PHASE 1 / PRELIMINARY ECOLOGICAL APPRAISAL SURVEY INTERIM REPORT

Site name: Moor Tower, Hay On Wye, Herefordshire HR3 5EZ

Commissioned by: Mr Ben Morgan

Date: Ver. 3.0 13-2-20

europaeus land management services (ecology)

Director: Stephen P.B. West MSc MCIEEM MACMA
Herefordshire
WR13 6HA
01684 540145
Sub offices: Dudley, West Midlands; Norley, Cheshire; Oxford

Office email: *ecology.susan@hotmail.co.uk*

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Author: S.P.B.W. Date: Ver. 3.0, 13-2-20 Checked: S.D.

Report Author & Personnel

The survey was carried out by Stephen West MSc MCIEEM MACMA, who is is an ecologist with more than twenty years experience of environmental consultancy, and thirty years of project management work and habitat management experience. He studied ecology at bachelors level at U.E.A. and possesses a Master of Sciences degree (with distinction) in Habitat Creation and Management and another similar relevant qualification from Oxford University. Stephen is a highly experienced ecological surveyor and consultant and represented Southern England on the National Council of the Bat Conservation Trust in the 1990's. He has worked with all types of wildlife, and with bats since the 1970's in the UK and abroad, and held an English Nature / Natural England licence to disturb bats for the purposes of science and education or conservation since 1991 (Survey licence no's **CLS001710 – Bat survey level 4, & CL20 Level 4 2015-15782-CLS-CLS** to survey bats of all species for scientific (including research) and/or educational purposes). He is a Registered Consultant under the Low Impact approach of the **Bat Mitigation Class Licence, Annexes B & D** with Natural England enabling us to provide speedier and less bureaucratic licensing for work on sites of low impact on the commoner bat species. Stephen is the founding chairman of the current Worcestershire Bat Group, and a foundation and currently serving committee member of the West Midlands branch of the **Chartered Institute of Ecology and Environmental Management**. He holds a number of Natural England and Countryside Council for Wales protected species conservation licences including badger, great crested newt, barn owl and hazel dormouse.

Our work has involved extensive development of mitigation plans and DEFRA / Natural England and W.A.G. / Natural Resources Wales licence applications, ecological impact assessments, ecological management plans and appearing as expert witness at public inquiry. Europaeus Land Management Services was established in 1993 and has held management and consultancy contracts with a great many organisations and private individuals.

Assistants: Julian Grant BSc (Hons) and Susan Davies BA (Hons), both highly experienced bat surveyors.

Information on legally protected, rare or vulnerable species may appear in this report. It is recommended that appropriate caution be used when circulating copies. Whilst all due diligence and reasonable care is taken in the preparation of reports, Europaeus Land Management Services accept no responsibility whatsoever for any consequences of the release of this report to third parties. It should be noted that we are an ecological practice and matters concerning the interpretation of legal matters should be considered appropriately and further advice sought if necessary. It should also 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.

Executive Summary

1. A Phase One / Preliminary Ecological Appraisal survey for protected species and habitats issues was undertaken at the survey site (identified building and site of Moor Tower, Hay On Wye, Herefordshire HR3 5EZ), consisting of a stone tower structure, the boundaries of such and the habitats bordering, during the late winter of 2019. A full ecological scoping preliminary survey for protected species and habitats issues in this area, and an ecological appraisal were carried out to best practice guidelines drawing evidence from aerial photographs, desk-based tools and typical associations from the habitats present on the site and surrounding land.

2. During the site survey, evidence for the presence of protected species was sought searching for signs of bats, and in passing, for any association with habitats for badgers, amphibians and reptiles, water voles, nesting birds etc.

3. Some identifiable signs of a bat roosting or use presence were observed within the building surveyed and there are manifest apparent opportunities for bat access to the structure, particularly the exterior. Further surveys for bats were therefore recommended which work has now been completed.

4. Some recent or historic signs were identified of bird nesting.

5. No signs of other protected species groups were directly identified, [redacted] no further dedicated surveys for other protected species were undertaken or are deemed necessary.

6. It was our preliminary conclusion that there was a moderate to high possibility of encountering bats on site, although other mobile species could also utilise parts of the site at certain times, such as hedgehogs, badgers etc. A precautionary approach to any work was therefore recommended.

7. Three optimal season bat activity surveys have now identified the tower as the day-roosting location of two bats of the (brown) long-eared and soprano pipistrelle species. This report details the survey findings and presents the recommended mitigation and biodiversity enhancement strategy for the site.

8. Based on the nature of the site, its location and the observable evidence, the conclusion made, within the extent of knowledge of the planned work (structural disturbance/repairs/conversion and modification), is that the work presents a potential for disturbance to use by roosting bats and to bird breeding, and that registration of the site works within the Bat Class Mitigation (Low Impact) Licence will be required, following planning consent, to enable the works to proceed while retaining the functionality of the location for bats.

9. Indeed, with the sympathetic design and ecological input into site planning, we recognise the potential for the proposal to enhance the ecological and wildlife capital of this site.

10. Specific recommendations are made in Appendix 3 and **we recommend these be conditioned within planning consent.**

11. No signs of other protected species groups were identified in or on the building (although no dedicated surveys for other protected species were specifically undertaken).

12. (For ease of understanding, English vernacular names of common species are used throughout this report. A full scientific species list can be made available if requested.)

1. Introduction

1.1 ***Background:*** Europaeus Land Management Services was commissioned by Mr Ben Morgan, to carry out a Provisional (Bat) Roost Assessment Survey and, in passing, a Phase One and protected species and habitats / Preliminary Ecological Appraisal assessment survey of the identified site at Moor Tower (which forms the "survey site"). Issues pertaining to protected species and habitats were addressed. This report has been commissioned and prepared in proportionate accordance with best practice guidelines for ecological appraisal and impact assessment set out by the Chartered Institute of Ecology and Environmental Management (2012, 2006) and relevant survey handbooks. It is also intended to align with the British Standard for Biodiversity BS 42020 (BSI 2013) and the National Planning Policy Framework. This report sets out the findings of the survey and provides recommendations in the light of those findings. Any proposal to disturb or carry out development to parts of the site could potentially involve disturbance to any species and natural or semi-natural habitats. As a consequence there is the possibility of direct or indirect disturbance to some parts of the site which may have potential for use by protected species. The PEA and habitat assessment were undertaken in the late winter of 2019 (1-3-19) with dedicated search made by exploring the whole identified structure and immediately surrounding land.

1.2 ***Ecological context****:* The site is a single structure in a prominent position set amidst agricultural land. It is in the rural area of western Herefordshire in the Welsh Borders region of England. The site is within a quiet rural and agricultural location. The area is generally undulating, and has intermediate depth, neutral clayey loam to silty loamy soils, with low organic matter derived from a claystone / mudstone parent material. The connectivity of natural or semi-natural habitat for wildlife is apparently reasonably good within the context of the location being to the east of the river riparian corridor.

1.3 ***Precautions & Proviso*:** It could not be entirely ruled out that protected species are not using other parts of the site at this location, or that they would not be present should work take place. It has not been possible on this scoping assessment to determine the level of use of the location by breeding birds. Also many species are cryptic or mobile and might take up residence or commence behaviour associated with any site at any time. A detailed check immediately prior to the commencement of any works, including general maintenance, should therefore be considered and particularly if development is to proceed, to update and confirm this initial appraisal approach. It must be noted that work schedules may well be affected should any protected species be discovered. Importanatly, the signs of a bat and bird use of the building has left open a need to determine the nature and level of that use and whether it is contemporaneous. This has now been fully addressed.

2. Survey methodology

2.1 ***Preliminary Ecological Appraisal, Habitats and Species:*** The detailed methodologies for the survey followed a considered and proportionate approach to best practice recommendations in Guidelines for Preliminary Ecological Appraisal (IEEM, 2012), with regard to Guidelines for Baseline Ecological Assessment (Institute of Environmental Assessment 1995), Institute of Ecology and Environmental Management Professional Issue Series (IEEM 2006), and to relevant survey handbooks. It is also intended to align with the British Standard for Biodiversity BS 42020 (BSI 2013) and the National Planning Policy Framework. The phase 1 habitat survey was in proportionate accordance with the guidelines set out in the Handbook for Phase 1 Habitat Survey (JNCC 2010) though a Phase One map is not deemed necessary or useful for these circumstances.

2.2 ***Survey objectives:*** The first objective of the survey was to categorise the survey site as identified and highlight any potential issues pertaining to protected species and habitats. The objectives of the survey methodology were to identify protected or locally valued species at the survey site, and assess their uses of the location with a view to potential impacts of proposed works to the identified site and vicinity; similarly to make an assessment of the presence or possibility of any protected species, to assess the possibility of the site being occupied by protected species. A full walkover "scoping" preliminary assessment of the site and habitat components was undertaken examining features for the presence of protected species and assessing the likelihood of their occupation or use. The suitability of habitats for any protected animal species, and particularly bats, was assessed at the same time as the Phase 1 Habitat Survey and any incidental evidence of such species was recorded if encountered. Species that might be expected to be present in the geographic location include bats, badger *Meles meles*, water vole *Arvicola amphibious,* nesting birds, great crested newt *Triturus cristatus,* and other small mammal and reptile species.

2.3 ***Bats:*** This full survey, including, where required and present, a thorough and systematic visual examination of the identified building present and any trees, (one nearby potentially affected), for signs or presence of bats was undertaken, concentrating on any voids, structural cracks etc, by a highly experienced ecologist. High powered and small beam torches were utilised with the structure and tree viewed in detail from all aspects including some high level access if required. Binoculars and a flexible video endoscope were available to be employed.

Comprehensive and systematic search was made in detail to crevices etc for bats, their droppings, food remains or characteristic grease marks at potential exit and entrance points. A considered and proportionate approach to survey protocols as described in *Bat Surveys: Good Practice Guidelines* (BCT 2007, revised 2016), the *Bat Mitigation Guidelines* (English Nature 2004), and the Bat Workers' Manual (JNCC 2004) was adopted.

Limitations: The optimal survey period for the characterisation, mapping and assessment of the presence and nature of protected species (bats) present on a site in this geographical region, to the level required for a comprehensive ecological assessment, is May - August inclusive which period is the optimal survey period for bats on a site in this geographical region, to the level required for a comprehensive assessment. Bats are active at this season and their droppings and other field signs, whilst typically cryptic and requiring detailed search, will nonetheless be apparent to the experienced surveyor. However, with recent changeable weather trends, bats are known to have, in some circumstances, altered their movement and occupation patterns. This full scoping survey, including the building and adjacent trees, was deemed to have taken place adequately for a scoping assessment with the aid of a flexible endoscope, binoculars and ultraviolet light transmission equipment. The site and the immediate surroundings had no significant other inspection limitations. Other nearby surrounding trees had voids or other high level components suitable for the use of roosting bats though none are affected by the proposals. However signs within the building of some use by bats, and a high potential for access to the stonework of the tower will necessitate a full bat activity survey assessment during the due season. It should be noted that investigation of the site represented a protected species appraisal and, due to the various access and seasonal limitations identified, we felt it was conceivable that relevant matters associated with bats may have been overlooked as visits may miss species not apparent at the times of survey by reason of surveyor access, seasonality, mobility, habits or chance. Particular seasonal limitations are indicated in the text. Weather conditions were acceptable at the time of the survey for this type of scoping approach. Tha majority of these limitations have been addressed via our summer survey suite of activity assessments.

Signs of bat activity searched for included:

- Droppings - these can contain fragments of insect exoskeleton and will crumble to dust (unlike those of small rodents, which typically become hard). Bat droppings will stick to surfaces including walls, windows and window ledges and may also become caught in spider webs near a roost site or feeding perch.
- Feeding remains - these include the discarded wings of flying invertebrates, which may accumulate under a well-used feeding perch. Some species, such as the brown long-eared bat, have seasonal preference for moths of the *noctuid* family the accumulated wings of which identify this bat as being present.
- Oil staining - the fur of bats may leave an oily residue on surfaces close to occupied roost sites and access/egress points.
- Smell – most bat species have an identifiable aroma while certain species, such as the noctule (*Nyctalus noctula*), are noted for their "smelly roosts" due to urine scent marking activity.
- Daytime vocalisations - these are most pronounced at larger roost sites during periods of hot weather.
- Absence of cobwebs - a well used bat roost and its access points are typically clear of cobwebs.
- Scratching - scratch marks produced by the claws of many bats may be apparent close to the access point for a well-used roost.
- Dead bats, either older or especially babies within maternity roosts.
- Pupae of the bat fly.
- Tracks in dust.

2.4 A follow-on bat activity survey series was first commenced for a period over and prior to dusk on the night of 16-5-19 by a highly experienced ecological team, employing handheld and static time expansion, heterodyne and frequency division bat detectors. The "emergence survey" was undertaken for more than the minimum reommended period. Binoculars and night vision equipment were employed to visually monitor possible access points to the structure under survey. Observation of emergence or entrance, or returns to roosting locations was sought including an assessment of the area immediately associated with the survey structure. Five recording units were set to record all bat activity for the duration of the survey including within all structures at the location as well as passing or nearby bats. Particular attention was paid to the survey building's structural components and roof where disturbance is possible to identify any emergence or returns of bats. A further activity survey was carried out on the pre-dawn and dawn of the 18-6-19, and again pre-dawn/dawn of 13-8-19.

2.5 ***Equipment and technology*** employed included two Pettersson D240x® time expansion ultrasonic detectors, an Anabat SD1®, Anabat Walkabout®, Anabat Scout® and Anabat Express®, a Bat Box Duet® frequency division and heterodyne ultrasonic detector all with MP3 recording devices, and EM3® and SM2® time expansion, frequency division, and heterodyne combined recording detector technology. In addition two Echometer Touch® devices recorded via an iPad 4® and an android device, all calls for live and subsequent analysis. A night vision scope, headtorches, red-filter torches and high powered torches were all employed. The data acquired from all of the units was further analysed later on a mainframe computer running analysis software to confirm and extrapolate "in the field" identification.

2.6 For ***breeding birds*** an assessment of nesting sites was taken during the survey visit and the site searched paying particular attention to the possible presence of all nesting and dependant species.

Limitations: The May – June period is the optimal season for the identification of breeding bird assemblages where song birds identify and defend nesting territories and sites, where vegetation is less dense than later and first broods might be expected to be observable.

2.7 For ***crested newts,*** a detailed search was made of the survey site for signs or presence. A search was conducted for adults of the species under stones, timber etc.

Limitations: There were no significant limitations to the survey effort dedicated to the wider site apart from access considerations as elsewhere described. There appeared to be no standing waterbodies within the vicinity of the survey site.

2.8 For ***badgers*** the following signs were sought:-

- Setts and entrances
- Spent bedding material
- Footprints
- Runs
- Feeding signs
- Faeces including latrine sites
- Hair (pellage)

Limitations: A search for signs of badger activity can be undertaken at any season though early spring, when activity can be high following the winter and when undergrowth is less dense, is generally regarded as the optimum period. There were no limitations. Other than a search for general signs over the period of the four survey visits within the vicinity of the building as listed no further survey effort was undertaken.

2.9 For ***reptiles and amphibians*** signs were sought of adults, juveniles, eggs, refugia and possible feeding, foraging and breeding habitat.

Limitations: The habitat was assessed for the possible suitability for these species, with a judgement made on whether sufficient habitat area and quality was available and whether suitable habitat within normal travelling distance was available nearby and that accessibility would be possible. There were no significant limitations to the survey effort dedicated to the site.

2.10 For ***water voles*** signs were sought for any suitable water bodies or water courses.

Limitations: The site was examined with no apparent waterbodies present.

2.11 ***Hedgehog, harvest mouse, brown hare*** and ***polecat.*** These species are listed as priority species in the UK Biodiversity Action Plan (and as species of principal importance for the conservation of biological diversity in England under Section 74 of the Countryside and Rights of Way (CRoW) Act 2000).

Limitations: There were no limitations within the scope of this. The season was acceptable to identify last year's and current harvest mouse nests in grass and tall herb stands.

3. Survey results

3.1 ***Location & description:*** The centre of the survey location is at national grid reference SO 24232 43505, near Hardwicke, Hay-On-Wye, Herefordshire. It is a site of a stone tower on a prominent hillock, resembling a church tower, though not directly or obviously associated with any other extant structures or possessing much purpose in an actively farmed landscape, on the edge of the Summerhill Golf Club site, in a very rural part of the district. The site is somewhat isolated from other structures, residential or otherwise. It is to the east of the river and north-east of Hay-On-Wye on the English side of the border.

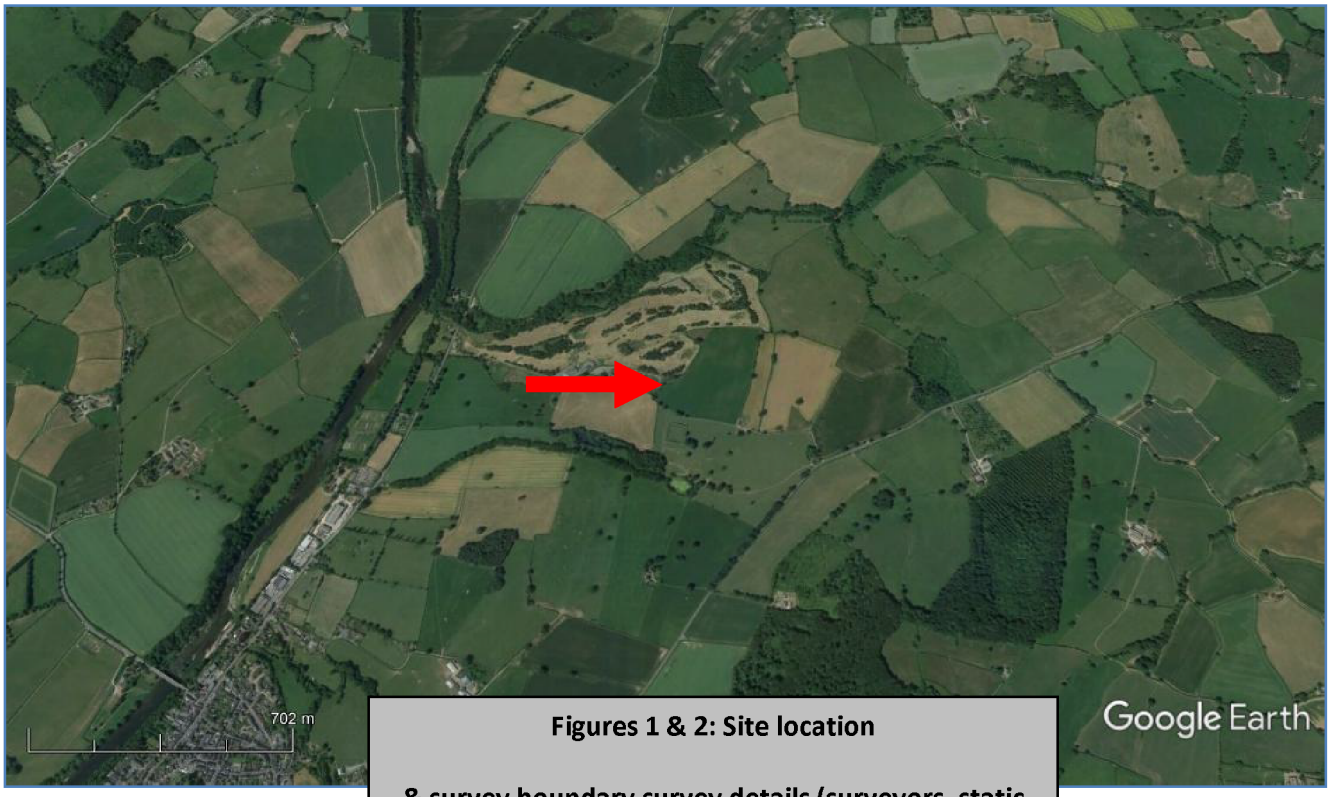
3.2 ***Habitats & features:*** The main component of the surveyed site is as a stone tower with crenellated and flat roof, internally divided on to a ground floor and three further floor levels, connected by staircases and ladder steps, and having both glazed and "arrow slit" openings. The building appears not to be heated nor does it have any form of enclosed void apart from the interior as a whole. Adjacent to the tower is a mature oak tree forming part of a line of similarly mature trees of a field boundary. Immediately surrounding the tower is a patch of rank, improved grassland sward while the field it borders is in active arable cultivation. Some components of the building offer an obvious potential access for bat species, especially to the exterior structure. The mature oak tree near the buildings has a stature and features potentially attractive to the roosting behaviour of bats.

3.3 ***Protected species.*** No signs of badger use were evident around the immediate vicinity of the building [redacted] There were no apparent signs of other protected species use or occupation of the site, although there appears to be scope for a range of small and medium sized mammals, reptiles, breeding birds and invertebrates but only (with the exception of the use by breeding birds), entirely distant from the building itself. Dead birds were observed within the tower and scattered and somewhat degraded bat droppings from several of the internal levels. A large nest was observed in one of the arrow slit glazed embayments indicating a possible kestrel nest location (though not apparently active during this year).

3.4 ***Species evidence*: *Bats***. All relevant and accessible areas of the site including the building and nearby tree were viewed in detail on the survey. All surfaces were scrutinised for evidence of bats. Any accessible cracks in structure were examined in detail including endoscopic analysis where applicable. By these means some evidence of bat usage was located on two of the internal floors indicating either a use or at least past internal investigation by bats. The form of the building as a whole and the stone components of the tower etc, have evidently potential suitable features for bat access or roosting with variable gaps and cracks etc.

3.5 The activity (visual and detector) surveys covered periods of good weather to identify bat use of a site in the geographical location. The survey work did identify the site as the roosting location (through day-roosting) by two apparently solitary bats of two species namely a (brown) long-eared bat and a soprano pipistrelle bat, and with foraging around the site in general by the same species along with common pipistrelles, and Noctule bats. Roosting use by likely non-maternity and non-colonial bats of the two species described was identified associated with the top third of the tower / parapet area at two locations. As described, other species of bat were identified on the activity surveys but no behaviour was observed directly associated with the structure itself although a pipistrelle colonial roosting use nearby was assumed given the emergent and roost return flight patterns observed (along the adjacent farm access track).

3.6 Current bat roosting activity has therefore been identified by this survey at the target building identified for works, Moor Tower. At the current time (August 2019), we conclude that the building is used during the day by small numbers (no more than one each at any one time noted) of (brown) long–eared and soprano pipistrelle bats. It would appear at least possible to provide a potential winter occupation (torpor or hibernation occupation), but that use is extremely difficult to identify and possibly of a lower order of likelihood given the extremely environmentally variable nature of the structure. A varying level of use by the two mentioned species is also quite plausible.



Figures 1 & 2: Site location & survey boundary survey details (surveyors, static detectors and transects (blue), and roost-associated findings (yellow))

4. Ecological evaluation, appraisal and recommendations

4.1 These recommendations are made in order to facilitate proposed works at the site location, and to ensure compliance with local and national statutory planning policies, species protection and best practice. Planning authorities should aim to conserve and enhance biodiversity (NPPF para. 118). Additionally, where the loss of trees is unavoidable they should be replaced by appropriate native species.

4.2 ***Habitats & Features:*** The survey site contains no apparently protected habitats nor does it border or appear to influence any, other than the possible use as some form of bat roost and bird nesting location. The tower and adjacent mature oak tree are the primary habitats to note. The wider site appears to have the potential for medium and smaller mammal species, for breeding birds, for bats' foraging, for butterflies and other invertebrate species, and, potentially, for reptiles. It is our conclusion that it is possible that certain mobile species could utilise parts of the site at certain times and consideration will need to be given to any impacts of any structural disturbance, tree or shrub removal if that is deemed necessary (though the proposed works, as we understand them, only influence the tower itself).

4.3 We consider that a well-configured development proposal, taking consideration for maintenance and enhancement, could allow for site improvements to support locally valued species and habitats and our advice would always be to incorporate ecological input when drawing up such schemes. Such measures as the retention or replacement of bat access or roosting features to keep connectivity of the site with nearby habitats for bats would all serve to perpetuate and enhance the existing site wildlife value. Generally the avoidance of any tree felling ought to be a prerequisite of planning consent. However, tree planting could be considered as a quickly functioning habitat enhancement and tree cover at the location augmented within a new development.

4.4 Current planning policy requires that development projects minimise ecological damage and should contain elements of ecological enhancement. A variety of habitat creation options could be implemented at the site. These are not statutory requirements but would be considered appropriate options for the site should a developer wish to offset any negative impacts of any site development. The general approach, therefore, should be for the

mitigation and compensation approach to any site development to retain or replace the habitats as described.

4.5 ***Need for European Protected Species disturbance licence / further work required:*** In our considered opinion it is somewhat likely that protected species could be present or users of the site during the proposed conversion works ([redacted] bats and birds within or upon the tower itself and adjacent oak tree). Our appropriate summer night activity survey works have led to a determination of the nature of the use of the structure by two species of bats.

4.6 The identified parts of the property at the location targeted for possible disturbance by the proposed building works have a proven potential for bats to currently utilise. There is some though limited potential for missed evidence of variable use following our survey. With roosting features retained or recreated suitable for the species in question, and a site registration within the **Bat Mitigation Class (Low Impact) Licence**, plus adherence to our precautionary method statement herewith presented, and providing no significant time elapses between the date of the survey and work commencement (in excess of six months), we believe that we can foresee no net loss of suitable bat habitat at the location.

Summary

4.7 A recent and current bat use or occupation has been identified at parts of the target building identified for works (the Moor Tower, near Hay-On-Wye, Herefordshire). However, other transient presence or a variable further bat occupation or use cannot be entirely ruled out at this time or into the future (and nor can this generally ever be entirely ruled out and would appear to be somewhat likely at this site). With the generally "bat-porous" nature of parts of this building (mainly around the parapet and upper levels of stonework), there is a potential for bats to explore and start using other parts of the structure at any time. Further survey effort would probably locate some evidence of bat species' use in terms of foraging and commuting zones, seasonal variation in activity and species assemblage in the area but the main conclusion of this survey is that the identified property currently presents a relatively high risk of being found to be functioning as an active bat roost during proposed site works, with bat occupations likely to be primarily through the warmer spring-autumn months. However it is

deemed entirely possible that this building with its bat roosts can be retained in a form that continues to present a range of roosting opportunities for the species identified and thus the retention of ecological functionality in respect of the building and location, and identified bat roosts is deemed easily achieved.

4.8 ***Recommendations in general***. In line with recognised good practice and government policy on biodiversity and sustainability, all practical opportunities should be taken to harmonise the built environment with the needs of wildlife. As much connectivity and habitat diversity should be retained within development schemes as is reasonably practicable. It is, therefore, good practice to attempt to maintain the biodiversity potential at such sites and with specific regard to protected species groups. However we consider that a well-configured development proposal, taking consideration for maintenance and enhancement and especially the maintenance or establishment of semi-natural vegetation, will allow for the site to support locally valued species and habitats and our advice would always be to incorporate ecological input when drawing up such schemes. We therefore recommend a range of measures such as the provision of continuing access for bats particularly to the roof, parapet and upper stonework levels, and the creation of further roosts on each elevation or on the adjacent mature tree by the installation of "bat boxes", such as those from Schwegler or Habibat, which will all serve to perpetuate and enhance the wildlife value of the location. Importantly, bitumenised (1F) felt should be used throughout any new roof component features if any underlining is contemplated, to prevent the potential for bats to become trapped and harmed if there is any possibility that they could come into contact with such roof underlining roof membranes. These are our primary recommendations.

Precautions

4.9 It could not be entirely ruled out that protected bat species are not using any other parts of the site at this location, or that they would not be present should work take place, therefore a precautionary approach should generally be followed to any and all building disturbance which should be by careful means. It is important to note that any work, maintenance or remodelling of any of the structures present at the location could well require an additional qualified survey approach and potentially including a "bat mitigation or disturbance licence" or site registration under the B.M.C.L. system prior to legal permission to proceed should bats be found to be present. We recommend that any works at the site location proceed within an informed precautionary approach prior to any work commencement.

4.10 (Most) birds are protected during the breeding season (which nest dependency can be year-round for wrens for instance). They are fully and legally protected when nesting and their nests may not be disturbed or their access to them impeded (unless under special permission or of the very few derogated species). If nests are found to be present at the time of works commencement of those works should be delayed and further advice sought from the ecologist. At the time of compiling this report there were recently active nest sites near or on the structure and site vegetation.

Further work recommended

4.11 For the proposed remodelling and conversion / modification work to proceed, (once any outstanding agreements or consents have been confirmed), a licence of derogation from the protected species legislation will need to be present. **We recommend a site registration within the Bat Mitigation Class (Low Impact) Licence system.**

5. Legislation

5.1 ***Background:*** This section briefly describes legal protection applying to species mentioned in this report. It does not comprehensively reflect the text of the legislation and it should not be relied upon in place of it.

5.2 ***The need for a bat survey:*** Some bat species in Britain are reported to be declining in numbers and distribution. There are 17 resident species in the country constituting over a third of all mammal species present. With habitat loss, fragmentation and degradation, building conversion, misuse of timber-treatment chemicals, increase in predators and direct persecution, the situation in some areas is serious. Several of the commoner bat species are reported to have declined in numbers by approximately half in recent years. Bats are therefore protected under national and international wildlife law, and owners, developers and planners have to take due notice of their protection within activities. There is no defence under law for a plea of ignorance even when carrying out otherwise lawful activities.

Legislation: All species of bat and their breeding sites or resting places (roosts) are protected under Regulation 39 of the Conservation (Natural Habitats) Regulations 1994 and Section 9 of the Wildlife and Countryside Act 1981. Further enforcement has been provided by The Countryside and Rights of Way Act 2000. The Conservation of Habitats and Species Regulations 2010 updated the legislation. In exercising their decisions within the planning framework, local authorities are duty bound to take full account of the impact on biodiversity, including the wider biodiversity network and 'notable' species listed within Red Data Books, taxa-specific conservation lists and Schedule 41 of the Natural Environment and Rural Communities Act 2006.

It is illegal to:

- deliberately disturb bats (whether in a roost or not) in a way as to be likely to significantly affect the ability of any significant groups of animals of that species to survive, breed, or rear or nurture their young, or the local distribution of abundance of that species

- damage, destroy or obstruct access to bat roosts
- possess or transport a bat or any part of a bat, unless acquired legally and in possession of a licence to sell, barter or exchange bats, or parts of bats unless in possession of a licence to do so.

Within the Conservation of Habitats and Species Regulations the law has been made quite clear. Many formerly used defences can now no longer be used in disturbance situations. These include the commonly relied upon 'incidental result defence', which previously covered acts that were the incidental result of an otherwise lawful activity and which could not reasonably have been avoided.

There is, therefore, an obligation on those who seek to effect changes to buildings, structures, caves or trees, or carry out activities which might constitute a disturbance, where bats are present, thought to be present, or have the reasoned possibility of presence to seek specialist advice, and to ensure that appropriate systems are in place to avoid damage to bat roosts or their habitat.

As bats are protected by both national and European legislation, works under a planning permission that will cause disturbance to a bat or bat roost shall require a specific licence from Natural Resoucres Wales (NRW), (or the Wildlife Licensing Unit (W.L.U.) of Natural England (DEFRA)), and only after planning permission has been granted where this is required.

Conditions may be added to a licence or the granting of a licence may be refused. Under the Conservation of Habitats and Species Regulations NRW or the W.L.U. can issue licences for:

- preserving public health and safety or other imperative reasons of over-riding public interest including those of a social and economic nature and beneficial consequences of primary importance for the environment;

- preventing the spread of disease; preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries

NRW or the W.L.U. can only issue a licence if it is satisfied that the activity meets one of the above purposes and is also satisfied that there is no satisfactory alternative, and that the action authorised will not be detrimental to the maintenance of the population of the species concerned at a **favourable conservation status** in their natural range.

Applications to apply for European Protected Species licence for bats consist of the following:-

- Application form – this provides detail on the applicant, project, the purpose of the work and consideration of alternatives.
- Method Statement – this provides detail on the methods to be used to carry out the work with regard to bats and will include a survey undertaken to determine the number of bats present.
- Detailed timetable of works, mitigation measures and all monitoring and possible modification works.
- Reasoned Statement of Application (for large scale projects) – this provides the reasons for the disturbance and gives evidence of the justification.

(Within England, and for projects involving small numbers of the most commonly encountered bat species in licence situations and in roosting behaviour other than important maternity, mating or hibernation sites (amongst others), an approach of a Registered Consultant being employed to instruct works under the Bat Low Impact Class / Bat Class Mitigation Licence (BLICL/BCML) system may be appropriate with a lower burden of paperwork, compensation and monitoring.)

5.3 ***The need for a breeding bird survey:*** The Wildlife and Countryside Act 1981 (WCA 1981) provides that all wild birds are protected and cannot be killed or taken except under licence. The Act also prohibits or controls certain methods of killing or taking except under licence. Certain exceptions to this general rule apply. However, with the exception of a certain few derogated pest or very common species, the legislation gives protection to all wild birds in Britain.

5.4 ***Other species groups. The need for a badger survey. Legislation:*** Badgers (*Meles meles*), and their setts are protected under the Protection of Badgers Act 1992, which makes it illegal to kill, injure or take badgers or to interfere with a badger sett. Interference with a sett includes blocking tunnels or damaging setts in any way. This legislation has been amended as a result of the Hunting Act 2004.

5.5 ***The need for a great crested newt survey:*** Similarly protective legislation to that applying to all bat species pertains to other species such as great crested newts (*Triturus cristatus*). Great crested newts can exist across large tracts of land within metapopulations. The majority of newts will however be found within 250m of breeding ponds and more particularly within 50m.

Legislation: As with bats, crested newts are protected under the Conservation (Natural Habitats, &c.) Regulations 1994 which implements the EC Directive 92/43/EEC in the United Kingdom and it is an offence, with certain exceptions, to:

- deliberately capture or kill any wild animal of a European protected species;
- deliberately disturb any such animal;
- deliberately take or destroy eggs of any such wild animal;
- damage or destroy a breeding site or resting place of such a wild animal;
- deliberately pick, collect, cut, uproot or destroy a wild plant of a European protected species;
- keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal or plant of a European protected species, or any part of, or anything derived from such a wild animal or plant.

5.6 ***Reptiles and amphibians (other than great crested newts): Legislation:*** The grass snake (*Natrix natrix*), slow-worm (*Anguis fragilis*), viviparous (common) lizard (*Lacerta vivipara*) and adder (viper) (*Vipera berus*) are all protected from intentional or reckless killing and injury under Schedule 5, Section 9(1), of the Wildlife and Countryside Act as amended/reinforced by the CROW Act 2000. They are also protected under Schedule 5, Section 9(5) which prohibits selling, offering for sale, possessing or transporting for the purpose of sale, or advertising for sale, any live or dead animal, or any part of, or anything derived from the species.

5.7 ***The need for a barn owl survey: Legislation:*** Barn owls (*Tyto alba*), are fully protected under Schedule 1 of the Wildlife and Countryside Act 1981, as amended by the Countryside and Rights of Way Act 2000. As a consequence, and in addition to the general protection afforded to the majority of British wild birds, it is an offence to deliberately or recklessly disturb a nesting barn owl. Offences pertaining to Schedule 1 birds are subject to a special penalty. The barn owl is also listed in the EC Birds Directive and Appendix II of the Bern Convention. It is an 'Amber List' species of conservation concern (Gregory *et al.* 1996) and is listed as 'globally threatened' in the UK Biodiversity Steering Group Report (1995).

5.8 ***The need for a* water vole *survey: Legislation:*** The water vole used to be very common until the 1960s or early 1970s along the waterways of Britain. However, they have declined by almost 90% over the last thirty years, with many remnant populations being severely fragmented (Strachan & Moorhouse, 2006; see also www.naturalengland.org.uk/ourwork/regulation/wildlife/species/watervoles.aspx) as a result of which the species is afforded full protection in the UK under the Wildlife & Countryside Act in April 2008. They are also a UK BAP Priority Species. It is an offence, with certain exceptions, to:

- intentionally capture, kill or injure water voles
- damage, destroy or block access to their places of shelter or protection (on purpose or by not taking enough care)
- disturb them in a place of shelter or protection (on purpose or by not taking enough care)
- possess, sell, control or transport live or dead water voles or parts of them (not water voles bred in captivity)

If convicted of an offence there could be a committal to prison for up to 6 months and fines of £5,000 for each offence.

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Appendix 1: Survey photographs 1-3-19

Plate 1: View of the main structure from the south

Plate 2: View of the main structure showing various gaps, cracks and crevices on the exterior

Plate 3: View of part of the roof showing proximity to mature oak tree with a range of potential bat roosting features

Plate 4: View of the general detritus collected on the upper level of the tower, amongst which were a proportion of degraded bat droppings

Plate 5: View of one of the glazed “arrow slit” embayments with large bird nest in situ

Plate 6: View of part of the interior of the tower showing type of use

Plate 7: View of first landing within the tower

Plate 8: View of first staircase from the ground floor within the tower throughout which were a sparse scattering of degraded bat droppings

Appendix 2: Aggregate bat data

Table 1 : Bat species mentioned in text

Noctule bat	*Nyctalus noctula*
Common pipistrelle bat (45kHz)	*Pipipstrellus pipistrellus*
Soprano pipistrelle bat (55kHz)	*Pipistrellus pygmaeus*
Brown long-eared bat	*Plecotus auritus*

Table 2 : The bat activity data (not exhaustive of all recorded bat contacts)

16-5-19 **Sunset 21.01**	**Activity Survey 1** **Windspeed almost still, Cloud cover 4/8, Relative humidity 63%,** **Temperature range 14.5 – 12.8°C**
20.10	Onsite, position detectors and perform emergence activity survey
21.22	55 kHz Pipistrelle bat identified emerging from the tower, western elevation near to the parapet; further bats identified using the adjacent farm track suggesting a further colonial roost to the east
21.56	45 kHz Pipistrelle identified nearby; sporadic encounters with both poipistrelle species throughout the remainder of the survey but no bahavious associated with the tower
22.10	(Brown) long-eared bat observed emerging from near the parapet on the northern elevation of the tower
22.40	Terminate activity survey 1 direct observation and depart site

18-6-19 **Sunrise 04.52**	**Activity Survey 2** **Windspeed still, Relative humidity 69 - 90%,** **Temperature range 15.6 – 11.8°C**
03.20	Onsite, position detectors and perform emergence / return roost activity survey
From arrival	55 kHz Pipistrelle bat activity primarily foraging to the north of the tower and around the mature oak tree; identified at sporadic intervals until 04.34
04.02	(Brown) long-eared bat identified to the north-west of the tower – assumed roost returnee but not directly observed due to elevation
04.13, 04.24, 04.32	Noctule bat identified overhead
04.39	55kHz Pipistrelle bat observed returning to roost near the top of the tower
05.00	Terminate activity survey 2 direct observation and depart site
13-8-19 **Sunrise 05.52**	**Activity Survey 3** **Windspeed very light breeze to still, Cloud cover 1/8, Relative humidity ≥90%,** **Temperature range 22.5 – 21.4°C**
04.15	Onsite, position detectors and perform emergence activity survey
From start	Both species of pipistrelle identified foraging to the north, along the track and around the adjacent mature oak tree
05.38	Long-eared bat observed returning to roost at the top of the tower as before
06.10	Terminate activity survey 3 direct observation and depart site
Conclusions	**Very low level bat roosting use of the tower has been identified in the current year; very low numbers, possibly only individuals, of both (brown) long-eared and soprano pipistrelle bats roosting in or entering via the upper levels of stonework and/or near to the parapet**

Appendix 3: Precautionary Working Method Statement and Summary Recommendations

1. Given the nature of the site, the lack of residential or non-residential structures nearby and proven potential for bat roosting use of the tower and mature trees at the location, and at this stage of site proposals and intentions by the owners, we consider the potential to accommodate both of the species observed as currently roosting at the tower as relatively easy at the location using a range of roost retentions and recreations.

2. Notably, bats are cryptic and mobile species with "roost-switching" known to take place between and within seasons. Consequently, with regard to this often transitory and quickly changing nature of bats' use of buildings and due to the extent of the work as explained to us in this project (i.e. conversion and planning-related disturbance), we feel it appropriate and proportional to proceed in the way set out here, that is, with extreme caution and awareness. A site registration within the Bat Mitigation Class (Low Impact) Licence (BMCL) system now needs to be pursued, following planning and other consents, to enable any work at the location (provided the duration of work and disturbance to the building would be completed within a six month period). Full details of timing, disturbance protocols, mitigation of roost impacts and recreation will be contained within those necessary application documents.

3. Due to the nature of the disturbance of the location, no further work ought to take place prior to the protection afforded by the BMCL. Each aspect of the work will need to be fully considered and take place only in the presence of an appointed Ecological Clerk of Works (ECoW) – namely roof works, stone works or any stripping, and any exclusion measures to close off any parts of the structure to the use of bats (either temporarily or permanently).

General Precautions

4. As stated in the main body of the survey report:- A strong precautionary approach should generally be followed to any and all building maintenance or repairs. During works, once the BMCL is in place, should any bats be discovered (or suspicion arise about the possible presence of bats, for instance in a crevice, behind a cavity, beneath tiles, or within stonework etc), that work must cease immediately and the licensed consultant employed to establish bat

presence or otherwise. The situation would then be assessed in the light of that evidence. It should be noted that any work schedule may well be affected should bats be discovered. It is important to note that certain bat species do not occupy the internal volume of roofs and can often be supported in very small crevices between, for example, lining and the roof covering of buildings or, for example, beneath roof components, flashing and fascia panels etc and along wall tops.

5. **Exterior lighting** for the site should remain as at current levels and no floodlighting or high-level additional lighting should be considered. The primary roosting facility at the tower is the exterior stonework which is currently unlit and the structure and approaches are in total darkness other than moonlight. Any permanent or prolonged lighting or light spill on to these aspects could preclude their use by light-averse bat species such as long-eared bats. The environs of the tower and general area are all deemed important for safe commuting and foraging flight, and the entirety of the tower, the elevations in general, the parapet and approaches, should all be maintained in unlit darkness. **This is deemed highly important.**

6. Timing of works are considered important and should be to commence disruptive phases (following the acquisition of the permission within the Mitigation Class (Low Impact) Licence), only in autumn or early spring, under the supervision of an appointed ECoW, and with such disruptive works they should ideally be programmed for completion as early as possible before the summer or winter succeeding commencement. Thus the main windows of opportunity for such works that will constitute disturbance to the identified bat roosts are identified as spring and autumn. Once this work has been completed and accommodation provision for bats is finished, then follow-on works to disturb the site can take place provided they do not constitute ongoing disturbance to the retained bat roosting locations or access to them. The onsite presence of an ECoW is considered important for this project for the work phases involving disruption to the existing stonework and roof structures or adjacent tree.

7. It should be repeated that bats in the UK when encountered in structures are not huge things like fruit bats hanging from beams, rather they are very small (generally smaller by far than a man's thumb), somewhat brownish in colour and often tucked away in tiny niches and crevices. You must look very carefully when lifting tiles, slates, flashing, exposing roof components etc. The ECoW will be able, with utilization of emergence surveys, flexible endoscope equipment etc to assess structural components at each point of the exercise to establish bat absence.

Summary for structural or any associated works

8. Bats are very fragile creatures and also known to potentially carry a range of diseases and should therefore not be handled with bare hands by anyone other than authorised and suitably prepared personnel (the ECoW). This must be pointed out at the start of the appropriately licensed project. If any bats are unexpectedly encountered or a suspicion about their presence or a roost being discovered then:-

9. **Work must stop immediately.**

10. Carefully replace the component which removal led to the discovery, and gently cover the bat unless it has already flown (a soft cloth can be used).

11. **Do not handle any bat unless absolutely necessary** to avoid it being harmed. In that event handle only with gloves and place somewhere safe, in the dark and where undisturbed.

12. Call Stephen immediately, if not present onsite, in any case on 07767 853495.

13. Do not continue until full consultation has taken place. It could be a prosecutable offence to continue without the further consultation.

Proposed bat and biodiversity retention and enhancement measures

14. Retain access for bats to the exterior of the stonework and especially the higher stonework courses and parapet as described within the report via suitably sized gaps into the structure at the same points. Access should be as close to the currently utilised access and roosting points and consist of gaps c 100 x 25mm linked through the stonework mortar and into the wall cores. Thus where the tower is disturbed, including parapet etc, the ECoW should inform the retention or recreation of these access gaps.

15. All of any roofs at the location would need to utilise bitumen F1 felt throughout where bats might be expected to come into contact with the underside or edge of the roof. (With an altered tower roof or roofs of any associated new buildings).

16. The tower should also have a further roost opportunity created on each elevation, along with on the adjacent mature tree in the form of commercially available bat roosting boxes such as Schwegler 1FF or Habibat boxes.

17. The site work must only proceed under the Bat Mitigation Class Licence or a specific site and project European Protected Species Mitigation Licence.

18. The works should proceed under full ECoW supervision.

19. The project and site require monitoring in the first summer following completion of the works via a dusk or dawn activity survey and structural search.

Appendix 4: Tree and hedgerow protection plan

1. Having reference to MICA Drawings 666-MICA-MT-ZZ-DR-A-17005 & 666-MICA-MT-ZZ-DR-A-17010:-

2. Other than a small access section of species-poor hedgerow removed to the south of the tower no existing trees or hedges will be removed as part of the current consented proposals.

3. Work should follow British Standard BS5837:2012 Trees in relation to design, demolition and construction.

4. The appointed ECoW will serve jointly as the ArbCoW.

5. An early pre-commencement site meeting of the contractors, project manager and ECoW should take place to ensure full understanding of the various applicable constraints.

6. The adjacent English oak is considered to be of Category A, that is of good structure and form and life expectancy in excess of forty years. Any minor structural work should take place in advance of building works and the bird breeding season. In practice, other than a very minor removal of small deadwood pieces, none is deemed necessary.

7. A **Construction Exclusion Zone** will be established. The primary means of protecting the **Root Protection Area (RPA)** of trees is through the use of barriers formed by protective fencing. The enclosed area is the Construction Exclusion Zone (CEZ). The CEZ will,be marked out by the ECoW prior to any works. The CEZ is to be afforded protection at all times and will be protected by fencing. No works will be undertaken within the CEZ that causes compaction to the soil or severance of tree roots.

8. **Tree Protective Fencing.** A protective fence will be erected around the trees and hedges nearby, prior to the commencement of any site works i.e. before any materials or machinery are brought on site, development or the stripping of soil commences. While the precise form of fencing can vary provided it is fit for purpose and prevents damaging activities within the CEZ. For a proposal of this nature, the Heras 151 system of fencing will provide the necessary protection to the CEZ (i.e. ground anchored and semi-permanent for the duration of works. The fence will have signs attached to it stating that it defines a CEZ and that no works are permitted within the fence. No notice boards, cables or other services will be attached to any tree. The protective fence may only be removed following completion of all construction works.

9. Any risk from activities outside the RPA, but close enough to have an impact, will be assessed during the day-to-day running of the site, and appropriate precautions put in place to reduce that risk. It is a presumption of this report that the RPA identified for protection but which lie outside of the protective fencing, will be protected from soil degradation at all times during construction activity.

10. It is advised that areas proposed for replacement plantings are not subject to compaction through the regular movement of machinery or storage of site materials. Where possible these areas should be avoided entirely to provide the best possible rooting environments for the replacement trees.

11. The preparation of any existing surfaces within the RPA, for instance the access track etc, must be supervised by the retained ECoW to ensure that tree and hedge protection measures are maintained at all times. All work within the RPA must be completed with hand tools or machinery used working backwards over the area, as detailed here. Excavations of the existing surface can be conducted by machines with a long reach, but must only include a maxmim 100mm scrape, removing only the upper surface. The machinery used for this operation must work from an area outide the RPA. They must not encroach on unprotected soil in the RPA. Secateurs and a handsaw must all be available to deal with any very small roots should they be exposed. Debris may be removed by the RPA manually, but it must be moved across the surface of permanent ground protection in a way that prevents compaction of the soil. Alternatively it can be lifted out by machines provided this does not disturb the RPA. Great care must be taken throughout these operations to ensure that there is no damage to the root system. Severance of roots over 25mm should be avoided unless advised

by the retained ECoW. Where roots will remain exposed for any period of time wrapping of roots using hessian should be implemented. In order to protect the RPA it is recommended that a three-dimensional cellular confinement system be installed to provide the designated area for access. This system is a load bearing system which protects roots from the effects of compaction from regular vehicular movement; it is recommended that CellWeb is used to serve this purpose with a permeable medium grained aggregate, laid for the driveway and parking surface.

12. No storage of materials will take place within the CEZ. No mixing or storage of materials will take place up a slope where they may leak into a CEZ. Where contours of the site create a risk of polluted water running into RPA, precautionary measures of using heavy duty plastic sheeting and sandbags with the ability to contain accidental spillage will be put in place to prevent contamination.

13. Contractors Parking Contractors parking will not be within or in close proximity to the CEZ.

14. Utility Services. There is no requirement for any service to be installed within the CEZ / RPA of the retained tree and hederows on this site.

15. Fires. No fires will be lit on this site.

16. There will no changes to any levels on this site within or in close proximity to the RPA of any retained tree on this site.

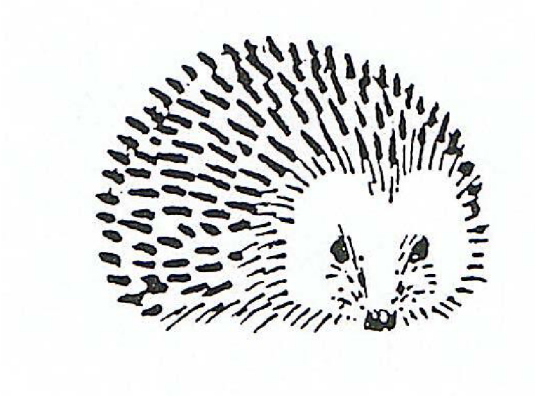
17. Use of Herbicides There is no requirement for any herbicide to be used on this site.

18. Use of Sub-contractors The main contractor will be responsible for ensuring sub-contractors do not carry out any process or operation that is likely to adversely impact upon any tree on site.

19. Contingency planning Water will be kept readily available on site and will be used to flush spilt materials through the soil and avoid contamination to tree roots. At the time of any spillage the main contractor will contact the retained ECoW for advice.

20. Removal of protective fencing. When the development is complete, all drainage and service runs are in place and the main site machinery has been removed, the CEZ protective fencing will be dismantled. This will be supervised by the retained ECoW to ensure that no damage is done to the protected areas during this process.

21. As with the ecological and biodiversity measures, some of which will be government licensed, the retained ECoW will provide a written report confirming satisfactory completion.



europaeus land management services (ecology)

Director: Stephen P.B. West MSc MCIEEM MACMA
Herefordshire
WR13 6HA
01684 540145
Sub offices: Dudley, West Midlands; Norley, Cheshire; Oxford

Office email: *ecology.susan@hotmail.co.uk*