



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

EMPSHILL FARM

Project name: Empshill Farm, Farmington, Cheltenham, GL54
3ND

Grid Reference: SP14101494

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1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Planning permission will be sought for the installation of two holiday cabins at the edge of an existing conifer plantation at Empshill Farm, Farmington.

Arbor Vitae were commissioned by The Rural Planning Co. to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species.

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

- Identify and record habitats and important ecological features on site;
- Evaluate the potential of the proposed development site to provide opportunities for protected species;
- Determine any likely impact which the development and landscape proposals may have on these.
- Identify opportunities for the enhancement of habitats and biodiversity features on site.

1.3 KEY PRINCIPLES

All ecological surveys conducted by Arbor Vitae Environment Ltd are underpinned by the following key principles, as outlined by CIEEM (2018):

Avoidance - Seek options that avoid harm to ecological features (for example, by locating on an alternative site).

Mitigation - Adverse effects should be avoided or minimized through mitigation measures, either through the design of the project or subsequent measures that can be guaranteed – for example, through a condition or planning obligation.

Compensation - Where there are significant residual adverse ecological effects despite the mitigation proposed, these should be offset by appropriate compensatory measures.

Enhancements - Seek to provide net benefits for biodiversity over and above requirements for avoidance, mitigation or compensation.

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

The site is located at the southern edge of a coniferous plantation to the south of a woodland parcel named Square Copse at Farmington, Cheltenham. The site is found just off the A40 between Gloucester and Oxford within a pasture dominated landscape with intermittent woodland plantations.

There is an existing access track in place along the west boundary of the plantation, accessed from the north. The proposals will include the installation of two holiday cabins and associated parking.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

An initial desk study was composed to gain background information regarding any protected species or designations within the area. The main sources of information were MagicMap and NBN Atlas.

3.2 SITE SURVEY

A site visit was made on 30/04/2023. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

An assessment of the available habitats both on and adjacent to the site led to consideration of the potential of the site for the following protected species:

- Badger
- Bats
- Breeding birds
- Great Crested Newt
- Hazel dormice
- Reptiles

The survey methodology was tailored to evaluate the area for these species in the following ways:

Badger

An area within 50 metres of the site was closely searched for the following signs of badger activity:

- Setts,
- Tracks and footprints,
- Latrines,
- Snuffle holes.

Bats

The site was assessed in terms of its suitability to support bat species. Hedgerow habitat and nearby potential habitat were assessed and recorded and potential impacts from the proposals considered.

Breeding birds

The site was assessed in terms of its suitability to support breeding bird populations. Hedgerow habitat and nearby potential habitat were assessed and recorded.

Great crested newt

A desk study and a ground search were conducted to search for any areas of open water within 250 metres. Waterbodies were then assessed based on the Habitat Suitability Index for great crested newts (Oldham et al., 2000 and ARG UK, 2010).

Hazel dormice

The site was assessed in terms of habitat suitability and connectivity to another suitable habitat. The following features were noted:

- Proximity to existing distribution
- Presence of hazel
- Gnawed hazel nuts
- Presence of honeysuckle or other suitable nest building materials

Reptiles

The site was assessed based on its suitability to support reptile populations including connections to terrestrial land from water and suitable resting habitat nearby.

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc ACIEEM: Ecologist. Natural England bat licence number: 2021-52205-CLS-CLS, GCN licence number: 2019-42631-CLS-CLS and hazel dormouse licence number: 2023-11248-CL10A-DOR.

3.4 CONSTRAINTS

There were no constraints to the survey being carried out successfully.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 1km of the site there were the following designations:

Name	Designation	Distance from site
Cotswolds	AONB	0km
Hungryhill Copse	Ancient Semi Natural Woodland	0.7km
Farmington Grove	Ancient Semi Natural Woodland Ancient Replanted Woodland	1km

The search included Ramsar, SSSI, SAC, SPA, LWS, NNR and LNR. ¹

Results from the desk study revealed that within a 1km radius of the proposed development site the following protected species have been recorded:

Species	Distance	Protection
Mammals		
Badger	0.7km	Protection of Badgers Act 1992, Wildlife and Countryside Act 1981.
Daubenton's bat Whiskered/Brandt's bat Natterer's bat Noctule Common pipistrelle Soprano pipistrelle Brown long-eared	0.5-1km	European Protected Species, Wildlife and Countryside Act 1981.

¹ SSSI: Site of Special Scientific Interest, SAC: Special Area of Conservation, SPA: Special Protection Area, LWS: Local Wildlife Site NNR: National Nature Reserve, LNR: Local Nature Reserve.

Greater horseshoe bat Lesser horseshoe bat		
Birds		
Kingfisher Merlin Peregrine Kestrel Brambling Nightingale (red list) Redwing Fieldfare Barn owl	0.3-1km	Wildlife and Countryside Act 1981.
Amphibians		
Great crested newt	0.9km	European Protected Species, Wildlife and Countryside Act 1981.

4.2 HABITATS ON SITE

All habitats are classified using JNCC's Phase 1 Habitat Survey Handbook (JNCC, 2010).

Plantation woodland

The site lies at the southern edge of a larger block of plantation woodland. The planting consists mostly of spruce and western red cedar with sycamore, ash, hazel and hawthorn in low numbers along the peripheries of the woodland. Some areas of the woodland are very dense with little light available at the ground flora, creating low diversity of plants at the ground layer.

Where vegetation does persist at the ground layer, species are dominated by ruderal plants including: common nettle, herb Robert, creeping buttercup, dandelion, spear thistle, dandelion, cow parsley, cleavers and garlic mustard.

There is an active felling licence for the plantation woodland and plans for the estate include the re-creation of native broadleaved woodland.

The proposed site for the cabins is fairly open and sparsely covered by ash and spruce. The trees are early-mature and provide uniform growth patterns. The ground flora consists of bramble and other species listed above with the addition of ground ivy and soft rush.

Hardstanding

An existing crushed stone track runs along the west edge of the plantation woodland and continues to the farm yard at the south. There are a small number of tracks running through the plantation, used for maintenance and access.

Hedgerow

The south boundary of the plantation is marked by a defunct, species-poor hedge consisting of hawthorn, blackthorn, ash and elder. There are several mature ash trees present within the hedge, many of which are multi-stemmed and appear to have been part of a laid hedge at some point.

The ground flora of the hedge is dominated by nettle and bramble with improved grassland to the south.

4.3 ADJACENT HABITATS

Newly planted woodland

A large area to the east of the planted block has been re-planted with a mixture of young and slightly more mature broadleaved trees. Species in this area have been chosen based on the hydrological and geological features of the area. Species planting includes: silver birch, wild cherry, rowan, oak, Hazel, birch and common alder.

Improved grassland

Land to the south and west of the woodland is dominated by improved grassland paddocks, used for grazing horses. The sward in each paddock is uniform and contains limited species including; perennial ryegrass, annual meadow grass, white clover, chickweed and creeping buttercup.

4.4 PROTECTED SPECIES

Badgers

There are no historical records of badger at the site and no field signs were found within the search area.

Bats

There is one tree at the south boundary of the woodland which provides 'low' potential as a roosting site for bat species. The mature ash tree persists within the hedge and provides a small number of holes and crevices which could be exploited by tree-dwelling bat species.

No other trees or potential roosting sites were identified on or adjacent to the site.

Breeding birds

There is an owl box mounted on the mature ash at the south boundary which does not appear to be occupied. The owl box is located approximately 2m from the ground and would benefit from re-location with an increased height.

Incidental bird records collected whilst on site include: blackbird, great tit, wren, robin, magpie and carrion crow. No nesting sites were identified within the site area.

Great Crested Newt

No ponds were identified within 250m of the proposed development site and therefore no further survey work is required with regard to this species.

Hazel dormouse

The plantation woodland does not offer suitable opportunities for hazel dormice and food resources are limited. There are no existing populations within 1km of the site and no evidence of dormice was found during the survey (natural nests, stripped vegetation, evidential hazelnuts).

Reptiles

The plantation woodland on site offers limited opportunities for reptile species. Furthermore, the surrounding grazing paddocks offer little suitable habitat or dispersal opportunities and there are no known existing populations within 1km of the site.

5 POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

Plantation woodland

Removal of selected trees from the woodland parcel will be necessary in order to facilitate the installation of cabins and parking areas. The existing trees offer limited value to wildlife other than their collective status as a plantation woodland. The woodland is not designated as ancient nor does it possess any features which indicate otherwise.

Furthermore, plans for the site include the removal of non-native trees and replanting with native broadleaved species. This will provide an overall improvement for biodiversity and the local landscape.

A separate arboricultural survey has been carried out to accompany the application.

Hardstanding

The existing stone track will be used as an access point to the site. There will be a modest increase in the area of hardstanding on site as small parking areas will be created for each cabin.

Hedgerow

The hedgerow at the south boundary will be retained and continue to be managed as it is. This includes all mature trees in this location.

Newly planted woodland

The proposals will have no impact upon the newly planted woodland.

Improved grassland

The proposals will have no impact upon improved grassland habitats.

5.2 PROTECTED SPECIES ASSESSMENT

Badger

The proposals will have no impact upon badger, their foraging sites or setts.

Bats

The proposals will have no direct impact upon any features which provide roosting opportunities for bat species. The mature ash at the south boundary will be retained and protected during work (unless removal is advised by the arboriculturist).

The only residual impact may arise from the installation of artificial lighting with the cabins. A Wildlife Sensitive Lighting Plan will be required and will benefit all nocturnal wildlife.

Breeding birds

There are no densely vegetated areas present within the site and no signs of nesting were observed during the site inspection. However, the proposed work does have the potential to disturb breeding birds given the habitats present on and off site. Precautionary measures will be required to remove all risk.

Great crested newt

There are no ponds present within 250m of the site and the proposals are ‘highly unlikely’ to have any impact upon GCN according to Natural England’s Rapid Risk Assessment Tool.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	No effect	0
Land >250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.001
Individual great crested newts	No effect	0
		Maximum: 0.001
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

Hazel dormouse

The habitats on site are not suitable for hazel dormice and there was no evidence to suggest that the species would be present on or adjacent to the site. The proposals will have no impact upon this species.

Continued improvement of the woodlands on site, including the replanting of conifer plantations with native broadleaves, will enhance local opportunities for the species.

Reptiles

The site does not provide particularly suitable terrestrial habitat opportunities for reptile species and the scale of works is minimal. It is highly unlikely that any reptiles will be impacted by the proposals but in order to removal any residual risk, a set of General Avoidance Measures will be adopted on site.

6 AVOIDANCE, MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

Plantation woodland

Plans for the site will include the replanting of native broadleaved trees on and around the site, following removal of any existing coniferous species.

A planting scheme for areas around the cabins will include a mixture of native shrubs and plants, suitable for the woodland setting. Species will include: hazel, hawthorn, elder, dogwood, Guelder rose, spindle, male fern, broad buckler fern and polypody.

6.2 PROTECTED SPECIES MITIGATION

Bats

The following measures will be included within lighting plans for the site:

- Hedgerows and key habitat features including mature trees on the site will not be illuminated in order to retain dark movement corridors for nocturnal wildlife.
- Any exterior security or decorative lights to be installed on the development site will be less than 3 m from the ground and fitted with hoods to direct the light below the horizontal plane, at an angle of less than seventy degrees from vertical, and shall not be fixed to, or directed at, bat boxes or gables or eaves.
- Security lighting will be set on motion sensors with short timers (<1 minute) and will be LED with a passive infrared trigger.
- External lights will be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum will be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires will be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires will be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires will always be mounted horizontally with an upward light ratio of 0%.

Breeding birds

A thorough ground inspection will be completed prior to works commencing on site if works start between 1st March and 31st August (inclusive) in any given year. If breeding birds are found, an exclusion zone of 5 metres should be implemented and maintained until breeding is complete and the fledglings have left the nest.

Where possible, all vegetation removal/manipulation will be carried out during winter months.

General Avoidance Measures

The following measures should be implemented to decrease the likelihood of killing/injuring small animals:

- If piles of rubble, logs, bricks, other loose materials or other potential refuges are to be disturbed, this should be done by hand and carried out during the active season (March to October) when the weather is warm to allow animals to disperse naturally.
- All building materials, rubble, bricks and soil must be stored on raised platform (e.g. wooden pallets) to prevent their use as refuges by wildlife.

- Where possible, trenches should be opened and closed in the same day to prevent any wildlife becoming trapped. If it is necessary to leave a trench open overnight then it should be provided with a means of escape in the form of a shallow ramp.
- Any open pipework should be capped overnight. All open trenches and pipework should be inspected at the start of each working day to ensure no animal is trapped.
- Any common reptiles or amphibians discovered should be allowed to naturally disperse. Advice should be sought from an appropriately qualified and experienced ecologist if large numbers of common reptiles or amphibians are present.

6.3 ECOLOGICAL ENHANCEMENT

Ongoing woodland restorative works will significantly enhance the woodland parcels found on site and throughout the Empshill Farm land holding. Works are underway to remove diseased ash and replant with native broadleaved species.

The existing owl box mounted on the mature ash at the south boundary will be relocated away from the site and positioned at least 4m from ground level, within an isolated mature tree on the farm.

In order to provide shelter, breeding and hibernating opportunities for a variety of wildlife, we recommend that a nest box scheme is adopted as follows:

- Three Woodcrete general purpose cavity bat boxes, suitable for crevice-dwelling species will be installed into mature trees to be retained. No lighting will be installed in the vicinity of the boxes. They will be at least 3m from the ground and face south or south west.
- Two Woodcrete cavity nesting bird boxes with 28mm or 32mm access holes. These will be positioned within mature trees on the boundary of the site and the access should face away from the prevailing wind.
- Two Woodcrete open-fronted nest boxes will be installed into mature trees within the woodland. They will be at least 2.5m from the ground.

7 SUMMARY

Planning permission will be sought for the installation of two holiday cabins at the edge of an existing conifer plantation at Empshill Farm, Farmington. Arbor Vitae were commissioned by The Rural Planning Co. to undertake a Preliminary Ecological Appraisal in order to assess the impact of the development on habitats and protected species. A summary of key findings:

- There is an existing access track in place along the west boundary of the plantation, accessed from the north.
- Removal of selected trees from the woodland parcel will be necessary in order to facilitate the installation of cabins. The existing trees offer limited value to wildlife other than their collective status as a plantation woodland. The woodland is not designated as ancient nor does it possess any features which indicate otherwise. Furthermore, plans for the site include the removal of non-native trees and replanting with native broadleaved species. This will provide an overall improvement for biodiversity and the local landscape.
- The existing stone track along the west boundary will be used as an access point to the site. There will be a modest increase in the area of hardstanding on site as small parking areas will be created for each cabin.
- The hedgerow at the south boundary will be retained and continue to be managed as it is. This includes all mature trees in this location.
- The proposals will have no impact upon the newly planted woodland or improved grassland habitats.
- The proposals will have no impact upon badger, their foraging sites or setts.
- The proposals will have no direct impact upon any features which provide roosting opportunities for bat species. The mature ash at the south boundary will be retained and protected during work (unless removal is advised by the arboriculturist). The only residual impact may arise from the installation of artificial lighting with the cabins. A Wildlife Sensitive Lighting Plan will be required and will benefit all nocturnal wildlife.
- A thorough ground inspection will be completed prior to works commencing on site if works start between 1st March and 31st August (inclusive) in any given year. If breeding birds are found, an exclusion zone of 5 metres should be implemented and maintained until breeding is complete and the fledglings have left the nest. Where possible, all vegetation removal/manipulation will be carried out during winter months.
- There are no ponds present within 250m of the site and the proposals are 'highly unlikely' to have any impact upon GCN according to Natural England's Rapid Risk Assessment Tool.
- The habitats on site are not suitable for hazel dormice and there was no evidence to suggest that the species would be present on or adjacent to the site. The proposals will have no impact upon this species. Continued improvement of the woodlands on site,

including the replanting of conifer plantations with native broadleaves, will enhance local opportunities for the species.

- The site does not provide particularly suitable terrestrial habitat opportunities for reptile species and the scale of works is minimal. It is highly unlikely that any reptiles will be impacted by the proposals but in order to removal any residual risk, a set of working measures will be adopted on site.
- Habitat mitigation will include the replanting of native broadleaved trees on site and suitable native landscaping plans around the proposed cabins.
- Ecological enhancement on site will include the installation of a range of wildlife boxes to provide opportunities for bats and breeding birds.

8 REFERENCES

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FIGURE 1 LOCATION

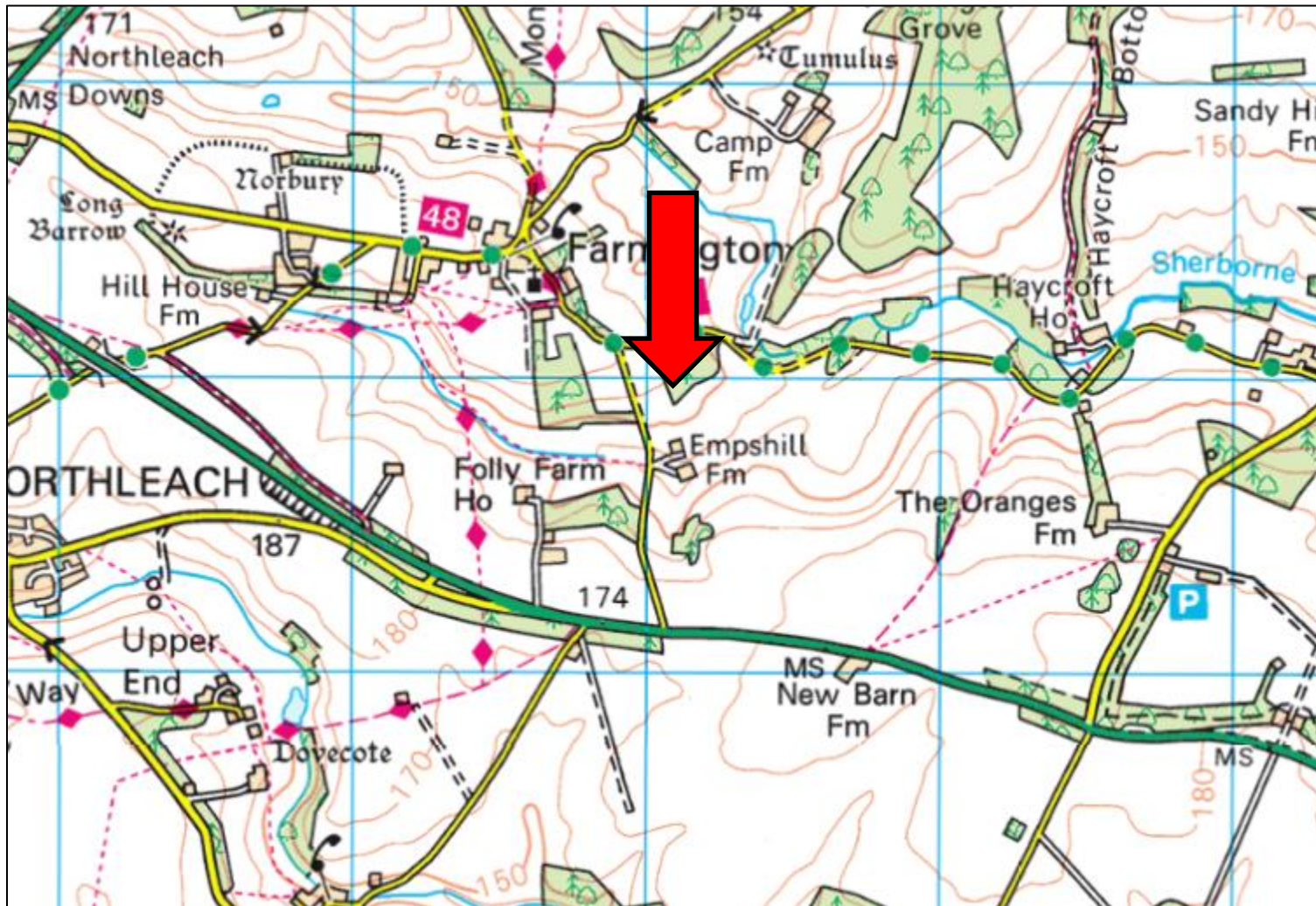


FIGURE 2 AERIAL PHOTOGRAPH



APPENDIX 1 PHOTOGRAPHS



Existing crushed stone track



General site area



Hedge at south boundary



Hedge at south boundary and improved grassland



East boundary of woodland



Adjacent broadleaved plantation

