



ARBOR VITAE

ECOLOGY • FORESTRY • LAND USE



PRELIMINARY ECOLOGICAL APPRAISAL

CARADOC COTTAGE

Project name: Caradoc Cottage, All Stretton, Shropshire, SY6 6JN

Grid Reference: SO47669585

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Contents

1	INTRODUCTION	2
1.1	BACKGROUND TO DEVELOPMENT	2
1.2	SCOPE OF SURVEY	2
1.3	KEY PRINCIPLES	2
2	SITE DESCRIPTION.....	3
2.1	LOCATION, LANDSCAPE, AND BACKGROUND	3
3	SURVEY METHODOLOGY	3
3.1	DESK STUDY.....	3
3.2	SITE SURVEY	3
3.3	PERSONNEL	4
3.4	CONSTRAINTS.....	4
4	SURVEY RESULTS	5
4.1	DESK STUDY.....	5
4.2	HABITATS ON SITE	5
4.3	ADJACENT HABITATS.....	6
4.4	PROTECTED SPECIES.....	7
5	EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT	8
5.1	HABITAT ASSESSMENT	8
5.2	PROTECTED SPECIES ASSESSMENT.....	8
6	MITIGATION AND ENHANCEMENT	9
6.1	HABITAT MITIGATION	9
6.2	PROTECTED SPECIES MITIGATION.....	9
6.3	ECOLOGICAL ENHANCEMENT	10
7	CONCLUSIONS	11
	REFERENCES.....	12
	FIGURE 1 LOCATION. 1:50,000.....	13
	FIGURE 2 AERIAL PHOTOGRAPH	14
	FIGURE 3 EXISTING ELEVATIONS.....	15
	FIGURE 4 PROPOSED ELEVATIONS.....	16
	FIGURE 5 EXISTING PLANTING PLAN.....	17
	APPENDIX 1 PHOTOGRAPHS	18

1 INTRODUCTION

1.1 BACKGROUND TO DEVELOPMENT

Retrospective planning permission is being sought for the erection of an outbuilding to form self-contained annex accommodation ancillary to the main dwelling, including the installation of a flue, photovoltaic panels to roof and an extension comprising of a storage shed.

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

1.2 SCOPE OF SURVEY

The survey is primarily designed to:

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

1.3 KEY PRINCIPLES

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

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

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

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

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

2 SITE DESCRIPTION

2.1 LOCATION, LANDSCAPE, AND BACKGROUND

Caradoc Cottage is located at the foot of Caer Caradoc Hill on the north facing slope (Figure 1). The surrounding landscape is dominated by agricultural grassland, arable fields and small areas of broadleaved woodland (Figure 2).

The proposals included cladding, insulating and additional roofing on an existing timber structure on site.

3 SURVEY METHODOLOGY

3.1 DESK STUDY

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

3.2 SITE SURVEY

A site visit was made on 17/02/2020. The survey was carried out in accordance with CIEEM (2017) best practice guidelines. The objective of the survey was to find and record any signs of use by protected species and to note the habitat features present.

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

- Bats
- Breeding birds
- Great Crested Newts

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

Bats

The objective of the survey was to find and record any signs of use by bats, for example:

- Droppings, sometimes in concentrations below roost sites
- Feeding signs such as butterfly and moth wings

- Staining of timber, brickwork around access points

The general structure of the building was assessed for its potential to provide bats with roosting opportunities.

Breeding birds

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

Great crested newts

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

3.3 PERSONNEL

The survey was carried out by Phillipa Stirling MSc: assistant ecologist.

3.4 CONSTRAINTS

The survey was carried out after the conversion had taken place and therefore previous conditions relating to bats on site were not visible. Assessments have been made based on photographs and the structure present.

4 SURVEY RESULTS

4.1 DESK STUDY

The desk study found that within 2km of the site there were the following designations:

- Comley Quarry SSSI 0.8km (Geological interest)
- Long Mynd SSSI 1.8km

The site itself sits within Shropshire Hill Area of Outstanding Natural Beauty.

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

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

Species	Distance	Protection
Badger	0.6km	Protection of Badgers Act 1992, Wildlife and Countryside Act 1981.
Hazel dormouse	1km	European Protected Species, Wildlife and Countryside Act 1981.
Common pipistrelle	0.9km	European Protected Species, Wildlife and Countryside Act 1981.
Soprano pipistrelle	0.9km	European Protected Species, Wildlife and Countryside Act 1981.
Fieldfare	0.8km	Wildlife and Countryside Act 1981.

4.2 HABITATS ON SITE

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

Building

A timber framed and timber clad structure. The cladding is waney edge boarding, fixed horizontally to all elevations. The building's roof is timber boarding with a layer of roofing felt and corrugated tin sheeting. There are photovoltaic panels fixed to the roof. There is no loft space present within the structure and it is single storey. There is a stilted wooden walkway around the front of the structure as it rests on a bank with varying levels. An

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

area of wooden decking has been placed in front of the cabin which now supports a hot tub and outdoor seating area.

There is a small extension which sits well below the ridge line of the original structure on the west elevation. The roof is corrugated tin and boarded up to the rafters. This is partially glazed and is also clad with waney edge boarding.

Before the structure was modified it was a timber framed, shed-like cabin with wooden boards on the roof covered with felt. The elevations were tightly fitting timber boarding with overhanging eaves on either end. The north facing elevation had several windows and a door and there was a raised walkway around the front of the structure.

Amenity grassland

Immediately in front of the cabin was an area of amenity grassland which is now partially covered by wooden decking.

Hedgerow

An old hedgerow sits along the north boundary of the site and includes hawthorn and hazel.

Landscape planting/ management along this hedge line includes:

Holly and common laurel plants, approximately 1m tall and spaced at 0.5m apart.

Two original hazels which have been coppiced.

An old hawthorn which has been laid at some point and is now overgrown.

A wild cherry tree at approximately 5m tall.

A plan of the planting on site is available in Figure 5.

4.3 ADJACENT HABITATS

Grassland

The site is mainly surrounded by improved agricultural grassland to the north and acid grassland to the south on Caer Caradoc hill.

Hedgerow

A hedgerow runs from east to west past the property and is largely overgrown with native species.

Woodland

A narrow strip of woodland is present to the west of the site which runs from south to north along the boundary of a field.

Spring

Within the woodland described above, a small spring flows down from the hill behind and feeds two nearby ponds.

Standing water

There are three mapped ponds within 250m of the site in question. Of these, only two held water. The third was a boggy area of land with no discernible pond characteristics. The two ponds were assessed for their suitability to support Great crested newts. The results can be seen in section 4.4.

4.4 PROTECTED SPECIES

Bats

The original structure and material of the building did not provide any potential roosting sites to bat species. The roof was wooden boards covered with roofing felt and there was no internal roof space or gaps between materials which could have been used by bats.

The site inspection did not find any evidence of bats being present on site although the modifications and inclusion of waney edge boards may provide potential roosting sites for bat species.

Breeding birds

There was no evidence to suggest that breeding birds are using the structure and the previous version of the cabin was unlikely to provide nesting sites. There are no internal spaces or access points which breeding birds might use.

Great Crested Newts

Two ponds within 250m of the site were assessed for their suitability to support GCN. Pond 1 provides 'good' habitat to GCN whilst Pond 2 provides 'average' habitat. Pond 1 is a small area of water surrounded by rough grassland and dense scrub. It is approximately 160m away from the site. Approximately one third of the water's surface is covered by reed mace and iris. Pond 2 is a larger area of water surrounded by rough grassland, trees and scrub. This pond is 225m away from the site and has minimal macrophytes present.

GCN HSI Calculator			
	Pond Name	Pond 1	Pond 2
	Grid Ref	SO47569599	SO47519605
SI No	SI Description		
1	Geographic location	1	1
2	Pond area	0.4	1
3	Pond permanence	0.5	0.9
4	Water quality	0.67	0.67
5	Shade	1	0.6
6	Water fowl effect	1	0.67
7	Fish presence	1	0.67
8	Pond Density	0.4	0.4
9	Terrestrial habitat	1	0.67
10	Macrophyte cover	0.8	0.4
HSI Score		0.73	0.67
Pond suitability (see below)		<i>Good</i>	<i>Average</i>

5 EVALUATION OF RESULTS AND POTENTIAL ECOLOGICAL IMPACT

5.1 HABITAT ASSESSMENT

The construction, conversion and extension of this existing structure has not impacted any habitats which may be of ecological importance.

A small area of amenity grassland has been replaced with wooden decking. This is raised off of the ground so the area underneath may still provide an area of habitat to local wildlife.

5.2 PROTECTED SPECIES ASSESSMENT

Bats

The construction of the cabin impacted an area of amenity grassland and did not necessitate the removal of any vegetation. There are no external lights mounted on the cabin and therefore the structure will not/has not impacted bat species.

The outbuilding in its original form did not provide potential roosting sites for bat species and held 'negligible' potential as a bat roost. Alterations to this structure were carried out during the winter of 2019 when bats would not be active within the landscape. The alterations have had no impact on potential roosting sites or bat species themselves.

The modifications and inclusion of waney edge timber to all elevations will improve the buildings potential to provide roosting sites for bat species.

Breeding birds

No evidence of breeding birds was found during the survey and the structure does not appear to have any suitable nesting features. The previous structure would not have

provided any suitable nesting sites and given that the work was carried out during the winter of 2019 the alterations have had no impact on breeding birds.

Great crested newt

Two ponds within 250m of the development were assessed as providing ‘good’ and ‘average’ habitat to GCN. The work on site impacted an area of approximately 60m² of amenity grassland and did not involve any earth movement or ground works. There are no records of GCN within 1km of the site and it is ‘highly unlikely’ that an offence would be caused by such a development.

Natural England’s rapid risk assessment tool results can be seen below. This calculation uses 1) area of land to be impacted, 2) distance of the land from the nearest pond and 3) assumed presence of GCN.

The works would not have caused an offence under all relevant legislation and no further survey work would have been recommended.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.001 - 0.01 ha lost or damaged	0.005
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
		Maximum: 0.005
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

6 MITIGATION AND ENHANCEMENT

6.1 HABITAT MITIGATION

The loss of 60m² of amenity grassland within this landscape is of no ecological concern and mitigation will not be necessary.

6.2 PROTECTED SPECIES MITIGATION

Bats

If the landowners choose to install any external lighting, it should be designed with nocturnal wildlife in mind, following the Bat Conservation Trust lighting guidance (BCT, 2018).

The following general recommendations are made:

- Hedgerows and key habitat features including mature trees on the site should not be illuminated in order to retain dark movement corridors for nocturnal wildlife.

Illuminance along these features should be below 0.2 lux on the horizontal plane, and 0.4 lux on the vertical plane.

- Security lighting should be set on motion sensors with short timers (<1 minute) and should be LED lighting.
- External lights should be hooded and directed toward the ground to reduce upward light spill.
- A warm white spectrum should be adopted throughout the scheme to reduce blue light component (<2700Kelvin).
- Internal luminaires should be recessed where installed in proximity to windows to reduce glare and light spill. LED luminaires should be used internally where possible due to their sharp cut-off, lower intensity, and dimming capability.
- Luminaires should always be mounted horizontally with an upward light ratio of 0%.

Breeding birds

The work at Caradoc Cottage has not impacted breeding birds nor will it do in the future. Mitigation is not required in this instance.

Great crested newts

The siting of a cabin and subsequent alterations are highly unlikely to have any impact on GCN and mitigation is not required.

6.3 ECOLOGICAL ENHANCEMENT

Two general purpose Woodstone bird boxes should be installed into nearby mature trees in order to provide nesting opportunities. These should be installed at least 2m from the ground and face away from the prevailing wind.

7 CONCLUSIONS

Retrospective planning permission is being sought for the erection of an outbuilding to form self-contained annex accommodation ancillary to the main dwelling, including the installation of a flue; photovoltaic panels to roof and an extension comprising of a storage shed.

The structure is timber framed and timber clad. The cladding is waney edge boarding, fixed horizontally to all elevations. The building's roof is timber boarding with a layer of roofing felt and corrugated tin sheeting. There is a stilted wooden walkway around the front of the structure as it rests on a bank with varying levels. There is a small extension which sits well below the ridge line of the original structure on the west elevation. The roof is corrugated tin and boarded up to the rafters.

An old hedgerow sits along the north boundary of the site to include hawthorn and hazel and planting has occurred to fill in the gaps including holly and laurel.

There are three ponds within 250m of the site in question. Of these, only two held water. Pond 1 provides 'good' habitat to GCN whilst Pond 2 provides 'average' habitat. The work on site impacted an area of approximately 60m² of amenity grassland and did not involve any earth movement or ground works. There are no records of GCN within 1km of the site and it is 'highly unlikely' that an offence would be caused by such a small development.

The construction of the cabin impacted an area of amenity grassland and did not necessitate the removal of any vegetation. There are no external lights mounted on the cabin and therefore the structure will not/has not impacted bat species.

The outbuilding in its original form did not provide potential roosting sites for bat species and held 'negligible' potential as a bat roost. Alterations to this structure were carried out during the winter of 2019 when bats would not be active within the landscape. The modifications and inclusion of waney edge timber to all elevations will improve the buildings potential to provide roosting sites for bat species.

No evidence of breeding birds was found during the survey and the structure does not appear to have any suitable nesting features. The previous structure would not have provided any suitable nesting sites and given that the work was carried out during the winter of 2019 the alterations have had no impact on breeding birds.

The works have had no ecological impact on the site or its surroundings and mitigation is not required.

Ecological enhancement on site is recommended in the form of two Woodcrete nest boxes to provide breeding birds with nesting opportunities.

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FIGURE 1 LOCATION. 1:50,000

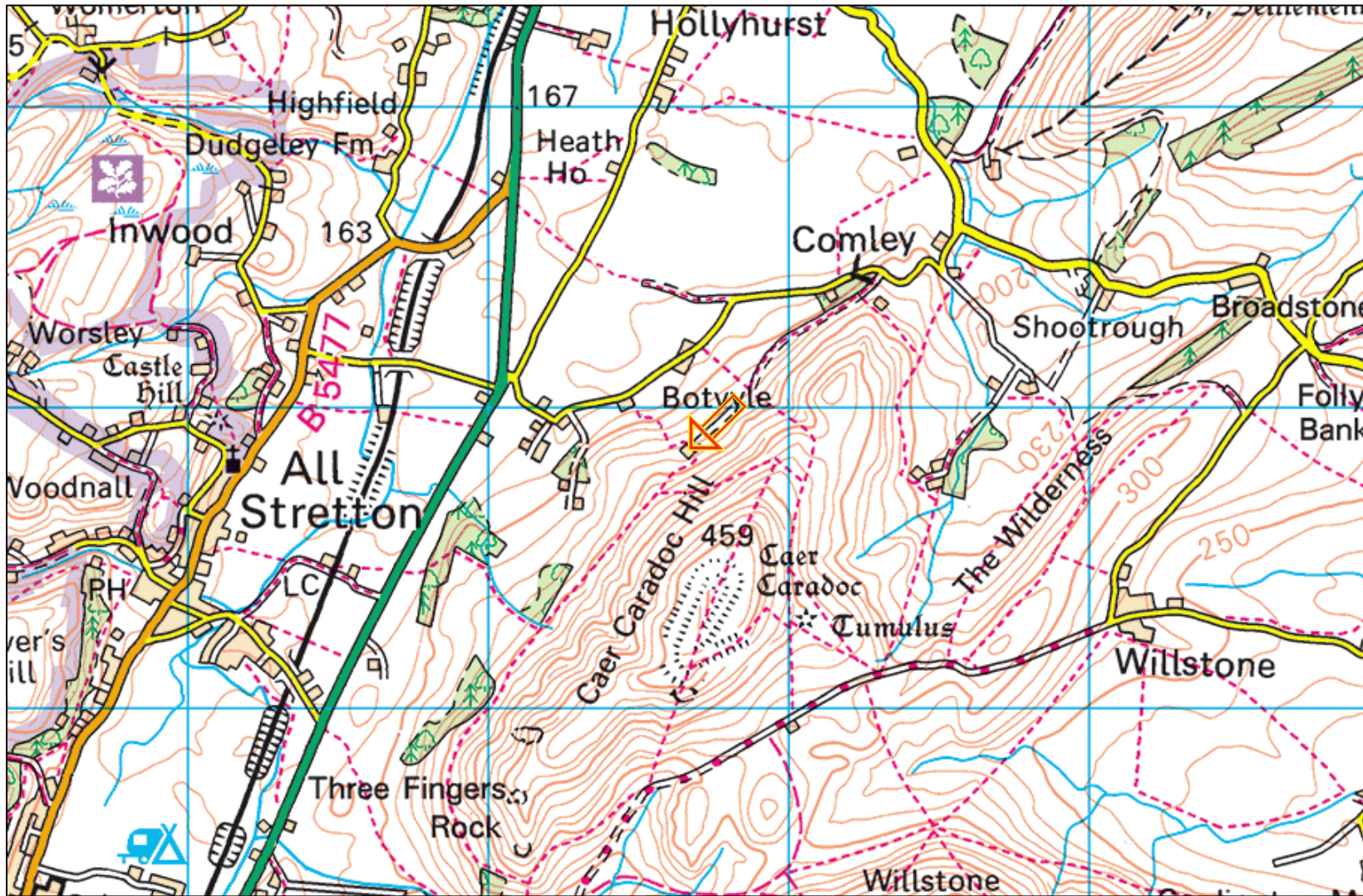
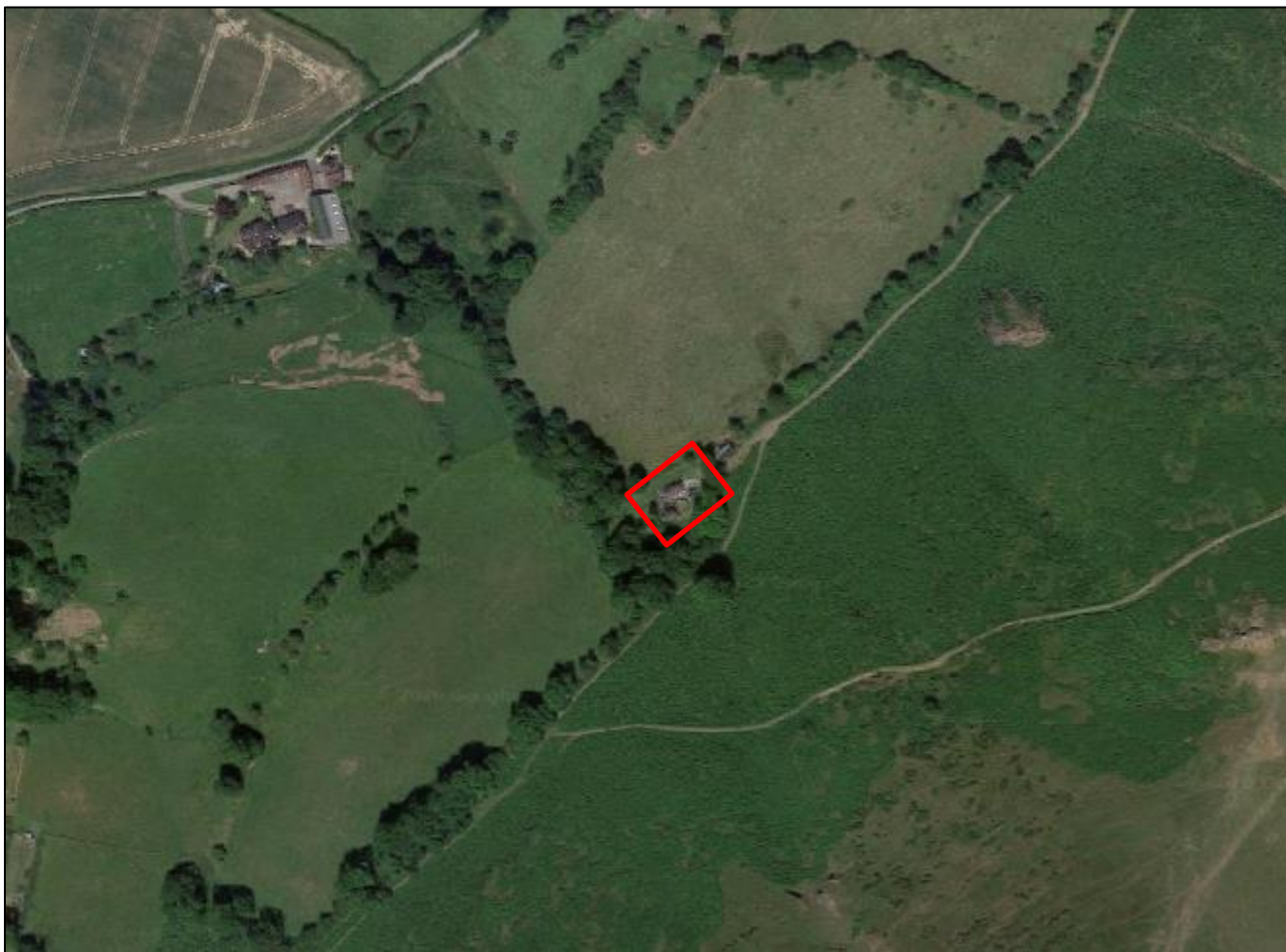


FIGURE 2 AERIAL PHOTOGRAPH



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FIGURE 3 EXISTING ELEVATIONS



FIGURE 4 PROPOSED ELEVATIONS

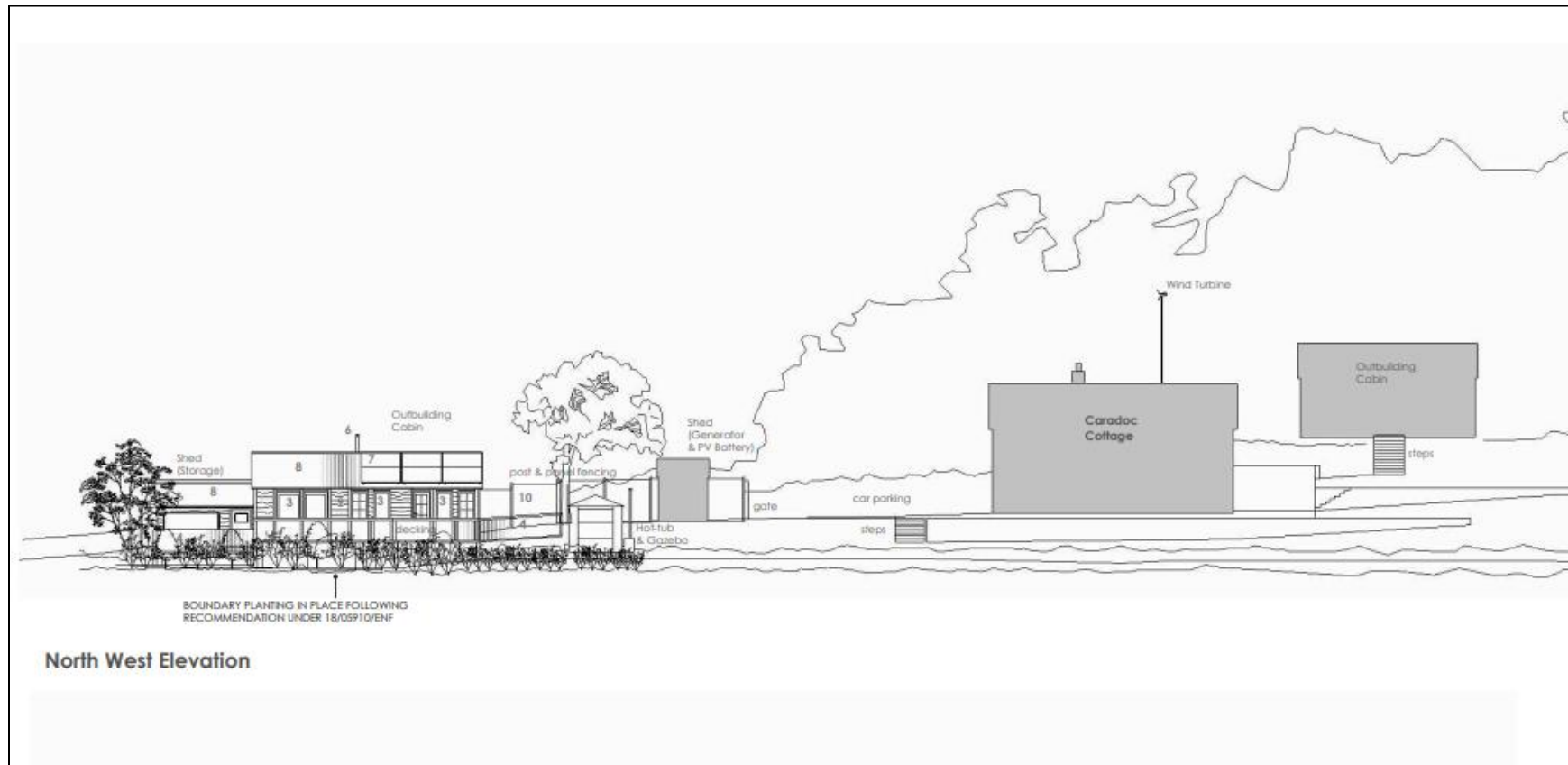


FIGURE 5 EXISTING PLANTING PLAN



APPENDIX 1 PHOTOGRAPHS



Cabin in its original form.



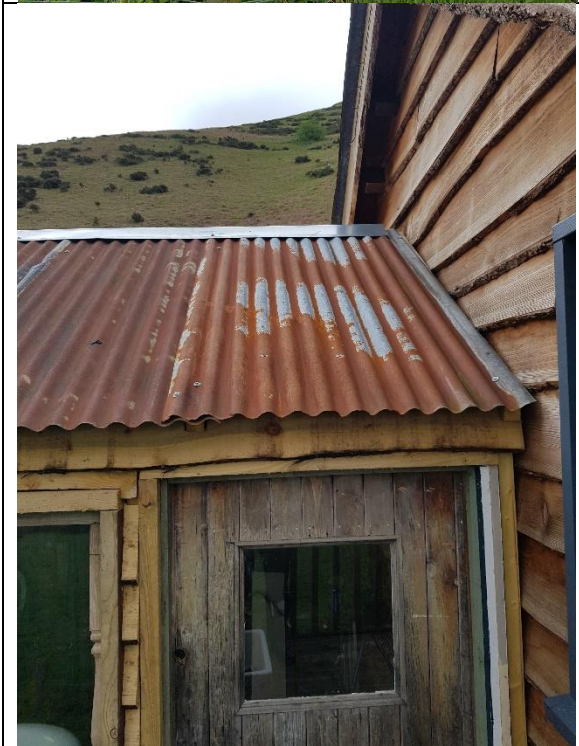
As above.



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East facing elevation of the cabin.



Roof of small side extension.



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West facing elevation of the cabin.



Hedge line along the boundary of the site.



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Pond 1



Pond 2



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