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PRELIMINARY ECOLOGICAL APPRAISAL

LAND AT PRIMROSE HOUSE, CLITHEROE, LANCASHIRE

JULY 2023

Preliminary Ecological Appraisal

Land at Primrose House, Clitheroe, Lancashire

A report for

Roman Summer Associates Ltd.
Haweswater House,
Waterfold Business Park,
Bury,
Lancashire,
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On behalf of their client

Richard Stephenson

Report by

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1. INTRODUCTION

1.1 REASON FOR SURVEY

PENNINE ecological have been commissioned by Roman Summer Associates on behalf of their client, Richard Stephenson, to undertake a Preliminary Ecological Appraisal of land at Primrose House, Clitheroe, Lancashire.

The appraisal is required due to proposals to erect a new build a single house in the grounds of an existing listed house. The single storey dwelling will be built to a Passivhaus standard.

The biodiversity survey and report has been undertaken to determine whether the proposals would result in impacts to protected habitats or species.

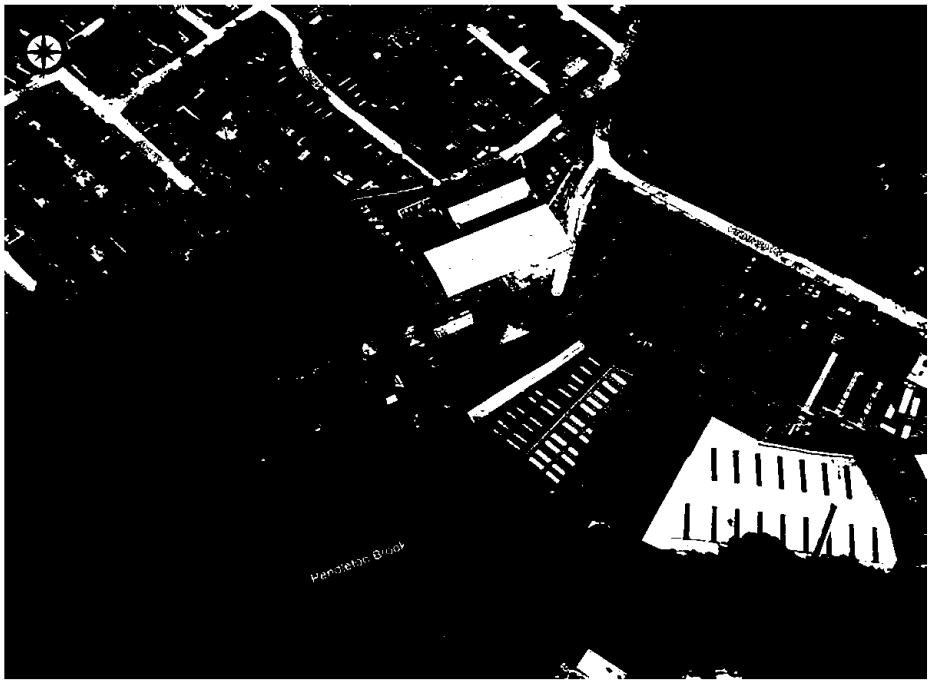
This report addresses all potential ecological impacts which may arise from the proposals. This includes;

- Habitat assessment (UKHabs survey).
- Badger survey.
- Preliminary bat roost assessment of trees.
- Potential breeding bird issues associated with the site.
- Potential great crested newt issues associated with the site.
- Any other protected or notable species potentially present within the site.

1.2 SITE LOCATION

The site is located within the grounds of Primrose House, an early 19th Century Grade 2 listed building. Primrose House is located adjacent to Primrose Mill and immediately south of Primrose Lodge Nature Reserve. The proposed development site is situated within the northern corner of the formalised garden of Primrose House. The postcode is BB7 1AZ and the sites central National Grid Reference is SD 7365 4073. An aerial image of the area subject to survey is shown below.

Figure 1: Aerial image of site and survey area (image date July 2021)



2. METHODOLOGY

2.1 DESK SURVEY

It was decided in advance that the decision whether or not to obtain data from Lancashire Environment Record Network (LERN) would be based upon the outcome of the survey findings.

In this instance LERN were not consulted, as the proposals are very localised, within a formalised garden, and impacts not anticipated to extend beyond the site boundary.

The Multi Agency Geographical Information Centre www.magic.gov.uk was referred to in respect of statutory sites, great crested newt (GCN) licence returns, and European Protected Species Licences (EPSL).

Pennine Ecological's dataset was also referred to, which contains extensive records of species and habitats generated from surveys undertaken since the company's formation in 1996.

2.2 HABITAT SURVEY

A UK Habitat Classification (UKHabs) survey (UKHab Ltd, 2020) of the habitats within the red line boundary was undertaken on 23/05/2023. The site's habitats were mapped, and vascular plant species were recorded and given a DAFOR ((Dominant (D), Abundant (A), Frequent (F), Occasional (O), Rare (R)) score. Each habitat was given a distinctiveness and habitat condition score (Natural England, 2023). Secondary codes have been applied where required to describe the primary habitats. Habitats have been mapped using the fine-scale minimum mapping unit.

2.3 PROTECTED SPECIES SURVEYS

2.3.1 Badger Survey

A badger survey was undertaken of the site and up to 50m from the site boundary and followed standard survey guidance (Harris et al., 1989, and Roper, 2010). The badger survey used standard techniques for establishing the use of the site by badger, and includes searches for evidence of badgers including:

- Setts.
- Pathways.
- Footprints.
- Latrines.
- Foraging areas.
- Scratching posts.
- Boundary searches for runs, pathways, and latrines.

2.3.2 Preliminary Bat Roost Assessment

The preliminary bat roost assessment (PRA) was undertaken on the 25/03/2023 following the methodology outlined in Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn) Collins, J. Bat Conservation Trust (2016). The PRA involved building assessments and ground level tree roost assessments of a small number of trees which may potentially be impacted.

An assessment of the habitat in relation to bats was also completed for the site.

2.3.3 Breeding Bird Assessment

The site was assessed for its potential to support breeding birds. This included identifying any evidence of historic nesting within the site (primarily withing buildings and trees).

Any bird activity within the site was recorded whilst undertaking the site survey.

2.3.4 Great Crested Newt Assessment

T The site was evaluated by means of desk study and the surveyor's specialist knowledge of the species, in particular its terrestrial habits and breeding requirements.

One pond is located within the site and was subject to a Habitat Suitability Index (HSI) assessment. There are no other ponds within 250m of the site. The index applies ten suitability indices which are multiplied together to produce a score for each pond (Oldham et al, 2000). Based on the score a pond suitability for supporting GCN is applied to each pond (see Table 1 below).

Note: The HSI system is not sufficiently precise to conclude that any particular pond with a high score will support newts, or that any pond with a low score will not support newts.

Table 1: HSI Scoring

HSI Score	Pond Suitability
< 0.5	Poor
0.5 – 0.59	Below Average
0.6 – 0.69	Average
0.7 – 0.79	Good
> 0.8	Excellent

2.3.5 Other Protected Species

All other protected and notable species were scoped for assessment. This included reptiles and riparian mammals.

2.4 SURVEY CONSTRAINTS

The site survey was conducted on 23/05/2023. Full access to the site was available. All habitats were assessed accurately and categorised accordingly. There are no survey constraints to any of the habitat or protected species surveys undertaken.

3. RESULTS

3.1 DESK STUDY

3.1.1 Statutory Designated Sites

There are no internationally or nationally designated statutory sites within 2km of the site.

There are no locally designated statutory sites within 500m of the site.

3.1.2 Non-statutory Designated Sites

There are no non-statutory designated sites within the site.

Primrose Lodge Biological Heritage Site (BHS) is located approximately 90m north of the site. The BHS comprises the former lodge for the nearby mill. The site is known to support a large colony of green figwort, a nationally scarce plant species.

3.1.3 Protected / Notable Habitats and Species

There are no records of protected or notable habitats and species within the site.

There are no EPSL within 500m of the site. The nearest record is for a bat licence, approximately 730m south-west of the site.

3.2 HABITAT SURVEY

3.2.1 Habitats Present

- g4 Modified grassland
- h3h Mixed scrub
- r1 Pond (non-priority)
- u1b5 Developed land; building
- u1c Artificial unsealed, unvegetated surfaces
- w1f7 Other lowland mixed deciduous woodland
- w1g6 Line of trees
- N/a Individual trees

3.2.2 General Description

The proposed development site is within the formalised gardens of Primrose House. The area subject to survey was once a rose garden, however over recent years has been used as a plant nursery for the formalised garden (information provided by homeowner Richard Stephenson). The area is currently under low maintenance and as such the has become overgrown in areas. Nevertheless, the site and habitats present derive from a managed garden base. A review of aerial imagery confirms the area was very formalised until around 2018, when the area becomes more naturalised.

The current site comprises predominantly modified grassland (g4), with lines of trees and individual trees. There are areas of introduced shrubs within the centre of the site and along the steep bank which falls away from the site to the south. Areas of more established trees and woodland are located along the steep bank in the southern section of the site. A small, ornamental pond is located within

the site. The pond is overgrown within an area of Leyland cypress and is unmanaged, holding very little water.

The species composition throughout the site includes a mix of horticultural plant species as well as native plant species.

3.2.3 Target Notes

(i) Target Note 1: Modified grassland (g4)

The most abundant habitat on site is modified grassland which is species poor. It is likely that this was maintained as an amenity grassland, however the sward at the time of survey was overgrown, typically between 10cm - 30cm. Typical species recorded include;

false-oat grass (A), dandelion (LA), germander speedwell (LA), common bent (F), red fescue (LF), bramble (F), meadow buttercup (F), and ribwort plantain (LF).

(ii) Target Note 2: Introduced Shrub with Mixed Scrub

Throughout the site there are introduced shrub beds which comprise a variety of horticultural plant species. In areas, these are mixed with native scrub and tall ruderal species. Species recorded include;

cotoneaster (LA), forsythia (LA), bramble (LA), willow species (LA), loosestrife species (LA), columbine (F), rosebay willowherb (LF), iris species (O), lily of the valley (O), wood avens (O), bluebell (O) and coltsfoot (O).

(iii) Target Note 3: Other Lowland Mixed Deciduous Woodland (w1f7)

To the south of the site is a steep bank which leads down to the formalised garden area of Primrose House. Along the bank there is a section of woodland with a clear canopy and understorey.

None of the trees will be affected by the proposals. Species recorded include;

Sycamore (A), ash (F), silver birch (F), and poplar (O), wood sedge (F), bluebell (F), ramsons (O), and herb Robert (O).

(iv) Target Note 4: Mixed Scrub (h3h)

A section of mixed scrub located along the steep bank on the south section of the site. There will be minimal disturbance to the bank and associated habitats.

Mixed scrub species include;

hawthorn (F), sycamore (F), common nettle (LF), Pine (O), and cleavers (LF).

(v) Target Note 5: Ornamental Pond (r1)

An overgrown, heavily shaded ornamental pond approximately 3m x 2m is surrounded by an overgrown area of Leyland cypress. The pond is lined and held very little water at the time of survey.

(vi) Target Note 6: Line of Trees (w1g6)

Several lines of trees are located within the site including two mature lines along the northern boundary. A line of acer trees is located along the garden boundary, and a line of Leyland cypress is located immediately parallel. The dense canopies of the trees have resulted in an area of bare ground around the tree lines.

A row of birch saplings is located within the centre of the site. These specimens will be relocated into the main formalised garden area.

3.2.4 Non-native Invasive Plant Species

There are no invasive plant species recorded on site.

Cotoneaster has been identified on site. There are hundreds of varieties of cotoneaster but only a few are listed on Schedule 9 of the Wildlife & Countryside Act (1981). The identification of these invasive varieties is difficult, however it is not thought that the cotoneaster on site is listed in Schedule 9.

3.3 PROTECTED SPECIES SURVEYS

3.3.1 Badger Survey

(i) Setts

The survey found no setts on site or within 50m of the site.

(i) Foraging Signs and Pathways

No sign of badger activity was found on site or within 50m of the site. Therefore it can be concluded that the species is not using this area for foraging or commuting.

(ii) Boundary Search

All of the boundaries of the site were walked and examined for potential runs, pathways, and latrines. The search found no evidence to suggest badger activity along any of the site boundaries.

The absence of any activity signs indicates that badgers are not entering the site. The absence of latrines indicates a lack of territorial activity in the near vicinity of the site.

3.3.2 Preliminary Roost Assessment

(i) Buildings

One building is located within the site. This is a single storey conservatory building which is to be demolished. The building is primarily glass panelling and has a corrugated plastic roof. The conservatory has no obvious gaps. The building is considered to be highly unsuitable for bats as there is no internal roof void and the temperatures within the structure are likely to fluctuate considerably (bats requiring relatively cool, stable temperatures within a roost). There is an adjoining part brick / part breeze-block building with a stone slab roof. This building is 1.8m in height and within cluttered surrounds.

Both buildings are considered to possess '**Negligible**' bat roost potential.

(ii) Trees

Most trees on site will be retained. The trees which will be removed are young to early mature and generally in good condition. Subsequently there are no obvious cavities suitable for use by bats. All existing trees on site are considered to possess '**Negligible**' bat roost potential.

(iii) Bat Habitat Suitability

The site is small but provides excellent bat foraging habitat. The site is surrounded by optimal terrestrial habitat with Primrose House gardens and mill buildings to the south providing excellent foraging opportunities. The site is also connected to suitable foraging and commuting habitat in the wider area, in particular Primrose Lodge to the east and the Pendleton Brook riparian corridor to the south which links to the River Ribble.

The site and wider connected habitats are considered to be of high suitability for bats.

3.3.3 Bird Assessment

(i) Breeding Birds

No evidence of current or historic bird nesting was recorded within the site.

The site comprises areas of introduced shrub beds, scrub, and mature trees / lines of trees. The site provides good opportunities for nesting.

Bird activity was moderate during the survey. Incidental recordings within the site include; 3no. goldfinch, 2no. blue tit, 2no. great tit, 3no. starling, 1no. robin, 2no. wood pigeon recorded.

3.3.4 Great Crested Newt Assessment

One ornamental pond is located on site. The pond is lined and approximately 2m x 3m in area. The pond is now heavily overgrown with Leyland cypress bushes. At the time of survey there was very limited water in the pond.

The pond has a HSI score of 0.4 which is considered to be poor suitability for GCN. This result concurs with the findings of the survey.

4. ECOLOGICAL EVALUATION & RECOMMENDATIONS

The following section evaluates the site in relation to statutory/non-statutory sites, protected species and species/habitats listed under the NERC Act (2006) Section 41; Species/Habitats of Principal Importance in England.

4.1 DESK STUDY

4.1.1 Statutory Designated Sites

There are no statutory sites within the site or within 2km of the site.

The Natural England (NE) Impact Risk Zone (IRZ) tool[1] has been reviewed and states that there is no requirement to consult NE for this proposal.

(i) Recommendations: Statutory Designated Sites

Due to the scale and nature of this proposal there is no requirement for any further assessment or consultation.

4.1.2 Non-statutory Designated Sites

There are no known non-statutory sites within the site. Primrose Lodge BHS is located approximately 90m north of the site. The BHS is designated primarily for the large colony of green figwort.

The development site is situated downstream of the lodge and is separated by a series of buildings and roads. There are considered to be no ecological or hydrological connections between the site and Primrose Lodge BHS. Potential impacts can be discounted.

(i) Recommendations: Non-statutory Designated Sites

No further survey or assessment is required.

4.2 HABITATS

The site derives from formalised garden and evidence of this can be seen throughout, with formalised shrub beds and tree planting, and an abundance of horticultural plant species. A review of aerial imagery indicates that the site has been subject to less intensive management since around 2018.

Most of the trees on site are early mature to semi mature, with occasional fully mature trees. Tree loss will be minimised as far as is practically possible. The intention is to retain as many trees as possible on site, whilst relocating specimens into the adjacent garden to the south.

The current habitats on site have been subject to modification and formalised. The habitats on site are considered to be of 'site' ecological value, with impacts not extending beyond the land directly affected by the proposals.

(i) Recommendations: Habitats

There are no requirements for further surveys.

Biodiversity Enhancements

The proposals are affecting habitats of very low to medium distinctiveness. As the house is being constructed to a Passivhaus specification, the scheme design will ensure that there is an overall

[1] GIS tool developed by Natural England to make a rapid initial assessment of the potential risks posed by development proposals to statutorily designated sites

increase in biodiversity value. The biodiversity enhancement proposals are provided in Table 2 below and can be cross referenced to Appendix A, Map 2, Biodiversity Enhancement Plan, which provides locations of all the measures being undertaken to achieve an overall increase in habitat/fauna value on site.

Table 2: Biodiversity Enhancement Proposals (refer to Appendix A, Map 2)

Map Reference	Habitat / Species	Enhancement Proposal
A	Trees (refer to Tree Plan)	The project design has aimed to retain as many trees as possible. 19no. trees have been retained. Removal of 6no. native trees and two groups of non-native Leyland Cypress. Replacement with 13no. trees, of which 5no. trees of native species (apple, silver birch and oak).
B	Scrub	An area of existing scrub along the south bank which currently has a high proportion of introduced shrubs and non-native species. Unfavourable non-native shrubs will be removed and replaced with a native scrub mix comprising; Hazel, dogwood, holly, and hawthorn.
C	Hedges	English yew (native species) hedges to be used throughout the site instead of artificial barriers. The hedges will form dense foliage and be of value for breeding birds.
D	Grassland	The current site comprises poor condition modified (amenity) grassland). The west and east extents of the site will be seeded with a species rich wildflower lawn mix comprising 20% slow-growing grasses and 80% native wildflower mix. The lawn will be subject to infrequent mowing (approx. 2 to 3 cuts per annum) to allow wildflowers to establish and encourage pollinating insects to the site.
E	Pond	A very small (2m x 3m) ornamental pond which was almost dry will be removed. This is unsuitable for amphibians and has no ecological value in its current state. The proposals include a linear water feature along the full front extent of the new dwelling. Along the southern extent of the pond there will be a row of herbaceous perennials and grasses planted along which will provide partial shading and refuge for invertebrates. Water features are considered to be a valuable ecological resource on site and will encourage invertebrates to the site, consequently increasing the suitability of an area for birds, mammals (bats) and amphibians.

4.3 BADGERS

No evidence of badger activity was found within the site or the wider area during the survey.

It is concluded that badger are absent on site and locally.

(i) Recommendations: Badgers

There are no requirements for further surveys or assessment.

4.4 BATS

Bats are comprehensively protected under European legislation (Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019).

Most trees will be retained as part of the proposals. A small number of young to early-mature trees will be removed. None of these trees possess suitable roosting features and are considered to possess negligible bat roost potential.

The habitats associated with the site and surrounding area are considered to be of high suitability. There is good connectivity to suitable foraging and commuting habitat to the west, east and south of the site.

(i) Recommendations: Bats

There are no requirements for further survey or assessment.

It is recommended that at least three artificial roosts are incorporated into the scheme design (refer to Table 2 and Appendix A, Map 2). Two bat boxes will be erected on mature, retained trees and positioned on south or east aspects. An integrated Habibat Box should be included within the building. Full instructions in relation to installation and positioning are provided via the link below.

- 2No. Schwegler 1FF Flat Bat Boxes (or similar) should be provided.
- 1no. Integrated Habibat Box. Located on the southern elevation of the building.

(ii) Lighting in Relation to Bats

Illumination of the sites vegetated boundaries (north, east and south) must be avoided wherever possible. Where lighting is required this must be low level, directed downwards / internally within the site, away from the boundaries and of low intensity. The following principles will apply;

- Where and if lighting is required this will be directed internally within the site avoiding spillage towards the vegetated boundaries.
- The use of low powered sodium lights or similar will be used and these will be fitted with cowls / covers that prevent lateral light spillage towards boundaries.
- Wherever possible and only if required low level (1-1.5m high) bollard lighting will be used.
- If required lights will be fitted with timer controls that minimise the duration of lighting.

Lighting requirements will follow guidance provided by the Bat Conservation Trust.

https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/.

4.5 BIRDS

All breeding birds (with only minor exceptions) are offered various levels of protection under the Wildlife and Countryside Act (1981) as amended.

No evidence of bird nesting was recorded on site. However the retained woodland on site offers suitability for nesting birds.

(i) Recommendations: Birds

There are no requirements for further survey or assessment.

Additional bird nesting provisions should be included on the side of the new building or upon retained trees around site.

Bird nesting provisions should include as a minimum:

- 4no. standard bird nest boxes which could support common garden bird species (e.g. 1B Schwegler nest box).

4.6 GREAT CRESTED NEWTS

Great crested newts are comprehensively protected under European legislation (Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019).

The pond identified on site is considered to be highly unsuitable for GCN occupancy (0.4 / poor HSI suitability reflective of this assessment). The pond no connectivity to any suitable ponds (an ornamental pond is located within the garden of Primrose House, but this is also highly unsuitable for GCN). Given the lack of connectivity to any suitable GCN ponds, and the highly unsuitable condition of the pond for GCN, it can be concluded with reasonable certainty that GCN are absent from the site and locally.

(i) Recommendations: GCN

There are no requirements for further survey or assessment in relation to GCN.

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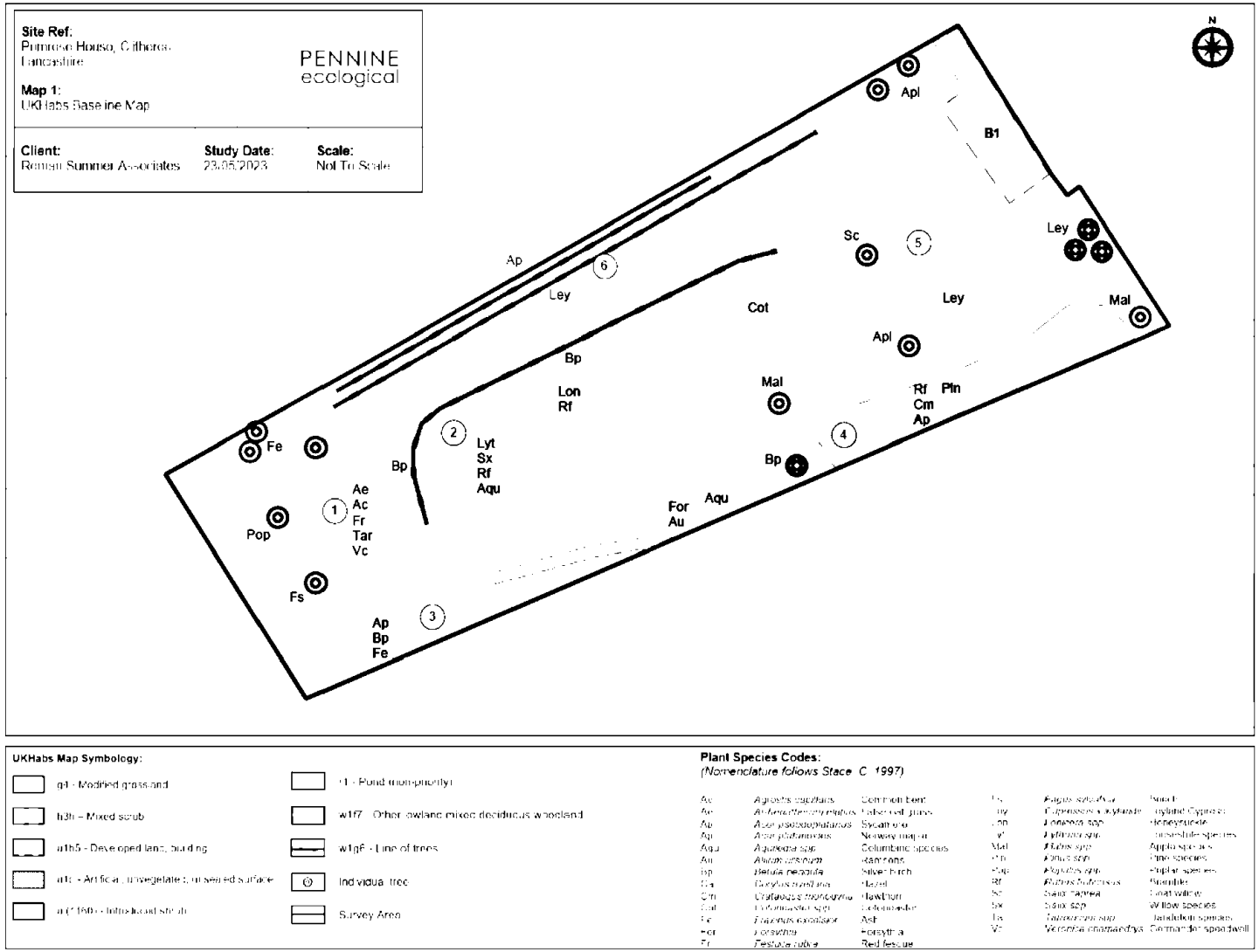
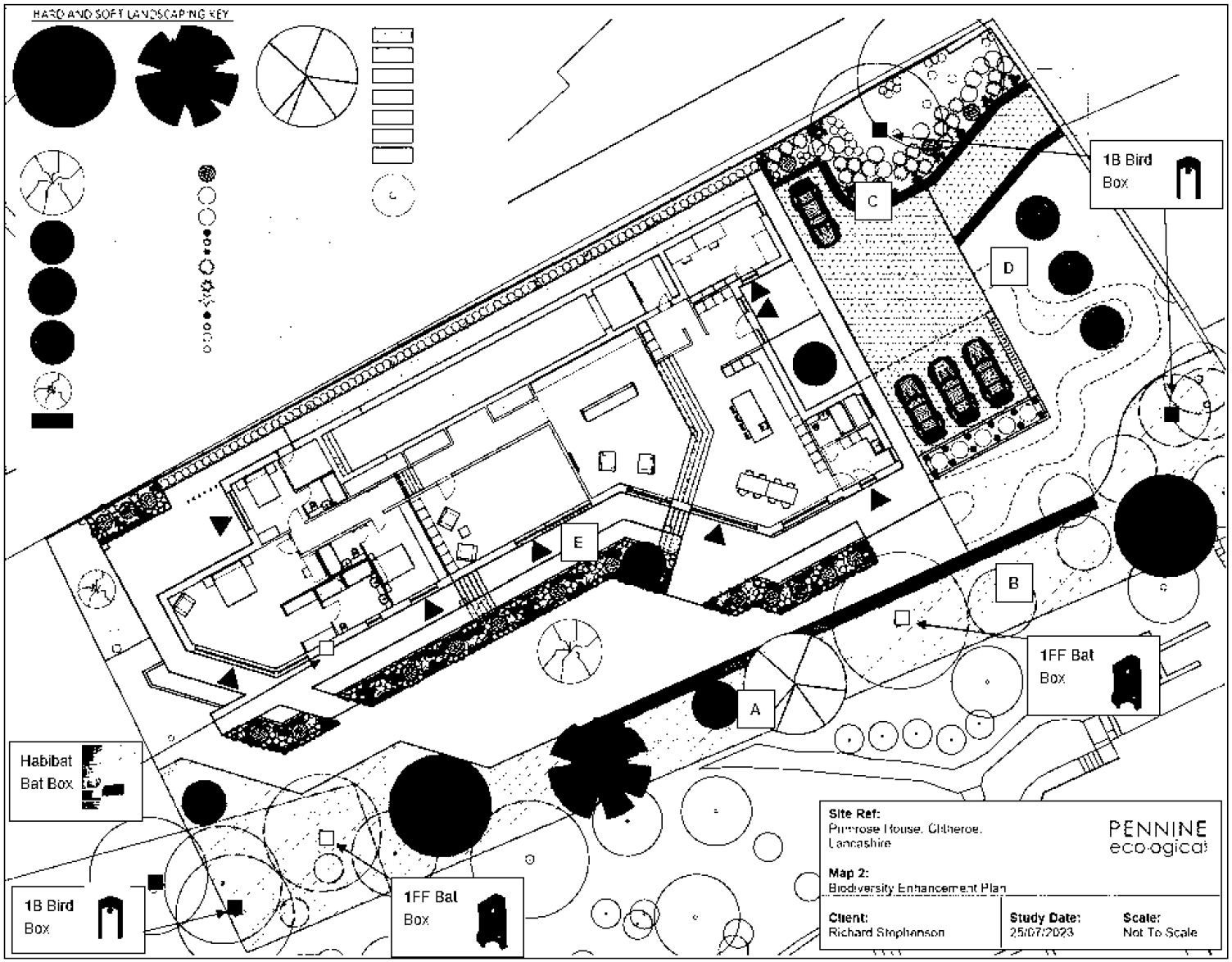
Natural England – MAGIC. Accessed various dates. Latest access 18/07/2023. http://www.natureonthemap.naturalengland.org.uk/MagicMap.aspx

Appendix A: Maps




HARD AND SOFT LANDSCAPING KEY
1B Bird Box
C
D
E
B
1FF Bat Box
A
Habibat Bat Box
1B Bird Box
1FF Bat Box
Site Ref:
Primrose House, Clitheroe, Lancashire
PENNINE eco-ogical
Map 2:
Biodiversity Enhancement Plan
Client:
Richard Stephenson
Study Date:
25/07/2023
Scale:
Not To Scale

Appendix B: Site Photographs

Photograph 1: Site overview with modified grassland in foreground and introduced shrub and saplings in background.

Photograph 2: Row of non-native Leyland cypress trees on north boundary to be lost. Limited ecological value.

Photograph 3: Row of sycamore and Leyland Cypress on north boundary with bare soil below.

Photograph 4: The site is a former rose garden. Much of the site is formed of horticultural species and introduced shrubs.

Photograph 5: Area of mixed scrub and introduced shrub along south bank. Large proportion comprises introduced species.

Photograph 6: Areas of modified grassland and introduced shrub overgrown.

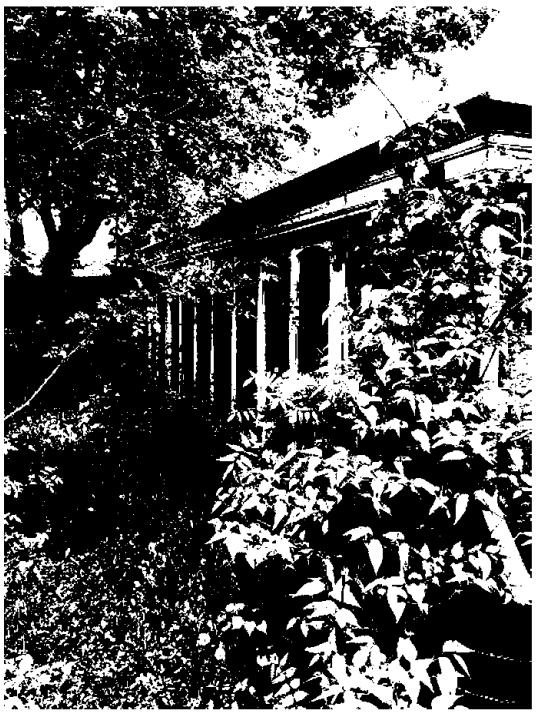
Photograph 7: Domestic apple trees and planted exotic tree species throughout site.

Photograph 8: View south towards Primrose House. Bank of introduced shrub and scrub.

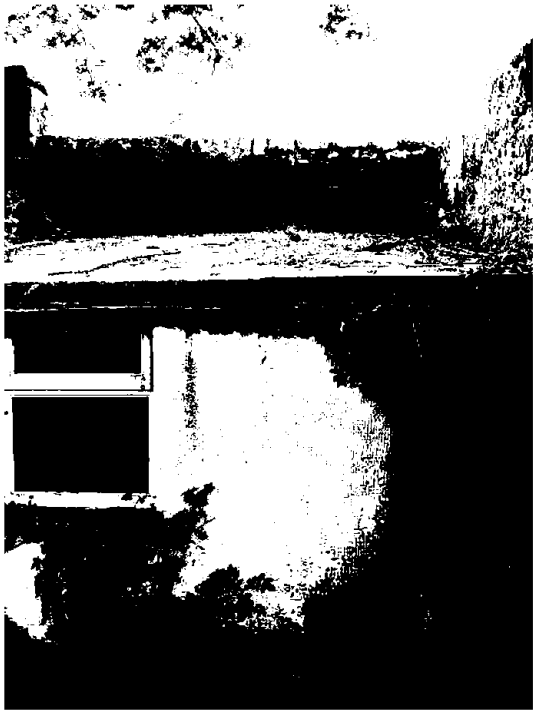
Photograph 9: Mature Leyland cypress in south east corner of site to be retained.

Photograph 11: Pond 3m x 2m is overgrown and holds very little water. No value for GCN.

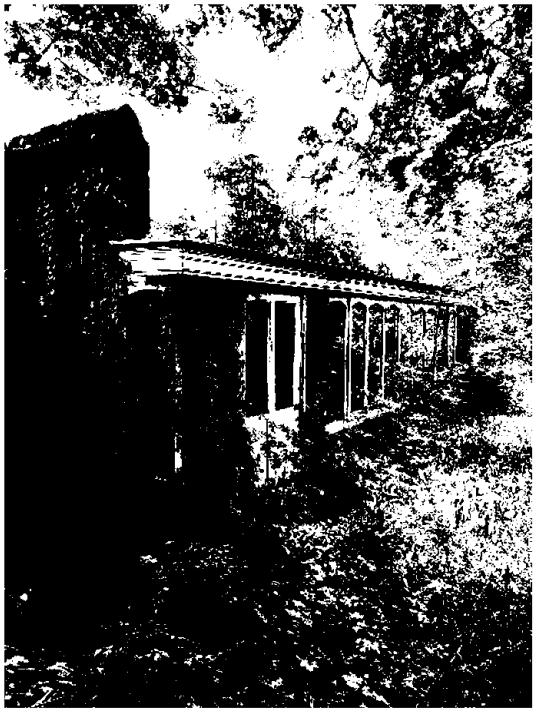
Photograph 10: Ornamental pond surrounded by overgrown introduced shrubs



Photograph 12: Building 1 with negligible bat roost potential.



Photograph 13: Adjoined to Building 1 with negligible bat roost potential.



Photograph 14: Building 1 with negligible bat roost potential.

Photograph 15: Overview of the overgrown site which mainly comprises modified grassland and introduced shrub.