



Technical Appendix 8.1: Habitat Survey Report

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1 INTRODUCTION

1.1.1.1 This Technical Appendix (TA) describes the methods and results of habitat surveys undertaken to obtain baseline ecological information in connection with the proposed ground-mounted solar photovoltaic (PV) system and Battery Electric Storage System (BESS) (the Development). The following terminology is used throughout this TA:

- The Site: all land within the proposed red line boundary as shown on **Figure 8.1.1, Appendix A**;
- The Development: the propose solar PV farm and BESS, inclusive of all necessary infrastructure. The Development layout is shown on **Figure 8.12. Appendix A**; and
- Habitat Survey Area (HSA): the land within which habitat surveys were undertaken, as shown on **Figure 8.1.1, Appendix A**.

1.2 The Proposed Development

1.2.1.1 The Proposed Development will occupy an area of approximately 190 hectares (ha), with the layout is shown in **Figure 8.1.2, Appendix A**. A full detailed description of the Proposed Development is found in **Chapter 3: Development Description** of the Environmental Impact Assessment Report (EIAR).

1.3 Site Description

1.3.1.1 The Site is centred on grid coordinates National Grid Reference (NGR) NT 78702 67899 approximately 2.4 kilometres (km) south of Cockburnspath, and 13 km southeast of Dunbar.

1.3.1.2 A full description of the Site and its surroundings can be found in **Chapter 2: Site Design and Evolution**.

1.4 Purpose of the Report

1.4.1.1 Habitat surveys were undertaken to classify, map and describe the vegetation communities present within the Site and identify those areas of greatest ecological importance. The purpose of this report is to detail the methods and results of the habitat surveys. The aim of this document is to characterise baseline conditions and inform the design for the Proposed Development. Once the design for the Proposed Development is confirmed, an Ecological Impact Assessment (EclA) will be completed to assess any potential impacts upon ecological receptors which may occur because of the Proposed Development

1.4.1.2 Information relating to protected species and bats are detailed within **Volume 3 Technical Appendix 8.2: Protected Species Survey Report** and **Technical Appendix 8.3: Bat Survey Report** and are not reported here.

2 METHODS

2.1 UK Habitat Classification Survey

- 2.1.1.1 A UK Habitat Classification (UKHab) survey was carried out between the 16 and 19 September 2024 in accordance with the latest guidelines¹. The UKHab survey was undertaken by ERM Senior Consultant Monica Wood. An additional visit was also undertaken by ERM Principal Technical Consultant Amelia Hodnett on the 25th of September 2024. Both Monica and Amelia are experienced botanists and competent in undertaking UKHab surveys.
- 2.1.1.2 The UKHab survey encompassed all land within the HSA as shown on **Figure 8.1.1, Appendix A**.
- 2.1.1.3 The aim of the survey was to classify and map habitats according to the methods described in version 2 of the UK Habitat Classification User Manual¹. Target notes (TNs) were made to illustrate examples of habitats present (Appendix B). The DAFOR (dominant, abundant, frequent, occasional or rare) scale was used to describe the abundance of floral species. The DAFOR scale is used for semi-quantitative sampling, to provide a quick estimate of the relative abundance of species in a given area. The nomenclature of vascular plants follows Stace (2019)².
- 2.1.1.4 Any invasive non-native species of plant encountered during the Habitat Surveys, including Japanese knotweed (*Reynoutria japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) were recorded to inform the need for further specialist surveys and advice.
- 2.1.1.5 Typically, a National Vegetation Classification (NVC) survey would have been conducted on Ground Water Dependent Terrestrial Ecosystems (GWDTE) however no such habitats were present within the survey area.

2.1.2 Survey Limitations

- 2.1.2.1 Access was largely limited to the Site, and in places there was limited access granted for land beyond the Site boundary. As such habitats were recorded and assessed from adjacent land within the Site where access was available to assess inaccessible habitat areas beyond it, and although a detailed species list could not always be obtained, a broad classification of the habitat type was able to be confirmed. In addition, all land within the Site was surveyed and so a robust survey of all areas subject to direct effects from the Proposed Development was undertaken, so this is not considered a significant limitation.

¹ UKHab LTD (2023) *UK Habitat Classification Version 2.0* [Online] Available at: [UKHab – UK Habitat Classification](#) (accessed February (2025))

² Stace, C (2019) *New Flora of the British Isles 4th edition*. Cambridge University Press, UK.

3 BASELINE RESULTS

3.1 Baseline Survey Findings

- 3.1.1.1 The HSA is characterised by rural habitats, consisting mainly of arable fields and pasture. Arable margins, hedgerows, ditches were present along field boundaries. Small parcels of woodland, scrub and neutral grassland were also present within the site.
- 3.1.1.2 The UKHab communities recorded on site during the survey are presented **Table 3.1**, listed by classification grouping order as set out in the latest guidance¹. **Figure 8.1.3** details the location of the communities and associated TN. Description of TNs are presented in **Appendix B**.

TABLE 3.1 UKHAB COMMUNITIES RECORDED WITHIN THE SURVEY AREA

BROAD HABITAT TYPE	UKHAB CODE	HABITAT CLASSIFICATION
Grassland	g1c	Bracken
	g3c	Other neutral grassland
	g4	Modified grassland
Woodland and forest	w1	broadleaved, mixed and yew woodland*
	w1g	Other broadleaved woodland
	w1h	Other woodland; mixed
	w2	Coniferous Woodland*
	w2c	Other Coniferous Woodland
Heathland and scrub	h2a	Native hedgerow
	h2a5	Species-rich Native Hedgerow
	h3a	Blackthorn Scrub
	h3e	Gorse scrub
Cropland	c1c5	Winter stubble
	c1d	Non-cereal crops
Urban	u1b	Developed Sealed surface
	u1b5	Buildings
	u1c	Artificial unvegetated, unsealed surface

BROAD HABITAT TYPE	UKHAB CODE	HABITAT CLASSIFICATION
	u1f	Sparsely vegetated urban land
Rivers and lakes	r1a	Eutrophic standing water

*Surveyors did not have access to this area, so it was not possible to obtain a species lists

3.1.2 Grassland

Bracken (g1c)

3.1.2.1 An area of dense bracken is present on the slop on the south of the survey area (TN1).

Other Neutral Grassland (g3c)

3.1.2.2 Small parcels of other neutral grassland are present on the site including an area surrounding the pond (TN2) and an area of newly planted Sitka spruce (*Picea sitchensis*) (TN3).

3.1.2.3 Grass species recorded included false oatgrass (*Arrhenatherum elatius*), cock's-foot (*Dactylis glomerata*), and tufted hair-grass (*Deschampsia cespitosa*), perennial rye-grass (*Lolium perenne*), Yorkshire-fog (*Holcus lanatus*), crested dog's-tail (*Cynosurus cristatus*), and timothy (*Phleum pratense*).

3.1.2.4 Herbaceous species included creeping thistle (*Cirsium arvense*), common nettle (*Urtica dioica*), creeping buttercup (*Ranunculus repens*), dock (*Rumex sp.*), meadow vetchling (*Lathyrus pratensis*), meadow buttercup (*Ranunculus acris*), hogweed (*Heracleum sphondylium*), American willowherb (*Epilobium ciliatum*), rosebay willowherb (*Chamerion angustifolium*), great willowherb (*Epilobium hirsutum*).

3.1.2.5 Water mint (*Mentha aquatica*) and soft rush (*Juncus effusus*) were present near the pond. In the pond area some scattered scrub was also present including bramble (*Rubus fruticosus*), and broom (*Cytisus scoparius*). Occasional hawthorn (*Crataegus monogyna*), willow (*Salix sp.*).

Modified Grassland (g4)

3.1.2.6 The majority of the site is comprised of modified grassland (TN4 - 12). The majority of the site is being used as pasture for cattle and sheep (TN4 - 10). Whilst some smaller parcels form the amenity grassland surrounding the residential buildings (TN11 and 12). Perennial rye grass was always abundant within these grasses. Nonetheless other grasses species including false oat-grass cock's-foot, Yorkshire-fog, crested dog's-tail, meadow grass (*Poa sp.*), brome (*Bromus sp.*), fescue (*Festuca sp.*), creeping bent (*Agrostis stolonifera*), timothy (*Phleum pratense*), and meadow foxtail (*Alopecurus pratensis*) were observed.

3.1.2.7 A variety of herbaceous species mostly species typical of nutrient-enriched soils are also present, including creeping thistle (*Cirsium arvense*), creeping buttercup (*Ranunculus*

repens), common nettle (*Urtica dioica*), spear thistle (*Cirsium vulgare*), white clover (*Trifolium repens*), daisy (*Bellis perennis*), dandelion (*Taraxacum agg.*), dock (*Rumex sp.*), ribwort plantain (*Plantago lanceolata*), greater plantain (*Plantago major*), meadow buttercup (*Ranunculus acris*), red clover (*Trifolium pratense*), lesser hop-trefoil (*Trifolium dubium*), yarrow (*Achillea millefolium*), pineappleweed (*Matricaria discoidea*), field forget-me-not (*Myosotis arvensis*), prickly sowthistle (*Sonchus asper*), common bird's-foot trefoil (*Lotus corniculatus*), rosebay willowherb (*Chamerion angustifolium*).

- 3.1.2.8 Some scattered scrub is also present in places particularly in are close to the dense scrub species present included broom (*Cytisus scoparius*), hawthorn (*Crataegus monogyna*), and American willowherb (*Epilobium ciliatum*), scattered gorse (*Ulex europaeus*). In wetter areas soft rush (*Juncus effusus*) was locally frequent (TN9).

3.1.3 Woodland

Other Broadleaved Woodland (w1g)

- 3.1.3.1 Patches of other broadleaved woodland are present on site (TN13-15). The woodland surrounding the main house (TN 13) comprises sycamore (*Acer pseudoplatanus*), which was abundant, along with frequent occurrences of hazel (*Corylus avellana*), laburnum (*Laburnum anagyroides*), beech (*Fagus sylvatica*), and wych elm (*Ulmus glabra*). Other species present included occasional ash (*Fraxinus excelsior*), hawthorn, holly (*Ilex aquifolium*), and horse-chestnut (*Aesculus hippocastanum*).
- 3.1.3.2 There is a smaller woodland on the bottom of a gorge (TN 14) comprised of ash, lime (*Tilia sp.*) and oak (*Quercus sp.*).
- 3.1.3.3 Lastly an area of recently planted woodland is present over what used to be an area of grassland (T15). Species present include Aspen (*Populus tremula*), rowan (*Sorbus aucuparia*) and silver birch (*Betula pendula*).

Other Woodland Mixed (w1h)

- 3.1.3.4 One section of mixed woodland is present on site (TN 16). This woodland was a recently planted and comprises of rowan, Scot's pine (*Pinus sylvestris*), apple (*Malus sp.*), pedunculate oak (*Quercus robur*), and silver birch. The ground flora is characterised by grasses such as cock's-foot, false oat-grass, perennial rye-grass, and Yorkshire-fog, as well as herbs typical of nutrient-rich soils, including common nettle, dock, and pineapple weed.
- 3.1.3.5 A small line of tree was identified on the HAS near the northeast of the site (TN17) This line of mixed woodland has abundant larch (*Larix sp.*) and silver birch, with Scot's pine and rowan present in lower quantities. The understory and ground layers were dominated by bracken bramble and common nettle.

Other Coniferous Woodland (w2c)

- 3.1.3.6 The coniferous woodland (TN18) is characterised by a dominance of Scot's pine with abundant Sitka spruce and gorse. The ground layer is densely vegetated, featuring frequent cock's-foot and abundant common nettle.

3.1.4 Heathland and Scrub

Native Hedgerow (h2a)

3.1.4.1 Several native hedgerows are present on site (TN19-27). The majority of them are hawthorn hedgerows though other woody species were usually frequently or occasionally present including elder, broom, blackthorn, alder, dog-rose (*Rosa canina*), dewberry (*Rubus caesius*) and gorse (TN19 – 23). One of the hedgerows had abundant willow (*Salix* sp.) as well as hawthorn (TN24).

3.1.4.2 The hedgerow near the house (TN25) comprised abundant beech, with occasional occurrences of ash, elder (*Sambucus nigra*), holly, snowberry (*Symphoricarpos albus*), sycamore, and wych elm.

Species-rich Native Hedgerow (h2a5)

3.1.4.3 Two species rich native hedgerows are present on site (TN26 and 27).

3.1.4.4 TN 26 consists of abundant alder (*Alnus glutinosa*), blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), and hawthorn with frequent occurrences of dewberry. Whereas TN27 consists of alder (*Alnus glutinosa*), blackthorn (*Prunus spinosa*), field maple (*Acer campestre*), and hawthorn.

Blackthorn Scrub (h3a)

3.1.4.5 An area of blackthorn scrub was present along a ditch adjacent to a pasture (TN28). Other species of scrub present included gorse and hawthorn. As there was not fence separating it from the pasture this section of scrub was grazed.

Gorse Scrub (h3e)

3.1.4.6 Areas of gorse scrub are present, on the site boundary, along sections of steep slopes (TN 29).

3.1.4.7 Gorse scrub, and bracken are abundant in the area. Other tree and scrub species present frequent and occasionally include ash, hawthorn, bramble, broom, elm and elder. Herbs including common nettle, creeping thistle, and foxglove (*Digitalis purpurea*) were frequent on the ground flora. Rosebay willowherb was locally abundant.

3.1.5 Cropland

3.1.5.1 Small strip of grassland are found at the borders of arable fields (TN 30 and 31). These are characterised by a variety of grasses and herbaceous plants. These, however, were not considered to fall within the UKHab definition of arable field margins as they did not appear to be managed for the benefit of wildlife. The ground flora had abundant species like perennial rye-grass, cock's-foot, creeping buttercup, and dock. Frequent species included common nettle, ribwort plantain, white clover, creeping thistle, and chickweed. Occasional species included creeping bent, crested dog's-tail, false oat-grass, spear thistle, prickly sowthistle, and scentless mayweed.

Winter Stubble (c1c5)

3.1.5.2 Three field of winter stubble such as TN32 were recorded on site.

Non-cereal Crops (c1d)

3.1.5.3 One non-cereal crop field was recorded on the northeast of the HSA (TN33).

3.1.6 Urban

Buildings (u1b5)

3.1.6.1 Several farm buildings were recorded on site (TN34-38). These included two residential buildings, namely the terraced cottages (TN34) and the main house (TN35). The other buildings were a variety of commercial buildings used in the farming activities (TN36-38). Further details about the buildings are provided in the Bat technical appendix.

Developed Sealed Surfaces (u1b)

3.1.6.2 Developed sealed surface habitat was used for parking next to the main house (TN39) and in the form of roads on the farms (TN40).

Artificial Unvegetated Unsealed Surface (u1c)

3.1.6.3 Artificial unvegetated unsealed surface was present on site in the form of tracks (TN41) and gravel area surrounding the main house (TN42).

Sparsely Vegetated Urban Land (u1f)

3.1.6.4 Sparsely vegetated urban land was present on sections of the farmyard that had been colonised by grasses and low-growing plants (TN 43). Frequent species included perennial rye-grass, pineapple weed, dock, and white clover, providing a mix of green ground cover. Occasional species present included common mouse-ear, creeping thistle, ribwort plantain, prickly sowthistle, and scentless mayweed, adding to the diversity of the area. No species were considered abundant or dominant as the majority of the area was just bare ground.

3.1.7 Rivers and Stream

Eutrophic Standing Water (r1a)

3.1.7.1 A pond was present on the centre of site (TN44). Soft rush, iris, and bulrush were present on the margins as well as a small cluster of goat willow on south shore.

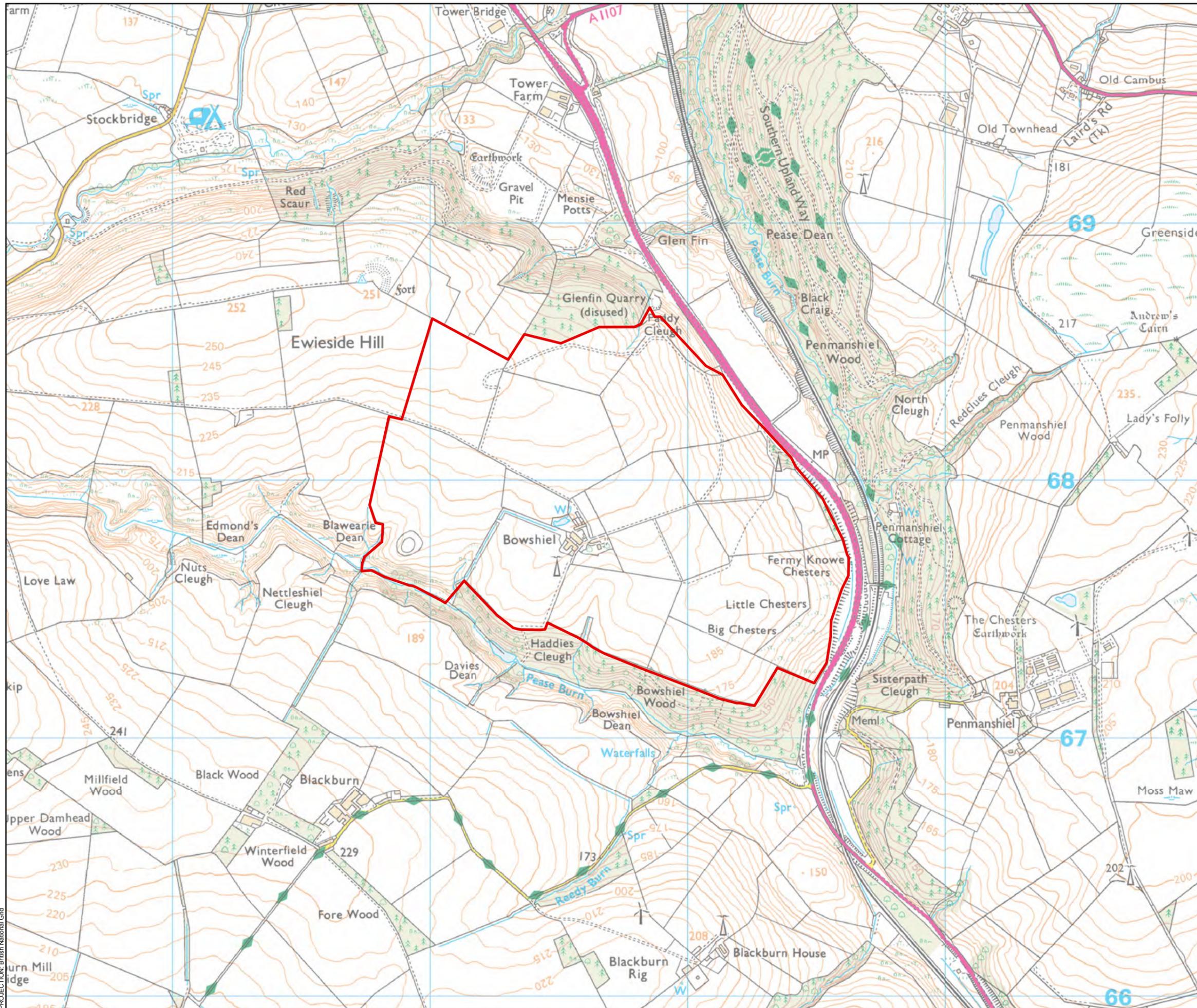
4 SUMMARY OF BOTANICAL INTEREST

4.1.1.1 **Table 4.1**, below, provides a summary of the habitat communities recorded on site, and whether these Habitats of Principal Importance (HPI) listed on the Scottish Biodiversity List (SBL) and the potential to be Ground Water Dependent Terrestrial Ecosystems (GWDTE). Impact Assessment and Mitigation are discussed on Chapter 8 of the EIAR.

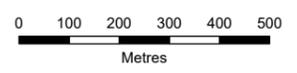
TABLE 4.1 SUMMARY OF UKHAB COMMUNITIES AND SENSITIVITIES ON SITE

UK HAB COMMUNITY	SBL	GWDTE
Bracken		Low
Other neutral grassland		Low
Modified grassland		Low
Other broadleaved woodland		Low
Other woodland; mixed		Low
Coniferous Woodland		Low
Native hedgerow	✓	Low
Gorse scrub		Low
Cereal crops		Low
Winter stubble		Low
Non-cereal crops		Low
Developed Sealed surface		Low
Buildings		Low
Artificial unvegetated, unsealed surface		Low
Sparsely vegetated urban land		Low
Eutrophic standing water		Low

APPENDIX A FIGURES



Site Boundary

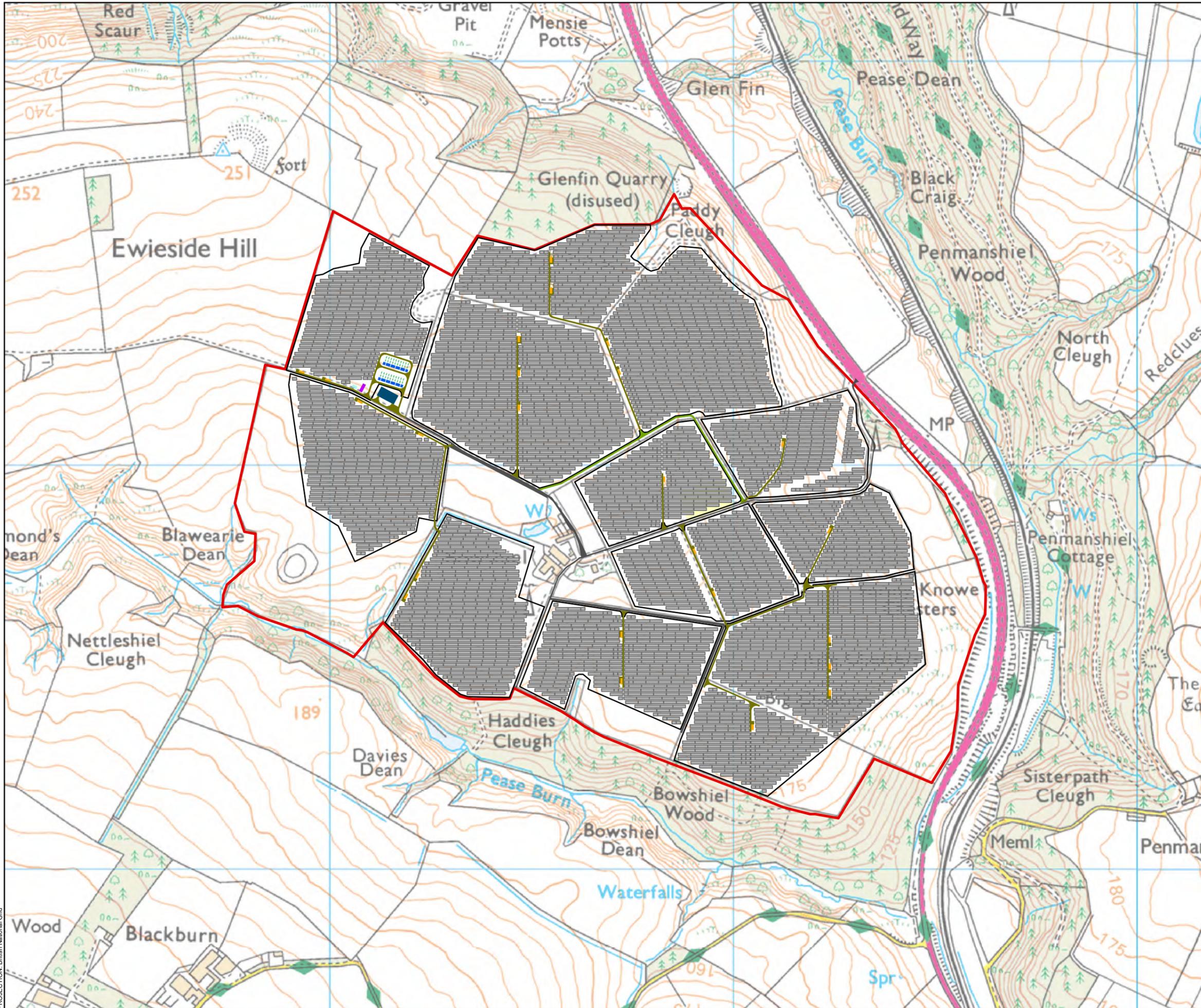


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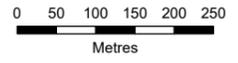
VERSION: A01
 DRAWN: JS
 CHECKED: MW
 APPROVED: RO

**Bowshiel Solar Farm and BESS
 Protected Species Survey Report
 Figure 8.1.1
 Site Location Plan**





- Site Boundary
- Site Infrastructure
- BESS
- Temporary Construction Compound
- OM Building
- Customer Substation
- PV Module
- Transformer
- Internal Access Track
- Existing Access Track
- External Access Track
- Power Conversion
- Storage Container
- Tesla Megapack
- Fence

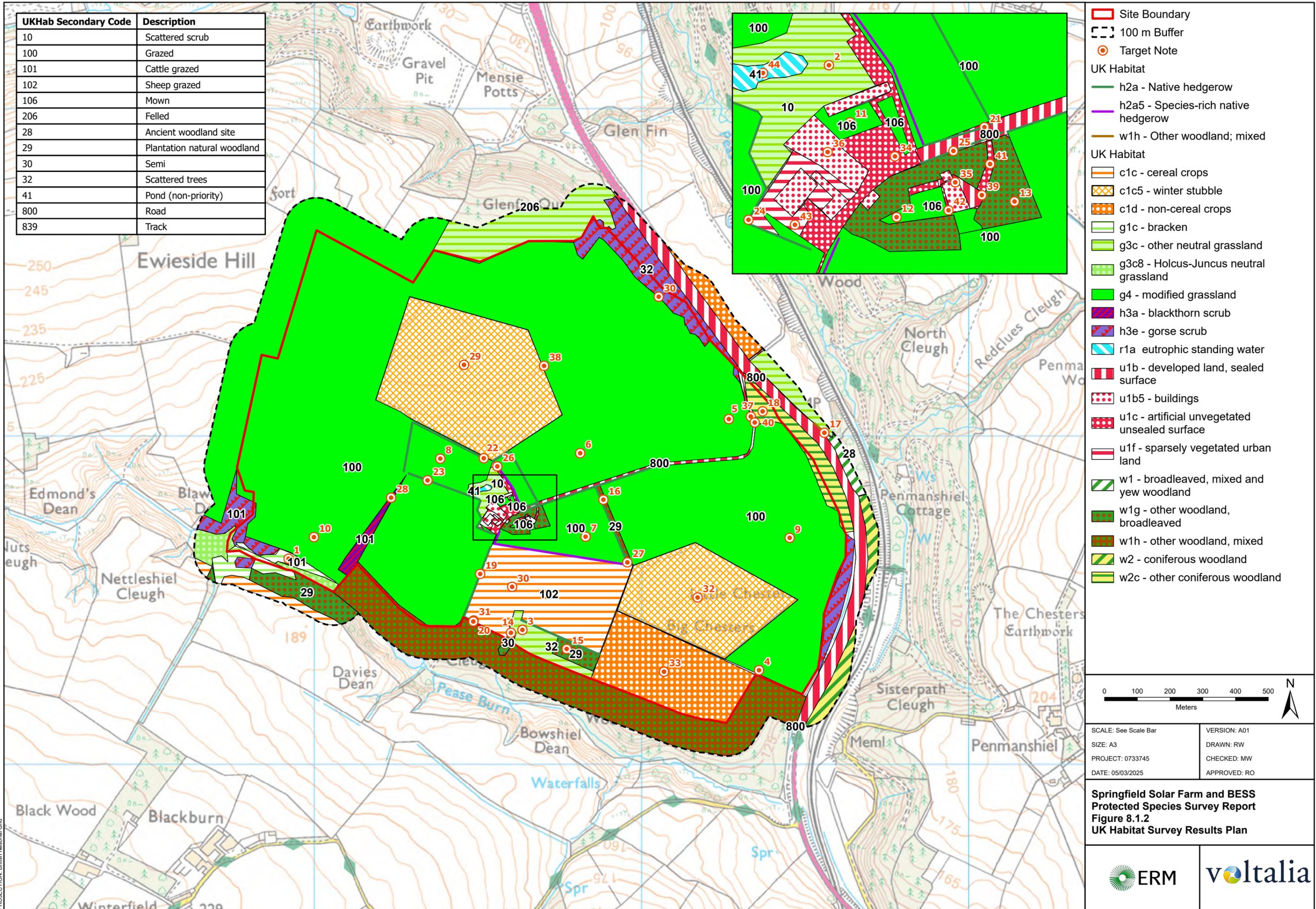


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DATE: 6/3/2025	APPROVED: RO

**Bowshiel Solar Farm and BESS
Habitat Technical Appendix
Figure 8.1.2
Development Layout**

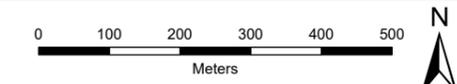


PROJECTION: British National Grid



UKHab Secondary Code	Description
10	Scattered scrub
100	Grazed
101	Cattle grazed
102	Sheep grazed
106	Mown
206	Felled
28	Ancient woodland site
29	Plantation natural woodland
30	Semi
32	Scattered trees
41	Pond (non-priority)
800	Road
839	Track

- Site Boundary
- 100 m Buffer
- Target Note
- UK Habitat
- h2a - Native hedgerow
- h2a5 - Species-rich native hedgerow
- w1h - Other woodland; mixed
- UK Habitat
- c1c - cereal crops
- c1c5 - winter stubble
- c1d - non-cereal crops
- g1c - bracken
- g3c - other neutral grassland
- g3c8 - Holcus-Juncus neutral grassland
- g4 - modified grassland
- h3a - blackthorn scrub
- h3e - gorse scrub
- r1a - eutrophic standing water
- u1b - developed land, sealed surface
- u1b5 - buildings
- u1c - artificial unvegetated unsealed surface
- u1f - sparsely vegetated urban land
- w1 - broadleaved, mixed and yew woodland
- w1g - other woodland, broadleaved
- w1h - other woodland, mixed
- w2 - coniferous woodland
- w2c - other coniferous woodland



SCALE: See Scale Bar	VERSION: A01
SIZE: A3	DRAWN: RW
PROJECT: 0733745	CHECKED: MW
DATE: 05/03/2025	APPROVED: RO

Springfield Solar Farm and BESS Protected Species Survey Report
Figure 8.1.2
UK Habitat Survey Results Plan



APPENDIX B TARGET NOTES

TARGET NOTE	PHOTOGRAPH
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TN1 – Bracken
Area of dense bracken (*Pteridium aquilinum*).



TARGET NOTE

TN2 – Other Neutral Grassland

Are of other neutral grassland with scattered scrub surrounding the pond.

American willowherb (<i>Epilobium ciliatum</i>)	Occasional
Bramble (<i>Rubus fruticosus</i>)	Locally frequent
Broom (<i>Cytisus scoparius</i>)	Locally frequent
Cock's-foot (<i>Dactylis glomerata</i>)	Abundant
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Frequent
Dock (<i>Rumex sp.</i>)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Frequent
Great willowherb (<i>Epilobium hirsutum</i>)	Occasional
Hawthorn (<i>Crataegus monogyna</i>)	Occasional
Hogweed (<i>Heracleum sphondylium</i>)	Occasional
Meadow buttercup (<i>Ranunculus acris</i>)	Occasional
Meadow vetchling (<i>Lathyrus pratensis</i>)	Occasional
Rosebay willowherb (<i>Chamerion angustifolium</i>)	Locally abundant
Soft rush (<i>Juncus effusus</i>)	Locally frequent
Tufted hair-grass (<i>Deschampsia cespitosa</i>)	Abundant
Water mint (<i>Mentha aquatica</i>)	Occasional
Willow (<i>Salix sp.</i>)	Occasional
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TARGET NOTE

TN3 – Other Neutral Grassland

Other neutral grassland with newly planted Sitka spruce (*Picea sitchensis*)

Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common knapweed (<i>Centaurea nigra</i>)	Locally frequent
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Locally abundant
Crested dog's tail (<i>Cynosurus cristatus</i>)	Occasional
False oat-grass (<i>Arrhenatherum elatius</i>)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Frequent
Timothy (<i>Phleum pratense</i>)	Occasional
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TARGET NOTE

TN 4 - Modified Grassland

Modified grassland in the form of grazed pasture. Damp area of soft rush is present at the bottom of the valley.

Cock's-foot (<i>Dactylis glomerata</i>)	Occasional
Common bird's-foot trefoil (<i>Lotus corniculatus</i>)	Occasional
Common mouse-ear (<i>Cerastium fontanum</i>)	Occasional
Common nettle (<i>Urtica dioica</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Locally frequent
Crested dog's tail (<i>Cynosurus cristatus</i>)	Frequent
Dandelion (<i>Taraxacum</i> agg.)	Frequent
Dock (<i>Rumex</i> sp.)	Occasional
Lesser hop-trefoil <i>Trifolium dubium</i>	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Pineappleweed (<i>Matricaria discoidea</i>)	Occasional
Red Clover (<i>Trifolium pratense</i>)	Frequent
Ribwort plantain (<i>Plantago lanceolata</i>)	Abundant
Soft rush (<i>Juncus effusus</i>)	Locally abundant
White clover (<i>Trifolium repens</i>)	Abundant
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TARGET NOTE

TN 5 – Modified Grassland
Modified grassland in the form of grazed pasture. Scattered scrub was present near dense scrub area.

Brome (<i>Bromus sp.</i>)	Locally frequent
Cock's-foot (<i>Dactylis glomerata</i>)	Occasional
Common mouse-ear (<i>Cerastium fontanum</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Abundant
Creeping thistle (<i>Cirsium arvense</i>)	Locally abundant
Crested dog's tail (<i>Cynosurus cristatus</i>)	Abundant
Dandelion (<i>Taraxacum</i> agg.)	Frequent
Fescue (<i>Festuca sp.</i>)	Occasional
Gorse (<i>Ulex europaeus</i>)	Locally frequent
Greater plantain <i>Plantago major</i>	Occasional
Meadow grass (<i>Poa sp.</i>)	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Frequent
Pineappleweed (<i>Matricaria discoidea</i>)	Occasional
Red Clover (<i>Trifolium pratense</i>)	Frequent
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Frequent
Yarrow (<i>Achillea millefolium</i>)	Frequent
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TARGET NOTE

TN 6 – Modified Grassland

Modified grassland in the form of grazed pasture near the house.

Chickweed (<i>Stellaria media</i>)	Occasional
Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Crested dog's tail (<i>Cynosurus cristatus</i>)	Frequent
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Abundant

TN 7 – Modified Grassland

Common nettle (<i>Urtica dioica</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Daisy <i>Bellis perennis</i>	Frequent
Dandelion (<i>Taraxacum</i> agg.)	Frequent
Dock (<i>Rumex</i> sp.)	Occasional
Greater plantain <i>Plantago major</i>	Frequent
Meadow grass (<i>Poa</i> sp.)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Abundant

PHOTOGRAPH



TARGET NOTE

PHOTOGRAPH

TN 8 – Modified Grassland

Modified grassland in the form of grazed pasture soft rush is present near the pond, creeping thistle and nettles are present near the hedgerow.

Common nettle (<i>Urtica dioica</i>)	Locally frequent
Creeping bent <i>Agrostis stolonifera</i>	Frequent
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Locally frequent
Crested dog's tail (<i>Cynosurus cristatus</i>)	Frequent
Dandelion (<i>Taraxacum</i> agg.)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Soft rush (<i>Juncus effusus</i>)	Locally frequent
White clover (<i>Trifolium repens</i>)	Abundant
Yorkshire-fog (<i>Holcus lanatus</i>)	Occasional



TN 9 – Modified Grassland

Area of soft rush (*Juncus effusus*) on the bottom of the valley



TARGET NOTE

TN 10 – Modified Grassland

Broad-leaved Dock (<i>Rumex obtusifolius</i>)	Locally frequent
Common mouse-ear (<i>Cerastium fontanum</i>)	Occasional
Creeping thistle (<i>Cirsium arvense</i>)	Occasional
Meadow buttercup (<i>Ranunculus acris</i>)	Frequent
Meadow foxtail <i>Alopecurus pratensis</i>	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Yorkshire-fog (<i>Holcus lanatus</i>)	Locally frequent

TN 11 - Modified Grassland Lawn around the cottages

American willowherb (<i>Epilobium ciliatum</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Abundant
Common sunflower (<i>Helianthus annuus</i>)	Locally frequent
Daisy (<i>Bellis perennis</i>)	Frequent
typoDandelion (<i>Taraxacum</i> agg.)	Occasional
Field forget-me-not <i>Myosotis arvensis</i>	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Prickly sowthistle <i>Sonchus asper</i>	Occasional
Ribwort plantain (<i>Plantago lanceolata</i>)	Occasional
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Abundant
Yorkshire-fog (<i>Holcus lanatus</i>)	Occasional

PHOTOGRAPH



TARGET NOTE

**TN 12 – Modified Grassland
Lawn in front of the house**

Chickweed (<i>Stellaria media</i>)	Occasional
Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Crested dog's tail (<i>Cynosurus cristatus</i>)	Frequent
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Abundant

PHOTOGRAPH



TARGET NOTE

TN13 – Other Broadleaved Woodland
Other broadleaved woodland surrounding the main house.

Ash (<i>Fraxinus excelsior</i>)	Occasional
Beech (<i>Fagus sylvatica</i>)	Frequent
Elm (<i>Ulmus sp.</i>)	Occasional
Hawthorn (<i>Crataegus monogyna</i>)	Occasional
Hazel <i>Corylus avellana</i>	Frequent
Holly (<i>Ilex aquifolium</i>)	Occasional
Horse-chestnut (<i>Aesculus hippocastanum</i>)	Occasional
Laburnum (<i>Laburnum anagyroides</i>)	Frequent
Sycamore (<i>Acer pseudoplatanus</i>)	Abundant
Wych elm (<i>Ulmus glabra</i>)	Frequent
American willowherb (<i>Epilobium ciliatum</i>)	Occasional
Chickweed (<i>Stellaria media</i>)	Occasional
Common ivy (<i>Hedera helix</i>)	Locally abundant
Common nettle (<i>Urtica dioica</i>)	Abundant
Creeping buttercup (<i>Ranunculus repens</i>)	Abundant
Crested dog's tail (<i>Cynosurus cristatus</i>)	Occasional
Dock (<i>Rumex sp.</i>)	Frequent
Elder (<i>Sambucus nigra</i>)	Locally frequent
Meadow grass (<i>Poa sp.</i>)	Abundant
Scentless mayweed (<i>Tripleurospermum inodorum</i>)	Occasional
White dead-nettle <i>Lamium album</i>	Frequent
Yorkshire-fog (<i>Holcus lanatus</i>)	Abundant

PHOTOGRAPH



TARGET NOTE	PHOTOGRAPH
<p>TN14 – Other Broadleaved Woodland Other broadleaved woodland on a deep gorge</p> <p>Ash (<i>Fraxinus excelsior</i>) Occasional Lime (<i>Tilia sp</i>) Occasional Oak (<i>Quercus sp.</i>) Abundant</p>	
<p>TN15 – Other Broadleaved Woodland Recently planted other broadleaved</p> <p>Aspen (<i>Populus tremula</i>) Occasional Rowan (<i>Sorbus aucuparia</i>) Abundant Silver birch (<i>Betula pendula</i>) Abundant</p>	

TARGET NOTE

PHOTOGRAPH

**TN16 – Other woodland; mixed
Recently planted other mixed woodland**

Apple (<i>Malus sp.</i>)	Frequent
Pedunculate oak (<i>Quercus robur</i>)	Occasional
Rowan (<i>Sorbus aucuparia</i>)	Abundant
Scot's pine (<i>Pinus sylvestris</i>)	Abundant
Silver birch (<i>Betula pendula</i>)	Frequent
Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Abundant
Dock (<i>Rumex sp.</i>)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Frequent
Pineappleweed (<i>Matricaria discoidea</i>)	Occasional
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent



TN17 - Other woodland; mixed (Line of trees)

Larch (<i>Larix sp.</i>)	Abundant
Rowan (<i>Sorbus aucuparia</i>)	Occasional
Scot's pine (<i>Pinus sylvestris</i>)	Frequent
Silver birch (<i>Betula pendula</i>)	Abundant
Bracken (<i>Pteridium aquilinum</i>)	Abundant
Bramble (<i>Rubus fruticosus</i>)	Abundant
Common nettle (<i>Urtica dioica</i>)	Abundant



TARGET NOTE

PHOTOGRAPH

TN 18 - Other coniferous woodland

Scot's pine (<i>Pinus sylvestris</i>)	Dominant
Sitka spruce (<i>Picea sitchensis</i>)	Abundant
Gorse (<i>Ulex europaeus</i>)	Abundant
Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Abundant



TN 19 - Native hedgerow
Native hedgerow with trees, partially defunct, approximately 2m wide and 2m tall. The trees are veteran hawthorns approximately 3-7m tall.

Elder (<i>Sambucus nigra</i>)	Frequent
Hawthorn (<i>Crataegus monogyna</i>)	Abundant
Common nettle (<i>Urtica dioica</i>)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant



TN 20 - Native hedgerow

Broom (<i>Cytisus scoparius</i>)	Occasional
Elder (<i>Sambucus nigra</i>)	Abundant
Hawthorn (<i>Crataegus monogyna</i>)	Occasional
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Abundant



TARGET NOTE

TN 21 - Native hedgerow

Native hedgerow approximately 2m tall 1m wide

Blackthorn (<i>Prunus spinosa</i>)	Frequent
Field maple (<i>Acer campestre</i>)	Frequent
Hawthorn (<i>Crataegus monogyna</i>)	Abundant

Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Abundant
Cow parsley (<i>Anthriscus sylvestris</i>)	Frequent
Hogweed (<i>Heracleum sphondylium</i>)	Frequent

TN 22 – Native Hedgerow

Native hedgerow with trees approximately 2m wide and 1m tall. The trees are veteran hawthorns approximately 3-7m tall. The hedgerows were partially defunct and some trees have been newly planted.

Alder (<i>Alnus glutinosa</i>)	Frequent
Blackthorn (<i>Prunus spinosa</i>)	Frequent
Dewberry (<i>Rubus caesius</i>)	Occasional
Gorse (<i>Ulex europaeus</i>)	Occasional
Hawthorn (<i>Crataegus monogyna</i>)	Abundant

Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Abundant
Creeping thistle (<i>Cirsium arvense</i>)	Abundant
Dock (<i>Rumex sp.</i>)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TARGET NOTE

TN23 - Native hedgerow

Double hedgerow with trees approximately 2m wide 2m tall.

The trees are veteran hawthorns approximately 3-5m tall.

A ditch was also present between double hedge one side is defunct.

Gorse (<i>Ulex europaeus</i>)	Frequent
Elder (<i>Sambucus nigra</i>)	Occasional
Dog-rose (<i>Rosa canina</i>)	Occasional
Hawthorn (<i>Crataegus monogyna</i>)	Abundant
Bramble (<i>Rubus fruticosus</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Abundant
Creeping thistle (<i>Cirsium arvense</i>)	Frequent
Dock (<i>Rumex sp.</i>)	Frequent
False oat-grass (<i>Arrhenatherum elatius</i>)	Occasional
Hogweed (<i>Heracleum sphondylium</i>)	Abundant

PHOTOGRAPH



TN 24 – Native Hedgerow

Native hedgerow between farmyard approximately 3m tall and 1m wide.

Hawthorn (<i>Crataegus monogyna</i>)	Abundant
Willow (<i>Salix sp.</i>)	Abundant



TARGET NOTE

PHOTOGRAPH

TN25 – Native Hedgerow

Native hedgerow with trees 5m h 1m wide.

Ash (*Fraxinus excelsior*)
Beech (*Fagus sylvatica*)
Elder (*Sambucus nigra*)
Holly (*Ilex aquifolium*)
Snowberry (*Symphoricarpos albus*)
Sycamore (*Acer pseudoplatanus*)
Wych elm (*Ulmus glabra*)

Occasional
Abundant
Occasional
Occasional
Occasional
Occasional
Occasional



TN 26 – Species Rich Native Hedgerow

Native hedgerow 2m tall 1 m wide gap for gate

Alder (*Alnus glutinosa*)
Blackthorn (*Prunus spinosa*)
Dewberry (*Rubus caesius*)
Field maple (*Acer campestre*)
Hawthorn (*Crataegus monogyna*)

Abundant
Abundant
Frequent
Abundant
Abundant



TARGET NOTE

TN 27- Native hedgerow Native hedgerow approximately 2m tall 1m wide

Alder (<i>Alnus glutinosa</i>)	Abundant
Blackthorn (<i>Prunus spinosa</i>)	Abundant
Field maple (<i>Acer campestre</i>)	Abundant
Hawthorn (<i>Crataegus monogyna</i>)	Abundant
Common nettle (<i>Urtica dioica</i>)	Abundant
Hogweed (<i>Heracleum sphondylium</i>)	Abundant

PHOTOGRAPH



TN 28 - Blackthorn scrub Blackthorn and gorse scrub in dry ditch adjacent to pasture, cattle grazed

Blackthorn (<i>Prunus spinosa</i>)	Abundant
Gorse (<i>Ulex europaeus</i>)	Frequent
Hawthorn (<i>Crataegus monogyna</i>)	Frequent



TARGET NOTE

TN 29 - Gorse scrub

Ash (<i>Fraxinus excelsior</i>)	Frequent
Bracken <i>Pteridium aquilinum</i>	Abundant
Bramble (<i>Rubus fruticosus</i>)	Frequent
Broom (<i>Cytisus scoparius</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Frequent
Elder (<i>Sambucus nigra</i>)	Frequent
Elm (<i>Ulmus sp.</i>)	Occasional
Foxglove (<i>Digitalis purpurea</i>)	Frequent
Gorse (<i>Ulex europaeus</i>)	Abundant
Hawthorn (<i>Crataegus monogyna</i>)	Frequent
Rosebay willowherb (<i>Chamerion angustifolium</i>)	Locally abundant

PHOTOGRAPH



TN 30 - Arable field margins

Cock's-foot (<i>Dactylis glomerata</i>)	Frequent
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping buttercup (<i>Ranunculus repens</i>)	Frequent
Creeping thistle (<i>Cirsium arvense</i>)	Occasional
Crested dog's tail (<i>Cynosurus cristatus</i>)	Occasional
Dock (<i>Rumex sp.</i>)	Occasional
False oat-grass (<i>Arrhenatherum elatius</i>)	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Ribwort plantain (<i>Plantago lanceolata</i>)	Frequent
Spear thistle (<i>Cirsium vulgare</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Frequent



TARGET NOTE

TN 31 - Arable field margins Tussocky arable field margin.

Chickweed (<i>Stellaria media</i>)	Frequent
Cock's-foot (<i>Dactylis glomerata</i>)	Abundant
Common nettle (<i>Urtica dioica</i>)	Frequent
Creeping bent (<i>Agrostis stolonifera</i>)	Occasional
Creeping buttercup (<i>Ranunculus repens</i>)	Abundant
Creeping thistle (<i>Cirsium arvense</i>)	Frequent
Dock (<i>Rumex sp.</i>)	Abundant
Perennial rye-grass (<i>Lolium perenne</i>)	Abundant
Prickly sowthistle (<i>Sonchus asper</i>)	Occasional
Scentless mayweed (<i>Tripleurospermum inodorum</i>)	Occasional
White clover (<i>Trifolium repens</i>)	Frequent
Yorkshire-fog (<i>Holcus lanatus</i>)	Frequent

PHOTOGRAPH



TN 32 - Winter stubble Harvested and hay field.



TARGET NOTE

PHOTOGRAPH

TN 33 - Non-cereal crops



TN 34 – Buildings
Cottages



TN 35 – Building
Main House



TARGET NOTE

PHOTOGRAPH

**TN 36 – Building
Farm buildings**



**TN 37 – Buildings
Small shed**



TARGET NOTE

PHOTOGRAPH

TN38 – Building



TN 39 – Developed sealed surface
Developed sealed surface used for parking next to the main house



TN 40– Developed sealed surface
Road



TARGET NOTE

PHOTOGRAPH

TN 41 - Artificial unvegetated, unsealed surface
Artificial unvegetated, unsealed surface in the form of track



TN 42 - Artificial unvegetated, unsealed surface
Artificial unvegetated, unsealed surface in the form of gravel surrounding the main house.



TN 43 - Sparsely vegetated urban land
Sparsely vegetated urban land on the farmyard.

Common mouse-ear (<i>Cerastium fontanum</i>)	Occasional
Creeping thistle (<i>Cirsium arvense</i>)	Occasional
Perennial rye-grass (<i>Lolium perenne</i>)	Frequent
Pineappleweed (<i>Matricaria discoidea</i>)	Frequent
Ribwort plantain (<i>Plantago lanceolata</i>)	Occasional
Dock (<i>Rumex sp.</i>)	Frequent
Prickly sowthistle <i>Sonchus asper</i>	Occasional
White clover (<i>Trifolium repens</i>)	Frequent
Scentless mayweed (<i>Tripleurospermum inodorum</i>)	Occasional



TARGET NOTE

PHOTOGRAPH

TN 44 - Eutrophic standing waters
A pond present on the centre of site with a small cluster of goat willow present on the south shore.

Bulrush (*Typha latifolia*)

Goat willow (*Salix caprea*)

Iris (*Iris sp.*)

Soft rush (*Juncus effusus*)

Frequent

Locally abundant

Occasional

Abundant

