

# **Supplementary report**

## **Ecological Impact Assessment**

relating to proposed developments

of land at

Aston Hall,

Aston Munslow,

Shropshire

Grid reference SO 510 866

Survey by:  
Dr M Worsfold & Eileen Bowen  
Springfields  
Station Road  
Llanymynech  
Shropshire  
SY22 6ED

01691 831450  
mike.worsfold@btinternet.com

Instructed by:  
Giulia Baldin  
Giles Quarme Architects  
7 Bishops Terrace  
London SE11 4UE

Report completed  
17 September 2021

# Contents

Section	Title	Page
1	Summary	3
2	Introduction	3
2.1	Scope	3
2.2	Personnel	3
3	Assessment of Effects and Mitigation Measures	4
4	Compensation	6
5	Enhancement Recommendations	7
6	Ecological Constraints	7
7	Monitoring	7
8	Conclusions	8
9	Bibliography	8
10	Appendices	
10.1	Location Map	9
10.2	Location Map	10
10.3	Aerial photograph	11
10.4	Phase 1 Habitat Map	12
10.5	Proposed driveways plan	13
10.6	Proposed renewable energy installations	14
10.7	Photographs	15_16
10.8	GCN Habitat Suitability Index assessment	17
10.9	GCN method Statement	18_19
10.1	Worsfold & Bowen	1820

## **1. Summary**

The purpose of the report is to assess the potential ecological impacts of a proposed development Aston Hall, Aston Munslow, Shropshire, Grid reference SO 510 866, and advise on any mitigation measures to comply with local planning policy and government legislation.

It is proposed to carry out a range of developments on the site including construction of new driveways and installation of renewable energy systems.

The site is parkland in the curtilage of Aston Hall, recently acquired by the developer. It has an area of about 5.4ha.

We consider that provided that reasonable care and mitigation measures are taken, the developments will have minimal effects on wildlife.

This is a supplementary report to inform the detailed planning application submitted in September 2021.

## **2. Introduction**

The site was examined on 15<sup>th</sup> March 2021 to assess the presence of or evidence of use by protected species of animals, and a preliminary report was issued on 26<sup>th</sup> March 2021 [1].

The outbuildings were inspected at that time, with particular reference to bats [2]. During the summer activity surveys for bats were done and reported separately, with mitigation recommendations in relation to bats [3]. This report addresses the ecological impact of the proposed developments on the wider area of the estate. It was commissioned by Giulia Baldin for Giles Quarre Architects, 7 Bishops Terrace, London SE11 4UE.

The site has been examined to establish the presence of or evidence of use by protected species of animals. The area investigated is outlined in red in the location maps (Appendix 10.1, 10.2 the aerial photograph (Appendix 10.3) and the Phase 1 map (Appendix 10.4).

### **2.1 Scope of the assessment**

The report comprises an ecological impact assessment with proposed mitigation and compensation measures as requested by Giulia Baldin.

### **2.2 Personnel**

Michael Worsfold PhD (MW).Eileen Bowen (EMB) (see appendix 10.9)

### 3. Assessment of Effects and Mitigation Measures

#### Great crested newts (GCN)

There are three nearby ponds, only one of which is on the site.

The proposed development includes:

Creation of new hard surfaces for driveways, mostly on existing grass.

Installation of ground-source heat pump energy extraction, which will entail drilling and, depending on the system installed, possibly temporary trenching over a significant area.

Installation of a photovoltaic array (solar panels) near the middle of Field C, and to create a bund and plant trees to conceal it.

Construction of a swimming pool and enclosure near, and linked to, the south west corner of the outbuildings

Assessment of the likely ecological impact of such developments, particularly on great crested newts (GCN), depends requires consideration of the probability of the presence of breeding GCN, the distances of the disturbed sites from potential GCN breeding ponds, the area of any GCN habitat loss and the nature of the disturbance.

*Pond A* is not on the site, but is adjacent on the north east boundary, so that we could inspect it visually but had no physical access. It is heavily shaded, with no apparent submerged or emergent vegetation. It had an unpleasant smell, typical of a pond subject to agricultural runoff.

*Pond B* is a very small pond close to the end of the drive. It is heavily shaded, especially by a very mature sycamore tree on the north west side. On inspection on 15<sup>th</sup> March 2021, it was thickly filled with tree leaves. There was no submerged vegetation, and a small patch of yellow flag (*Iris pseudoacorus*). We could detect no invertebrate animals. We inspected it again on 27<sup>th</sup> June 2021, with the intention of sampling for GCN eDNA analysis. It was completely dry and firm, with no soft mud, so that sampling was not possible or relevant. Occasional drying of a pond does not make it unusable by GCN, but the current summer had not been very dry and the pond had clearly been dry for some time, so that we consider that it dries out very early and in most summers. Its Habitat Suitability index for GCN was calculated as 0.382, which is very poor.

*Pond C* is marked on maps, but is not on the site and is surrounded by trees. We had no access and could not inspect it. It appears from maps that it has been formed by damming the small stream which feeds it. It is therefore likely that it contains fish, which would make it unlikely that it could be used by GCN for breeding.

Ecological impacts of each development:

*New drive:*

Loss of moderate potential GCN habitat amounting to about 0.09ha.

*New swimming pool enclosure:*

Loss of moderate potential GCN habitat of about 0.012ha.

*Photovoltaic array:*

Apart from the possible effects on great crested newts (GCN) of ground disturbance from the creation of the proposed bund there would be little if any adverse ecological impact. The creation of the bund and subsequent plantings will enhance the habitat for GCN and other wildlife.

*Ground source heat pumps:*

There will be temporary disturbance from drilling and temporary trenching, but no habitat loss.

These impacts and their relationship with the identified ponds are summarised in the table below.

Development	Area ha	Impact	Distance (m) from:		
			Pond A	Pond B	Pond C
New drives	0.09	Loss of habitat	186 - 280	185 - 300	50 - 90
Swimming pool & enclosure	0.012	Loss of habitat	281	284	130
Photovoltaic array	0.12	Temporary disturbance	150	80	185
Bund around PV Array	0.15	Temporary disturbance, habitat enhancement	130	90	170
Ground source heat pump (Hall)	0.07	Temporary disturbance	180	230	30
Ground source heat pump (Barns)	0.14	Temporary disturbance	150	200	50

The disturbance assessment template WML-A14-2 GCN MS issued by English Nature (now Natural England) states that for loss or damage of an area of up to 0.01ha within 100m of any breeding pond, then an offence is highly unlikely. Any greater loss of habitat at that distance would carry a risk of committing an offence. Between 100 and 250m from any breeding pond, then there is a risk of an offence if an area greater than 0.5ha is lost or damaged.

It is therefore evident that the only risk of committing an offence would be if Pond C were to be a breeding pond of GCN. We consider that this is unlikely because it is a small stream fed pool, probably containing fish, but because we do not have access to this pond we are unable to confirm that GCN are absent.

## Trees

The trees are all identified and numbered in the Tree Condition Report Arboricultural Impact Assessment by Terry Merchant. It is proposed to remove 33 trees on the north eastern corner of the site. Most of these are conifers with small ecological value. Nine of them are mature or semi-mature broadleaf trees. All of them were inspected from the ground by us in March 2021.

A dead poplar tree identified in the above report as having a potential for collapse designated for removal has several holes which are likely to be used by nesting birds and also possibly by bats. No potential bat roost features were identified in any of the other trees, but some of the larger ones could not be examined comprehensively. The goat willow (537) was not examined closely because it was obscured by evergreen shrubs.

Any increased external lighting carries a risk of disturbance of bats which might use tree crevices to roost.

## **Birds**

Birds will certainly nest in the trees and shrubs in the area where the new drive will be constructed, including the cavities in the dead poplar noted elsewhere.

The removal of shrubs and trees must be done outside the bird nesting season (March - August).

## **Bats**

The use of the outbuildings by bats is dealt with in a separate report.

Before removal or pruning of any trees except the coniferous trees, these should first be examined by a licensed bat worker to ensure that the risk of destroying bat roosts or disturbing bats is minimised.

The dead poplar with cavities should be dismantled as carefully as it is possible to do safely. It should not be felled during the bat hibernation period (December - March), or the bird nesting season (March -August) unless rigorous observation confirms that birds are not nesting in it. This means that September -October is the best period in which to fell it.

Any increased external lighting carries a risk of disturbance of bats which might use tree crevices to roost. A lighting plan should be prepared and approved.

## **Residual Effects**

Residual effects from increased activity and lighting are possible unless mitigated.

The loss of some mature trees will be uncompensated for many years until their replacements mature.

Otherwise, the proposed developments will not have negative residual effects.

## **4 Compensation**

The loss of the dead poplar stump with its roosting and nesting cavities is strictly a management operation rather than a part of the development, but will nonetheless be compensated by installation of 10 bat boxes, a mixture of Schwegler type 1FD and 1F or similar, to be attached to remaining mature trees east of the house and elsewhere in the grounds, including the larger trees in the existing south eastern plantation.

The loss of the other trees, especially the broadleaf trees, will be compensated by new plantings to the north of the new drive, to the south west of the outbuildings and around the photovoltaic array. Because a larger area and number of trees will be planted than lost, part of these plantations will comprise enhancement as well as compensation, and the species are listed under Compensation below.

## 5. Enhancement Recommendations

Six nest boxes for swallows to be fixed at the inner wall of the north range (C) of open sheds, about 150mm below the eaves.

Six nest boxes for swifts made from a permanent material such as ceramic or cement-based to be fixed to the tops of the highest walls of the buildings, including the west range and the coach house. The east-facing walls to be preferred, and south-facing walls to be avoided.

New woodland planting will include the following species, as mentioned in the arboricultural report.

Sycamore (*Acer pseudoplatanus*)

Norway maple (*Acer platanoides*)

goat willow (*Salix caprea*)

Western red cedar (*Thuja plicata*)

Lawson cypress (*Chamaecyparis lawsoniana*)

silver birch (*Betula pendula*)

holly (*Ilex aquifolium*)

Norway spruce (*Picea abies*)

Horse chestnut (*Aesculus hippocastanum*)

Hybrid poplar (*Populus*) Belgian clone.

We recognise that quick-growing conifers such as Lawson's cypress and western red cedar will be especially effective as visual screens around the PV array initially, but they have limited ecological value. We therefore suggest that they should be regarded as temporary, and consideration given to removing some of them once the broadleaf plantings are well established.

These tree plantings will be supplemented by marginal plantings of smaller trees and shrubs, especially hazel (*Corylus avellana*), dogwood (*Cornus sanguinea*) and field maple (*Acer campestre*), with additional goat willow and holly. The plantings will be watered until established and will be protected from grazing.

## 6. Ecological Constraints

We were not able to do full assessments of the likely presence or absence of great crested newts.

## 7. Monitoring

Monitoring for bats in the outbuildings as discussed in the separate report.

We suggest that the condition of the new tree plantings and bat box and bird nest box installations be checked at the same time. It would be desirable to appoint an Ecological Clerk of works , who would then supervise the ongoing ground works in relation to GCN.

## **8. Conclusions**

If the recommended mitigation, compensation and enhancement measures are taken the overall ecological impacts of the proposed development will be small.

## **9. Bibliography**

1. Worsfold & Bowen. *Preliminary report. Ecological Assessment of land at Aston Hall, Aston Munslow on 15th March 2021.*
2. Worsfold & Bowen. *Continued Ecological Assessment of Outbuildings at Aston Hall, Aston Munslow, Shropshire. Bat Activity Surveys*
3. Collins J. (Ed) (2016) *Bat surveys for professional ecologists: Good Practice Guidelines (3rd Edn)*. The Bat Conservation Trust, London
4. Mitchell-Jones, A. J. and McLeish, A. P. (2004) *Bat Worker's Manual*, Peterborough: Joint Nature Conservation Committee.
5. Disturbance assessment template WML-A14-2 GCN MS. Natural England.
6. Terry Merchant. *Tree Condition Report Arboricultural Impact Assessment*. 2021



# Appendix 10.1: Location map with some designations



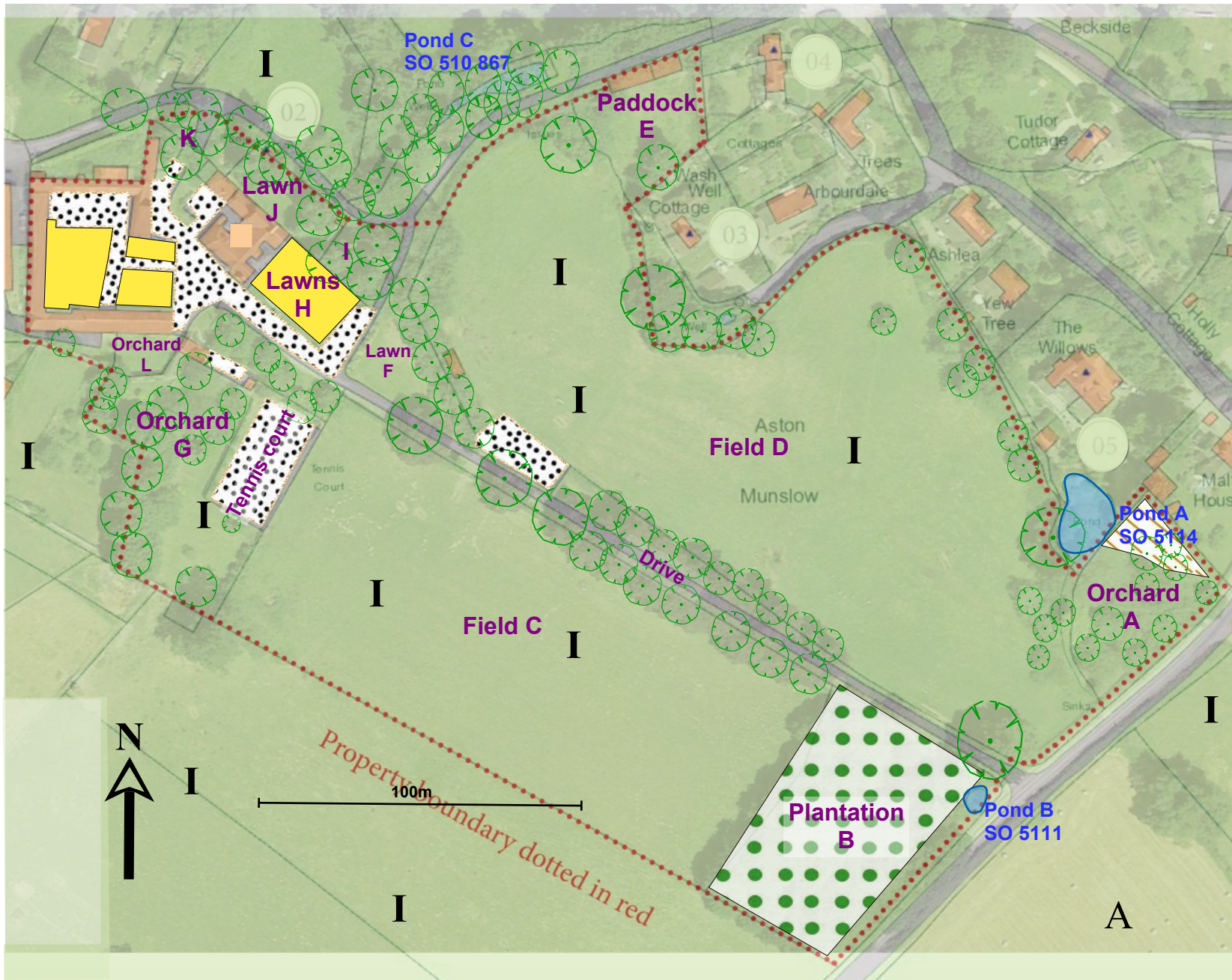
## Appendix 10.2: Location map



### Appendix 10.3: Aerial Photograph



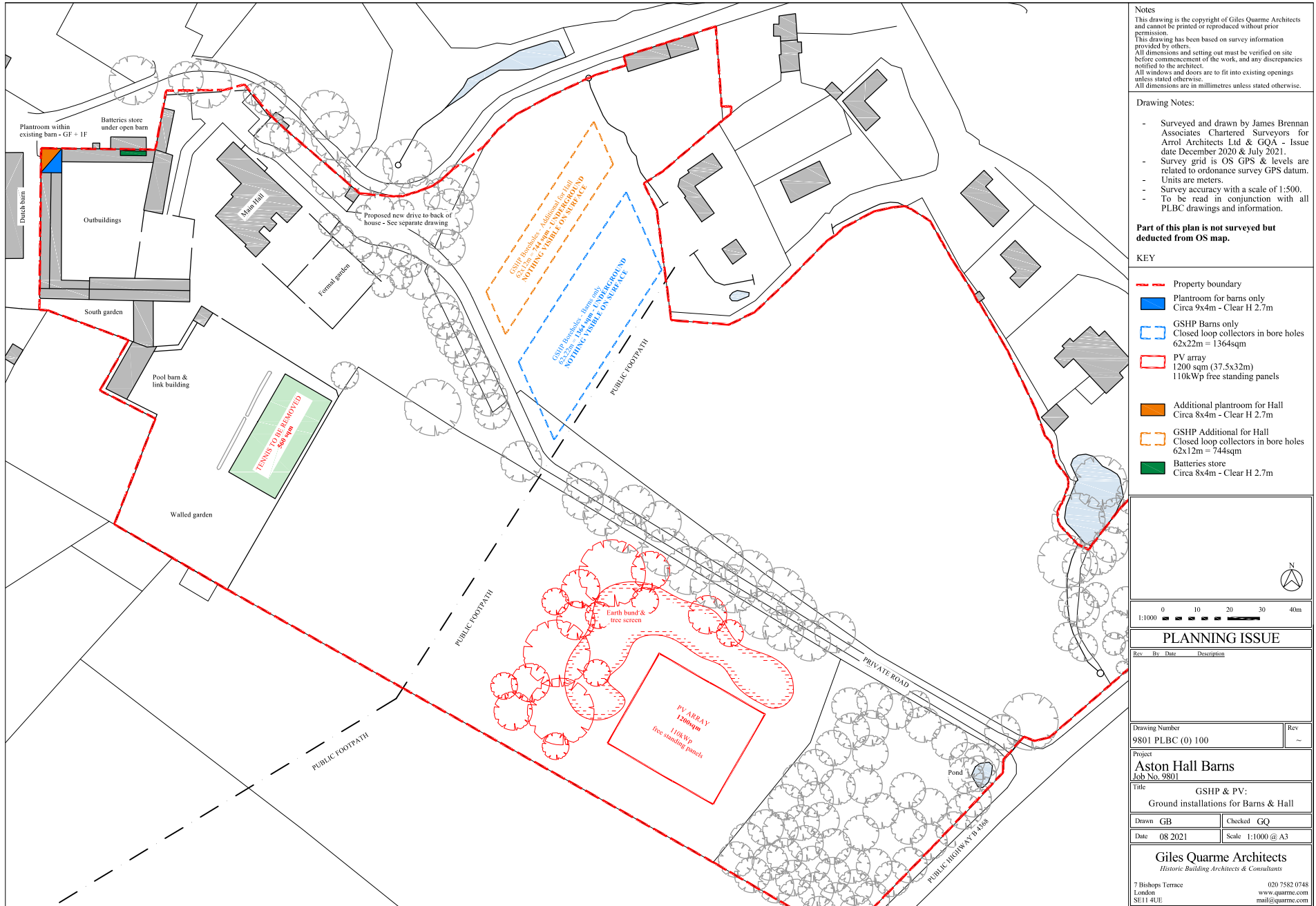
# Appendix 10.4: Phase 1 habitats map



## Appendix 10.5: Proposed driveways plan



# Appendix 10.6: Proposed renewable energy installations



**Appendix 10.7.1: Photographs of dried pond B and some trees to be removed**



**Pond B on 27<sup>th</sup> June 2021 completely dry**



**North corner looking north. Goat willow 537 to be removed**

**537**

**PRF=bat potential roost feature**

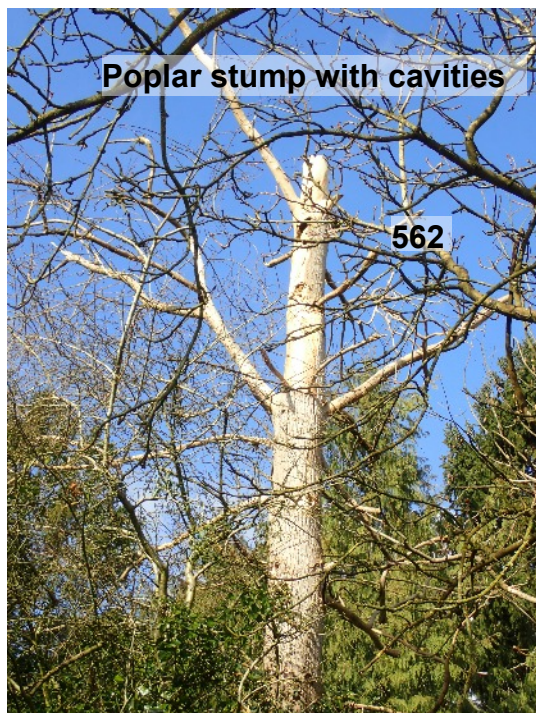


**Outside north corner looking north west. Tw0 trees to be removed. No evident PRFs**



**543**

**Appendix 10.7.2: Photographs of trees to be removed near the east drive**





## Appendix 10.8: Great crested newt habitat suitability index assessment

### Habitat Suitability Index assessment

**Site** Pond B, Aston Hall

**NGR** SO 511864 **Date** 27/06/2021

	<b>Score</b>	<b>SI</b>
Location	A	1
Pond Area	15m2	0.05
Pond drying	annually	0.1
Water quality (invertebrate density & character)	Poor	0.33
Shade perimeter shaded to 1m from shore	100	0.2
Fowl	absent	1
Fish	absent	1
Number of ponds within 1km	10	1
Terrestrial Habitat	Moderate	0.67
Macrophytes % surface area occupied by macrophyte cover	0	0.3

Product 6.6E-05  
**HSI score** **0.382**

**Pond suitability for great crested newts is** **poor**

## Appendix 10.9.1: Great crested newt Method

### Method Statement with risk avoidance measures for protection of Great Crested Newts during a development

#### Background

The site of the proposed development was the subject of an ecological assessment by Worsfold & Bowen in 2021, which identified the presence of ponds in and close to the site.

Our report [1] concluded that, according to the guidelines of Natural England [2], and considering the distance of the pond and the area of potential habitat of great crested newts (GCN) which could be lost, an offence against the legislation protecting this species was unlikely, provided that the work was done under a Method Statement designed to mitigate against any risk of harm to great crested newts.

Great crested newts spend most of their time on land, returning to still water only to breed once they are mature at about 3-4 years of age.

They may travel more than a kilometre from their breeding pond.

They move about mostly at night, and by day creep underground or beneath shelter such as stones or logs.

They hibernate during the winter, which is generally from the beginning of November until late March, depending on the weather. Hibernation is underground in burrows made by other small animals or beneath substantial cover such as large stones or piles of logs.

It is a criminal offence to harm a great crested newt or its place of refuge.

The operations which might be a threat to GCN during this project are primarily:

a: Disturbance of potential refuges including piles of stones and voids within and under built structures, and also rodent burrows..

b: Ground disturbance and creation of temporary excavations, which when filled might bury newts which have entered them.

#### Method Statement for this site

##### General

**1.1** Because of the need for supervision of some operations and for consultation and confirming that preparation has been done appropriately, a licensed Ecological Clerk of Works (ECW) will be appointed. One or more suitably qualified associates may also be appointed as accredited agents in this context.

**1.2.** A copy of this Method Statement will be kept in the site office at all times during the work.

**1.3.** The work force will be instructed on precautions and procedures in respect of GCN and other wildlife by the appointed ECW on the commencement of site work.

**1.4.** Building materials will be stored clear of the ground (on pallets or similar) so as to avoid crushing any animals which might seek refuge under them, when the materials are lifted. Any such storage will be on the gravel drive or other hard surface, and not on the lawn or other soft surface.

**1.5.** No work will be done which disturbs potential newt hibernation sites (see above) between November and March inclusive. In the present case, this means that the shrub-lined drain to the west and southwest of the pond, and the hedgerows and the vegetable garden area, will not be disturbed by any excavations related to the proposed development during that period.

**1.6.** Although no piles of rubble or logs were present at the time of inspection in 2021, if any such potential refuges are encountered and need to be moved, care will be taken when moving them. This will be done by hand if at all possible. It will not be done during the hibernation period (November – March inclusive).

**1.7.** If any great crested newt is discovered in the area of the work, then work in that area will stop and a licensed great crested newt worker will be contacted immediately for advice.

## Appendix 10.9.2: Great crested newt Method Statement contd

### Dismantling of buildings

**3.1** Dismantling of any existing buildings will be carried out after March. This will be supervised by the ECW or accredited agent in view of the potential hibernation sites.

### Ground works

**2.1.** The installation of the ground source heat pump systems or other works requiring excavations, such as trenches for the footings of buildings, will be done during the hibernation period between November and 15th March inclusive.

**2.2.** Any trenches which are left open at night will have a ramp of earth made at the ends of the trenches, to the full depth of each trench, so that newts can climb out. It is not sufficient to leave a piece of wood against the sides, which would allow small mammals to escape but not newts, which are not good climbers. The trenches will be inspected carefully before infilling, and any animals carefully removed and released into the surrounding hedgerows (but see para 6 above). Any excavated material which is not replaced on the same day will either be removed from the site or stored on a hard or impermeable surface and covered with an impermeable membrane, such as a plastic sheet or tarpaulin, and the edges of the sheet secured so the no amphibians can gain access.

**2.3** In preparation for the works during the following year, shrubs and other vegetation will be cleared before the end of October, and the site inspected by the ECW or accredited agent to assess the potential for GCN refugia.

**2.4** During the autumn and winter the grass in all areas affected will be cut as short as possible. The initial cut of any long grass will be at a height of about 5cm, followed by a close cut at least 2 weeks later. The ground will then be inspected by the ECW to confirm the absence of potential GCN hibernation sites.

**2.5** Grass will be kept as short as possible until work begins.

If GCN are found, then the work will be postponed and further survey work will need to be done with the likelihood of a need for licensing by Natural England.

If no GCN are found, then the part of the site which is to be developed will be strimmed to a height of 100mm, starting in the middle of the site and working outwards so as to encourage small animals to escape. An untrimmed zone about 2m wide will be left at the periphery, for at least 3 days..

The cut vegetation will be left overnight and then removed by hand.

After 3 days, the site will be inspected again by the ECW and the height of the vegetation will be reduced by strimming to approximately 25mm, using the same procedures as for the initial strimming.

The site will again be inspected by the ECW.

If GCN are found at any time, then the work will be postponed and further survey work will need to be done with the likelihood of a need for licensing by Natural England.

**2.6** Trenching and drilling will be done before the end of winter (mid-March).

**2.7** Excavations for footings will be done between mid-November and February, and filled before the end of February. If any trenches are not filled by the end of February, then earth ramps will be made in each trench, in consultation with the ECW, so that newts can escape. Trenches will then be inspected before filling.

## Appendix 10.10: Worsfold & Bowen

**Worsfold & Bowen** have been professional ecological consultants since 2005, after many years' voluntary bat work.

### **Michael Worsfold PhD. European Protected Species Licences**

Bat survey and roost visitor licences held since 1994.

Volunteer Bat Roost Visitor licence and Volunteer Bat Roost Visitor Trainer licence (Level 2) CLS0 1727. (Natural England)

Level 4 survey licence 2014-1217-CLS-CLS. (Natural England)

Project licence 2015-14344-SCI-SCI (Natural England)

Bat Survey licence 71974:OTH:CSAB:2016 (NRW).

Great crested newt survey licence CLS0 1727. (Natural England)

Great crested newt survey licence 65948:OTH:SA:2015 (NRW)

### **Eileen Bowen. European Protected Species Licences**

Bat survey and roost visitor licences held since 1996.

Volunteer Bat Roost Visitor licence and Volunteer Bat Roost Visitor Trainer licence (Level 2) CLS0 1725. (Natural England)

Level 4 survey licence 2015-14028-CLS-CLS (Natural England)

Bat Survey licence 71973:OTH:CSAB:2016 (NRW).

Great crested newt survey licence CLS0 1725. (Natural England)

### **Current EPS mitigation licences:**

EPSM 2014-7044A

2015-16429-EPS-MIT

61698:OTH:EPS:2015

71544:OTH:EPS:2016