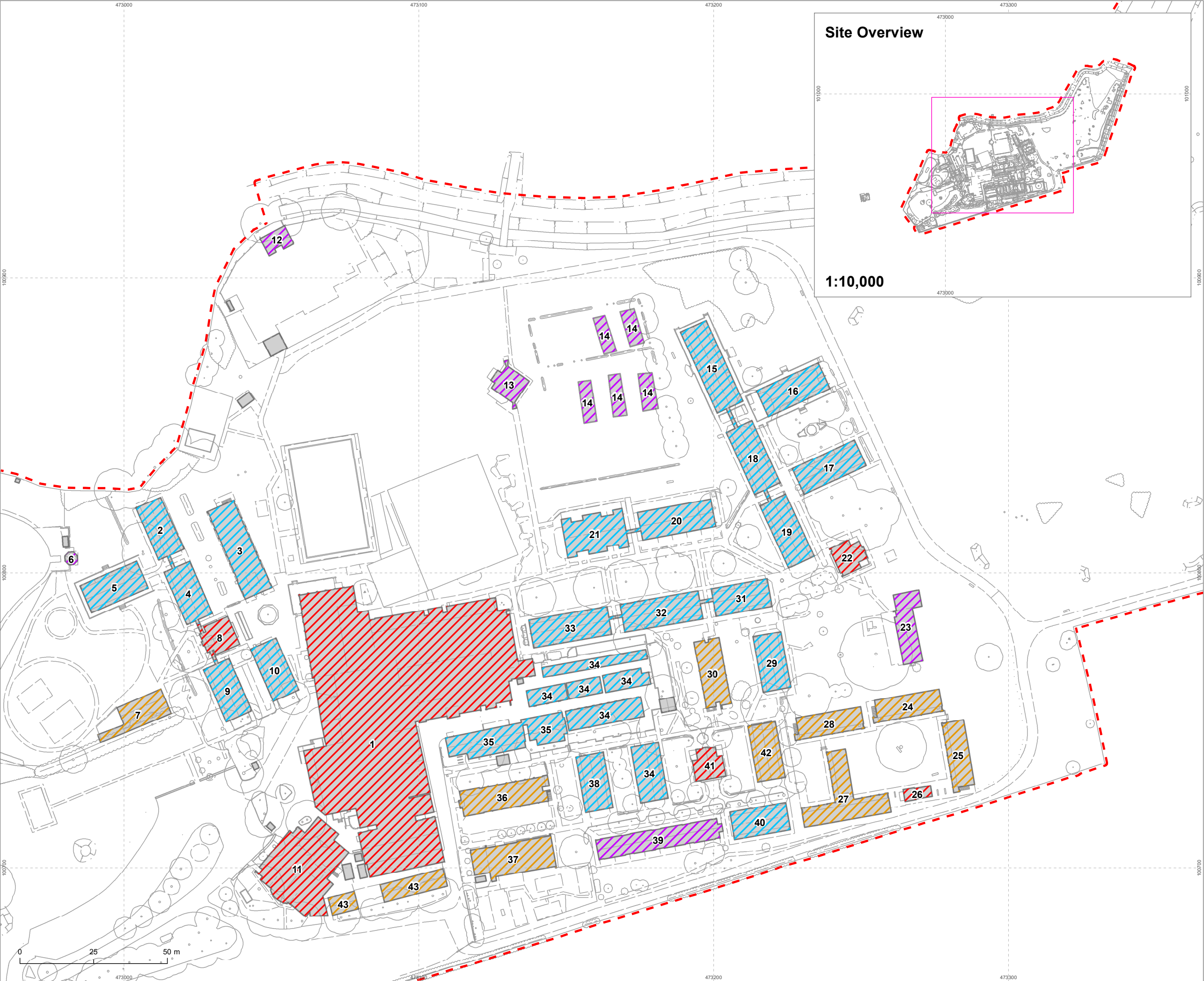
R4 Habitat Enhancement

In line with the National Planning Policy Framework, the development should aim to enhance the site for bats. Bat boxes should be installed to provide roosting habitat for species such as pipistrelle. In general, bats seek warm places and for this reason boxes should be located where they will receive full/partial sun, although installing boxes in a variety of orientations will provide a range of climatic conditions. Position boxes at least 4 m above ground to prevent disturbance from people and/or predators. The planting of species which attract night flying insects is encouraged as this will be of value to foraging bats, for example: evening primrose *Oenothera biennis*, goldenrod *Solidago virgaurea*, honeysuckle *Lonicera periclymenum* and fleabane *Pulicaria dysenterica*.

7. DRAWINGS

Drawing C153320-01 – Building Layout Mill Rythe Holiday Village

Drawing C153320-02 – Summary of Bat Survey Activity and Roost Locations



C153320-01

Legend

Site boundary

Building

High potential to support roosting bats

Moderate potential to support roosting bats

Low potential to support roosting bats

Negligible potential to support roosting bats

Building	Description
1	Reception, cabaret room, arcade, indoor swimming pool, restaurant
2	Deal
3	Dover
4	Bath
5	Weston
6	Boating lake building
7	Maintenance workshop
8	Boiler house
9	Olton
10	Chard
11	The Boathouse
12	Swimming pool building
13	Coffee lounge
14	Deluxe chalets
15	Windsor
16	Oxford
17	Otley
18	Nutley
19	Norfolk
20	Wells
21	York
22	Boiler house
23	The Zones
24	Seaton
25	Solent
26	Boiler house
27	Tenby
28	Ryde
29	Staff accommodation
30	Ganton
31	Ripon
32	Filey
33	Exeter
34	Staff accommodation
35	Kitchen stores and diner
36	Harrow
37	Laundrette
38	Jasmin
39	Pulborough
40	Staff accommodation
41	Boiler house
42	Staff accommodation
43	Stores

Project

Mill Rythe Holiday Village, Hayling Island

Drawing

Preliminary Roost Assessment

Client

Avison Young

Drawing Number

C153320-01

Revision

00

Scale @ A3

1:1200

Date

November 2020

Approved By

TH

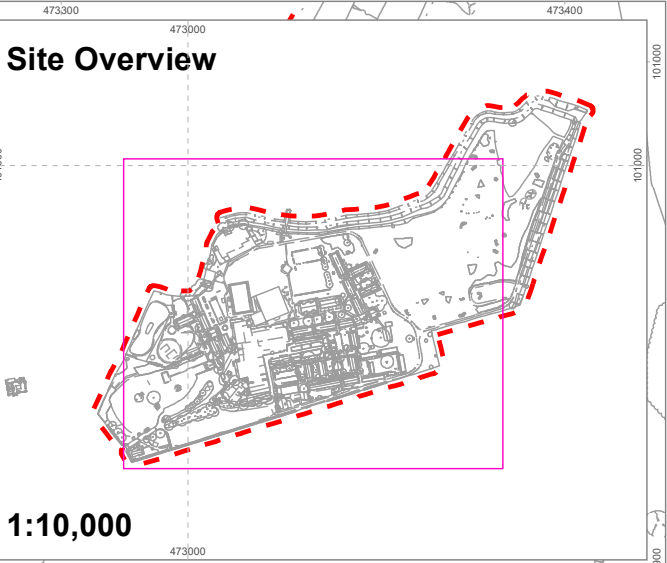
Drawn By

VO

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This drawing is based on site survey "3189-200-201-202-203-204 Site Survey.dwg", supplied by the client.



C153320-02

Legend

- Site boundary
- Building
- Bat activity:**
 - Common pipistrelle day roost
 - Soprano pipistrelle day roost
 - Soprano pipistrelle maternity roost
 - Common pipistrelle commuting
 - Common pipistrelle foraging
 - Noctule commuting
 - Soprano pipistrelle commuting
 - Soprano pipistrelle foraging

Project
Mill Rythe Holiday Village, Hayling Island

Drawing
Summary of Bat Activity
August/September 2020

Client
Avison Young

Drawing Number C153320-02	Revision 00
Scale @ A3 1:1500	Date November 2020
Approved By TH	Drawn By VO

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The Conservation of Habitats and Species Regulations 2017.

APPENDIX 1

LEGISLATION

Bats and the places they use for shelter or protection (i.e. roosts) receive European protection under The Conservation of Habitats and Species Regulations 2017 (Habitats Regulations 2017). They receive further legal protection under the Wildlife and Countryside Act (WCA) 1981, as amended. This protection means that bats, and the places they use for shelter or protection, are capable of being a material consideration in the planning process.

Regulation 41 of the Habitats Regulations 2017, states that a person commits an offence if they:

- deliberately capture, injure or kill a bat;
- deliberately disturb bats; or
- damage or destroy a bat roost (breeding site or resting place).

Disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or in the case of animals of a hibernating or migratory species, to hibernate or migrate; or to affect significantly the local distribution or abundance of the species to which they belong.

It is an offence under the Habitats Regulations 2017 for any person to have in his possession or control, to transport, to sell or exchange or to offer for sale, any live or dead bats, part of a bat or anything derived from bats, which has been unlawfully taken from the wild.

Whilst broadly similar to the above legislation, the WCA 1981 (as amended) differs in the following ways:

- Section 9(1) of the WCA makes it an offence to *intentionally* kill, injure or take any protected species.
- Section 9(4)(a) of the WCA makes it an offence to *intentionally or recklessly** damage or destroy, or *obstruct access to*, any structure or place which a protected species uses for shelter or protection.
- Section 9(4)(b) of the WCA makes it an offence to *intentionally or recklessly** disturb any protected species *while it is occupying a structure or place which it uses for shelter or protection*.

*Reckless offences were added by the Countryside and Rights of Way (CROW) Act 2000.

As bats re-use the same roosts (breeding site or resting place) after periods of vacancy, legal opinion is that roosts are protected whether or not bats are present.

The following bat species are Species of Principal Importance for Nature Conservation in England: barbastelle bat *Barbastella barbastellus*, Bechstein's bat *Myotis bechsteinii*, noctule *Nyctalus noctula*, soprano pipistrelle *Pipistrellus pygmaeus*, brown long-eared bat *Plecotus auritus*, greater horseshoe bat *Rhinolophus ferrumequinum* and lesser horseshoe bat *Rhinolophus hipposideros*.

The reader should refer to the original legislation for the definitive interpretation.

ECOLOGY

At present, 18 species of bats are known to live within the United Kingdom, of which 17 species are confirmed as breeding. All UK bat species are classed as insectivorous, feeding on a variety of invertebrates including midges, mosquitoes, lacewings, moths, beetles and small spiders.

Bats will roost within a variety of different roosting locations, included houses, farm buildings, churches, bridges, walls, trees, culverts, caves and tunnels. At different times of the year the bats roosting requirements alter and they can have different roosting locations for maternity roosts, mating roosts and hibernation roosts. Certain bat species will also change roosts throughout the bat activity season with the bat colony using the site to roost for a few days, abandoning the roost and then returning a few days or weeks later. This change can be for a variety of reasons including climatic conditions and prey availability. Bats are known live for several years and if the climatic conditions are unfavourable at a particular roost, they may abandon it for a number of years, before returning when conditions change. Due to the matriarchal nature of bat colonies, the locations of these roosts can be passed down through the generations.

Bats usually start to come out of hibernation in March and early April (weather dependent), when they start to forage and replenish the body weight lost during the hibernation period. The female bats then start to congregate together in maternity roosts prior to giving birth and a single baby is born in June or July. The female then works hard to feed her young so that they can become independent and of a sufficient weight to survive the winter before the weather gets too cold and invertebrate activity reduces. Males generally live solitary lives, or in small groups with other males, although in some species the males can be found living with the females all year. The mating season begins in the autumn. During the winter bats hibernate in safe locations which provide relatively constant conditions, although they may venture outside to forage on warmer winter nights.