

NEIL TOMLINSON
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ECOLOGICAL REPORT

Extension of Garden Room

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Garden Structures at Wargrave Manor, Wargrave Hill, Wargrave, Berkshire RG10 8JL

Ecological Impact Assessment

January 2024

on behalf of David Salisbury

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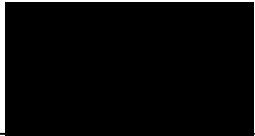
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Client	David Salisbury
Job name	Garden Structures at Wargrave Manor, Wargrave Hill, Wargrave, Wokingham, Berkshire RG10 8JL
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	Signed	Name	Position	Date
Prepared by		Reuben Hayden <i>MSc</i>	Senior Ecologist	10/01/2024
Reviewed by		Edward Bodsworth <i>MA (Cantab) PhD MCIEEM</i>	Director	10/01/2024

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1 Executive Summary

Site Details	Wargrave Manor, referred to as the 'site' for the purpose of this report, is located to the western side of Wargrave Hill, to the north of the village of Wargrave in Berkshire RG10 8JL. The approximate Ordnance Survey grid references for the proposed garden structures are SU 7890 7914 and SU 7882 7919.
Proposals	The proposals include the erection of two free standing garden structures (a garden building and a pergola).
Methodology	An extended UKHab survey was undertaken on 9 th January 2024 by professional ecologist Reuben Hayden <i>MSc ACIEEM</i> .
Results	- The site comprises two areas of garden including habitats of modified grassland (lawn) and developed land; sealed surface. The site is accessed via a driveway off Wargrave Hill. Impacts of the development are only predicted on the two areas of garden comprising an approximate footprint of 150m². - The habitats to be impacted by proposals are considered to be of negligible to low ecological value. - The habitats within the site are entirely unsuitable for amphibians during their terrestrial phase, however, amphibians may be migrating/commuting through the site given the presence of ponds within the local area.
Impact Assessment	- The proposals will result in the loss of modified grassland and developed land; sealed surface, habitats of negligible to low ecological value within the context of the site. - There are no foreseeable impacts on habitats of 'principal importance', as listed within Section 41 of the NERC Act 2006. - With the implementation of a precautionary working method statement, there are no foreseeable impacts on amphibians including great crested newts. - New external lighting has the potential to affect bat behaviour.
Recommendations	Recommendations are made with species-specific enhancements including bird/bat boxes. A precautionary working method statement is recommended to protect amphibians during the construction phase.

2 Introduction

2.1 Site Description & Context

Wargrave Manor, referred to as the 'site' for the purpose of this report, is located to the western side of Wargrave Hill, to the north of the village of Wargrave in Berkshire RG10 8JL. The approximate Ordnance Survey grid references for the proposed garden structures are SU 7890 7914 and SU 7882 7919.

The site comprises two areas of garden including habitats of modified grassland (lawn) and developed land; sealed surface (hard-standing/patio). The site is accessed via a driveway off Wargrave Hill. Impacts of the development are only predicted on the two areas of garden comprising an approximate footprint of 150m².

The site is located within the Wargrave Manor estate which comprises a Grade II listed manor building, gardens, a lake, a horse track as well as wood pasture and parkland. Habitats within the wider landscape are dominated by residential development associated with Wargrave to the south, arable land to the east, the River Thames to the west, and pockets of woodland, a golf course and arable land to the north.

2.2 Proposals

The proposals include the erection of two free-standing garden structures (a garden building and a pergola).

Proposal plans are presented in Appendix 3.

2.3 Aims of Study

The aims of this study are to describe and evaluate the habitats present within the site and to assess the potential for the site to support protected and notable species. The report discusses the likely impacts of the proposed development on the ecology of the site, on valued habitats and on protected/notable species. The study also makes recommendations for appropriate mitigation measures and habitat enhancement with regard to habitats and species. The need for further ecological survey work is discussed in light of the impact assessment.

One specific aim of this study is to survey the habitats within the site for great crested newts whilst on land and the lake within the grounds of Wargrave Manor for its potential to offer suitable breeding habitat for great crested newts. The report makes recommendations for appropriate mitigation, compensation and enhancement measures and the potential impacts on protected species are assessed in accordance with the legal protection afforded to bats under The Conservation of Habitats & Species Regulations 2017.

2.4 Great Crested Newt Ecology

Great crested newts are the largest of the three species of newt that occur in the UK. They are distinctive due to their relatively large size, dark colour and yellow or orange-coloured undersides covered in large black blotches. Males can be distinguished from females by the presence of a blue/grey flash on the tail and a jagged crest during the breeding season.

Great crested newts tend to spend the majority of their time on land, moving to ponds and pools to breed during the spring and summer (March to July), although some individuals can spend considerably longer within aquatic habitats. The female lays two or three eggs a day between March and mid-July, until a total of 200 to 300 eggs have been laid. The eggs are laid on submerged aquatic vegetation, each carefully wrapped in a leaf.

The larvae (or efts) hatch after about three weeks and live in the pond as aquatic predators until they metamorphose into adult newts. They are vulnerable to fish predation, and water bodies containing fish are rarely used for breeding (this means that they do not usually use running water or larger lakes or ponds where fish are present).

After metamorphosis into air-breathing juveniles at about four months old, they live a terrestrial life until old enough to breed, which is at about two or three years of age. Both the juvenile newts and the adults (outside the breeding season) live in terrestrial habitats with dense cover such as scrub, rough grass and woodland, usually within about 200-300 metres of the breeding pond. They rest during the day beneath rocks, logs or other shelters.

Larval newts usually feed on tadpoles, worms, insects and insect larvae. Adults hunt in ponds for other newts, tadpoles, froglets, worms, insect larvae and water snails. They also hunt on land for insects, worms and other invertebrates. During the winter months, the newts hibernate under logs and stones. The newts normally return to the same breeding site each year, and can live as much as 25 years, although up to about 10 years is more usual.

3 Methodology

3.1 Desk Study

The Multi-Agency Geographic Information for the Countryside (www.magic.gov.uk) website was searched for information regarding internationally protected sites (e.g. Special Areas of Conservation) within 5km of the survey area and statutory sites of nature conservation importance (e.g. Sites of Special Scientific Interest) within a 1km radius of the site.

Other Internet resources interrogated as part of the desk study include:

- Bing Maps - www.bing.com/maps
- Google Earth - www.earth.google.co.uk
- Google maps - www.google.co.uk/maps

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 was also consulted to gather information pertaining to priority habitats and species for conservation action at the national and local level.

Aerial photography interpretation is used to place the site into an ecological context and to provide information on the nature of the habitats beyond the site boundary. The information gathered is used to provide a baseline to the habitat assessment.

A full desk study (through the Local Records Centre) was not considered necessary for this study. This is due to the nature of the proposals, which are of small scale (approx. 150m²). Obtaining species records is unlikely to make a significant difference to the evaluation of habitats within the site or the conclusions of the ecological impact assessment in this instance.

3.2 Field Surveys

3.2.1 Extended UKHab Survey

An extended UK Habitat (UKHab) Classification Survey was undertaken on 9th January 2024 by Reuben Hayden MSc ACIEEM. A walkover of the site was conducted, and a description of the habitats present was prepared using standard UKHab Survey methodology (UKHab, 2023). Habitats were also assessed for their potential to support protected and/or notable species.

Target notes were also prepared on features of particular ecological interest within the site and an assessment was made of the site's potential to support protected and notable species (such as species listed under Section 41 of the NERC Act 2006).

3.2.1.1 Weather Conditions

The weather during the survey was dry and cold (2°C) with clear skies (10% cloud cover) and a moderate breeze (Beaufort Scale 4).

3.2.2 Great Crested Newt Habitat Assessment

An ornamental lake within the south-eastern area of the Wargrave Manor estate was assessed for its suitability to support great crested newts *Triturus cristatus* according to the criteria and method developed by Oldham *et al.* 2000. The work by Oldham, and others, hypothesises that the likely presence of breeding great crested newts can be predicted by a number of habitat features such as pond size, location, shading, the presence of fish, wildfowl and aquatic plants.

These data are used to calculate a Habitat Suitability Index (HSI); represented as a number from 0 to 1. The higher the number, the more likely the pond is to be occupied by breeding great crested newts. Following Oldham's study, further work by Dr Lee Brady has resulted in a categorical scale for using HSI scores to define pond suitability for great crested newts. This scale is shown below:

HSI	Pond suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 - 0.69	Average
0.7 - 0.79	Good
> 0.8	Excellent

The studies by Oldham and Brady indicate that great crested newts tend to avoid ponds with low HSI scores. Ponds with relatively low HSI scores (poor to below average) typically only support great crested newt when they are located close to another occupied pond. Low scoring ponds are therefore only likely to support great crested newts in areas of high pond density. Ponds with relatively high HSI scores (good - excellent) frequently support great crested newts and survey work undertaken in England indicates that great crested newts are present in more than 90% of 'excellent' ponds.

3.3 Evaluation Methodology

The evaluation of habitats follows the geographic frame of reference presented within the *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine* version 1.1 (CIEEM, 2018).

The Chartered Institute of Ecology and Environmental Management (CIEEM) guidelines recognise that ecological evaluation is a 'complex and subjective process' but provides key considerations to apply when 'applying professional judgement to assign values to ecological features and resources'. These include consideration of geographic frame of reference; site designations and features; biodiversity value; large populations or important assemblages of species; potential or supporting value; social value and economic value.

Focusing on assessments of biodiversity value, there are various characteristics that can be used to identify ecological resources or features that are likely to be important in terms of biodiversity. These include:

- Rare or uncommon species in the local, national or international context;
- Endemic or locally distinct sub-populations of a species;
- Species on the edge of their distribution;

- Notably large populations of animals or concentration of animals considered uncommon or threatened in a wider context;
- Species, rich assemblages of plants or animals;
- Ecosystems and their component parts, which provide the habitats required by the above species, populations and/or assemblages;
- Plant communities (and associated animals) considered typical of valued natural/semi-natural vegetation types; and
- Habitat diversity, connectivity and/or synergistic associations.

In this report, habitats are assigned to a value relating to their geographic frame of reference, using the following scale:

- International
- UK
- National (England)
- Regional (South East)
- County (Berkshire)
- District (Wokingham)
- Local or parish (Wargrave)
- Immediate zone of influence of the site (Site)
- Negligible

Regarding protected and notable species, an assessment of habitat suitability and potential presence of species has been undertaken, given the results of the desk study and field survey.

3.3.1 *Characterising and Quantifying Effects and Assessing Significance*

The guidelines state that ecological effects should be characterised in terms of ecosystem structure and function and reference should be made to: positive or negative effects; extent; magnitude; duration; reversibility; timing and frequency; and cumulative effects. The guidelines provide a list of 'key aspects of ecosystems to consider when predicting effects'.

Following the characterisation of effects, an assessment of the ecological significance of an effect is made. Prior to the publication of the current guidelines in 2006, ecological significance was defined using a matrix in which ecological value and magnitude of effect were combined to determine different grades of significance; usually high, medium or low. The guidance now advises that assigning levels of significance in this way obstructs a clear understanding of the EcIA process and can result in an assessment that lacks rigour.

The guidelines promote a more transparent approach in which a beneficial or adverse effect is determined to be significant or not, in ecological terms, in relation to the integrity of the defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, which relates to the level at which it has been valued. The decision about whether an effect is significant or not, is independent of the value of the ecological feature; the value of any feature that will be significantly affected is then used to determine the implications, in terms of legislation, policy and or development control.

3.4 Limitations on Survey Data

There are no significant limitations on the survey data, and all areas of the site could be surveyed thoroughly and safely.

As with any survey undertaken on a certain date, the data presented within this report provide information at particular points in time and present a 'snap-shot' of the ecological status of the site. Ecosystems and species behaviour/activity are dynamic and can change over time.

Whilst this report presents a characterisation and evaluation of habitat and species status at the time of the study, it should not be taken as an exhaustive representation of the ecological status of the site either at present or into the future.

4 Results

4.1 Ecological Context

4.1.1 Sites of Nature Conservation Importance

4.1.1.1 Statutory Sites

There are no sites of international nature conservation importance, such as a Special Area of Conservation (SAC), located within a 5km radius of the site. The closest site of international nature conservation importance is the Chiltern Beechwoods SAC, which is located approximately 8km north-east of the site.

There are no sites of national nature conservation importance, such as a Site of Special Scientific Interest (SSSI), located within a 1km radius of the site. The closest site of national nature conservation importance is Harpsden Wood SSSI, situated approximately 2.8km north-west of the site.

Chiltern Beechwoods SAC

Annex I habitats that are a primary reason for selection of this site and Asperulo-Fagetum beech forests. The Chilterns Beechwoods represent a very extensive tract of Asperulo-Fagetum beech forests in the centre of the habitat's UK range. The woodland is an important part of a grassland-scrub-woodland mosaic. A distinctive feature in the woodland flora is the occurrence of the rare coralroot *Cardamine bulbifera*.

Other important features include semi-natural dry grasslands and scrubland facies on calcareous substrates (Festuco-Brometalia) and stag beetle *Lucanus cervus*.

4.2 Habitats

Photographs of the site are presented in Appendix 1. Appendix 2 illustrates the location of the site and provides an aerial photograph of the site within the surrounding landscape.

A habitat plan is presented in Appendix 3. The UKHab codes for the habitats within the site are presented within Table 1.

Table 1. UKHab habitat codes for the site.

Primary Code	Secondary Codes	Description
u1b	-	Developed land; sealed surface
g4	-	Modified grassland

4.2.1 Modified Grassland (lawn)

The eastern portion of land, proposed for the erection of a pergola, comprises an area of modified grassland (lawn) that surrounds the ornamental lake. The grassland is managed through regular mowing to maintain a short sward height of approximately 3cm. The grassland has an average of five species per m² and is dominated by common grasses such as perennial rye *Lolium perenne* and annual meadow grass *Poa annua*. Herbaceous species include dove's-foot crane's-bill *Geranium molle*, daisy *Bellis perennis*, yarrow *Achillea millefolium*, ribwort plantain *Plantago lanceolata*, spear thistle *Cirsium vulgare*, curled dock *Rumex crispus*, bristly oxtongue *Helminthotheca echioides*,

creeping buttercup *Ranunculus repens*, white clover *Trifolium repens*, groundsel *Senecio vulgaris* and ragwort *Jacobaea vulgaris*.

The grassland comprises common and widespread species that are typical of this habitat type. The grassland does not meet the criteria for a habitat of 'principal importance' as listed within Section 41 of the NERC Act 2006. The habitat is considered to be of ecological value within the context of the site only.

4.2.2 Developed Land; Sealed Surface

The western portion of land, proposed for the erection of a garden building, comprises an area of developed land; sealed surface (patio) which has been covered by astroturf.

Areas of hard-standing are considered of negligible ecological value.

4.2.3 Boundary Habitats

4.2.3.1 Ornamental Lake

To the east of the eastern portion of land, there is an ornamental lake with an approximate area of 7000m². The lake appears to be man-made and is surrounded by vegetated garden habitats associated with Wargrave Manor.

Anecdotal evidence suggests the pond is stocked with fish such as carp *Cyprinus carpio* and is used by wildfowl seasonally. Within the southern portion of the lake, there is an island that comprises managed habitats of scattered trees, modified grassland and introduced shrub.

4.2.3.2 Vegetated Garden

Surrounding the western portion of land, there are habitats of managed vegetated garden which include modified grassland (lawn, scattered trees and introduced shrub). Species noted within these habitats include cherry laurel *Prunus laurocerasus*, yew *Taxus baccata*, sycamore *Acer pseudoplatanus*, holly *Ilex aquifolium*, Portuguese laurel *Prunus lusitanica* and horse chestnut *Aesculus hippocastanum*. The trees are young to semi-mature with a maximum height of approximately 8m.

4.3 Species

4.3.1 Plants

No rare or scarce plants are present within the site.

4.3.2 Reptiles

The site is not considered to provide suitable habitat for reptiles, as there is a lack of suitable habitat, such as tussocky grassland, that could support adequate prey numbers and shelter. The areas of grassland and hard-standing which dominate the site are completely unsuitable for reptiles due to the short sward height of the grassland, which offers no shelter, and the open and bare nature of the hard-standing. There are no shelter or hibernacula features within the site.

Given the above, it is considered that reptiles are absent from the site.

4.3.3 Amphibians

The distribution of amphibians during their terrestrial phase is largely dictated by availability of suitable breeding habitat, with all native species requiring an aquatic environment within which to breed. It is believed that great crested newts can disperse up to 500m from a breeding pond, however the majority of individuals will typically be located within 250m. Research by Creswell and Whitworth (2004) located that the majority of great crested newts are located within approximately 50m of a

breeding pond, given sufficient suitable habitat in close proximity, and they also located a significant drop-off in newt capture rates beyond 100m of a pond.

There is an ornamental lake located between 5m and 90m east of the areas proposed for development which was assessed for its potential to support breeding great crested newts. The result of the HSI calculation for the lake was an index of 0.40, indicating that the pond has 'poor' suitability for breeding great crested newts. The lake scores low on the index mainly due to the presence of fowl and fish, as well as poor nature of the surrounding habitats (managed vegetated garden).

The full results of the HSI assessment of the lake are presented in Table 2.

Table 2. HSI assessment of the ornamental lake.

Characteristic	Score
SI ₁ Location	1
SI ₂ Pond Area	0.8
SI ₃ Pond Drying	0.9
SI ₄ Water Quality	0.67
SI ₅ Shade	1
SI ₆ Fowl	0.01
SI ₇ Fish	0.3
SI ₈ Ponds	0.6
SI ₉ Terrestrial Habitat	0.33
SI ₁₀ Macrophytes	0.35
Habitat Suitability Index	0.40
Suitability	Poor

There is also a swimming pool which is found between 35m and 130m north/north-west of the areas proposed for development. This pool is not considered suitable for breeding amphibians as it lacks any vegetation suitable for egg laying and is covered by a plastic lining when not in use.

There is only one other waterbody, as shown on standard Ordnance Survey maps, within a 500m radius of the site, being located between 320m and 400m west of the areas proposed for development. This pond is however connected to the River Thames and is likely to be unsuitable for breeding amphibians due to increased water flow and presence of fish. These ponds are located between 210m and 370m north-west of the site. Given the presence of suitable habitat in the form of woodland surrounding this pond, it is considered unlikely that amphibians will be dispersing to the site in which suitable habitats are unsuitable and regularly managed.

It is of note, however, that the landholding of Wargrave Manor is found within the 'Green Risk Zone' and 'Amber Risk Zone' as defined by NatureSpace. Where the pergola is proposed adjacent to the ornamental lake, the area is found within an 'Amber Risk Zone' while the area proposed for a garden structure is found within a 'Green Impact Zone'. The 'Amber Risk Zone' comprises suitable habitat in which great crested newts are likely to be present while the 'Green Risk Zone' comprises moderate habitat suitability in which great crested newts may be present.

Terrestrial habitats within the site are considered to be entirely unsuitable for amphibians, being dominated by modified grassland and developed land; sealed surface which offer no cover or shelter. Although the habitats are unsuitable for amphibians, there is potential for amphibians to be present within the wider landscape, given the presence of waterbodies.

4.3.4 Birds

The site is unsuitable for ground nesting bird species such as skylarks, and no skylarks were observed or heard during the survey.

4.3.5 Bats

There are no habitat features on site likely to be used by any commuting or foraging bats at any time of the year and such the habitats are considered of 'none' potential for commuting and foraging bats (Collins, 2023).

4.3.6 Invertebrates

Habitats within the site are of limited botanical diversity and are considered unlikely to support a diverse or uncommon assemblage of invertebrates.

4.3.7 Other Species

[REDACTED]

The habitats within the site are considered entirely unsuitable for otters and no evidence of otters was noted during the survey.

The grassland may offer some foraging opportunities to hedgehogs *Erinaceus europaeus*.

4.3.7.1 Invasive Species

No non-native invasive species were noted within the site.

5 Discussion

5.1 Relevant Legislative & Policy Guidance

5.1.1 Great Crested Newts

Great crested newts *Triturus cristatus* and their habitat are protected under the Wildlife and Countryside Act 1981 (as amended by the Countryside and Rights of Way Act 2000) and under The Conservation of Habitats and Species Regulations 2017. Taken together, these make it an offence to:

- (a) Deliberately capture or intentionally take a great crested newt
- (b) Deliberately or intentionally kill or injure a great crested newt
- (c) To be in possession or control of any live or dead wild great crested newt or any part of, or anything derived from a wild newt
- (d) Damage or destroy a breeding site or resting place of such an animal or intentionally or recklessly damage, destroy or obstruct access to any place that a wild great crested newt uses for shelter or protection
- (e) Intentionally or recklessly disturb any wild great crested newt while it is occupying a structure or place that it uses for shelter or protection
- (f) Deliberately disturb great crested newts, in particular any disturbance which is likely
 - to impair their ability;
 - (i) to survive, breed, reproduce or to rear or nurture their young;
 - (ii) to hibernate;
 - to affect significantly the local distribution or abundance of the species to which they belong

Although the law provides strict protection to great crested newts, it also allows this protection to be set aside (derogation) under The Conservation of Habitats and Species Regulations 2017 through the issuing of licences (referred to as European Protected Species Licences or EPSL). Where a lawful operation is required to be carried out but which is likely to result in one of the above offences, a licence may be obtained from Natural England (the statutory body in England with responsibility for nature conservation) to allow the operation to proceed.

However, in accordance with the requirements of The Conservation of Habitats and Species Regulations 2017, a licence can only be issued where the following requirements are satisfied:

- The proposal is necessary ‘to preserve 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’;
- ‘There is no satisfactory alternative’;
- The proposals ‘will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range’.

These three criteria are often referred to as the ‘three tests’ of the Regulations. All three must be satisfied in order for a licence to be granted.

5.1.2 *The Natural Environment and Rural Communities Act 2006*

Section 41 of the Natural Environment and Rural Communities (NERC) Act 2006 places a duty on the Secretary of State to publish, review and revise lists of living organisms and types of habitat in England that are of principal importance for the purpose of conserving English biodiversity.

It also requires the Secretary of State to take, and promote the taking of, steps to further the conservation of the listed organisms and habitats. This is important in the context of planning decisions as the National Planning Policy Framework affords planning policy protection to the habitats of species listed by virtue of Section 41.

There are no habitats listed within Section 41 of the NERC Act 2006 that are considered to be relevant to the site.

Species listed within Section 41 of the NERC Act 2006 that are considered to be potentially relevant to the site include:

- Hedgehog (grassland offers potential foraging habitat)

5.1.3 *The National Planning Policy Framework (NPPF)*

The National Planning Policy Framework was updated on 20th December 2023 and sets out the government’s planning policies for England and how these are expected to be applied. This revised Framework replaces the previous National Planning Policy Framework published in March 2012, revised in July 2018 and updated in February 2019 and July 2021.

The NPPF states that planning policies and decisions should contribute to and enhance the natural and local environment by:

- protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan);
- recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;
- maintaining the character of the undeveloped coast, while improving public access to it where appropriate;
- minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution

or land instability. Development should, wherever possible, help to improve local environmental conditions such as air and water quality, taking into account relevant information such as river basin management plans; and

- remediating and mitigating despoiled, degraded, derelict, contaminated and unstable land, where appropriate.

Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework; take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.

To protect and enhance biodiversity and geodiversity, plans should:

- Identify, map and safeguard components of local wildlife-rich habitats and wider ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity; wildlife corridors and stepping stones that connect them; and areas identified by national and local partnerships for habitat management, enhancement, restoration or creation; and
- Promote the conservation, restoration and enhancement of priority habitats, ecological networks and the protection and recovery of priority species; and identify and pursue opportunities for securing measurable net gains for biodiversity.

When determining planning applications, local planning authorities should apply the following principles:

- If significant harm to biodiversity resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development on land within or outside a Site of Special Scientific Interest, and which is likely to have an adverse effect on it (either individually or in combination with other developments), should not normally be permitted. The only exception is where the benefits of the development in the location proposed clearly outweigh both its likely impact on the features of the site that make it of special scientific interest, and any broader impacts on the national network of Sites of Special Scientific Interest;
- Development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland and ancient or veteran trees) should be refused, unless there are wholly exceptional reasons, and a suitable compensation strategy exists; and
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be integrated as part of their design, especially where this can secure measurable net gains for biodiversity or enhance public access to nature where this is appropriate.

The following should be given the same protection as habitats sites:

- ❖ Potential Special Protection Areas and possible Special Areas of Conservation;
- ❖ Listed or proposed Ramsar sites; and
- ❖ Sites identified, or required, as compensatory measures for adverse effects on a habitats site, (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

The presumption in favour of sustainable development does not apply where the plan or project is likely to have a significant effect on a habitat's site (either alone or in combination with other plans or projects), unless an appropriate assessment has concluded that the plan or project will not adversely affect the integrity of the habitats site.

5.2 Impact Assessment

5.2.1 Sites of Nature Conservation Importance

Impacts of the proposed development are likely to be limited to the bounds of the site and it is considered that there are no foreseeable direct impacts on sites of nature conservation importance.

The Chiltern Beechwoods SAC is located approximately 8km north-east of the site. Recent research has shown that indirect impacts (such as an increase in visitor pressure, trampling etc.) are having an impact on the habitats of the SAC and that residential development within a 12.6km 'zone of influence' may add to these adverse impacts, both in isolation and in combination with other residential developments.

Local Planning Authorities are legally required through the Habitats Regulations Assessment to ensure the integrity of the SAC is not adversely affected by new planning proposals.

The proposals do not include residential development or an increase of liveable accommodation. Given this, the proposed garden structures are not considered to bring new residents into the zone of influence of the Chiltern Beechwoods SAC.

5.2.2 Habitats

The proposals will result in the loss of a small area of modified grassland and developed land; sealed surface. This will not result in any significant ecological impacts with regard to habitats.

There are no foreseeable impacts on habitats of 'principal importance', as listed within Section 41 of the NERC Act 2006.

The NPPF and local planning policy state that planning policies and decisions should contribute to and enhance the natural and local environment by minimising impacts to existing habitats and providing net gains for biodiversity. It is considered the recommendations made in section 6 will contribute to a net gain at the site.

5.2.3 Species

5.2.3.1 Plants

There are no foreseeable impacts on rare or protected plant species.

5.2.3.2 Reptiles

There are no foreseeable impacts on reptile species or their habitats.

5.2.3.3 Amphibians

The habitats within the site are not considered suitable for amphibians (whilst on land), however, given the presence of waterbodies within close proximity to the site and the areas proposed for development being found within the 'Amber Risk Zone' and the 'Green Risk Zone', amphibians may be moving through the surrounding landscape, to seek suitable terrestrial habitat.

Although the development is not predicted to have a significant impact on local amphibian populations including great crested newts, it is recommended that clearance of vegetated habitats (modified

grassland) and construction works are carried out in a sensitive manner to avoid any potential of inadvertent killing or injury.

5.2.3.4 Birds

There are no foreseeable impacts on nesting birds.

5.2.3.5 Bats

There are no foreseeable impacts on foraging or commuting habitat for local bat populations.

External lighting can have an impact on bats by affecting their activity and behaviour. Certain species of bat have been shown to be attracted to mercury vapour lamps which emit light over a very broad-spectrum including UV light to which insects are particularly sensitive. Insects can be attracted in large numbers to mercury lamps and so can bats of the genera *Nyctalus* and *Pipistrellus*, including noctules *N. noctula* and common pipistrelles *P. pipistrellus* (Rydell and Racey, 1993). Lighting has shown to have an opposite effect on certain other species, such as the lesser horseshoe bat *Rhinolophus hipposideros*, which have been shown to avoid areas of artificial light (Stone *et al.*, 2009).

New external lighting could therefore have an adverse effect on foraging or commuting bats, partially foraging and dispersal behaviour along the site boundaries. Although disturbance by lighting is unlikely to result in significant impacts under the legal protection afforded to bats (and thus will not require a Bat Licence), lighting may result in a change in bat activity which is not desirable.

5.2.3.6 Invertebrates

There are no foreseeable impacts on rare or protected invertebrates.

5.2.3.7 Other Species

Without mitigation measures, there is a possibility that [REDACTED] hedgehogs are at risk of injury and trapping due to inadvertent pitfall hazards.

6 Recommendations

6.1 Further Surveys

No further surveys are considered necessary.

6.2 Habitats

6.2.1 Protection of Existing Habitats

6.2.1.1 Trees

It is recommended that trees found adjacent to the development areas are protected in accordance with British Standard 5837:2012, through the establishment of appropriate root protection zones.

6.2.1.2 Ornamental Lake

It is also recommended that the ornamental lake is protected through the establishment and maintenance of a buffer/exclusion zone of at least 3m. The introduction of all built form and hard landscaping should be entirely avoided within this buffer zone.

Construction activities, including storage of materials and movement of vehicles, should be excluded from the buffer zone. The buffer zone will ensure that there is no construction activity in immediate proximity of the lake, and that the fringes and waterbody can avoid direct adverse impacts. The buffer zone should be clearly marked by a physical and visual barrier throughout the construction period.

In order to mitigate the risk of indirect impacts to the pond, it is recommended that silt fencing is installed to mark the edge of the buffer zone and to prevent run-off from the construction zone entering the waterbody.

6.3 Species

6.3.1 *Amphibians*

The following Precautionary Working Method Statement will be followed in order to ensure that potential harm to amphibians is avoided during site preparation and construction works.

6.3.1.1 *Clearance of Grassland*

The existing mowing regime should be maintained until such time as grassland clearance is required. Mowing should aim to maintain the existing short sward of around 2-4 centimetres. This will maintain the existing unsuitability of the habitat for amphibians.

If mowing is not maintained, and the sward is long, grassland should be initially cut to a minimum height of 150mm using hand tools (strimmer, brush cutter, chainsaw etc.). The arisings should then be raked or lifted by hand and removed from the working zone on the same day. The habitats should then be left undisturbed for 48 hours. After the 48-hour period, directional vegetation clearance to near ground level (avoiding wet weather), followed by soil stripping should be undertaken. The direction of working should be towards the south to encourage any amphibians to disperse into woodland habitats present.

6.3.1.2 *Storage of Machinery, Materials & Tools*

Machinery, materials and tools should be stored on areas of hard-standing or raised off the ground on pallets. This includes any retained spoil or rubble produced during ground excavations. Waste materials should be removed off site immediately or stored in skips so as to avoid creating refugia for amphibians.

6.3.1.3 *Ground Works*

All excavations and trenches should be covered overnight or be provided with shallow sloping ramps to allow any trapped animals to escape. Excavations and working areas should be managed so as not to create temporary waterbodies which may attract amphibians into the working area.

6.3.1.4 *Vigilance and Sympathetic Working*

All on-site staff should be made aware of the possibility that common amphibians may be encountered. Vegetation clearance should proceed in a careful and sensitive manner with vigilance for these native species maintained throughout. This Precautionary Working Method Statement should be made available to all on-site operatives.

6.3.1.5 *Discovery of Amphibians*

If any common amphibians are found during vegetation clearance or within the working zone, they should in the first instance be given the opportunity to vacate the area to a safe location under their own power.

If they are unable to escape, or show no inclination to do so, then they should be carefully removed by hand and relocated directly to a suitable location, preferably dense vegetation or well away from the working zone. Amphibians should be moved to a terrestrial habitat rather than being placed in a stream or other waterbody.

Amphibians should be lifted gently by placing fingers under their body, rather than grasping their limbs. Care should be taken to avoid allowing an animal to escape whilst in transit and fall onto hard surfaces. Handling should be kept to a minimum with non-latex gloves used where possible.

In the unlikely scenario that a brumating/hibernating amphibian is discovered, they should be covered over, and advice sought from an ecologist as to how to proceed.

If a great crested newt is encountered; all work should stop, and advice sought from a suitably qualified and experienced ecologist.

6.3.2 *Birds*

6.3.2.1 *Enhancements*

The erection of bird nesting boxes is recommended in order to provide suitable nest sites for species within the local area, as nest boxes can be excellent substitutes for the nesting potential of trees. Over 60 species are known to adopt nest boxes including blue tits, great tits, starlings, robins and sparrows.

The location and nature of the nest box depends on the species it is designed for; boxes for tits, sparrows or starlings should be fixed two to four metres up a tree or a wall; open-fronted boxes for robins and wrens need to be low down, below 2m, and well-hidden in vegetation. Unless there are trees or buildings which shade the box during the day, boxes should be faced between north and east, thus avoiding strong sunlight and the wettest winds. Swift boxes should be located at least 5m above the ground with the box having unobstructed access.

Boxes can either be integrated into new buildings or erected on the exterior of buildings and trees.

It is recommended that bird boxes are erected/installed on the proposed buildings or trees within the wider landholding.

Recommended integrated boxes are:

- Vivara Pro WoodStone House Sparrow Nest Box
- Vivara Pro Build-In Half Open Nest Box

Other recommended boxes are:

- Vivara Pro Seville 32mm WoodStone Nest Box
- Vivara Pro Barcelona WoodStone Open Nest Box

6.3.3 *Bats*

6.3.3.1 *Enhancements*

To provide an enhancement to the current situation, it is recommended that bat bricks/bat boxes are erected/integrated on the exterior of the proposed buildings. Bat brick (sometimes also referred to as 'bat tubes') features can be obtained pre-fabricated and integrated directly into the fabric of the exterior walls of a building.

The bat tubes have an external entrance slot which leads to an internal cavity for roosting (e.g. the Vivara Pro Build-in Woodstone Bat Tube). The bat tube can be concealed behind external cladding, brickwork, stonework or render. For example, bat tubes can easily be installed into traditional or modern buildings with external wooden weatherboarding; the tube being concealed behind the overlapping wooden boards with access via a gap under a lifted board which leads to the entrance slot of the tube. Bats can fit through very small gaps and so a crevice of 2-2.5cm should be sufficient to allow access to the slot of the bat tube.

Alternatively, conventional bat boxes could be installed; these could be traditional wooden boxes, or longer-lasting woodcrete boxes (Schwegler bat box or Woodstone bat boxes) specifically designed for buildings and houses (e.g. the Schwegler 1FQ or 1WQ bat boxes). If these boxes are adopted, it is recommended that they are installed as high as possible on the exterior walls, just under the eaves. The boxes and/or bricks should be orientated to face garden planting wherever possible and south-facing façades should be favoured. Bat boxes could also be erected on mature trees within the wider landholding.

6.3.3.2 Lighting

It is recommended that external lighting is avoided within the site, unless it is necessary for reasons of security and safety. In particular, lighting should be avoided around any new bat roosting features and vegetated habitats such as trees/hedges.

The key in the first instance is to maintain or reduce existing light levels, and reduce blue content to protect the bat species present; this is in line with the mitigation hierarchy where impacts are avoided in the first instance by being planned out (Bat Conservation Trust, 2023).

If lighting is required, it should be kept at low level and at low intensity (Bat Conservation Trust, 2023 and Emery, 2008).

Light sources, lamps, LEDs and their fittings come in a myriad of different specifications which a lighting professional can help to select. However, the following should be considered when choosing luminaires and their potential impact on key habitats and features:

- All luminaires should lack UV elements when manufactured. Metal halide, compact fluorescent sources should not be used
- LED luminaires should be used where possible due to their sharp cut-off, lower intensity, good colour rendition and dimming capability
- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component
- Light sources should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats (Stone, 2012)
- Internal luminaires can be recessed (as opposed to using a pendant fitting) where installed in proximity to windows to reduce glare and light spill
- Waymarking inground markers (low output with cowls or similar to minimise upward light spill) to delineate path edges
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt
- Where appropriate, external security lighting should be set on motion sensors and set to as short a possible a timer as the risk assessment will allow. For most general residential purposes, a 1 or 2 minute timer is likely to be appropriate
- Use of a Central Management System (CMS) with additional web-enabled devices to light on demand
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites. Therefore, they should

only be considered in specific cases where the lighting professional and project manager are able to resolve these issues.

- Only if all other options have been explored, accessories such as baffles, hoods or louvres can be used to reduce light spill and direct it only to where it is needed. However, due to the lensing and fine cut-off control of the beam inherent in modern LED luminaires, the effect of cowls and baffles is often far less than anticipated and so should not be relied upon solely.

6.3.4 [REDACTED] Hedgehogs

[REDACTED] hedgehogs are likely to be found within the local landscape and if they are passing through the site during the construction phase of development are at risk of injury and trapping due to inadvertent pitfall hazards. This is particularly the case when foundations are being excavated. It is therefore recommended that no ground works take place outside of daylight hours and at night any pits on site are appropriately covered over/fenced off, or that a ramp is put in place via which [REDACTED] hedgehogs can escape.

7 References

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Collins, J. (ed.) (2023) *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London. ISBN-978-1-7395126-0-6

Cresswell W. and Whitworth R., 2004. *An assessment of the efficiency of capture techniques and the value of different habitats for the great crested newt Triturus cristatus*. English Nature Research Report 576. English Nature, Peterborough.

Emery, M., 2008. Effect of Street Lighting on Bats. Urbis Lighting Ltd., Anglia.

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UKHab Ltd, 2023. *UK Habitat Classification Version 2.0* (<https://www.ukhab.org>)

8 Appendix 1. Photographs



Photograph 1. The eastern portion of land, proposed for the erection of a pergola.



Photograph 2. Detail of modified grassland.



Photograph 3. The western portion of land, proposed for a garden building.



Photograph 4. The vegetated garden habitats adjacent to the western portion of land.

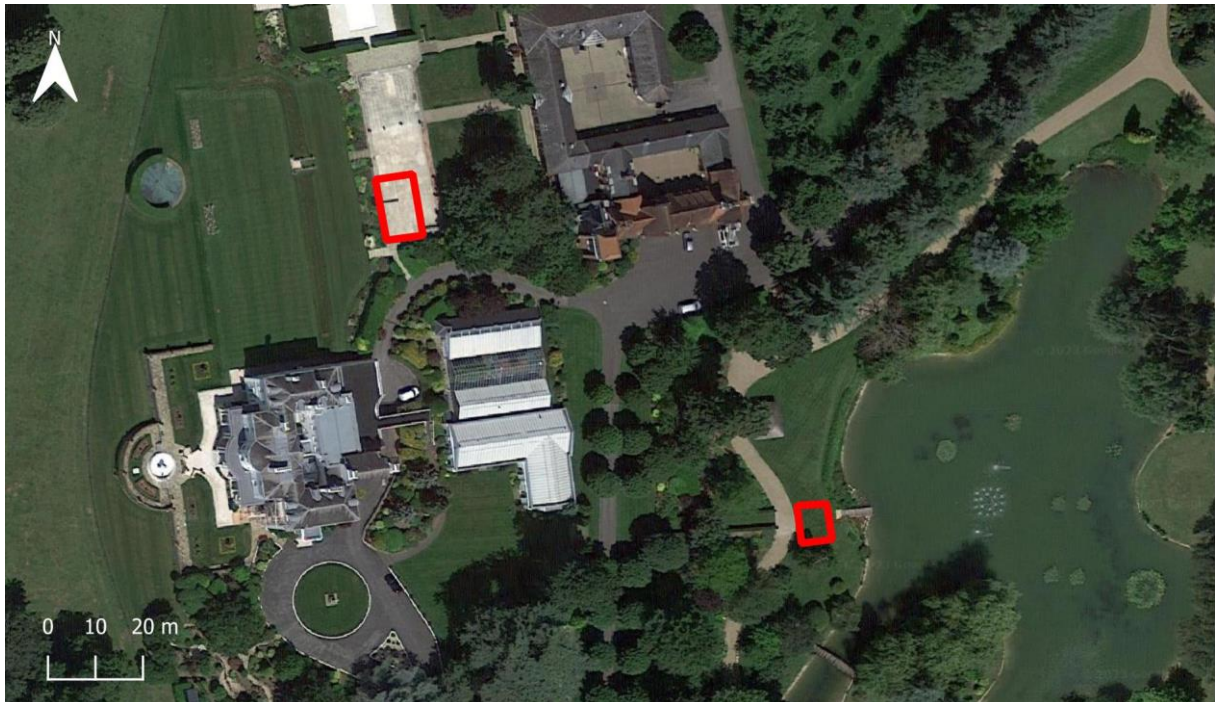


Photograph 5. The ornamental lake.

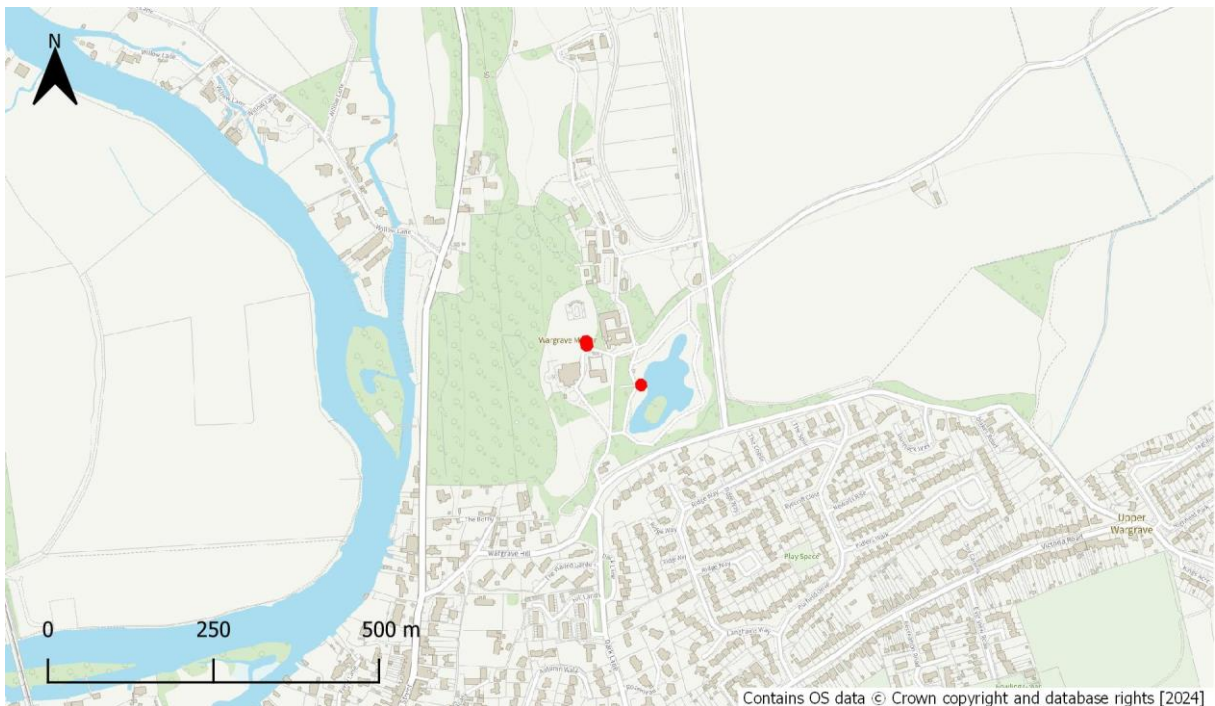


Photograph 6. The swimming pool.

9 Appendix 2. Site Location Plans



Aerial photograph showing the location for the proposed garden structures, outlined in red. Source: Google Satellite



Map showing the location of the site, outlined in red, within the local area. Source: OSM Standard

10 Appendix 3. Proposal Plans





Proposed Rear Elevation



Proposed Front Elevation

SCALE 1:50
0 0.5m 1m 1.5m 2m 2.5m

Dimensions in mm 1:50@A3 DM

This is a concept drawing only.
Any sizes shown will be verified after
contract at our technical survey prior
to issuing detailed working drawings.

Client: Al Nasser SP139496 DR1/2

Timber Colour: Oak

Date: 16/09/22

David Salisbury

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SCALE 1:60
0 0.5m 1m 1.5m 2m 2.5m
Dimensions in mm 1:50@A3 DM

This is a concept drawing only.
Any sizes shown will be verified after
contract at our technical survey prior
to issuing detailed working drawings.

Client: Al Nasser SP139496 DR1/3

Timber Colour: Oak

Date: 16/09/22

David Salisbury

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Proposed Front/Rear Elevation



Proposed Left/Right Elevation

SCALE 1:50
0 0.5m 1m 1.5m 2m 2.5m

Dimensions in mm 1:50@A3 MB

This is a concept drawing only.
Any sizes shown will be verified after
contract at our technical survey prior
to issuing detailed working drawings.

Client: Al Nasser SP139496 PR2 DR1/1

Date: 13/10/22

David Salisbury

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September 2025

Ecological Assessment

APPENDIX 4

Extension of garden room

At Wargrave Manor, Wargrave Hill, Wargrave, Wokingham, RG10 8JL.
Prepared by Neil Tomlinson Architects.

This appendix outlines the proposal of the extension of the existing garden room.

The findings and recommendations from the previous report and survey remain applicable and relevant.

Review of previous report considering the new proposal:

1.0 Executive Summary

- 1.1 Results – The impact of the proposed extension is considered to be negligible, consistent with the design of the existing building.
- 1.2 Impact Assessment – The new extension will result in loss of modified grassland; sealed surface, habitats of negligible to low ecological value within the context of the site. In a similar manner to the design of the existing building
- 1.3 Recommendations – In line with the recommendations for the existing building, the new proposal aims to uphold the same principles of design and impact.

5.2 Impact Assessment

- 5.2.1 Sites of Nature Conservation Importance - The development of the new extension is not expected to have any direct impact on areas of nature conservation importance.
- 5.2.2 Habitats - The new extension will have no significant impact on the habitat.
- 5.2.3 Species - The new extension is not expected to have any foreseeable impact on rare or protected species of plants, reptiles, birds, bats, invertebrates or other species. However, it is recommended that works

be carried out in a sensitive manner to avoid disturbing or impacting amphibians, given the close proximity to bodies of water.

6.0 Recommendations

6.2 Habitats - Protection of Existing Habitats – The trees are located at a considerable distance from the proposed extension. Nevertheless, all necessary measures will be taken to protect both the trees and their root systems throughout the construction process.

6.3 Species
All recommendations outlined in the original building report remain relevant and should be followed to ensure the continued protection of species.

New proposal:

11.0 Proposal of extension of the existing garden room

11.1 The proposal is to extend the existing garden room located on the grounds of Wargrave Manor, to the northeast side of the property.

11.2 Expanding on the principles established in the previous application, this proposal seeks to maintain the same level of care and consideration to its natural surroundings.

Below is an extract from the Delegated Officer Report following the site visit on 09/01/2024.

Number: 240166

Awarded Permitted Development

Date of decision: 26/04/2024

"The WBC Ecology officer was consulted, and they had no objection, subject to a condition. The Ecology officer has stated that the methodology, survey effort and the Ecologist's assessments are adequate and conclude that there would not be a negative impact on protected species, subject to the compliance with the recommendations within the Section 6 of the Ecological Assessment (Windrush Ecology, Ref W5520). The condition recommended by the WBC Ecology officer relates to these recommendations and that the works should be carried out in accordance with these. This will be recommended to be added to the decision. As such, there would be no significant harm to the protected species and no conflict with Policy CP7 of the Core Strategy and Policy TB23 of the MDD Local Plan."

10 Appendix 3. Proposal Plans

