



ECOLOGY PARTNERS

Preliminary Ecological Appraisal (PEA)



Site: The Point airstrip, St. Minver

Client: Jeremy Davies

Date: November 2021

ECOLOGY PARTNERS

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Disclosure

The information and advice presented within this report is based on the professional and true opinions of Ecology Partners and is written in accordance with the CIEEM Code of Professional Conduct.

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Summary

- Ecology Partners was commissioned in September 2021 to undertake a PEA of land at the Point golf course. The development site comprises an area of grassland (in part formerly used as an airstrip) surrounded by mixed habitats including scrub, tall ruderal and Cornish hedges. The proposal is to construct 17 eco holiday lodges on the site with associated landscaping and infrastructure as shown on plans supplied by the client.
- A survey was undertaken of the development site on 02.11.21 to identify plant species and map Phase 1 habitats following the standard JNCC methodology. A brief search was also undertaken for field signs of notable and/or legally protected faunal species.
- This report describes and evaluates ecological features within the proposed development site, likely ecological impacts of the proposed development are assessed and recommendations are made for their mitigation. Possible enhancements are also detailed. Biodiversity net gain is not dealt with here and will be the subject of a separate report.
- The development site includes Cornish hedge (a priority habitat for conservation), semi-improved grassland, scrub and a ditch of local conservation value. It is also assessed as of potential importance for foraging bats, hedgehog, nesting birds and reptiles. Further survey is recommended for bat activity and reptile presence / likely absence.
- The development will inevitably result in some habitat loss but significant habitat creation and enhancement is planned (relative losses and gains are to be confirmed and will be calculated in a separate BNG report). Without appropriate mitigation there is also potential for negative ecological impacts including degradation to hedgerow, scrub and ditch habitat during construction and disturbance to protected species including foraging bats, reptiles and nesting birds.
- Recommendations in *Section 4* include:
 - Develop a detailed masterplan to show a definitive red line boundary, detailed layouts, accurately quantified areas of habitat loss / gain and landscaping proposals (including species mixes and methodologies for habitat creation / maintenance). This information will be required to inform Biodiversity Net Gain calculations (to be completed).
 - Retain and buffer and protect existing hedges / hedgerow trees, the ditch and ideally all scrub around the periphery of the site by at least 2m from all built development following the Cornwall Planning for Biodiversity Guide (Cornwall Council, 2018).
 - Plan the development carefully to conserve the ecological functioning of the ditch as a potential wildlife corridor running throughout the length of the site.
 - Commission a bat ecologist to more accurately assess the likely value of the site to bats. It is likely that activity surveys will be required to gather data on which species are present and how they are using the site to inform appropriate mitigation. This work can only be undertaken during the active season for bats (May-October).
 - If any trimming of hedgerow vegetation or further scrub removal is required avoid disturbance to nesting birds by undertaking this as well as removal of tall ruderal vegetation during the winter months (1st October – end February).
 - Commission a reptile survey to assess the site for the presence / likely absence of reptiles, determine which species are present and estimate the population size (as appropriate).
- Enhancement is dealt with in Section 4.2. a Biodiversity Net Gain report will need to be separately undertaken and. Enhancement recommendations include the following:
 - Manage undeveloped parts of the site for wildlife and develop appropriate landscaping to include new Cornish hedges, rough grassland, scrub and tree planting favouring native species, maximising diversity and providing connectivity for wildlife across the site wherever possible.
 - Include appropriate bat and / or bird boxes and bee bricks within the scheme
 - Enhancements for bats and reptiles should be informed by the findings of further recommended survey work.

1. Introduction

Ecology Partners was commissioned by Jeremy Davies in September 2021 to undertake a Preliminary Ecological Appraisal (PEA) of land at the Point golf course and health club between St. Minver and Polzeath, PL27 6QT. The development site is situated on the southern edge of the golf course c.300m to the south of the club-house and comprises an area of grassland (in part formerly used as an airstrip) surrounded by mixed habitats including areas of scrub, tall ruderal and Cornish hedges.

The proposal is to construct 17 eco holiday lodges on the site with associated landscaping and infrastructure as shown on plans supplied by the client (295 2008 Masterplan Rev B (1)). This report has been commissioned to inform an application for planning permission.

Parts of the site and surrounding area have previously been surveyed by the author for previous planning applications on a number of occasions (Sproull, 2015, 2016, 2017a & b, 2018, 2021). This report seeks to describe and evaluate the baseline ecological conditions within the proposed development site and to assess the likely ecological impacts of the proposal. Recommendations for further ecological surveys and mitigation will also be made (if appropriate). This report should be used (as required) to inform the development of more detailed site proposals such that negative ecological impacts are avoided and / or minimised wherever possible. Where further work is recommended, an update to this report may be required before submission to planning. The local authority is generally unable to condition ecological surveys and will normally be unable to determine an application for planning permission until all surveys have been completed.

This report does not include Biodiversity Net Gain (BNG) calculations, this will be dealt with in a separately commissioned report (to follow).

The location of the site (approx. centre point: SW 94710 77459) and survey area are shown below.



Aerial photo showing survey area in red

2. Methodology

This PEA has been carried out in accordance with the 'Guidelines for Preliminary Ecological Appraisal' produced by the Chartered Institute of Ecology and Environmental Management (CIEEM, 2017). Work undertaken comprises three elements: a desk study, a site survey and a report as detailed below:

2.1. Desk Study

A desk study search was carried out for designated sites of nature conservation value within a 1km radius of the site and records of notable and / or protected species as held by the Environmental Records Centre for Cornwall and the Isles of Scilly (ERCCIS).

2.2. Field Survey

A walkover survey was undertaken by John Sproull MSc, MCIEEM on Tuesday 2nd November 2021. The purpose of the survey was to identify plant species and map the habitats present according to standard 'Phase 1' categories, following the standard JNCC methodology (JNCC, 2010). A brief search was also undertaken for field signs of notable and/or legally protected faunal species including tracks, prints, droppings, hairs, feeding remains, nests, burrows etc.

2.3. Reporting

This report describes and evaluates ecological features within the proposed development site and provides an account of existing baseline conditions. The likely ecological impacts of the proposed development are then assessed and recommendations are made for their mitigation (including any need for further survey). Possible enhancements are also detailed. The biodiversity value of ecological features and resources is evaluated according to various characteristics such as designation, rarity, threat, species-richness, etc. based on the *Guidelines for Ecological Impact Assessment* (CIEEM 2018). Based on such characteristics, each ecological feature is assigned a biodiversity value using a geographic scale:

- International
- National
- County
- District
- Local
- Immediate vicinity

2.4. Limitations

This report is derived from a description of the site as it appeared at the time of the survey during November 2021. November is an acceptable, though sub-optimal, time of year to undertake this type of habitat assessment; it is acknowledged that a number of flowering plants may not have been visible or readily identifiable during this late part of year. Weather conditions at the time of the site visits were predominantly dry with occasional light showers and sunny spells with temperatures in line with seasonal norms and light winds.

Dense vegetation (scrub around the perimeter of the site) obscured a clear view of parts of the survey area; although considered unlikely it remains possible therefore that further ecological features (such a badger sett) may not have been visible during the survey.

Ecological features can change over time, particularly if site management / use changes and / or a long period of time passes between habitat assessment and the start of development works. As a guide it is therefore recommended (assuming no obvious changes take place within the site) that this report should be considered valid for up to 18 months from the date of issue.

Assessment within the PEA report is based upon proposals as shown on plans provided by the client (295 2008 Masterplan Rev B (1)). This report should be used to inform development of detailed plans to develop the site as appropriate and should be updated *if required* once these plans become available to ensure that the anticipated impacts remain as here characterised and that recommended mitigation is appropriate and up to date.

Biodiversity Net Gain calculations are not included in this report – this will be dealt with in a separate report.

3. Ecological Description and Evaluation

3.1. Survey area description

The development site encompasses an area of c.3.6ha situated along the southern edge of The Point golf course c.300m to the south of the club-house. Improved grassland dominates an area previously used as an airstrip and more recently as a 'glamping' site; less managed semi-improved grassland is found peripheral to this area to the north and west. A mixture of scrub and tall ruderal habitat fringes the site to the north and south and there is a hedge along the southern boundary and an access road along the eastern boundary.

The golf course surrounds the site to the north; there is farmland immediately to the south; Trewiston Farm Caravan Park lies c.230m to the south west; the village of Pityme is c.800m to the south east. The wider surrounding area is predominantly agricultural (dairy pasture with some arable) sub-divided by a rich network of hedges. The Camel Estuary lies c.2km to the west and Polzeath is c.2km to the north.

Habitats within the survey area are described in more detail in *Section 3.3* and shown on *Map 1, Appendix 1*; a species list for each habitat is included *Table 1, Appendix 2*. Nomenclature follows Stace (2019); common plant names are used in the text for species listed in *Table 1*, latin names are otherwise provided on first mention. Associated with each habitat description is a rationale for its evaluation at a given geographic scale and an initial assessment of the anticipated type and scale of impacts on the habitat associated with the proposed development. An opportunities and constraints plan is included in *Appendix 3*.

3.2. Designated Sites

There are no statutory designated sites within a 1km radius of the site.

Pityme Fields County Wildlife Site (CWS) lies within a 1km radius of the site. This site is designated for supporting species-rich grassland. Given the nature of the proposal and the distance of the site from Pityme Fields there will be no impact upon this designated site.

County Wildlife Sites (CWS) are designated by Cornwall Wildlife Trust and Cornwall Council as of at least county importance for wildlife having been identified as supporting species, groups of species or habitats of conservation value. Although not statutory designations,

CWSs are given a degree of protection through the planning process with respect to development. Cornwall Wildlife Trust is consulted on applications which will affect County Wildlife Sites.

3.3. Habitats

Phase 1 habitats recorded within the site are briefly described below with reference to the annotated plan (included with this report as *Map 1*). A list of the species recorded within each habitat is included in *Appendix 2*.

3.3.1. Improved grassland

The bulk of the site supports an improved grassland sward with abundant / locally dominant perennial rye-grass with other grasses including abundant Yorkshire fog, locally frequent common bent and occasional cock's-foot. Associated wild-flower species are few but include agricultural weeds such as creeping buttercup which is locally abundant, frequent white clover and occasional dandelion, thistles and common mouse-ear. Patches of bare ground are frequent to the east where glamping tents have previously been in place and here, with localised disturbance, species such as daisy, ribwort plantain and annual meadow grass are occasional / rare. The sward becomes rougher and less improved moving to the west and beyond the ditch to the north where common couch can be locally frequent and there is a transition toward semi-improved grassland.



Photo 1: View across the site looking west



Photo 2: Localised disturbance and bare ground in glamping area

The area of improved grassland is species poor and intensively managed; as such it is **assessed as of no particular conservation value.**

Available plans show that lodges 1-5 will be situated within the area of improved grassland.

3.3.2. Semi-improved grassland

To the north and west the sward is rougher, less frequently mown and characterised by coarser grasses. Yorkshire fog dominates, cock's-foot and common couch are locally dominant and creeping bent is locally abundant. Interspersed with these predominantly tussock forming species are occasional more open areas where fine-leaved species come to the fore. Here common bent is locally dominant with locally abundant red fescue and locally frequent crested dog's-tail. Associated diversity within the grassland varies with the nature of the sward; in coarser areas ruderal weeds such as creeping thistle, common nettle and broad-leaved dock are occasional, common fleabane is locally frequent in wetter areas and more rarely there is some hogweed or ragwort. Open areas are more species-rich; rosette-forming wildflower species such as common cat's-ear, ribwort plantain, black knapweed and wild carrot are locally frequent – abundant whilst a suite of more diminutive species including dove's-foot crane's-bill, thyme-leaved speedwell and scarlet pimpernel is more rarely encountered.

Within a small area (c.10m x 7m) to the west of the site (at Target Note (TN) 1, see photo 4 below) wetland species are prominent over an area of compacted ground. Glaucous sedge is frequent here and common yellow sedge is rare among the grass sward dominated by creeping bent with abundant pointed spear moss, frequent common fleabane and more rarely, marsh thistle and a locally frequent waxcap fungi species (tentatively identified as golden waxcap). Although this species is relatively common waxcaps are intolerant of

modern agricultural practices such as ploughing, fertilising and reseeded and typically associated with less fertile types of grassland such as old meadows and pasture.



Photo 3: semi-improved grassland



Photo 4: small marshy area at TN1

A similar grassland assemblage exists within a disturbed area at TN6 (see photo 5 below) where a variety of grasses form a patchy cover interspersed with mosses and sedges and a suite of other species including southern marsh orchid, black knapweed, common centaury

and a species of lichen within the *Cladonia* genus. The notable plant field woundwort was recorded at TN3 (see below).



Photo 5: embryonic grassland at TN6

The area of semi-improved grassland is predominantly species poor, however lightly managed rough grassland can be of value to a range of faunal species and more open areas, as described above, show a degree of existing species-richness with some potential for enhancement. On this basis this assemblage is assessed as of **local conservation value**.

Available plans show that there will inevitably be a loss of some of the existing area of this habitat under the footprint of the proposed development. Units 8-17, are located (at least in part) within areas mapped as existing semi-improved grassland. However, it is intended that significant areas between developed plots across the site (areas to be confirmed) will be landscaped and managed as rough grassland. Relative losses and gains and any potential for retention and enhancement of this habitat will be presented in the separate BNG report following the recommendations provided in Section 4 of this report, below.

3.3.3. Tall ruderal

Raised mounds around parts of the periphery of the site (apparently composed of earthen spoil and stone, presumably cleared from elsewhere around the wider site) support tall weedy assemblages variously dominated by species such as common nettle, hemlock and black mustard. Coarse grasses (including Yorkshire fog and cock's-foot) are locally abundant, hogweed and cleavers are frequent and red campion and bramble are occasional.

This assemblage, beyond providing some potential shelter for faunal species (see below) is of **no particular conservation value**.



Photo 6: tall ruderal

3.3.4. Scrub

Dense scrub dominates the perimeter of the survey area as shown on *Map 1*. To the north scrub forms a fringe to the golf course: self-seeded shrubs such as blackthorn, hawthorn and grey willow with an understorey of bramble make up the bulk of the cover interspersed with small tree saplings including locally abundant common alder and more occasionally species such as Monterrey pine, Scots pine, sycamore, ash and white poplar.

To the south, adjacent to the eastern half of H1 blackthorn scrub dominates a strip c.2-4m; to the east a wider (up to 10m) strip has been colonised by bramble scrub where the understorey includes abundant Atlantic ivy, locally frequent bracken and occasional ferns, red campion and broad-leaved dock.

Areas of scrub have been recently cleared at TNS2, 3 & 5 around the proposed locations of lodges (photo 11). Here the remnants of bramble predominate with regenerating fragment of vegetation including cock's-foot, cleavers and common nettle and occasional retained saplings of ash, holly and grey willow.

The scrub around the periphery of the site adds to the connectivity provided by the hedges and provides a valuable semi-natural, undisturbed fringe to more intensively managed land associated with the golf-course to the north. It is relatively extensive and likely to offer habitat for a range of faunal species (see below). On this basis it is assessed as of **local conservation value**.



Photo 7: planted scrub along the northern edge of the site peripheral to the golf course



Photo 8: scrub alongside H1 to the east



Photo 9: bramble scrub alongside H1 to the west



Photo 10: recently cleared scrub at TN5

Available plans suggest that it should be possible to retain the bulk of the remaining scrub within the site (clearance having already been undertaken in areas where lodges are to be sited). New tree / shrub planting is also shown on the plan. Relative losses and gains and any potential for retention and enhancement of this habitat will be presented in the separate BNG report following the recommendations provided in Section 4 of this report, below.

3.3.5. Ditch

A shallow ditch runs roughly east-west through the site separating the area of improved grassland to the south from the rougher assemblage to the north. Measuring c.0.5m deep x 1m wide and c.300m long. It's origins are unclear, it may have been recently created to drain the surrounding land but was dry at the time of the survey and supported a varied assemblage similar in character to more open and species-rich areas of grassland described in Section 3.3.2 above. Common bent tends to dominate with locally abundant crested dog's-tail and red fescue and abundant mosses (including the common species pointed spear-moss, springy turf-moss, rough-stalked feather-moss and common feather moss). Black knapweed, wild carrot, white clover and common fleabane are frequent, common sorrel, hedge bedstraw and dove's-foot crane's-bill are occasional. Southern marsh-orchid and hard rush are rare. Vegetation along the ditch appears to be infrequently cut, seedlings of woody species including willow and bramble are infrequent.

The ditch offers a relatively extensive strip of undisturbed, varied habitat for a range of species and provides potential connectivity across the centre of the site. As such is considered to be of **local conservation value**. Available plans show the majority of the ditch retained as a landscape feature to be crossed by a series of footbridges and a vehicular access track. Lodges 10, 13 and 14 are positioned over the top of the feature; it is estimated that up to c.100m of the existing resource will be lost (this will need to be qualified in the BNG report). Loss of a section of the ditch is likely to truncate its existing function as a wildlife corridor leading through the site and without mitigation there is the capacity for widespread disturbance to this habitat during construction and degradation during the subsequent occupational phase.



Photo 11: ditch

3.3.6. Species-rich hedge

Hedges are shown on *Map 1* as H1 and H2. Both are of typical Cornish-type construction being stone faced and earthen-cored and support shrubs / small trees along their tops.

H1 forms the southern boundary to the survey area: trimmed blackthorn is more or less dominant forming a canopy up to about 2m tall, suckering Cornish elm is locally dominant (forming small trees up to 5m high); hawthorn and grey willow are frequent. Within the ground flora Atlantic ivy is abundant and bramble is frequent, woodland species including hart's tongue fern and male fern are occasional and ruderal species such as red campion, cow parsley and rough chervil are rare. A dry ditch runs alongside H1 to the north, visible at the eastern end but obscured and inaccessible elsewhere due to fringing blackthorn and bramble scrub (described above).

H2 lies beyond the western site boundary and was not surveyed in detail but was noted to support a series of small ash and sycamore trees with a small stream running parallel to the hedge bank (to the west).

Hedgerows are listed as a priority habitat for conservation under Section 41 (S41) of the Natural Environment and Rural Communities (NERC) Act 2006¹. Hedges can provide potential habitat for a range of wildlife including birds, reptiles, invertebrates and mammals; they can also provide valuable corridors via which wildlife can travel through agricultural landscapes, linking larger areas of semi-natural habitat. Although not formally assessed as part of this survey both H1 and H2 would be likely to qualify as 'ecologically important' if assessed against the criteria within the Hedgerows Regulations (1997). In view of this the hedges are considered to be the most important ecological feature within the area and are assessed as of **local conservation value**.



Photo 12: H1

¹ This legislation requires the Secretary of State to publish a list of species of flora and fauna and habitats considered to be of principal importance for the purpose of conserving biodiversity. It is the duty of Local Authorities to further the conservation of NERC / Section 41 (S41) habitats and species under section 40 of NERC Act and in accordance with the National Planning Policy Framework (NPPF, 2012).



Photo 13: H2 (off-site beyond western boundary)

There should be no hedgerow loss as a result of the development and it is understood that it is proposed to create c.325m of new Cornish hedge to sub-divide the site. Notwithstanding this, without care there is some potential for degradation to retained hedges during site clearance activities and as a result of vehicle movements and storage of materials, etc., during construction.

3.4. Species

3.4.1. Plants

Flowering plants

In total 79 species of flowering plant were recorded within the site during the survey, this is a moderately high number of species for a site of this nature and size and reflects the presence of a variety of different habitats including fragments which with some degree of species-richness.

The notable species field woundwort was recorded within a disturbed area at TN3. This species typically occurs as an arable weed or casual in disturbed places such as flowerbeds and road verges. Formerly common it is in rapid decline due to loss of habitat and changes to agricultural practice and is listed as Near Threatened on the *Vascular plant red list for England* (Stroh, *et al* 2014). This species has previously been recorded by the author c.600m to the south within the arable field at SW9486176860 (Sproull, 2015).



Photo 15: field woundwort

No other notable flowering plants were recorded during the site visit. The desk study however revealed records for a number of notable species recorded within a 1km radius of the site. Of these, those considered to have some potential to occur within the site are listed below:

- Corn-spurrey (*Spergularia arvensis*): there are records for this species from between Trebetherick and Roserrow and from Treglines. This arable weed species is often seen with field woundwort – it is listed as Vulnerable by Stroh *et al* (2014) but is relatively common and widespread where suitable habitat exists in Cornwall. It could occur within disturbed parts of the site.
- Little robin (*Geranium purpureum*). This Nationally Scarce² species is widely recorded on hedge-banks and other disturbed areas around the Camel Estuary (French, 2020). Although not seen during the site visit it is easily over-looked and can be hard to separate from closely related species when not in flower.
- Western ramping-fumitory (*Fumaria occidentalis*). This Nationally Scarce species is endemic to Cornwall – primarily found in the west of the county it appears to be spreading in North Cornwall (pers. obs.). It is associated with waste ground and could occur within disturbed parts of the site.

In addition to the above, southern marsh-orchid was recorded within the ditch and within the grassland at TN6. Although not notable or rare as such this attractive species is associated with less heavily managed, semi-natural habitats and its retention within the site is desirable.

Based on the above, the site is assessed as **of importance for plants within the immediate vicinity**. Development of the site will inevitably impact flora but is considered unlikely to presage the loss of any notable species from the area. Planned habitat creation and management of the site post construction (if undertaken with care) may potentially enhance the site for this group (see recommendations in Section 4 below).

² Nationally Scarce species are those recorded within 16-100 10km squares within the UK national grid (Preston, Pearman & Dines, 2002))



Photo 16: southern marsh orchid

Invasive Plants

No invasive plant species, such as Japanese knotweed (*Reynoutria japonica*) were observed during the survey. There are desk study records for montbretia (*Crocasmia xrocsmiiflora*) from nearby – this species could be present within the site but based on current evidence the site is **not known to support any invasive species**.

Lower Plants

A specialised survey for non-vascular plants, (mosses, liverworts and lichens), was outside the scope of this study. A number of common moss species were recorded within the grassland and ditch during the survey including pointed spear-moss, springy turf-moss, rough-stalked feather-moss and common feather moss. A species of *Cladonia* lichen was recorded at TN5. The desk study did not reveal any records for notable bryophytes or lichens from within the site.

Whilst the grassland and hedges are considered likely to support a suite of common mosses the site is **not considered to be important for lower plants**.

3.4.2. Bats

The site was assessed for the presence of potential bat roost features (PRFs) during the site visit. Trees within H1 are insufficiently mature and lacking in features (such as rot holes, hollows, limb loss sockets, dense ivy and loose flaking bark etc) likely to be used by roosting bats. Features within the surrounding area including more mature trees in and adjacent to H2 (beyond the site boundary and not surveyed in detail) as well as buildings nearby, could however support roosting bats.

The hedges and scrub surrounding the development site provide unlit corridors and potentially suitable linear habitat features to be used by bats potentially foraging in and around the site and travelling through the landscape.

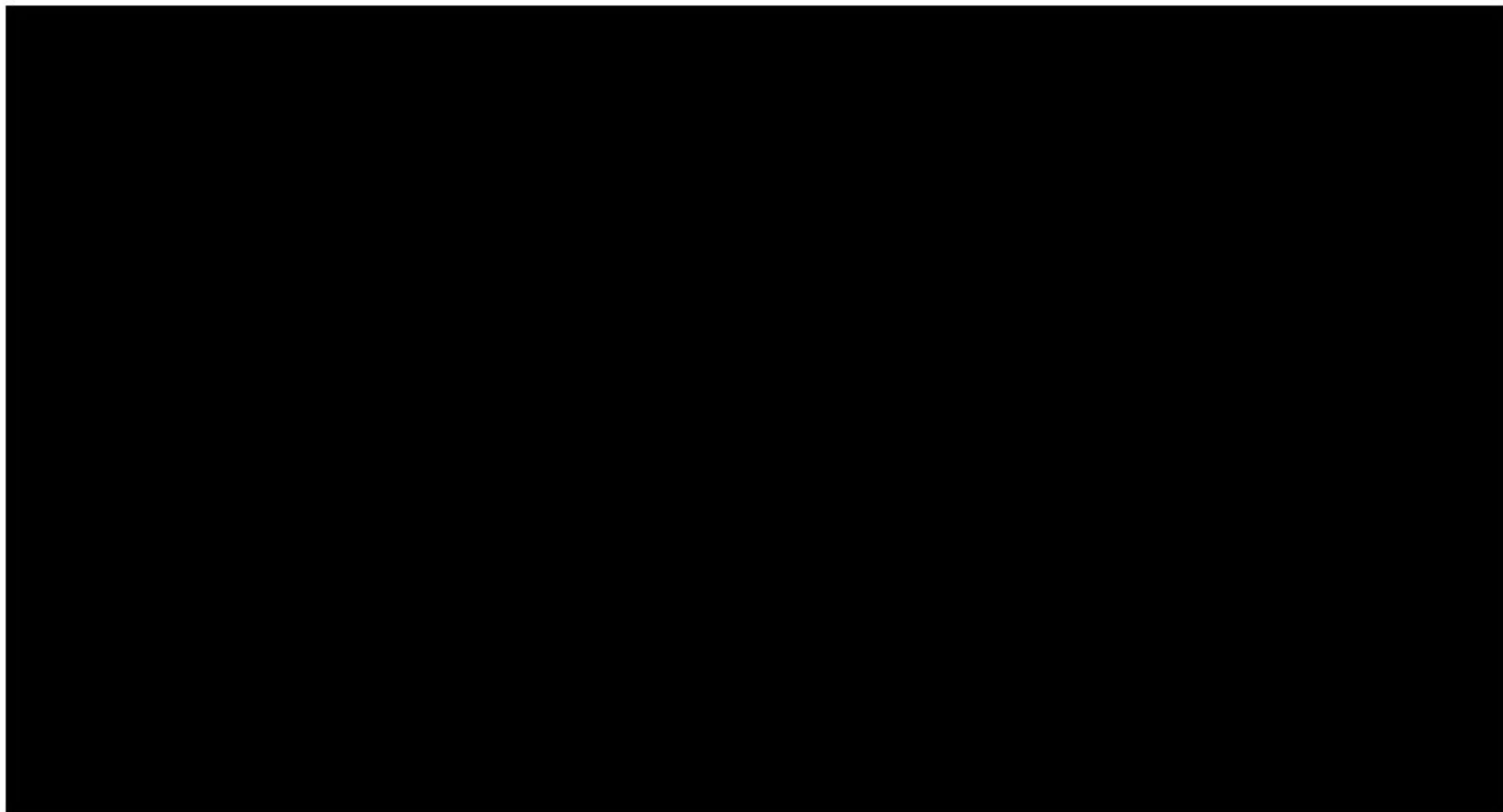
Ecology Partners have previously undertaken bat activity surveys for the client to inform proposed development of a site 500m to the south (Smith, 2019). Seven species of bat were recorded here as follows: common pipstrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*P. pygmaeus*), *Myotis* species, noctule (*Nyctalus noctula*), brown long-eared (*Plecotus auratus*), greater horseshoe (*Rhinolophus ferrumequinum*) and lesser horseshoe (*R. hipposideros*). Based on the presence of greater horseshoe bat (one of the UK's rarer species for which Cornwall is a stronghold) this site was found to be of county value for foraging and commuting bats.

On the basis of the above the development site itself is **not considered to be of value for roosting bats** but is likely to be of at least **local value to foraging and commuting bats**.

Without appropriate planning of the layout and mitigation provision the proposed development of the site is considered to have the potential to impact upon bat foraging habitat resulting from potential degradation and light spill onto hedgerows and associated boundary habitats.

Further input from a bat ecologist is recommended to qualify this assessment.

All UK bat species and their roosts are legally protected under the Conservation Regulations 2010 (HM Government, 2010).



3.4.4. Dormice

The ERCCIS desk study did not produce any records for dormice (*Muscardinus avellanarius*) from within a 1km radius of the site. The author is aware of a single record for this species from c.1.2km away at Penmayne (SW947762) however dormouse distribution within this part of Cornwall is very sparse (Groves, 2013) and the reliability of this record cannot be confirmed.

Dormice are typically associated with species-rich, ancient woodland and associated hedges but have been found in other habitats (including scrub and plantation). They are primarily arboreal, require good connectivity and access to a wide variety of flowering and fruiting trees and shrubs to provide an adequate food supply throughout the year. Areas of

potentially suitable semi-natural habitat (hedges, scrub and woodland) within the area surrounding the development site are mostly heavily fragmented and disturbed as a result of existing development, agricultural management and other human activity as well as the presence of roads etc. For these reasons although **on current evidence, presence within the site cannot be ruled out, the site is considered to be sub-optimal and not important for dormice** (see precautionary recommendations below).

Dormice and their nests are legally protected under the Conservation Regulations; they are also UK and Cornwall BAP Priority species.

3.4.5. Otter

The desk study did not produce any records for European otter (*Lutra lutra*). Otter need clean watercourses with well-vegetated riparian habitats (present in the surrounding area, as along H2, but outside the development site). Otter have large ranges, normally encompassing several watercourses and wetland areas. Although otter could therefore, in principle, occasionally pass through the survey area the site is **not considered to be of any importance for this species**.

Otters and their resting places are legally protected under the Conservation Regulations 2010, and are a Cornwall and UK BAP Priority species.

3.4.6. Brown hare, Harvest mouse

There were no desk study records for brown hare or harvest mouse. Both of these species are rare in Cornwall, they are considered unlikely to be present within the study area and extremely unlikely to be impacted by the proposed works. The site is assessed as of **no importance for these species**.

Brown hare and harvest mouse are both S41 priority species for conservation.

3.4.7. Hedgehog

There are two records for hedgehog in the ERCCIS desk study. Although formerly common, hedgehogs are in decline due to the loss of suitable habitat and are listed as a priority species for conservation on the NERC Act, 2006. This species could nest and / or hibernate within hedgerows and dense scrub around the site and the site is therefore assessed as potentially of **importance within the immediate vicinity for this species**.

Without care, site clearance may have some capacity to negatively impact this species; new internal boundaries (fences) may also affect the continued ability of hedgehog to pass through the site.

3.4.8. Birds

A bird survey has not been carried out; a number of birds were recorded during the site visit including chaffinch (*Fringilla coelebs*), house sparrow (*Passer domesticus*), dunnock (*Prunella modularis*), wren (*Troglodytes troglodytes*), linnet (*Linaria cannabina*), meadow pipit (*Anthus pratensis*), herring gull (*Larus argentatus*), blackbird (*Turdus merula*) and robin (*Erithacus rubecula*).

Of these species house sparrow, dunnock, linnet and herring gull are listed as priority species for conservation on S41 of the NERC Act (2006). In addition house sparrow, herring

gull and linnet are on the red list and dunnoek is on the amber list of birds of conservation concern (Eaton *et al* 2015).

The ERCCIS desk study revealed records for the above and other notable species which could also occur within the site such as (barn owl (*Tyto alba*), yellowhammer (*Emberiza citronella*), bullfinch (*Pyrrhula pyrrhula*) and song thrush (*Turdus philomelos*). Within the development site hedges and scrub (as well as, to some extent, areas of tall ruderal vegetation) provide potential foraging and nesting habitat for a range of farmland birds including some of the above species.

In view of the above the site is assessed as of **local importance for birds**.

Without care, site clearance and potential degradation to hedgerow / scrub habitat could negatively impact birds.

All birds are legally protected whilst nesting under the Wildlife & Countryside Act 1981, as amended.

3.4.9. Reptiles

There are desk study records from common lizard (*Zootoca vivipara*) from the study area. Reptiles require small scale variations in habitat; with bare ground or short vegetation in sunny, sheltered positions for basking, immediately adjacent to taller dense vegetation in which to retreat from predators; and dry protected sites for hibernation.

Peripheral areas of semi-improved grassland, rough vegetation within the ditch, tall ruderal, scrub edges and to some extent recently cleared areas of scrub, provided potentially suitable habitat for reptiles, including in particular the more common and widespread species common lizard as well as slow worm (*Anguis fragilis*).

On this basis, the site is considered to be of **potential importance for reptiles within the immediate vicinity**. Site clearance and subsequent development of the site has the potential to impact reptiles (if present) and a reptile survey is recommended to inform appropriate mitigation.

Adder, common lizard, slow worm and grass snake are partially protected under Schedule 5 of the Wildlife and Countryside Act 1981. Slow-worm, grass snake, adder and common lizard are also S41 / BAP species.

3.4.10. Amphibians

The desk study did not produce any records for amphibians. No suitable aquatic breeding habitat for amphibians was observed within the site during the survey. However a small area of standing water was present at TN5 and the ditch across the centre of the site may hold water at certain times of year. In general, the site is considered to be sub-optimal for amphibians but low numbers of more common species (such as common toad (*Bufo bufo*) and frog (*Rana temporaria*) could make use of and / or hibernate within hedges and areas of scrub across the site. The site is **not considered to be important for this group**.

Common toad is a UK and Cornwall BAP Priority species the common species of amphibians occurring in Cornwall are partially protected under the Wildlife and Countryside Act 1981.

3.4.11. Invertebrates

There are ERCCIS records for several notable species of Lepidoptera (butterflies and moths) including the S41 species small heath butterfly (*Coenonympha pamphilus*), wall butterfly (*Lasiommata megera*) and cinnabar moth (*Tyria jacobaeae*).

Semi-natural flower-rich areas such as the hedgerows, lightly managed areas of semi-improved grassland, tall ruderal vegetation and scrub are likely to provide suitable habitat and potential nectar sources for these and other invertebrate species.

The site is assessed as of **importance for invertebrates within the immediate vicinity**. Development of the site is likely to result in temporary disturbance to this group. Planned habitat creation and management of the site post construction (if carefully planned and carried out) may potentially enhance the site for this group (see recommendations below).

4. Recommendations

4.1. Relevant legislation/policy and recommended mitigation

Based upon the above evaluation of the ecological features within the site and assessment of likely ecological impacts of the proposed development the following mitigation is recommended. Key relevant legislation/policy is highlighted to provide context. An ecological constraints and opportunities plan is included in *Appendix 3*, a 'balance sheet' of anticipated habitat losses and gains cannot be provided at this stage but will form part of the separate BNG report.

4.1.1. General

Local authorities have a duty to further the conservation of UK S41/BAP priority habitats under Section 74 of the Countryside and Rights of Way (**CROW**) Act 2000 and to protect, restore, re-create and aid recovery of these habitats under the **National Planning Policy Framework** (NPPF, 2012). The Natural Environment and Rural Communities (**NERC**) Act (HM Government, 2006) also confers a legal duty on every public authority to conserve biodiversity under Section 40(1). Best practice guidance for developers is provided in the **Cornwall Planning for Biodiversity Guide** (Cornwall Council, 2018).

- Develop a more detailed masterplan of the site layout using the information within this report to provide a definitive red line boundary and detailed layout of the lodges with accurately quantified areas of existing habitat to be lost under the footprint of the development as well as areas to be retained and / or enhanced and new areas of habitat to be created.
- Proposed species mixes and methodologies for habitat creation / maintenance within landscaped areas should also be specified.
- The above information will be required to inform Biodiversity Net Gain calculations (see below).

4.1.2. Grassland

Public authorities have a duty on to conserve biodiversity under the Natural Environment and Rural Communities (**NERC**) Act (HM Government, 2006) and **National Planning Policy Framework** (NPPF, 2012).

- Follow general guidance above – the masterplan should specify the extent of semi-improved grassland to be lost under the footprint of the development and / or retained and quantify the extent of new areas to be created (as well as providing species mixes and a methodology for habitat creation). Current estimate for the area to be managed as rough grassland is understood to be c.1.5-2ha – this will be confirmed in the BNG report).
- Units 8-17, are located (at least in part) within areas mapped as existing semi-improved grassland. In refining the layout an effort should be made to retain, manage and enhance as much of the existing area of semi-improved grassland as possible (including areas of existing interest at TN1 and TN5).
- Where areas are to be lost clearance should be undertaken following the species guidance below and topsoil should be stripped and appropriately stored prior to the start of work for subsequent re-use within landscaped areas of the site.

4.1.3. Hedges and peripheral scrub

Local authorities have a duty to further the conservation of S41 priority habitats under Section 74 of the Countryside and Rights of Way (**CROW**) Act 2000 and to protect, restore, re-create and aid recovery of these habitats under the **National Planning Policy Framework** (NPPF, 2012). The Natural Environment and Rural Communities (**NERC**) Act (HM Government, 2006) also confers a legal duty on every public authority to conserve biodiversity under Section 40(1).

- Existing plans state that the position of H1 and the red line boundary are approximate only. More detailed plans should be developed to show the position of lodges in relation to surrounding areas of habitat and to allow for the retention and buffering of all existing hedges and hedgerow trees (including both H1 and H2) and ideally all associated scrub around the periphery of the site by at least 2m from all built development following the Cornwall Planning for Biodiversity Guide (Cornwall Council, 2018). Where trees are present (as in H2) adequate root protection zones should be observed – in general no construction should take place within the crown spread of any tree. If this cannot be achieved then an arboriculturalist should be consulted.
- If areas of hedge and additional areas of scrub have to be cleared these should be clearly quantified (along within existing cleared areas) for inclusion within BNG calculations. Any further clearance must be undertaken following species guidance below to minimise potential impacts upon faunal species.
- All hedges (and associated scrub) should be protected by Heras fencing or similar demarcating the site during construction to minimise the potential for degradation associated with heavy vehicle movements, storage of materials, etc.
- Every effort should be made to encourage appropriate management of hedges following construction. Maintain hedgerows to a height and width customary to the local landscape, but not less than 1.5m in height (preferably more) and ideally cut as seldom as practicable. Scrub, in general should be left to develop naturally with minimal intervention.
- Plans show significant creation of new hedges to sub-divide the site as well as areas to be planted as scrub – if appropriately undertaken this could represent a significant addition to the current extent of these habitats within the site (see Section 4.2 below for further discussion).

4.1.4. Ditch

Public authorities have a duty on to conserve biodiversity under the Natural Environment and Rural Communities (**NERC**) Act (HM Government, 2006) and **National Planning Policy Framework** (NPPF, 2012).

- Consider changing the footprint of lodges 10, 13 and 14 to allow for the retention of as much of the ditch as possible in order to conserve it's potential ecological functioning as a wildlife corridor running throughout the length of the site. If this is not possible and where the proposed vehicular access crosses the ditch a suitable wide, open culvert should be installed to preserve connectivity for wildlife along the length of the feature as far as possible. It may also be possible to plan new sections of hedge to align with any culverted sections of the ditch to provide substitute linear habitat for wildlife.
- Re-alignment of the ditch should be carefully planned so as to ensure that new habitat of a similar quality is created. Follow species guidance below and salvage and re-use soils where possible.
- Fence off the ditch with Heras fencing or similar during construction to minimise the potential for degradation associated with vehicle movements, storage of materials, etc. Construction vehicles should only cross the ditch at designated locations (such as where culverts are to be installed).
- Design footbridges so as to minimise disturbance to the ditch habitat during construction.
- Develop plans to show how the ditch will be managed and maintained. Drainage plans and provision for treatment of waste water for the site are to be developed. It is assumed that the ditch will continue to drain surface water from the site only. If any planting is proposed appropriate native species should be favoured and specified on the landscape plan.

4.1.5. Bats

British bats and their roosts are European protected species (included on Annex IV(a) of the **EC Habitats Directive** (CEC, 1992)). They are legally protected under UK law by Schedule 2 of the **Habitats and Species Regulations 2010** and Schedule 5 of the **Wildlife and Countryside Act 1981**. Under Schedule 6 of the Wildlife and Countryside Act 1981, it is an offence to intentionally handle a wild bat or disturb a bat when roosting unless licensed to do so by Natural England.

Local authorities have a duty to further the conservation of UKS41 / BAP priority species under the **NERC Act** (2006), the **CROW Act** (2000) and **NPPF** (2012).

- Commission a bat ecologist to more accurately assess the likely value of the site to bats. In line with the Bat Conservation Trust guidelines (Collins, 2016) it is likely that activity surveys will be required to gather data on which species are present and how they are using the site. This work can only be undertaken during the active season for bats (May-October) and depending upon initial findings surveys may need to be undertaken during different seasons (spring, summer and autumn) in order to gain sufficient data to inform appropriate mitigation.
- Notwithstanding the above advice provided that all hedges and remaining areas of scrub are retained, buffered and protected during construction there should be no direct loss of potential bat foraging habitat. The potential for light spill onto surrounding hedges however will need to be quantified and a lighting scheme, prepared with the input of the bat ecologist, is likely to be required.

- Once established, new hedges and planting around the site may help to reduce light spill and maintain dark corridors along hedgerows and boundary habitats but this should be qualified by data relating to the existing use of the site by bats.

4.1.6. Badger

Badgers and their setts are legally protected under the **Protection of Badgers Act** 1992 (HM Government, 1992).

- Contractors should be made aware of the potential presence of a badger sett nearby and the importance of not disturbing this species. In the unlikely event that a badger sett is discovered within the site during site clearance stop work and contact an ecologist for further advice.
- As a precaution any excavations left open over-night during construction should be covered or provided with a means of escape (such as a sloping plank) to prevent badgers (or other mammals) from becoming trapped.

4.1.7. Birds

All birds, their young and eggs are legally protected whilst nesting under the **Wildlife & Countryside Act** 1981, as amended. Local authorities have a duty to further the conservation of UK S41 / BAP priority species under the **NERC Act** (2006), the **CROW Act** (2000) and **NPPF** (2012).

- Follow guidance for hedges and scrub above.
- If any trimming of hedgerow vegetation or further scrub removal is required avoid disturbance to nesting birds by undertaking this as well as removal of tall ruderal vegetation during the winter months (1st October – end February). If this is not practicable, an ecologist must carry out a search of the vegetation by hand, immediately before clearance. If nesting birds are found, work within 5m of the active nest must stop until the chicks have fledged. Peak nesting season is usually April to July, and works are most likely to be delayed during these months.

4.1.8. Hedgehog

Local authorities have a duty to further the conservation of UK S41 / BAP priority species under the **NERC Act** (2006), the **CROW Act** (2000) and **NPPF** (2012). Legal protection under the **Wildlife & Countryside Act** 1981.

- Follow guidance for habitats above.
- Carry out site clearance with care. Make contractors aware of the potential presence of hedgehog and the importance of not disturbing them.
- Any new fences should be permeable to hedgehogs (a gap of 130mm x 130mm under fence panels or cut into barge-boards will allow hedgehogs to pass through but be too small for most pets).

4.1.9. Reptiles

Local authorities have a duty to further the conservation of UK S41 / BAP priority species under the **NERC Act** (2006), the **CROW Act** (2000) and **NPPF** (2012). Legal protection under the **Wildlife & Countryside Act** 1981.

- A reptile survey should be commissioned to assess the site for the presence / likely absence of reptiles, determine which species are present and estimate the population size (as appropriate).
- This will involve placing suitable reptile refugia (typically corrugated tin sheet and roofing felt) within areas of potentially suitable habitat and checking them on up to 20 occasions during suitable weather during the reptile active season (March-October).
- The findings of the above would inform an appropriate course of mitigation.

4.2. Potential for biodiversity enhancement and requirement for

Under the Environment Bill recently passed into law (HM Government, 2021) there is a legal requirement for all development requiring planning permission to deliver at least a 10% Biodiversity Net Gain (BNG). Provision is made for this in terms of planning policy under **NPPF** (2018) in the **Cornwall Local Plan** (Cornwall Council 2016). Best practice guidance for developers is provided in the **Cornwall Planning for Biodiversity Guide** (Cornwall Council, 2018). Guided by this the client has already made significant effort to incorporate biodiversity features within the proposal wherever possible.

Cornwall Council requires use of the Biodiversity Metric calculation tool to assess the baseline value of the site and anticipated value post-development (including proposed habitat creation and enhancements) so that predicted biodiversity losses / gains can be measured. This will be covered separately in the Biodiversity Net Gain report.

Outline recommendations for enhancement are provided below:

4.2.1. General

- Develop a landscape plan for the site specifying habitats to be retained, enhanced and created, including species mixes, how they will be maintained and monitored. The plan should include provision for areas of semi-improved rough grassland, hedges, scrub, trees and the ditch and where planting is to be undertaken favour locally appropriate native species and species of known wildlife value.
- Permeable surfacing should be used where possible; for instance the use of modular paving such as 'grasscrete' or similar could be considered in parking areas. This could be filled with site-won topsoil and allowed to naturally re-vegetate. It may also be possible to utilise green and / or brown roofs on the lodges
- Supplementary planning advice from Cornwall Council (2018) requires that specific provision is made for wildlife by the incorporation of purpose made bat and / or bird boxes and bee bricks within all new *residential* development. Provision for the inclusion of such features within the present development should be made; a number of appropriate products are commercially available which can be easily and cheaply built in to the proposed units (Ecology Partners can provide further advice regarding this as required).

4.2.2. Grassland

- Retention and creation of semi-improved grassland and enhancement of existing improved grassland should be favoured over the creation of amenity grassland. Existing plans show extensive areas between the lodges managed as rough grassland with mown paths and communal areas. The area available is substantial and this should be encouraged as a means of maximising diversity within the site. In general light management rather than frequent mowing will allow a greater number of species a chance to flower and set-seed. Cutting as late in the season as possible with the removal of the arisings and light scarification will tend to reduce fertility over time and allow less competitive wildflower species to become established within the sward.
- Areas of newly created grassland should be sown with an appropriate seed mix using locally native species. It may be possible to incorporate locally sourced seed and / or 'green hay' in doing this. It may also be possible to over-sow existing areas of grassland to be retained to enhance them with a similar seed mix and / or use to use the parasitic wild-flower species yellow rattle (*Rhinanthus minor*) to reduce the vigour of grasses and help less competitive wild-flower species to become established. Further advice on grassland creation and management can be provided upon request.

4.2.3. Hedges

- Available plans make provision for the creation of c.325m of new hedgerow habitat (extent to be confirmed in BNG report). Subject to the provisos below and once established this will represent a significant biodiversity net gain for the site and provide valuable additional habitat for a wide range of faunal species.
- The hedges should ideally be stone-faced, earthen-cored Cornish hedges built from local stone in a locally appropriate style and planted with locally native woody species such as hawthorn, blackthorn, hazel, grey willow and holly and a plan should be developed for their specification, establishment and maintenance.
- Hedges should be laid out so as to provide as much connectivity across the site as possible. Inter-connected hedges with minimal breaks rather than isolated fragments are more likely to function as potential corridors for wildlife running through the site. Where this is not practical it may be possible to align hedges so that they run into other habitat features (such as the ditch and / or other proposed tree / shrub planting) to provide contiguous habitat.
- All hedges should be unlit and maintained at as tall a height as possible especially along the southern and northern site boundaries to screen H1 and H2.

4.2.4. Scrub

- Current scrub / tree planting proposals are understood to include Scots pine (*Pinus sylvestris*), Monterey pine (*Pinus radiata*), dwarf mountain pine (*Pinus mugo*), hawthorn (*Crataegus monogyna*), midland thorn (*C. laevigata*), holm oak (*Quercus ilex*) and sea buckthorn (*Hippophae rhamnoides*). Whilst inclusion of introduced evergreen and coniferous species can be useful to provide shelter / screening and year round interest a greater emphasis on locally native species (such as blackthorn, hazel, grey willow and common alder) is likely to be more beneficial to wildlife.
- Provision for the longer term development of some specimen native trees (such as oak (*Quercus robur*) and / or perhaps some traditional Cornish fruit tree cultivars)

would further add to the future diversity within the site and provide additional habitat for a greater range of species.

4.2.5. Ditch

- If any planting is proposed within the ditch appropriate native species should be favoured and specified on the landscape plan.

4.2.6. Other

- Detailed recommendations regarding potential enhancements for bats and reptiles should be informed by the findings of further recommended survey work.

Report ends.

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Appendix 1: Phase 1 Habitat Distribution



Target Notes relating to Map 1

1. Wetland species locally abundant with waxcap fungi
[REDACTED]
3. Recently cleared scrub
4. H2 beyond site boundary (not surveyed in detail)
5. Recently cleared scrub – fragment of standing water along rutted track with hard rush and common fleabane – potential for reptiles
6. Relatively species rich fragmented embryonic grassland with southern marsh-orchid.

Appendix 2: Species list

Common Name	Latin Name	Hedge	Improved grassland	Ditch	Tall ruderal	Scrub	Semi-improved grassland
Common bent-grass	<i>Agrostis capillaris</i>		LF	A/D			LD
Creeping bent	<i>Agrostis stolonifera</i>			O			LA
Italian alder	<i>Alnus cordata</i>					O	
Alder	<i>Alnus glutinosa</i>					LA	
Scarlet pimpernel	<i>Anagallis arvensis</i>						R
Cow parsley	<i>Anthriscus sylvestris</i>	R					
Lesser burdock	<i>Arctium minus</i>	R					
Daisy	<i>Bellis perennis</i>		LF	LF			
False brome	<i>Brachypodium sylvaticum</i>	LF					
Rough stalked feather moss	<i>Brachythecium rutabulum</i>			A			
Black mustard	<i>Brassica nigra</i>				LA/D		
Buddleja	<i>Buddleja davidii</i>					vLA	
Common spear-moss	<i>Calliergonella cuspidatum</i>			A			
Hedge bindweed	<i>Calystegia sepium</i>	O					
Common yellow sedge	<i>Carex demissa</i>						R
Glaucous sedge	<i>Carex flacca</i>						vLF
Black knapweed	<i>Centaurea nigra</i>			F		LF _e	O/LF
Common centaury	<i>Centaureum erythraea</i>			R			
Common mouse-ear	<i>Cerastium fontanum</i>		O				
Rough chervil	<i>Chaerophyllum temulentum</i>	R					
Creeping thistle	<i>Cirsium arvense</i>		O	R			O
Marsh thistle	<i>Cirsium palustre</i>						R
Spear thistle	<i>Cirsium vulgare</i>		O				
Hemlock	<i>Conium maculatum</i>				LD		
Pampas-grass	<i>Cortaderia selloana</i>						R
Hawthorn	<i>Crataegus monogyna</i>	F				F	
Crested dog's-tail	<i>Cynosurus cristatus</i>			LA			LF
Cock's-foot	<i>Dactylis glomerata</i>		O/LA _e	A	LA		LD
Southern marsh orchid	<i>Dactylorhiza praetermissa</i>			R			R
Wild carrot	<i>Daucus carota</i>			F			LF
Common male fern	<i>Dryopteris filix-mas</i>	O			O	O	
Common couch	<i>Elytrigia repens</i>		LF				LD
Great willowherb	<i>Epilobium hirsutum</i>	O					
Red fescue	<i>Festuca rubra</i>		R	LA			LA
Ash	<i>Fraxinus excelsior</i>					O	
Cleavers	<i>Galium aparine</i>				F		
Hedge bedstraw	<i>Galium mollugo</i>	O		O			O
Endres crane's-bill	<i>Geranium endressii</i>						R
Dove's-foot crane's-bill	<i>Geranium molle</i>			O			R
Ground ivy	<i>Glechoma hederacea</i>	LF					
Atlantic ivy	<i>Hedera hibernica</i>	A				A	
Hogweed, cow parsnip	<i>Heracleum sphondylium</i>			O	F		R
Yorkshire fog	<i>Holcus lanatus</i>		A	F	LA		D

Common Name	Latin Name	Hedge	Improved grassland	Ditch	Tall ruderal	Scrub	Semi-improved grassland
Square-stalked St. John's-wort	<i>Hypericum tetrapterum</i>					R	R
Common cat's ear	<i>Hypochaeris radicata</i>			LA			LA
Hard rush	<i>Juncus inflexus</i>			R			
Sharp-leaved fluellen	<i>Kickxia elatine</i>						R
A moss	<i>Kindbergia praelonga</i>	F		O			LF
Perennial rye-grass	<i>Lolium perenne</i>		A/LD				
Honeysuckle	<i>Lonicera periclymenum</i>	O/F				R	
Cultivated apple	<i>Malus domestica</i> agg.					R	
Hart's tongue	<i>Phyllitis scolopendrium</i>	O					
Bristly oxtongue	<i>Picris echioides</i>						R
Monterey pine	<i>Pinus radiata</i>					O	
Ribwort plantain	<i>Plantago lanceolata</i>		R	LF			LF
Annual meadow grass	<i>Poa annua</i>		O	F			O
White poplar	<i>Populus alba</i>					O	
Creeping cinquefoil	<i>Potentilla reptans</i>						R
Selfheal	<i>Prunella vulgaris</i>						O/LF
Blackthorn	<i>Prunus spinosa</i>	D				A/LD	
Bracken	<i>Pteridium aquilinum</i>					LF	
Common fleabane	<i>Pulicaria dysenterica</i>			F			LF
Creeping buttercup	<i>Ranunculus repens</i>		LA				R
	<i>Ranunculus sardous</i>						R
Springy turf-moss	<i>Rhytidiadelphus squarrosus</i>			LA			
Dog rose	<i>Rosa canina</i> agg.	O					
Blackberry/bramble	<i>Rubus fruticosus</i> agg.	F		R	O	LA	
Common sorrel	<i>Rumex acetosa</i>			O			
Curled dock	<i>Rumex crispus</i>						O
Broad-leaved dock	<i>Rumex obtusifolius</i>			O	F	O	O
Grey willow	<i>Salix cinerea</i>	F		Rsd	LF/A		
Ragwort	<i>Senecio jacobaea</i>						R
Red campion	<i>Silene dioica</i>	R			O	O	
Field woundwort	<i>Stachys arvensis</i>						R
Dandelion	<i>Taraxacum officinale</i> agg.		O				
Lesser yellow trefoil	<i>Trifolium dubium</i>			O			
White clover	<i>Trifolium repens</i>		F	F			R
European gorse	<i>Ulex europaeus</i>					LD	Rsd
Elm species	<i>Ulmus</i> spp.	LD					
Common nettle	<i>Urtica dioica</i>	O			A/LD		O
Thyme-leaved speedwell	<i>Veronica serpyllifolia</i>						R
Common vetch	<i>Vicia sativa</i>						R
?Golden waxcap	? <i>Hygrocybe chlorophana</i>						vLF

DAFOR is a nominative scale where: D = Dominant, A = Abundant, F = Frequent, O = Occasional and R = Rare. L = Locally (e = edge, sd = seedling)

Appendix 3: Opportunities and constraints plan

