

**ELM GROVE, HAYLING ISLAND, HAMPSHIRE,
EXTENDED PHASE 1 ECOLOGICAL ASSESSMENT AND PHASE 2 BAT
SURVEY REPORT**

Final Document

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Phase 1 and 2 Ecological Assessments • NVC • EclA • Management Plans • Protected Species Licensing
Habitats • Badger • Bats • Dormouse • Birds • Reptiles • Amphibians • Invertebrates • Riparian and Aquatic Species

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ELM GROVE, HAYLING ISLAND, HAMPSHIRE, EXTENDED PHASE 1 ECOLOGICAL ASSESSMENT

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Appendix 1 Proposed Site Plan

Appendix 2 Protected Species Legislation

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EXECUTIVE SUMMARY

- An extended Phase 1 ecological assessment was undertaken on 17th September 2014 at Elm Grove, Hayling Island, Hampshire, P011 9EN. The proposals entail the demolition of existing commercial buildings followed by the redevelopment of the site including 44 (30 x 1 bed + 14 x 2 bed) private sheltered apartments and associated car parking and access.
- The ecological assessment, comprising an extended Phase 1 ecological survey followed by Phase 2 bat surveys, were undertaken to ascertain the potential for protected habitats and species to be present within the site.
- Elm Grove is situated within an urban area of Hayling Island, Hampshire. The site is approximately 4km east of the city of Portsmouth and 7km south of the town of Havant. The site is located within a largely urban environment with a small supermarket and semi-detached housing to the south, Elm Grove to the west, residential housing and playing fields to the north and an allotment site to the east. The site itself comprises two commercial buildings together with associated car parking, areas of hard standing and a number of metal container storage units.
- The two existing buildings were found to contain a number of features with a low potential to support roosting bats, although no evidence of bats was found externally or internally during the Phase 1 survey.
- Phase 2 bat surveys were undertaken on the two existing buildings. The Phase 2 surveys recorded no bat emergences or re-entries and roosting bats are considered currently absent from the site. Low levels of foraging and commuting activity were recorded around the properties.
- Evidence of nesting birds was identified both within vegetation and on the buildings on site.

1.0 INTRODUCTION

1.1 Background

Ecological Survey & Assessment Limited (ECOSA) have been contracted by Planning Issues Limited on behalf of their client Churchill Retirement Living to undertake an extended Phase 1 ecological assessment at Elm Grove, Hayling Island, Hampshire, P011 9EN. The site is centred on National Grid Reference (NGR) SZ7224 9968.

This report presents the findings of the Phase 1 ecological assessment carried out by ECOSA on 17th September 2014.

1.2 Aims and Scope of Report

This report is based on a Phase 1 field survey and desktop study which is aimed at assessing the suitability of the site and its immediate surrounds to support notable habitats and protected species. This information allows an initial assessment of the biodiversity value of the site to be made.

The Phase 2 bat surveys were aimed at assessing the presence or likely absence of roosting bats on site and, if present, to provide an assessment of the number, species, status and location of bat roosts supported by the site. The Phase 2 survey was also aimed at determining any important areas of foraging and commuting activity within the vicinity of the property.

This information allows an assessment of the value of the site for roosting, foraging and commuting bats to be made. The data gathered during the bat survey work has been used to assess the potential ecological impacts of the proposed redevelopment works, and recommendations based on the findings of the surveys and the identified impacts are provided.

1.3 Site Setting and Description

Elm Grove is situated in the South Coast Plain & Hampshire Lowlands Natural Area, described by Natural England as follows¹:

"The landscape of the South Coast Plain and Hampshire Lowlands is split between the generally open, often featureless landscape of the coastal plain and the more varied landscape in the west. The Natural Area contains a number of nature conservation features. Although relatively small in extent, the south-facing slopes of Portsdown Hill support some high quality chalk grassland, and the chalk rivers of the Itchen and Test flow through the Natural Area, supporting fine examples of

¹ Natural Areas are defined by Her Majesty's Stationery Office as 'biogeographic zones which reflect the geological foundation, the natural systems and processes and the wildlife in different parts of England, and provide a framework for setting objectives for nature conservation' (Biodiversity: The UK Steering Group Report, HMSO, 1995).

threatened habitat and several key species. The floodplains of the Rivers Test and Itchen contain some botanically rich neutral grassland and elsewhere in the Natural Area fen and fen-meadows occur, especially where chalk springs arise at the foot of the downs."

Elm Grove is situated within an urban area of Hayling Island, Hampshire. The site is approximately 4km east of the city of Portsmouth and 7km south of the town of Havant. The site is located within a largely urban environment with a small supermarket and semi-detached housing to the south, Elm Grove to the west, residential housing and playing fields to the north and an allotment site to the east.

The site itself comprises two commercial buildings together with associated car parking, areas of hard standing and a number of metal container storage units.

1.4 Site Proposals

The proposals entail the demolition of existing commercial buildings followed by the redevelopment of the site including 44 (30 x 1 bed + 14 x 2 bed) private sheltered apartments and associated car parking and access.. **Appendix 1** shows the outline of the proposed development. There will be a small amount of vegetation clearance associated with the proposals including the removal of three semi-mature sycamore *Acer pseudoplatanus* along the northern boundary.

2.0 METHODS

2.1 Introduction

This section details the methods used during the Phase 1 ecological assessment undertaken at Elm Grove, Hampshire.

2.2 Desk-Based Assessment Methods

2.2.1 Multi-Agency Geographic Information for the Countryside (MAGIC)

The Multi-Agency Geographic Information for the Countryside (MAGIC)² database was accessed on 7th October 2014 in order to establish the presence of statutory designated sites located within the vicinity of the site. This included a search for all internationally designated sites such as Special Protection Areas (SPAs), Special Areas of Conservation (SACs) and Ramsars within 7km of the site and a search for nationally designated sites including Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs) and National Nature Reserves (NNRs) within 1km of the site.

2.3 Phase 1 Field Assessment

The Phase 1 ecological field survey was carried out on 17th September 2014. The survey involved a walkover of the site to identify the habitat types present and to record evidence of protected species, with particular reference to badger *Meles meles*, bats, dormouse *Muscardinus avellanarius*, breeding birds, reptiles, great crested newt *Triturus cristatus* and terrestrial invertebrates. Details of the species-specific survey methods are given below.

2.3.1 Vegetation

An assessment was made of all areas of vegetation within the site using the standardised Phase 1 survey methodology³. This involved a walkover survey to identify broad vegetation types, which were then classified against Phase 1 habitat types. A list of characteristic plant species for each vegetation type was also compiled.

2.3.2 Badger

The survey involved a detailed investigation of the site to identify evidence of badger residence, foraging or territorial activity. Particular emphasis was placed on locating badger setts, paths, and signs of territorial activity such as latrine sites both on site and within immediately adjacent areas where access was possible.

² <http://defra.magic.gov.uk>

³ Handbook for Phase 1 habitat survey: A technique for environmental audit – Field manual (2003), *Joint Nature Conservation Committee (JNCC)*

2.3.3 Bats

An assessment was made of the suitability of buildings, and trees on the site and immediately on the site boundary to support roosting bats based on the presence of features such as holes, cracks, splits, loose bark and ivy cladding. An assessment was made of the suitability of the site and the surrounding landscape to support foraging and/or commuting bat species. The survey conformed to current Bat Conservation Trust guidelines⁴.

2.3.4 Dormouse

The assessment for the potential of the site to support dormouse was based on an assessment of habitat features that may indicate that dormice are present on the study area. This includes the presence of food sources such as common hazel *Corylus avellana* and honeysuckle *Lonicera periclymenum*. Additionally, the species requires a continuum of food supply so that habitat structure, diversity and connectivity to adjacent areas of woodland/scrub are important features for determining the potential presence of dormice.

2.3.5 Breeding Birds

The assessment of breeding birds on the site was based on the suitability of habitat present, evidence of nesting such as old or currently active nests and the presence of bird species that may potentially nest within the available habitat.

2.3.6 Reptiles

The reptile survey was based on an assessment of the suitability of habitat present within the site to support a population of common reptiles. Reptiles particularly favour scrub and grassland interfaces and the presence of these is a good indication that reptiles may be present on site. In addition, reptiles may utilise features such as bare ground for basking, tussocky grassland for shelter and compost heaps and rubble piles for breeding and/or hibernating.

2.3.7 Great Crested Newt

The assessment of the site to support great crested newts included establishing the presence of suitable aquatic habitats such as ponds within or adjacent to the site and the presence of suitable terrestrial habitat. Ponds that are densely shaded, highly eutrophic or that contain fish are likely to be less suitable for this species.

In addition, online mapping resources at a minimum scale of 1:25,000 were used to identify the presence of ponds or other waterbodies within a 500 metre (m) radius of the site. The 500m is a standardised search radius to assist in the assessment of the

⁴ Hundt L (2012) *Bat Surveys: Good Practice Guidelines*, 2nd edition, Bat Conservation Trust (BCT)

potential of a site and its surrounding habitat to support this species, based on current Natural England guidance⁵.

2.3.8 Terrestrial Invertebrates

An assessment was made of the site for its potential value to support diverse communities of invertebrates or any Biodiversity Action Plan (BAP) or scarce species. The assessment was made based on the presence of habitat features which may support important invertebrate communities. These features include, for example, an abundance of dead wood, the presence of diverse plant communities, the presence of varied woodland structure and sunny woodland edges with a diverse flora, presence of ponds and water courses and the presence of free draining soil exposures. During the Phase 1 survey there was no attempt made to identify species present and where a site supports features that may be of importance to invertebrates then further Phase 2 surveys may be required to assess the importance of the site.

2.4 Initial Protected Species Assessment

Details of the assessment criteria used to determine the ecological value of on-site attributes during the Phase 1 survey is outlined below. During a Phase 1 survey the assessment criteria is based on the potential for the site to support the species considered, this is usually based on the on-site habitat features and their suitability for the species considered. However, in many cases Phase 2 surveys will be required to assess the status of species and hence the importance of a population at the site, therefore the assessment of value should be considered a provisional assessment.

2.5 Criteria used to Assess Ecological Potential

Table 1 defines the criteria used to assess the potential of the site, its building and trees to support protected species, based on the habitat characteristics of the site.

⁵ Great Crested Newt Mitigation Guidelines, Natural England, August 2001.

Table 1: Criteria used to assess ecological potential

	Bats⁶		Other Protected Species⁷
	Building Assessment	Tree Assessment	
Species Present	Evidence of bat presence confirmed during survey, which may include presence of live or dead bats, droppings, feeding remains or urine stains etc. Where possible, a provisional assessment of roost status is made.	In some instances, bat presence can be confirmed from trees e.g. where staining or droppings are visible; where roosting bats have been observed entering/emerging from a tree; or where roosting bats can be heard.	The presence of a protected species can sometimes be confirmed by evidence recorded, for example guard hairs or latrines for badger or hazel nuts gnawed in the characteristic style for dormice.
	If species are likely to be affected by the proposals, further Phase 2 surveys will be required to establish the status of the species present.		
High Potential	Buildings with features highly suitable for roosting bats, including gaps, hanging tiles or large lofts, etc. Often, but not always, buildings of more historic construction.	Trees with features such as loose bark, splits and deep or extensive holes suitable for roosting bats. High potential trees are generally large and/or mature specimens.	On-site habitat is of high quality for a species or species group. The site is within or near a geographic stronghold. Good quality surrounding habitat and good connectivity.
	If species are likely to be affected by the proposals, further Phase 2 surveys will be required to establish the presence/likely absence of the species.		
Medium Potential	Medium potential buildings have a moderate number of features that may be used by bats for roosting. These may include loose fascia, roof voids, etc.	This category includes trees with some interest for tree-roosting bats such as broken snags, some flaking bark, a covering of ivy or shallow holes.	On-site habitat is of moderate quality, providing most of the species/species group requirements. Limiting factors may include small habitat area or disturbance.
	If species are likely to be affected by the proposals, further Phase 2 surveys will be required to establish the presence/likely absence of the species.		
Low Potential	Buildings that provide limited bat roosting potential although some features that may be used by roosting bats may be present.	Low potential trees have some, although generally limited potential to support tree-roosting bats, or ivy may obscure roost features.	On-site habitat is of poor to moderate quality for the species or group. Presence cannot be discounted on the basis of distribution, isolation, surrounding habitats, etc.
	If species are likely to be affected by the proposals, further Phase 2 surveys will be required to establish the presence/likely absence of the species.		
Negligible Potential	Buildings that are extremely unlikely to support roosting bats due to the absence of suitable features.	Trees that provide few or no features with bat roosting potential.	Site includes very limited or poor quality habitat for the species /group; surrounding habitat is unlikely to support wider populations.
	Further Phase 2 surveys are unlikely to be required as species is unlikely to be present.		

⁶ The criteria are an attempt to qualify the potential for a given building or tree to support roosting bats and are to a degree subjective. Bats may make use of a single feature on an otherwise unsuitable building or tree and therefore an assessment of bat potential cannot solely be based on the quantity of potential roost features present.

⁷ Badger, otter, water vole, dormouse, breeding birds, reptiles, great crested newt and terrestrial invertebrates.

2.6 Phase 1 Survey Timing and Weather Conditions

The extended Phase 1 ecological survey was carried out by Simon Mason of ECOSA on 17th September 2014. The weather conditions were overcast with hazy sunshine with approximately 90% cloud cover, an ambient temperature of 18°C and gentle south westerly breeze.

2.7 Phase 1 Survey Equipment

During the Phase 1 survey the surveyor was equipped with 10x40 binoculars, a high powered torch and a digital camera.

2.8 Phase 1 Survey Limitations

Not all potential bat roosting features are accessible to the surveyor, e.g. gaps beneath roof materials or holes or cracks in trees, and therefore assessments are based upon the potential for these features to provide suitable roosting opportunities.

It is not always possible to provide definitive assessments of a species' presence/likely absence at a site and so in the absence of direct evidence, assessments and recommendations are based on the presence of suitable habitat within/adjacent to a site and the results of species records within the desk study data.

3.0 Phase 2 Bat Survey

Phase 2 bat survey was carried out at the site in September 2014. The Phase 2 works involved one dusk emergence survey, whereby surveyors are in position 15 minutes before sunset and up to two hours post sunset to await bats as they emerge from their roosts. The level of bat foraging and commuting activity was also recorded during the Phase 2 survey to establish key on-site foraging areas and commuting routes.

The dusk surveys were carried out by four experienced ECOSA surveyors, who were positioned at previously identified vantage point areas around the buildings. These vantage point locations allowed good survey coverage of the areas affected by works.

Table 2 provides details of each Phase 2 bat survey 1 survey.

Table 2 Phase 2 bat survey details

Survey Date	Survey Type	Duration	Weather Conditions	Sunset/ Sunrise Time
23 rd September 2014	Dusk	18:45 – 21:04	20% cloud cover, start temperature 19°C, end temperature 17°C, light winds	19:07

During the Phase 2 surveys each surveyor recorded the time, species, location and direction of flight for each bat encountered, with particular attention being paid to establishing bat access/egress locations.

3.1 Survey Personnel

The Phase 2 surveys were led by an ECOSA ecologist, assisted by additional suitably qualified and experienced ECOSA surveyors.

3.2 Survey Equipment

During the Phase 2 surveys each surveyor was equipped with a Pettersson 240x time expansion bat detector. The Pettersson detectors were connected to Edirol R-90 recorders for the full duration of the surveys. Recordings made with the Pettersson detectors were later analysed using Sonobat[®] (v2.9.7) to confirm the identity of any species encountered.

3.3 Bat Survey Limitations

Some bat species, e.g. long-eared bat species, generally emerge from their roosts in total darkness and do not produce strong echolocations, and therefore these bats can be difficult to observe and record during Phase 2 bat surveys, leading to under-recording.

¹² There are two species of long-eared bat, the brown long-eared bat *Plecotus auritus* and the grey long-eared bat *Plecotus austriacus*. These species can only be separated by examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the two species shall be referred to in this report as long-eared bat. The brown long-eared bat is the commonest of the two species typically being found roosting within large roof voids although small voids and trees are also utilised. The grey long-eared bat is rare and confined to southern England and like the brown long-eared typically roosts in roof voids.

4.0 RESULTS

4.1 Introduction

This section details the results of the extended Phase 1 ecological assessment and Phase 2 bat surveys undertaken at Elm Grove, Hampshire, during September and October 2014.

4.2 Desktop Study

4.2.1 Statutory and Non-statutory Designated Sites

The MAGIC website search revealed that there is one national statutory designated site of nature conservation situated within a 1km radius of the site and five European Designated sites of nature conservation within 7km of the site. Details of these designations are provided in **Table 2**.

Table 2: European Designated sites located within a 7km radius of the Elm Grove site

Designation	Name	Relative Location	Reason for Designation
Special Area of Conservation (SAC)	Solent Maritime NGR: SU 756 003	600m east	The Solent encompasses a major estuarine system with four coastal plain estuaries and four bar-built estuaries. The Solent and its inlets are unique in Britain and Europe for their hydrographic regime of four tides each day, and for the complexity of the marine and estuarine habitats present within the area.
Special Protected Area (SPA)	Chichester and Langstone Harbour NGR: SU 760 000	600m east	Sheltered estuarine basins comprising extensive sand- and mud-flats exposed at low tide. The two harbours are joined by a stretch of water that separates Hayling Island from the mainland. Tidal channels drain the basin and penetrate far inland. The mud-flats are rich in invertebrates and also support extensive beds of algae, especially <i>Enteromorpha</i> species, and eelgrasses <i>Zostera</i> spp. The basin contains a wide range of coastal habitats supporting important plant and animal communities. The site is of particular significance for waterbirds, especially in migration periods and in winter. It also supports important colonies of breeding terns <i>Sterna</i> spp.
Special Area of Conservation (SAC)	Solent and Isle of Wight Lagoons NGR: SZ 608 977	5.2km northwest	The Solent on the south coast of England encompasses a series of Coastal lagoons, including percolation, isolated and sluiced lagoons. The site includes a number of lagoons in the marshes in the Keyhaven – Pennington area, at Farlington Marshes in Chichester Harbour, behind the sea-wall at Bembridge Harbour and at Gilkicker, near Gosport. The lagoons show a range of salinities and substrates, ranging from soft mud to muddy sand with a high proportion of shingle, which support a diverse fauna including large populations of three notable species: the nationally rare foxtail stonewort <i>Lamprothamnium papulosum</i> , the nationally scarce lagoon sand shrimp <i>Gammarus insensibilis</i> , and the nationally scarce starlet sea anemone <i>Nematostella vectensis</i> . The lagoons in Keyhaven – Pennington

Table 2: European Designated sites located within a 7km radius of the Elm Grove site

Designation	Name	Relative Location	Reason for Designation
			Marshes are part of a network of ditches and ponds within the saltmarsh behind a sea-wall. Farlington Marshes is an isolated lagoon in marsh pasture that, although separated from the sea by a sea-wall, receives sea water during spring tides. The lagoon holds a well-developed low-medium salinity insect-dominated fauna. Gilkicker Lagoon is a sluiced lagoon with marked seasonal salinity fluctuation and supports a high species diversity. The lagoons at Bembridge Harbour have formed in a depression behind the sea-wall and sea water enters by percolation. Species diversity in these lagoons is high and the fauna includes very high densities of <i>N. vectensis</i> .
Ramsar Site	Chichester and Langstone Harbour NGR: SU 760 000	600m East	The site is designated as a wetland of international importance.
Site of Special Scientific Interest (SSSI)	Sinah Common NGR: SZ 700992	900m southwest	The site is notified for its coastal habitats including the following: pioneer shingle vegetation, maritime shingle grassland which includes dry acid grassland and lichen rich acid grassland, mobile dune, semi-fixed dune, dune heath and an associated small area of saltmarsh. The site is also notified for the childing pink <i>Petrorhagia nauteuillii</i> an endangered plant which occurs at just two sites in Britain, and for its outstanding assemblage of nationally scarce plants including little robin <i>Geranium purpureum</i> , Nottingham catchfly <i>Silene nutans</i> , bulbous meadow-grass <i>Poa bulbosa</i> , bearded fescue <i>Vulpia fasciculata</i> subsp <i>ambigua</i> , dune fescue <i>Vulpia fasciculata</i> , suffocated clover <i>Trifolium suffocatum</i> , smooth cat's-ear <i>Hypochaeris glabra</i> , stiff saltmarsh-grass <i>Puccinella rupestris</i> , mossy stonecrop <i>Crassula tillaea</i> , toothed medick <i>Medicago polymorpha</i> and dotted sedge <i>Carex punctata</i> .

4.3 Vegetation Survey Results

The vegetation within the site is described here in general terms using Phase 1 habitat survey terminology and referring to dominant, characteristic and other noteworthy species in each vegetation type within the survey area. The majority of the site comprises buildings and hard standing. The habitat types on site consist of:

- Bare ground with short ephemeral
- Hedgerow
- Scattered Trees

4.3.1 Bare Ground with Short Ephemeral

The western half of the site comprises area of bare ground with gravel with small areas of colonising short ephemeral vegetation (**Figure 1**) including occasional dandelion *Taraxacum officinale*, bristly ox-tongue *Helminthotheca echioides*, white clover *Trifolium repens*, catsear *Hypochaeris radicata*, ribwort plantain *Plantago lanceolata*, red clover *Trifolium pratense* and spurge *Euphorbia* sp.



Figure 1: Short ephemeral vegetation on gravel



Figure 2: Leyland cypress hedgerow along eastern boundary

4.3.2 Hedgerow

The northeast, east and southeast boundaries comprise non-native hedgerows with abundant Leyland cypress *Cupressus × leylandii*, and occasional bramble *Rubus fruticosus* agg., and sycamore *Acer pseudoplatanus* (**Figure 2**). A small section of native species hedgerow is present along the northwest boundary with occasional holly *Ilex aquifolium*, sycamore, wild privet *Ligustrum vulgare*, ivy *Hedera helix* and Leyland cypress.

4.3.3 Scattered Trees

The southern boundary includes a number of horse chestnut *Aesculus hippocastanum* trees. There are a total of three mature horse chestnut trees, all of which have been pollarded in the past. An example of one of these mature pollards is shown in **Figure 3**.



Figure 3: Horse chestnut pollard along southern site boundary.

4.3.4 Summary

The onsite vegetation is of **low ecological value** as all species identified are widespread and abundant. The mature horse chestnut pollards along the southern boundary are of the greatest on site ecological interest due to their age, although they are only of low local value in terms of floristic importance.

4.4 Badger Survey Results

No evidence of badger was found during the survey. The hedgerows along the eastern and northern boundary of the site provide a small amount of suitable habitat for badger but the hard standing that the majority of the site comprises is unsuitable for badger. The wider area includes allotment gardens to the east and playing fields to the north which provide suitable foraging habitat for badger. Given the limited amount of suitable habitat on site, overall the site is considered to offer **low potential** for supporting foraging/commuting badgers and **low potential** for resident badgers.

4.5 Bat Survey Results

4.5.1 Bats - Building Assessment

The site contains two commercial buildings, a furniture store and a carpet store. The results of the Phase 1 survey of the buildings are provided in **Table 3**.

No evidence of bats was identified in either building. However, both buildings contain a small number of features with potential to support small numbers or individual roosting bats including under weather boarding and under tiles.

Overall the site is considered to have a **low potential** to support roosting bats within the buildings.

4.5.2 Bats – Tree Assessment

Two of the mature horse chestnut trees (**Figure 3**) along the southern boundary of the site were assessed as having potential to support roosting bats. The middle of the three chestnut trees has a number of large plates of flaking bark which provide suitable crevices for roosting bats. However, the tree has dense vegetative growth and is located immediately next to a metal container, making the suitable roosting locations very cluttered. Overall this tree is considered to have a **low potential** to support roosting bats. The eastern most chestnut tree has a rot hole 2.5m facing west and a second rot hole 2.5m facing south. The cavities were inspected during the survey and no droppings or other signs of bats were found. Both cavities extended into the main trunk of the tree and therefore provide suitable roosting sites for bats. Overall this tree is considered to have a **medium potential** to support roosting bats.

4.5.3 Foraging and Commuting Habitat

The trees and hedgerows in the site boundaries provide a small amount of medium quality foraging habitat for bats. The wider area is largely urban offering low quality foraging habitat, within the exception of the allotment gardens to the east of the site which are likely to support a diversity of invertebrates and provides a small area of moderate quality habitat. The site is considered to have a **low potential** to be used by foraging bats. The boundary hedgerows do not link potential roost sites with high quality foraging areas and are unlikely to be used as significant commuting routes for bats

Table 3: Building assessment – summary of features with bat roost potential and evidence of bat roost activity

Surveyed Feature	Figure	Building Description	Description of Potential Bat Roost Features	Evidence of Bat Roost Activity and Location	Assessment of Bat Roost Potential
Furniture Store	 Figure 4: Furniture store	Two storey commercial building (figure 4) with rendered brick walls. One section (western end) of the roof is pitched and clad with slate tiles with wooden soffit boxes. The majority of the building is flat roofed or very shallow pitched roofed with bitumen felt and no roof void. Internally, the building contains one roof void. This is currently used as a file store and is in regular use. The void is very clean and well-sealed. The roof is timber framed and lined with bitumen roofing felt.	The internal roof void appeared to be well sealed with no visible access points. The roof void was very clean and no droppings or other evidence of bats was identified. Externally the building is generally well sealed with a small number of features providing potential roosting opportunities for small groups or individual bats. These features include; a small gap under a slate tile on the southeast corner, a small cavity in the soffit box on the northeast corner and a small cavity in the brickwork on the northeast wall.	No evidence of bats identified during the survey.	Low Potential
Carpet Store	 Figure 5: Carpet store	Two storey commercial building (Figure 5) with rendered brick walls and wooden cladding. The building has multiple shallow pitched roofs with bitumen felt and no roof voids.	Externally the building is generally well sealed. Only one potential roost feature was identified during the survey, a small gap under the wooden cladding along the western aspect of the building.	No evidence of bats was identified during the survey.	Low Potential

4.6 Dormouse Survey Results

The trees and shrubs around the site boundary provide a low diversity of native species which provide low quality foraging and nesting habitat for dormouse. The wider area contains areas of broadleaved woodland but there are no links between these areas of woodland and the site. The poor quality habitat onsite is too small to support a viable population of dormice and therefore overall the site is considered to have a **negligible potential** to support dormouse.

4.7 Breeding Bird Survey Results

The hedgerows along the site boundaries and the small number of scattered trees on site provide suitable nesting habitat for a range of common garden birds and robin *Erithacus rubecula* and great tit *Parus major* were recorded on site during the phase 1 survey. An old blackbird *Turdus merula* nest was found in one of the horse chestnut pollards along the southern boundary. In addition, two old house martin *Delichon urbica* nests were found under the eaves of the furniture store building on the southern and northern gable ends of the pitched roof section of the building. Overall the site is considered to have a **high potential** to support nesting birds.

4.8 Reptile Survey Results

The site predominantly comprises areas of hard standing and buildings which offer no suitable reptile habitat. The small amount of short ephemeral vegetation and the base of hedgerows provide a small area of poor quality habitat providing limited potential for reptiles with few features suitable for foraging and basking reptiles. The allotment gardens to the east of the site provide suitable reptile habitat with some connectivity to the site. Due to the very limited amount of suitable habitat on site, overall the site is considered to have a **negligible potential** to support common reptiles.

4.9 Great Crested Newt Survey Results

The hedgerows along the site boundary provide a small amount of suitable terrestrial newt habitat, with the majority of the site being unsuitable due to the expanse of hard standing, buildings and bare ground. A review of the 1:10,000 ordnance survey map identified a single pond within 500m of the site. This is an arable pond approximately 300m west of the site and is separated from the site by two busy roads. Due to the very small amount of suitable terrestrial habitat on site and due to the distance from the nearest pond which has poor habitat links to site, overall the site is considered to have a **negligible potential** to support great crested newt.

4.10 Terrestrial Invertebrates

The site generally provides very limited habitat for invertebrates. However, the three mature horse chestnut pollards support some significant standing deadwood which is of value to saproxylic invertebrates. This standing deadwood has potential to support

stag beetle *Lucanus cervus*, which are listed under Annex II of the EC Habitats Directive and Appendix III of the Bern Convention and protected in the UK under Schedule 5 of the Wildlife and Countryside Act 1981, as amended. Whilst the deadwood in the chestnut pollards provides high quality invertebrate habitat, overall the site is considered to be of **low value** for invertebrates.

4.11 Phase 2 Bat Survey Results

The survey recorded no emergences or re-entries at the properties. A total of three species were recorded during the survey including common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *Pipistrellus pygmaeus* and long-eared bat sp¹³. **Table 3** provides details of the species, numbers and locations of bats recorded during the Phase 2 bat survey.

Table 3: Phase 2 bat survey results

Survey Date	Bat Roosting Activity	Foraging and Commuting Bats: Species	First Pass	Last Pass
17 th September 2014	Summary: No emergences were recorded throughout the survey.	Soprano pipistrelle	19:24	20:56
		Common pipistrelle	19:26	20:51
		Long-eared	19:54	20:49
		<u>Summary:</u> The majority of bat activity throughout the survey was related to passes of soprano and common pipistrelle with occasional foraging activity within the site. Long-eared activity was low during the survey with only two passes recorded.		

Summary Assessment

During the Phase 1 survey no evidence of bats or bat activity such as droppings or urine staining was recorded externally or internally. A small number of potential bat roosting features including gaps under roof tiles and gaps under weatherboarding were located externally on the two buildings, providing potential access/egress points.

During the Phase 2 survey no emergences or re-entries were recorded, indicating that the buildings are not currently used by roosting bats. Low levels of common pipistrelle¹⁴, soprano pipistrelle and long-eared bat sp. activity was recorded passing

¹⁴ There are three species of pipistrelle bat, the common pipistrelle *Pipistrellus pipistrellus*, the soprano pipistrelle *Pipistrellus pygmaeus* and the Nathusius' pipistrelle *Pipistrellus nathusii*. The species can be separated by their echolocations, examination of physical characteristics and Phylogenetic Analysis Identification of bat droppings. Unless confirmation of identification has been made by visual identification the three species shall be referred to in this report as pipistrelle bat. All three species will roost in similar locations within buildings. The soprano pipistrelle

over and occasionally foraging within the site. The vast majority appeared to be foraging briefly before passing through the site or at height. Given the small size of the site, it is not considered to form a primary resource for foraging bats in the local area. No significant commuting activity was recorded during the survey.

has a tendency to form larger roosts numbering 100's of bats and is associated with wetland habitat. *Nathusius'* pipistrelle bats frequently share maternity roosts with soprano pipistrelle bats.

5.0 EVALUATION, IMPACTS AND RECOMMENDATIONS

5.1 Introduction

This section presents the conclusions of the extended Phase 1 and 2 ecological assessment. It provides an initial assessment of the likely ecological constraints to the proposed development and detailed recommendations for any further survey work or mitigation measures considered necessary. An outline of protected species legislation relevant to the findings of this report is provided in **Appendix 2**.

5.2 Site Evaluation

The vegetation within and adjacent to the site comprises common and widespread species. The two existing buildings were identified as having a low potential to support roosting bats. In addition, two mature trees on along the southern boundary have been assessed as having potential to support roosting bats. Phase 2 bat surveys identified no bats emerging from the buildings and therefore roosting bats are considered likely to be absent from the site. The trees, and hedgerows on site provide suitable habitat for nesting birds and the eaves of the furniture store building were found to support house martin nests. There is a high potential for the site to be used by common breeding birds. This site is also used by low numbers of foraging bats. Overall, the site is considered to be of **low ecological value**.

5.3 Potential Impacts of Development

The proposed development entails the demolition of the two existing commercial buildings on site followed by the construction of a new block of sheltered accommodation together with associated access and parking facilities. The potential ecological impacts are:

- Disturbance of nesting birds if building demolition and vegetation clearance is undertaken between March and August inclusive.
- Disturbance of bats which have potential to be roosting within the mature horse chestnut pollards along the southern boundary.

5.4 Outline of Recommendations

The following main recommendations are made to minimise the potential impacts:

- Vegetation clearance and building demolition should be undertaken outside the breeding bird season of March to August, inclusive, or if not possible, an ecologist should be present immediately prior to clearance to check vegetation and check the buildings for active

nests. Active nests should be left with an undisturbed 5-10m buffer until nesting ends.

- The three mature horse chestnut pollards should be retained and protected with a suitable root protection zone in accordance with BS5837:2012. This will retain potential bat roosting features, nesting bird habitat, and suitable dead wood invertebrate habitat.

Table 3: Table of evaluations, impacts and recommendations for protected species at Elm Grove

Ecological Feature	Summary	Potential Impacts of Development	Recommendations
Designated Sites	There in one national statutory designated site within 1km of the site and five European statutory designated sites of nature conservation situated within a 7km radius of the site. These include: Sinah Common SSSI; Chichester and Langstone Harbour Ramsar and SPA, Portsmouth Harbour Ramsar and SPA and Solent and Isle of White Lagoons SAC.	Due to the distance of the designated sites from the site there will be no direct impacts associated with the proposed works. There is a potential for indirect impacts due to increased visitor pressure on the designated sites. However, due to the nature of the development (sheltered accommodation) it is considered unlikely that the proposed development will result in any notable increase in visitor pressure to the sites.	There are no recommendations for designated sites due to a lack of impact.
Vegetation	The site comprises low ecological value habitats with the site dominated by buildings and hard standing with small areas of short ephemeral vegetation, species poor hedgerows and a small number of scattered broadleaved trees. Three mature horse chestnut pollards are of site interest due to their age and structure.	The majority of the existing vegetation is being retained with a small amount of clearance including removal of semi-mature sycamore trees from the northern boundary hedge and the removal of short ephemeral vegetation within the site.	The three horse chestnut pollards should be protected from damage by setting up root protection zones in accordance with BS 5837:2012 Proposed garden landscaping should incorporate native tree and shrub species rather than cultivars.
Badger	The site is classed as having low potential for supporting resident and foraging badger.	As there is only a low likelihood of badger utilising the site, there are no anticipated impacts on badger associated with the proposals.	In the unlikely event that a badger becomes trapped in excavations during construction works, a timber ramp should be inserted to allow the animal to escape of its own accord.

Ecological Feature	Summary	Potential Impacts of Development	Recommendations
Bats	No evidence of roosting bats was recorded during the phase 1 and 2 surveys and therefore roosting bats are considered likely to be absent from the buildings on site. Two of the mature horse chestnut trees along the southern boundary of the site were assessed as having potential to support roosting bats due to presence of suitable roosting features. The site provides areas of habitat suitable for common species of foraging and commuting bats. All bat species are fully protected under the Wildlife and Countryside Act 1981 (as amended); see Appendix 2 for details.	The development will result in a slight reduction in the amount of available foraging habitat, although the majority of the boundary habitats, which are the best features for this purpose, are to be retained. There will be increased lighting and human presence post-development. The two trees with bat roost potential are to be retained but will be subject to disturbance during construction and long-term disturbance through increased artificial lighting on site.	The use of native tree and shrub planting in new landscaping will mitigate for the loss of foraging habitat on-site. The mature horse chestnut pollards should be protected from damage by setting up root protection zones in accordance with BS5837:2012. If it becomes necessary to fell or prune these trees, a licenced ecologist should undertake a detailed inspection of the trees using a digital endoscope and high powered torch. If any evidence of bats is identified then further emergence surveys will be required and a European Protected Species Mitigation (EPSM) licence will need to be obtained prior to the works on these trees commencing. . Any new artificial lighting should be designed to minimise the impact on bats. New lighting should comprise hooded luminaires directed away from vegetation. Ideally the bulbs will be LED and at the warmer end of the spectrum (e.g. avoiding blue or white light). LED lights emit much lower levels of UV and therefore have a lower impact on wildlife¹⁵ⁱ. The new lighting should be motion-activated and task related, associated with specific entrance/exit points of the properties. The lux level should be as low as possible to allow the task to be carried out safely and effectively. Guidance on task related lighting levels published by the Chartered Institution of Building Services Engineers (CIBSE)¹⁶ will be followed. Potential roost sites in the mature horse chestnut trees must not be directly illuminated.

¹⁵ *Wildlife and Artificial Lighting Seminar, 21st – 22nd March 2014, Arup London, Bat Conservation Trust.

Ecological Feature	Summary	Potential Impacts of Development	Recommendations
Dormouse	Vegetation on and adjacent to the site have negligible potential for supporting dormice, being too small to support a viable population of dormice.	Due to a lack of suitable habitat impacts to dormice at the site are considered to be negligible.	There are no recommendations for dormice.
Breeding Birds	The site offers a range of hedgerows and trees that would be suitable for supporting common and widespread bird species during the breeding season. In addition, the furniture building was found to support house martin nests under the eaves. The site has high potential overall.	The clearance of vegetation and the demolition of the buildings could cause harm to breeding birds if undertaken during the breeding season. All birds, their nests, eggs and young are legally protected; legislation is provided in Appendix 1 . Post-development, there will be a minor loss of nesting habitat.	Vegetation clearance and building demolition should be undertaken outside the breeding bird season of March to August, inclusive, or if not possible, an ecologist should be present immediately prior to clearance to check vegetation and the buildings for active nests. Active nests should be left with an undisturbed 5-10m buffer until nesting ends. Two Schwegler 9A Swift nest boxes should be installed on the external walls of the new building to replace the loss of nesting habitat.
Reptiles	The site predominantly comprises areas of hard standing and buildings which offer no suitable reptile habitat. The small amount of short ephemeral vegetation and the base of hedgerows provide a small area of poor quality habitat providing limited potential for reptiles with few features suitable for foraging and basking reptiles. Due to the very limited amount of suitable habitat on site, overall the site is considered to have a negligible potential to support common reptiles.	As reptiles are unlikely to be present, anticipated impacts to reptiles associated with the proposals are considered negligible.	There are no recommendations for reptiles.

¹⁶ CIBSE (1992) Lighting Guide 6: The Outdoor Environment; CIBSE (2002) Code for Lighting, Butterworth-Heinemann, UK.

Ecological Feature	Summary	Potential Impacts of Development	Recommendations
Great Crested Newt	The site provides a very limited amount of suitable terrestrial newt habitat at the base of the boundary hedgerows. A single pond is present 300m west of the site with poor habitat links to the site. Overall, the site has negligible potential for supporting this species.	There are no anticipated impacts associated with this species and the proposals.	There are no recommendations for great crested newt.
Terrestrial Invertebrates	The site generally supports low value habitats that are limited in extent. Standing deadwood in the mature horse chestnut trees provides a small amount of good saproxylic invertebrate habitat. Overall the site is considered to be of low value for invertebrates.	Any works to the three mature horse chestnut pollards has a potential to remove deadwood invertebrate habitat.	The three horse chestnut trees along the southern boundary should be retained and protected with an appropriate root protection zone. If any deadwood removal is required for health and safety then this deadwood should be retained on site and formed into a habitat pile to maintain invertebrate interest on the site.

APPENDIX 1 Proposed Site Plan

APPENDIX 2 Protected Species Legislation

European Protected Animals¹⁷ - Bats

In England, all bat species are fully protected under the Wildlife and Countryside Act 1981 through inclusion in Schedule 5. In addition, these species are protected under the Conservation of Habitats and Species Regulations 2010. Taken together, these legislative instruments make it illegal to carry out the following activities:

- Deliberately or recklessly capture or kill any wild animal of a European protected species;
- Deliberately or recklessly disturb any such animal;
- Deliberately or recklessly take or destroy eggs of any such wild animal;
- Damage or destroy a breeding site or resting place of such a wild animal; and
- Keep, transport, sell or exchange, or offer for sale or exchange, any live or dead wild animal of a European protected species, or any part of, or anything derived from such a wild animal.

Any activity that would result in a contravention of the above legislation would require a licence to avoid committing an offence. Natural England has powers to grant a licence for the following purposes:

- Preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment; or
- Preventing the spread of disease; or
- Preventing serious damage to livestock, foodstuffs for livestock, crops, vegetables, fruit, growing timber or any other form of property or to fisheries.

The Conservation of Habitats and Species Regulations contain three "derogation tests" which must be applied by Natural England when deciding whether to grant a licence to a person carrying out an activity which would harm an European protected species. For development activities this licence is obtained after Planning Permission has been obtained. The three tests are that:

¹⁷ Summarised from www.defra.gov.uk

- The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
- There must be no satisfactory alternative; and
- Favourable conservation status of the species must be maintained.

A recent court judgment¹⁸ makes it clear that, notwithstanding the licensing regime, the Local Planning Authority must also address its mind to these three tests when deciding whether to grant planning permission for a development which could harm a European protected species. A Local Planning Authority failing to do so would be in breach of Regulation 3(4) of the Conservation (Natural Habitats, &c.) Regulations 1994 (revised in 2010 to become the Conservation of Habitats and Species Regulations) which requires all public bodies to have regard to the requirements of the Habitats Directive in the exercise of their functions.

In order to determine whether an activity requires a licence, Natural England advises that the guidance of a consultant ecologist is sought. However, Natural England offer the following advice as a guide:

- A licence is needed if the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably likely to result in an offence under regulation 39; or
- If the consultant ecologist, on the basis of survey information and specialist knowledge of the species concerned, considers that on balance the proposed activity is reasonably unlikely to result in an offence under regulation 39 then no licence is required. However, in these circumstances Natural England would urge that reasonable precautions be taken to minimise the effect on European protected species should they be found during the course of the activity. If they are found then work should cease and an application be made to the Wildlife Licensing Unit at Natural England, Bristol.

Wild Birds¹⁹

The Wildlife & Countryside Act 1981 (as amended) is domestic legislation for Great Britain that repeals existing wildlife legislation such as:

¹⁸ Judgment handed down by His Honour Judge Waksman QC sitting as a judge of the High Court at the start of June 2009 in the case of *R (on the application of Simon Woolley) v Cheshire East Borough Council*. The judgment clarified for the first time the legal duty of a Local Planning Authority when determining a planning application for a development which may have an impact on European Protected Species ("EPS"), such as bats, great crested newts, dormice or otters.

¹⁹ www.naturenet.net

- Protection of Birds Acts 1954 to 1967; and
- Conservation of Wild Creatures and Wild Plants Act 1975.

The Act covers the provisions made in these previous acts and provides additional provision for species and countryside protection. The Act is the primary legislation in Great Britain for the protection of flora, fauna and the countryside. The Act includes the UK's domestic implementation of the species protection of the European Directive on the Conservation of Wild Birds (79/409).

Under the Wildlife and Countryside Act 1981 all birds, their nests and eggs are protected by law and it is thus an offence, with certain exceptions to intentionally:

- Kill, injure or take any wild bird.
- Take, damage or destroy the nest of any wild bird while it is in use or being built.
- Take or destroy the egg of any wild bird.
- Have in one's possession or control any wild bird (dead or alive) or any part of a wild bird which has been taken in contravention of the Act or the Protection of Birds Act 1954.
- Have in one's possession or control any egg or part of an egg which has been taken in contravention to the Act. This includes items taken or killed before the passing of the Act.
- Have in one's possession or control any live bird of prey of any species in the world (with the exception of vultures and condors) unless it is registered and ringed in accordance with the Secretary of State's regulations.
- Have in one's possession or control any bird of a species occurring on Schedule 4 of the Act unless registered (and in some cases ringed) in accordance with the Secretary of State's regulations.
- Disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird.

Status of Wild Birds

The leading governmental and non-governmental conservation organisations in the UK have reviewed the population status of the birds that are regularly found in the UK. A total of 247 regularly breeding or wintering species were assessed and each placed onto one of three lists

- Red, Amber or Green. Forty species are Red-listed, 121 are Amber-listed and 86 are Green-listed. Seven quantitative criteria were used to assess the population status of each species and place it onto the Red, Amber or Green List. These criteria are listed below. The review excluded species that are not native to the UK and those that occur irregularly as vagrants or scarce migrants.

Global Conservation Status - Species assessed as Globally Threatened using IUCN11 criteria were placed on the Red List.

Recent Decline - Species whose breeding or non-breeding population declined, or range contracted, rapidly (by more than 50%) or moderately (by between 25 and 49%) over the last 25 years were placed on the Red and Amber Lists respectively.

Historical Decline - Species whose populations declined severely between 1800 and 1995 were placed on the Red List, except for those that have recovered substantially (more than doubled) in the last 25 years, which were Amber Listed. In earlier assessments, all species showing a serious historical decline were Red Listed, but in this assessment the success of recent conservation action has been recognised by moving recovering species to the Amber List.

European Conservation Status - Species whose population status is unfavourable in Europe (but which are not Globally Threatened) were placed on the Amber List.

Rare Breeders - Species with a mean population size of 1-300 pairs breeding annually over the last five years were placed on the Amber List. If a full census was carried out in a single year, the result of this was used instead of a five-year mean.

Localised Species - Species for which 50% or more of the breeding or non-breeding population occurs at 10 or few sites were placed on the Amber List. This criterion was used because a species whose population is confined to a few sites faces a greater threat from chance events than one whose population is widespread. The sites considered were either Important Bird Areas (identified by BirdLife International) or Special Protection Areas (designated under the European Union's Directive on the Conservation of Wild Birds).

International Importance - Species with 20% or more of their European population breeding in the UK were placed on the Amber List, as were non-breeding wildfowl with 20% or more of their northwest European population occurring in the UK and non-breeding waders with 20% or more of their East Atlantic Flyway population occurring in the UK. This criterion is different from the others as it is a measure of the UK's responsibility for each species rather than the extent to which species are threatened.

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- Red List species are those that are Globally Threatened according to IUCN criteria; those whose population or range has declined rapidly in recent years; and those that have declined historically and not shown a substantial recent recovery.
 - Amber List species are those with an unfavourable conservation status in Europe, those whose population or range has declined moderately in recent years; those whose population has declined historically but made a substantial recent recovery; rare breeders; and those with internationally important or localised populations.
 - Species that fulfil none of the criteria are Green-listed.
-