



Land at Talskiddy,
St Column Major, Cornwall

Preliminary Ecological Appraisal

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For:
Smart BlueFrog Ltd



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1. INTRODUCTION

Bright Environment Ltd was commissioned by Smart BlueFrog Ltd in December 2023 to undertake a preliminary ecological appraisal of land at Talskiddy, St Columb Major, Cornwall, TR9 6EG (OS Grid Ref: SW 91278 65190). The appraisal is to inform a planning application to construct two residential dwellings on the land.

The site is parking and yard space for an equestrian yard. It is bound on the south by a Cornish hedge with mature trees and a stream, lined with mature trees, marks the west boundary. The location of the site is shown on Figure 1 and the survey area is defined in Figure 2.

2. AIM

The aim of the report is to undertake a Preliminary Ecological Appraisal of the proposed development. This involves the following:

- Describe and evaluate the ecological baseline of the site.
- Identify ecological impacts of the development.
- Design mitigation measures for adverse impacts and identify any requirements for further survey.
- Identify any residual impacts following mitigation.
- Identify opportunities for enhancement of biodiversity.

3. METHODOLOGY

The assessment has been carried in accordance with:

- the 'Guidelines for Preliminary Ecological Appraisal' and 'Guidelines for Ecological Impact Assessment in the UK and Ireland' produced by the Institute of Ecology and Environmental Management (CIEEM 2018 & 2017). However due to the small extent of the development and its minimal ecological impacts a reduced desk study has been undertaken (see section 3.1).
- BS42020-2013 Biodiversity – Code of Practice for Planning and Development (British Standard, 2013)
- Cornwall Planning for Biodiversity Guide (Cornwall Council, 2018)

The assessment is informed by UK and EU legislation, National and local planning policies.

The ecological baseline of the site was assessed through a desk study and site survey.

3.1 Desk study

A desk study to identify whether the site lies within a statutory designated site of nature conservation importance was undertaken. This involved the use of Magic Map (www.magic.gov.uk) and Cornwall Council Interactive Map (map.cornwall.gov.uk). Ecological records from the biological records centre were not obtained as the land impacted by the proposal is a small area of hard standing with no impact on trees, hedges or waterbodies CIEEM (2017).

3.2 Site survey

A walk-over survey of the site was carried out on 4th January 2024 to:

- identify the habitats present within the site according to the Phase 1 Habitat Survey methodology (JNCC, 1993) and compile a list of dominant and rare vascular plants. A full species lists was not compiled.
- undertake a preliminary faunal survey / habitat assessment to identify the presence or the potential of the site to support legally protected species or species of conservation importance.

- assess the ecological 'importance' of any hedges using the criteria in the Hedgerows Regulations 1997 (if applicable).

The weather during the survey was overcast, persistent rain and calm (7C). The survey area is indicated on Figure 2.

3.3 Baseline evaluation

Evaluation of the ecological baseline for the site was undertaken following the framework provided by CIEEM (2018). The biodiversity value of ecological features is assessed according to various characteristics; including non-statutory designations, rarity, threat, diversity (species-richness), connectivity and size of populations. Each ecological feature is assigned a biodiversity value at the following geographical scales:

- International or European
- National (England)
- Regional (South West)
- County
- Local

3.4 Identification of impacts and mitigation

Assessment of impacts was undertaken following the framework provided by CIEEM (2018). The impacts magnitude, duration, reversibility, likelihood and nature (positive or negative) are described. Consideration to cumulative impacts is also given. Impacts are then assessed as being significant or not significant upon each valued ecological feature.

Mitigation measures to avoid or reduce impacts are included. To ensure proposed mitigation measures are adopted; Bright Environment Ltd consulted with the developer to agree achievable measures. Recommendations follow the mitigation hierarchy approach (CIEEM, 2018 and British Standard, 2013). The mitigation hierarchy seeks to avoid impacts, then to mitigate unavoidable impacts, and as a last resort, to compensate for residual impacts. Where possible mitigation has been designed with the aim of the development resulting in net gain (as specified in Cornwall Council, 2018). An assessment of residual impacts and whether net gain has been achieved is given at the end of this report.

3.5 Personnel

Author: This report was prepared by Dr Janine Bright. Dr Bright has been a full member of the Chartered Institute of Ecology and Environmental Management (CIEEM) since 2001 and has been a Chartered Environmentalist (CEnv) since 2005. Dr Bright has a BSc in Environmental Science and a PhD in Ecology. She has worked as an ecological consultant since 1999.

Surveyors: Dr Bright. Protected species licenses: dormice (2016-21698-CLS-CLS) and bats (2020-49235-CLS-CLS survey level 2).

3.6 Limitations

The survey was carried out in February. At this time of year, it is possible that some plants may have been missed. However, it is possible to assess the value of habitats and their potential to support notable floral species. This is not considered a notable limitation for a project of this size and nature (i.e. where impacts are restricted to an area of bare ground/ hardcore).

As ecological features can change over time it is recommended that this report is valid until February 2025.

4. ECOLOGICAL BASELINE

4.1 Designated sites of nature conservation value

The site is not a designated site of nature conservation importance.

There are two designated sites within 1km of the site. Denzell Downs to Menadew's Plantation County Wildlife Site (CWS) is located 660m west of the site. Rosedinnick CWS is located 430m to the north of the site (see Figure 1). CWSs are designated by the Cornwall Wildlife Trust and Cornwall County Council. They are designated in accordance with a set of criteria (ERCCIS & CWT, 2010). Although not statutory designations, they are given greater protection through the planning process with respect to development. They are prime sites for wildlife in Cornwall, having been identified as supporting species, groups of species or habitats of at least county importance.

There are no Tree Preservation Orders (TPOs) within the site.

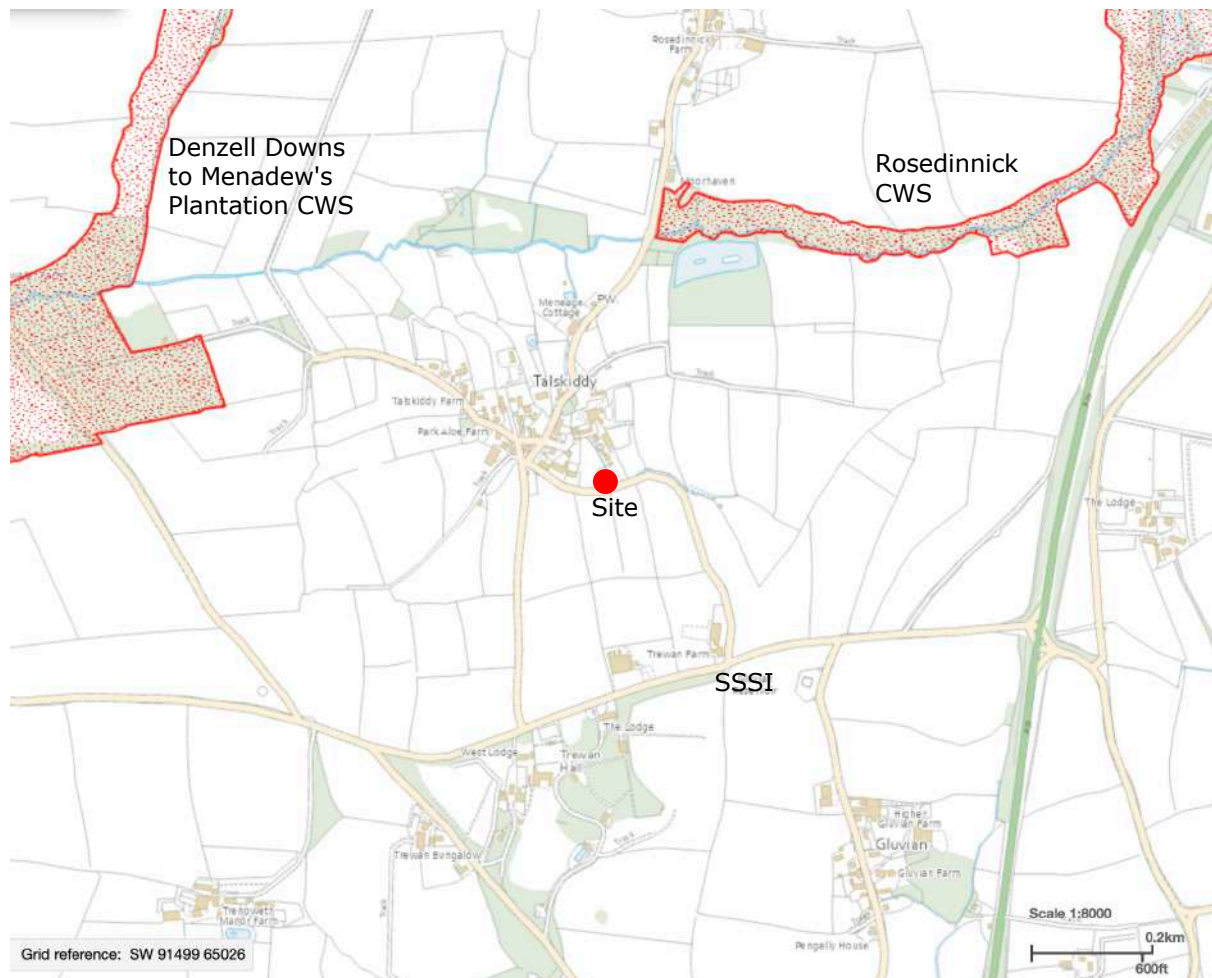


Figure 1. Designated sites of nature conservation importance within 1 km of the site.

4.2 Habitat Description and Evaluation

This section describes the habitats present, according to the standard Phase 1 notation (JNCC, 2010).

The site is parking and yard space for an equestrian yard. It is bound on the south by a Cornish hedge with mature trees and a stream, lined with mature trees, marks the west boundary.



Photograph 1. View over site from beyond N boundary. Photograph 2. Treelined stream W boundary.



Photograph 3. South boundary hedge (site side). Photograph 4. South boundary hedge (road side).

Each of the habitats recorded during the Phase 1 Habitat Survey are described below and their distribution is shown on Figure 2. The dominant species recorded within each habitat are given together with any notable floral species observed.

4.2.1 Native species-rich hedge

The south boundary of the site is marked by a native species-rich Cornish hedge comprising an earth and stone wall supporting mature trees and a native flora. Sycamore is the dominant tree. Other species include foxglove, bramble, ivy, holly, red campion, wall pennywort and broad buckler fern.

The hedgerow within the survey area does not qualify as 'ecological important' according to the criteria specified in the Hedgerows Regulations 1997. However, hedgerows are listed as a priority habitat for conservation in the county and UK (Biodiversity Action Plans) BAPs. They can provide valuable habitat for wildlife including birds, reptiles, invertebrates and mammals; and provide corridors via which wildlife can travel through agricultural landscapes, linking larger areas of semi-natural habitat. The hedge within the site is of biodiversity value at the local level. Its value is enhanced by the presence of a watercourse alongside it, which is another linear wildlife corridor.

4.2.2 Bare ground

The majority of the site is hardcore bare ground. The habitat is disturbed by the movement of vehicles, and it is not of biodiversity value.

4.2.3 Running water

A stream runs to the south of the south boundary hedge and is culverted under the hedge and flows north outside the west boundary of the site. The small stream flows underground and arises to the north of Talskiddy where it joins a watercourse that flows to Mawgan Porth. The watercourse is an ecological corridor and considered to be of local biodiversity value.

4.2.4 Scattered broad-leaved trees

Sycamore and willow line the stream. These trees are part of the wildlife corridor and are therefore considered to be of low local value. There is disturbed ground beneath the trees and some littering. The ground flora beneath the trees comprises ivy, bramble, greater woodrush, cock's-foot, herb Robert, common nettle and creeping bent grass.

4.3 Floral Species Description and Evaluation

4.3.1 Higher Plants

No notable higher plants were observed. The site is considered unlikely to be of value for higher plants.

4.3.2 Lower Plants

The areas impacted by the proposed works (i.e. disturbed bare ground) do not have the potential to support notable assemblages of lower plants a specialised survey for non-vascular plants, bryophytes and lichens is not required.

4.3.3 Invasive non-native species

No invasive weeds were observed.

4.4 Faunal Species Description and Evaluation

4.4.1 Badgers

No evidence of badgers was observed, and it is unlikely that any evidence was overlooked.

Although relatively common in Cornwall, the badger is afforded a high degree of legal protection. Badgers and their setts are protected under the Protection of Badgers Act 1992 (HM Government, 1992), and are also listed in Schedule 6 of the Wildlife & Countryside Act 1981 (as amended).

4.4.2 Otters

It is considered likely that otter utilises the watercourse and may travel along the west boundary of the site. No evidence of otter or otters 'places of rest' were found during the survey. It is unlikely that otter would have a 'place of rest' in this section as it is very near human activity from the livery yard.

Otter is a European protected species. Otter is also UK and Cornwall BAP priority species and protected under the NERC Act 2006.

Figure 2 Phase 1 habitat distribution.



4.4.3 Bats

None of the trees within the survey area have potential bat roost features. It is likely that the hedgerow with mature trees and the treelined stream corridor are of value to commuting and foraging bats.

All British bats are European protected species (EPS). EPS are protected by national law under Conservation of Habitats Regulations 2017, the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. As a result of this legislation it is an offence to:

Deliberately capture, injure or kill an EPS;

- Intentionally or recklessly disturb an EPS in its place of rest/ breeding site;
- Intentionally or recklessly damage, destroy or obstruct access to a EPS place of rest/ breeding site (even if the EPS is not occupying the resting / breeding place at the time);
- Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

Barbastelle, Bechstein's, noctule, soprano pipistrelle, brown long-eared, greater horseshoe and lesser horseshoe bats are priority species for conservation on the UK BAP and protected under the NERC Act 2006. Barbastelle, pipistrelle, greater and lesser horseshoe bats are county priority BAP species (CBI, 2004).

4.4.4 Dormice

The hedgerow and treelined stream corridor offer suitable habitat for dormouse and it is possible that this species may be present.

Dormouse is a European protected species (EPS). EPS are protected by national law under Conservation of Habitats Regulations 2017, the Wildlife and Countryside Act 1981 (as amended) and the Countryside and Rights of Way Act 2000. As a result of this legislation it is an offence to:

Deliberately capture, injure or kill an EPS;

- Intentionally or recklessly disturb an EPS in its place of rest/ breeding site;
- Intentionally or recklessly damage, destroy or obstruct access to a EPS place of rest/ breeding site (even if the EPS is not occupying the resting / breeding place at the time);
- Possess or sell or exchange an EPS (dead or alive) or part of an EPS.

Dormouse is also UK and Cornwall BAP priority species and protected under the NERC Act 2006.

4.4.5 Hedgehog

Hedgehogs are associated with garden habitats with dense leaf cover and log piles. The hedgerow and treelined stream corridor offer suitable habitat for hedgehog and it is possible that this species is present.

Hedgehogs are listed as a priority species for conservation on the UK BAP and are protected under the NERC Act 2006. They hibernate in log / leaf / rubble piles, at the base of Cornish hedges and under tree roots from October to March inclusive. They are listed on Schedule 6 of Wildlife & Countryside Act 1981 (as amended), which protects them from being killed or taken by certain methods under Section 11(1) of the Wildlife and Countryside Act 1981.

4.4.6 Invertebrates

The site is unlikely to support notable invertebrate populations.

4.4.7 Birds

The hedgerow and treelined stream corridor provide nesting habitat for birds. The habitats present are unlikely to support notable populations of birds. The nests (while in use or being built) and eggs of all wild birds are protected against taking, damage and destruction under the Wildlife and Countryside Act 1981 (as amended). It is also an offence to kill, injure or take any wild bird. The birds listed under Schedule 1 of the Wildlife and Countryside Act are afforded additional protection

against intentional or reckless disturbance whilst building a nest or in or near a nest containing eggs or dependent young.

4.4.8 Reptiles

The hedgerow and treelined stream corridor provide suitable habitat for reptiles and it is possible that reptiles are present in the boundary features. The bare ground over most of the site is not suitable due to high levels of disturbance and lack of cover.

The common reptiles that occur in Cornwall (adder, slow worm, grass snake and common lizard) are UK BAP priority species and are partially protected under Schedule 5 (section 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended) and protected under the NERC Act 2006. Cornwall is considered a UK stronghold for adder. This legislation makes it an offence to kill and/or injure reptiles and puts a duty on local authorities to have regard to list group of principle species.

4.4.9 Amphibians

It is possible that amphibians could breed in slower sections of the stream, but the habitat is suboptimal. It is possible that common toad and common frog could use the hedgerow and treelined stream site during the terrestrial stages of their life cycle. It is unlikely that notable populations are present.

The common amphibians that occur in Cornwall (common toad, common frog and smooth newt) are protected under Schedule 5 (section 9(1) and 9(5)) of the Wildlife and Countryside Act 1981 (as amended). This legislation makes it an offence to kill and/or injure reptiles. Common toad is listed as a UK BAP Priority species due to its nationally declining population, which puts a duty on local authorities to have regard to this principal species.

4.5 Overall Site Evaluation

The site is not a designated site of nature conservation importance. There are two designated sites within 1km of the site. Denzell Downs to Menadew's Plantation County Wildlife Site (CWS) is located 660m west of the site. Rosedinnick CWS is located 430m to the north of the site (see Figure 1).

The site is parking and yard space for an equestrian yard. It is bound on the south by a Cornish hedge with mature trees and a stream, lined with mature trees, marks the west boundary. The bare ground is not of biodiversity value. The boundary hedgerow and tree lined stream are of local biodiversity value.

The potential of the site to support notable or legally protected species was assessed and can be summarised as follows:

- It is considered likely that otter utilises the watercourse and may travel along the west boundary of the site. No evidence of otter or otters 'places of rest' were found during the survey. It is unlikely that otter would have a 'place of rest' in this section as it is very near human activity from the livery yard.
- It is likely that the hedgerow with mature trees and the treelined stream corridor are of value to commuting and foraging bats.
- The hedgerow and treelined stream corridor offer suitable habitat for dormouse, reptiles, nesting birds and hedgehogs and it is possible that these species may be present.
- The bare ground habitat does not have the potential to support any notable or legally protected species.

5. ECOLOGICAL IMPACTS, MITIGATION AND MONITORING

5.1 Details of proposed works

The proposal is to construct two dwellings on the site. Existing access will be used and there will be no impact on the Cornish hedgerow or the treelined stream corridor. At the time of writing a proposed plan was not available.

The likely ecological impacts of the proposed development are considered below, along with suitable mitigation and requirements for further survey and monitoring. An assessment of the residual impacts is given at the end of this section. An existing site plan with proposed mitigation is included as Figure 3.

5.2 Impacts to designated sites

The proposed development will not impact upon any designated sites of nature conservation importance or the features for which they were designated.

5.3 Loss of Habitats

Existing access will be used and there will be no impact on the Cornish hedgerow or the treelined stream corridor, which are features of local biodiversity value. Loss of bare ground habitat of no biodiversity value is of no biodiversity consequence.

5.4 Habitat gain and enhancement

In an effort to achieve biodiversity gain the development will include the following habitat creation and enhancement:

- The new boundaries of the dwellings (i.e. the new north and east boundaries and any internal boundaries) will comprise Cornish hedges. These will be stone and earth hedges and will be planted with a diverse mix of native shrubs. To preserve landscape character the new hedge will match the style of existing and neighbouring hedges. Stones for the new hedge will be of closely matching geology, size and character and stones will be coursed in the style of neighbouring hedges. The top of the hedge will be planted with a diverse mix of native shrubs; suggested species include hazel, holly, hawthorn, blackthorn, European gorse, elder, dog rose, field maple and honeysuckle. Planting will avoid periods of drought. By employing native species, the new hedgerows will comply with Cornwall Council's adopted Pollinator Action Plan (Cornwall 2023).
- Two standard trees will be included in the new garden. This together with the proposed new hedge sections above will meet Cornwall Council's adopted Climate Emergency Development Plan Document (CEDPD, 2023). This requires all major developments to provide, through the retention of existing and / or the establishment of new tree canopy coverage equal to at least 15% of the site area (excluding areas of the site that are priority habitat types). Minor developments (such as this) should include where appropriate and practicable provision of new canopy.
- In compliance with the Biodiversity Supplementary Planning Document (SPD) and to achieve biodiversity gain each of the new dwellings will include one bee brick, and integral bird box and one integral bat box. The bee brick will be installed on the south-facing wall 1-2m above ground level. Bee bricks contain multiple cavities for bees to lay their eggs and are integral to a building (see photograph 5). The bat box will be installed flush with the wall surface (as shown in Photograph 7) and sited near the roof in a dark location. The 'Green and Blue' bat block works well for rendered or clad finish and the woodstone box is appropriate for stone facing. An integral bird feature (see photograph 6) will be installed flush with the wall surface and will be located under or close to the roof, on a sheltered side of the building.
- Landscaping schemes should, where possible, seek to use native species of local provenance. They should aim to increase structural diversity within the site, with areas of short grass, long grass, shrubs and trees. Where possible, landscaping schemes should include log and stone piles/features, which are of value for wildlife.



Photograph 5. Example bee brick



Photograph 6. Sparrow terrace and two example woodstone nest boxes.



Photograph 7. Green and Blue' bat block and woodstone bat box `

5.5 Disturbance/degradation to habitats

The proposed development has the potential to damage a hedgerow and tree lined stream corridor (that are of local biodiversity value) during the construction phase through the inappropriate movement of vehicles and the storage of materials. The south boundary hedgerow and treelined stream corridor will be protected during construction activities by the erection of a protective fences. Measures to prevent sediment and contaminant release into the stream will be implemented.

Hedgerows may also be degraded during the 'operational' phase of the development through 'domestication'. A change of a hedgerow from an agricultural boundary to a domestic boundary is treated as a 50% loss of habitat due to domestication and degradation impacts (in accordance with Biodiversity SPD). Hedges marking domestic boundaries can be degraded through over trimming and planting of none natives. The south boundary hedge (10m in length) will have change of use on one side so will be treated as a 25% loss. The scheme will therefore lead to a 'loss' of 2.5m of hedge through potential degradation. This 'loss' will be mitigated by habitat (specifically hedgerow) creation detailed in section 5.2.

The tree-lined stream corridor is a valuable wildlife corridor. There is the potential for this to be degraded through domestication and planting of non native shrubs, over trimming and reducing plant cover. To avoid this impact a 2m wide strip of native shrubs will be planted between the stream and the development. This will comprise densely planted mix of native shrubs. The following are suggested; European gorse, holly, hazel, hawthorn, blackthorn, broom, elder, honeysuckle, elm, willow and alder.

5.6 Disturbance to Species

It is likely that the hedgerow with mature trees and the treelined stream corridor are of value to commuting and foraging bats. There will be no loss of these features and measures will be implemented to prevent degradation. Habitat creation (native shrub planting, new hedgerows, integral bat box and two standard trees) will result in a net gain of habitat for bats.

It is considered likely that otter utilises the watercourse and may travel along the west boundary of the site. No evidence of otter or otters 'places of rest' were found during the survey. It is unlikely that otter would have a 'place of rest' in this section as it is very near human activity from the livery yard. Protective fencing will be installed before construction activities commence to protect the stream corridor during construction. The proposed planting of a 2m wide buffer of native shrubs along the west boundary will increase the cover for otters passing through. No adverse impacts on otter are anticipated.

The hedgerow and treelined stream corridor offer suitable habitat for dormouse, reptiles, nesting birds and hedgehogs and it is possible that these species may be present. So long as the mitigation as outlined above is implemented, these features will not be impacted by the development.

The bare ground habitat does not have the potential to support any notable of legally protected species.

Any excavations left open overnight will have a means of escape for any animals that may fall in.

5.7 Further Surveys

No further surveys are required.

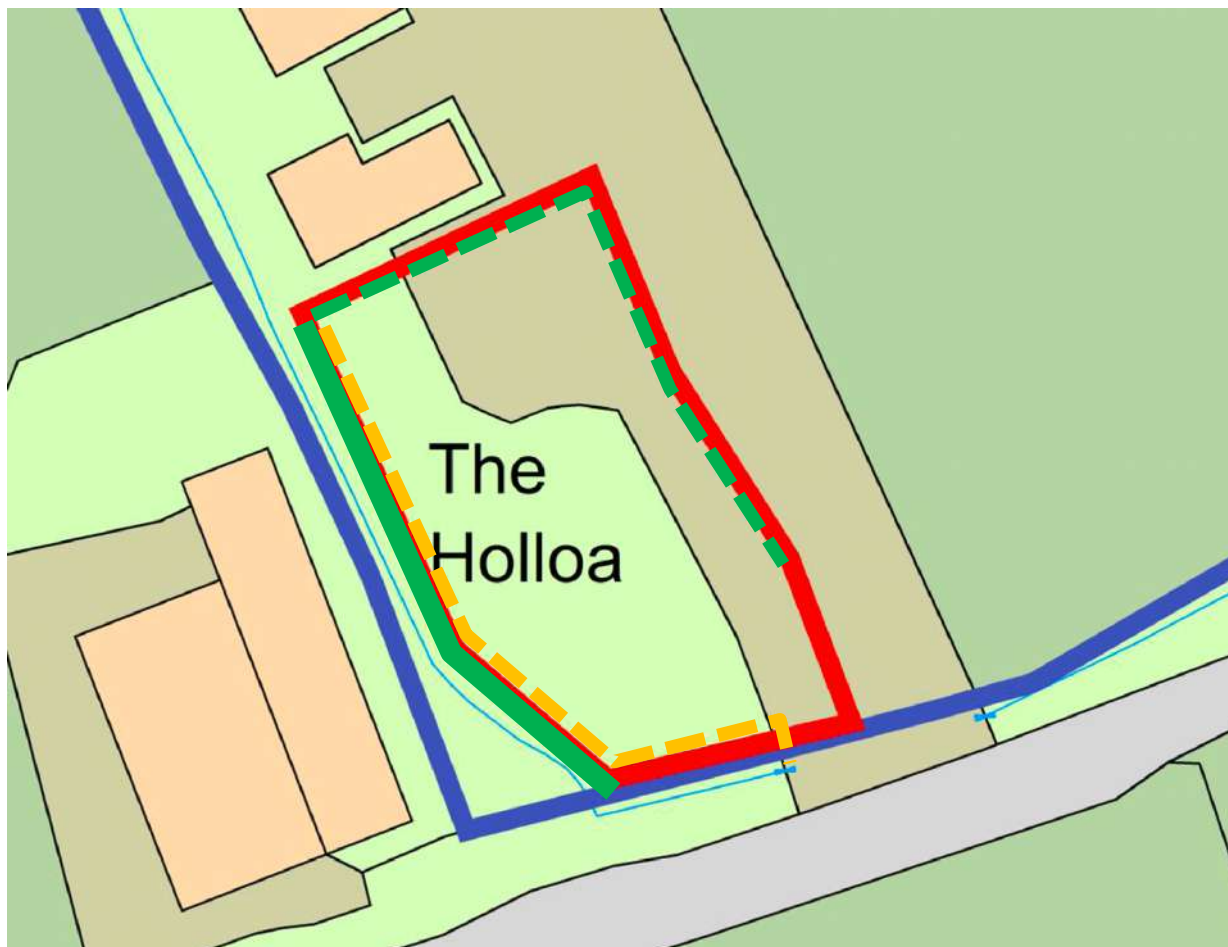
5.8 Monitoring

Ideally planning approval should include processes to ensure the above habitat creation has been implemented.

5.9 Residual Impacts

If all of the mitigation discussed above is implemented successfully, then it is considered likely that the residual impacts of the development will be minor positive due to the net gain of Cornish Hedge, integral wildlife boxes, two tree standards and a 2m wide buffer planting alongside the stream.

Figure 3. Proposed site plan and ecological mitigation.



Install protective fencing before construction activities commence.

New boundaries (including any internal boundaries) to comprise native Cornish hedgerows (location is indicative as no proposed plans available at the time of writing).

Plant two native tree standards (local not specified).

2m wide native shrub buffer planting.

New dwellings will include one bee brick, an integral bird box and one integral bat box.

Any trenches left open overnight will have a means of escape

6. REFERENCES AND BIBLIOGRAPHY

Baker, J., Hoskin, R. and Butterworth, T. (2019). Biodiversity net gain. Good practice Principles for development. A practical Guide, CIRIA, 2019. ISBN 978-0-86017-791-3.

BCT (2009). The National Bat Monitoring Programme. Annual Report 2009. The Bat Conservation Trust, London.

BCT (2011). The state of the UK's bats: National Bat Monitoring Programme Population Trends 2011. The Bat Conservation Trust, London.

Bat Conservation Trust (2011). Statement on the impact and design of artificial light on bats. Bat Conservation Trust, London.

BCT (2012). The National Bat Monitoring Programme. Annual Report 2011. The Bat Conservation Trust, London.

BCT (2018) Bats and artificial light in the UK – bats and the built environment. Guidance note 08/18. Bat Conservation Trust, London.

British Standard Institute (2013). BS 42020:2013 Biodiversity Code of Practice for Planning and Development. BSI, London.

Burns F, Eaton MA, Balmer DE, Banks A, Caldow R, Donelan JL, Douse A, Duigan C, Foster S, Frost T, Grice PV, Hall C, Hanmer HJ, Harris SJ, Johnstone I, Lindley P, McCulloch N, Noble DG, Risely K, Robinson RA, Wotton S (2020) The state of the UK's birds 2020. The RSPB, BTO, WWT, DAERA, JNCC, NatureScot, NE and NRW, Sandy, Bedfordshire.

CBI [Cornwall Biodiversity Initiative] (1997-2004) Cornwall's Biodiversity Volumes 1, 2 & 3. Cornwall Wildlife Trust, Truro.

CEC [Council of the European Communities] (1979) Council Directive 79/409/EEC on the Conservation of Wild Birds [Referred to as EC Birds Directive]. Official Journal of the European Communities: L103.

CEC [Council of the European Communities] (1992) Council Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats and of Wild Fauna and Flora [Referred to as EC Habitats Directive]. Official Journal of the European Communities: L206.

CEDPD (2023) Climate Emergency Development Plan Document. <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/climate-emergency-development-plan-document/>

CIEEM [Chartered Institute of Ecology and Environmental Management] (2017) Guidelines for Ecological Report Writing. 2nd Edition. CIEEM, Winchester.

CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.1. Chartered Institute of Ecology and Environmental Management, Winchester.

CIEEM [Chartered Institute of Ecology and Environmental Management] (2017) Guidelines for Preliminary Ecological Appraisal Second Edition.

Collins, J. (ed.) (2023) Bat Surveys for Professional Ecologists – Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London.

Cornwall Council (2018) Cornwall Planning for Biodiversity guide. <https://www.cornwall.gov.uk/media/v1roqk0x/planning-for-biodiversity-v14.pdf>

Cornwall Council (2021). Terrestrial European Sites Mitigation. Supplementary Planning Document. <https://www.cornwall.gov.uk/media/wmvnoxzz/european-sites-mitigation-spd-july-2021-marine-and-terrestrial-sites.pdf>

Cornwall Council (2023). Marine and Estuarine European Sites Mitigation consultation draft. Supplementary Planning Document. May 2020.

<https://www.cornwall.gov.uk/media/44189445/european-sites-spd-marine-and-estuarine-v1.pdf>

Cornwall Council (2016). Cornwall Local Plan: Strategic Policies 2010-2030. Available at: <https://www.cornwall.gov.uk/media/22936789/adopted-local-plan-strategic-policies-2016.pdf>

Cornwall Council (2023). Cornwalls Pollinator Action Plan 2019-2023. Delivering environmental growth for a changing Cornwall. https://www.cornwall.gov.uk/media/wszb3ahl/cornwalls_pollinator_action_plan_web.pdf

Cornwall Wildlife Trust (CWT) (2007) Biodiversity and Geological Conservation: Planning Good Practice Guidance for Cornwall. CWT.

Department for Communities and Local Government, (2012). National Planning Policy Framework. London ISBN: 978-1-4098-3413-7

DEFRA, Natural England and Environment Agency (2019). Guidance. Stop invasive non- native plants from spreading. May 2019. <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants#treat-invasive-non-native-plants>

DEFRA et al (2023). Multi Agency Geographic Information for the Countryside (MAGIC). Available at: <http://magic.defra.gov.uk/>.

Eaton et al. (2015) Birds of conservation concern 4: the population status of birds in the UK, Channel Islands and Isle of Man. *British Birds* 108: 708-746.

EN [English Nature] (2002). Bats in roofs: a guide for surveyors. English Nature, Peterborough, UK.

EN [English Nature] (2006). The Dormouse Conservation Handbook. Second Edition. English Nature, Peterborough.

EN [English Nature] (2004) Reptiles: Guidelines for Developers. English Nature, Peterborough.

Environment Agency (2017) Prevent Japanese knotweed from spreading [Online]. Available at: <https://www.gov.uk/guidance/prevent-japanese-knotweed-from-spreading> [Accessed 15th August 2017].

ERCCIS [Environmental Records Centre for Cornwall and the Isles of Scilly] Erecords computer database. Cornwall Wildlife Trust. Unpublished.

Froglife, 1999. Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife.

Gunnell, K., Grant, G and Williams, C. (2012). Landscape and Urban Design for Bats and Biodiversity. Bat Conservation Trust.

Gunnell, K., Murphy, B. and Williams, C. (2013). Designing for Biodiversity: A technical guide for new and existing buildings (2nd Edition). London.

Harris, S., Cresswell, P. & Jefferies, D. 1989. Surveying badgers. Mammal Society Publication No 9. HM Government (1981 as amended) The Wildlife and Countryside Act 1981. HMSO, London.

HM Government (1992) Protection of Badgers Act 1992. HMSO, London.

HM Government (1997) The Hedgerow Regulations 1997. HMSO, London.

HM Government (2000) The Countryside and Rights of Way Act 2000. HMSO, London.

HM Government (2006) The Natural Environment and Rural Communities Act 2006. HMSO, London.

HM Government (2010) The Conservation of Habitats and Species Regulations 2010. HMSO, London.

Hundt (2012). Bat Surveys – Good Practice Guidelines. Bat Conservation Trust, London, UK.

JNCC [Joint Nature Conservation Committee] (2010) Handbook for Phase 1 Habitat Survey. JNCC, Peterborough.

JNCC [Joint Nature Conservation Committee] (2011) UK BAP Priority Species and Habitats. Available at www.ukbap.org.uk/PriorityHabitats

Joint Nature Conservation Committee (2004). Bat Worker’s Manual (3rd Edition). Joint Nature Conservation Committee, Peterborough, UK.

Mitchell-Jones, A J (2004). Bat Mitigation Guidelines. English Nature, Peterborough.

Natural England & DEFRA (2019) Prevent harmful weeds and invasive non-native plants spreading. <https://www.gov.uk/guidance/prevent-the-spread-of-harmful-invasive-and-non-native-plants>

Natural England (2019). Bats: surveys and mitigation for development projects. Standing advice for local planning authorities to assess impacts of development on bats. Published 28 March 2015; updated 4 March 2019. Available at: <https://www.gov.uk/guidance/bats-surveys-and-mitigation-for-development-projects>

Office of the Deputy Prime Minister (ODPM) (2005). Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impacts within the Planning System. The Stationery Office Ltd. London.

Panks, S., White, N., Newsome, A., Nash, M., Potter, J., Heydon, M., Mayhew, E., Alvarez, M., Russell, T., Cashion, C., Goddard, F., Scott, S., Heaver, M., Scott, S., Treweek, J. Butcher, B. and Stone, D. (2022). Biodiversity metric 3.1: Auditing and accounting for biodiversity – User Guide. Natural England.

Schofield, H.W. (2008). *The Lesser Horseshoe Bat Conservation Handbook*. The Vincent Wildlife Trust.

Shawyer, C. R. (2011) Barn owl survey methodology and techniques for use in ecological assessment – Developing best practice in survey and reporting. IEEM, Winchester (updated 2012).

Spalding, A. (Ed.) (1997) Red Data Book for Cornwall and the Isles of Scilly. Croceago Press, Camborne.

Stace, C. (1991) New Flora of the British Isles. Cambridge University Press, Cambridge.

Stewart, A., Pearman, D.A. & Preston, C.D. (Eds.) (1994) Scarce Plants in Britain. JNCC, Peterborough

Williams C.A. and Cornwall Bat Group (2009) Bats. In CISBFR, Red Data Book for Cornwall and the Isles of Scilly. 2nd Edition. Croceago Press, Praze-an-Beeble.

Williams, C. (2010) Biodiversity for Low and Zero Carbon Buildings: A Technical Guide for New Build. RIBA, London.

Wray, S., Wells, D., Long, E. & Mitchell-Jones, T. (2010) Valuing bats in Ecological Impact Assessment. CIEEM In Practice Magazine (December 2010).

Appendix 1 Summary of relevant legislation and policies

Protection of Badgers Act (1992)

Badgers are protected by the Protection of Badgers Act (1992) and the Wildlife and Countryside Act 1981 (as amended), Schedule 6. It is an offence to intentionally kill, capture, injure or ill-treat any badger and to obstruct, destroy or damage a badger sett or disturb badgers within a sett.

Hedgerow Regulations 1997

Any hedgerows classified as 'important' under the 1997 Hedgerows Regulations cannot be removed without a Hedgerow Removal Notice issued by the relevant Local Authority unless previously approved as part of a planning permission.

National Planning Policy Framework 2012

The National Planning Policy Framework (NPPF) sets out national planning policy that is committed to minimising impacts on biodiversity and providing net gains in biodiversity where possible. Under NPPF, local planning authorities have an obligation to promote the preservation, restoration and recreation of Priority habitats, ecological networks and the protection and recovery of Priority species as identified under the Natural Environment and Rural Communities Act (2006). Section 118 of the NPPF also requires enhancements for biodiversity. The NPPF also recognises the wider benefits of ecosystem services.

Natural Environment and Rural Communities Act (NERC) 2006

The Natural Environment and Rural Communities Act (NERC) requires all public authorities, including planning authorities to have regard to the purpose of conserving biodiversity whilst carrying out their normal functions. The NERC Act includes lists of Habitats and Species of Principal Importance (HPIs and SPIs) to the conservation of biodiversity (Section 41) that should be considered in the implementation of duties under the NERC Act. In line with government circular 06/2005 (ODPM, 2005) which provides supplementary guidance, the presence of a Priority species may be a material consideration when a planning authority is considering a development proposal.

The HPI and SPI listed under the NERC Act are largely also UK BAP Priority habitats and species. The UK Post-2010 Biodiversity Framework succeeds the UK BAP partnership; though its list of Priority species and habitats agreed under the UK BAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services'.

The Wildlife and Countryside Act 1981 (as amended) (WCA)

The Wildlife and Countryside Act 1981 (as amended) is the primary legislation for England and Wales for the protection of flora, fauna and the countryside. Part 1 of the Act deals with the protection of wildlife.

Amended by the Countryside and Rights of Way (CROW) Act 2000

Most European Protected Species are now covered under the Conservation of Habitats and Species Regulations (see below) but some activities are still covered by the WCA such as obstructing access to a bat roost.

The WCA prohibits the release into the wild of non-native animal species listed on Schedule 9. It is also an offence to 'cause the spread' of plants listed on Schedule 9.

All British birds, their nests and eggs are protected in law. It is an offence to deliberately take, kill or injure any wild bird or to take, damage, or destroy any nest or egg of any wild bird. The birds listed under Schedule 1 of the Wildlife and Countryside Act are afforded additional protection against intentional or reckless disturbance whilst building a nest or in or near a nest containing eggs or dependent young.

All species of reptile and amphibian are protected by the WCA. Under Schedule 5, Reptiles such as adder, common lizard, slow worm and grass snake are protected against intentional killing, injuring or selling, and smooth newt, palmate newt, common frog and common toad are protected only against sale. Species such as the smooth snake, sand lizard and great crested newt are afforded additional protection by European legislation as described below. These species are thought to be absent from Cornwall (apart from one site in north Cornwall where sand lizard has been reintroduced).

A number of invertebrates, including the white-clawed crayfish, are protected under Schedule 5 of the Act.

The CRoW Act also specifies the duty of Local Authorities to further the conservation of listed (UK BAP priority) habitats and species.

Conservation of Habitats and Species Regulations 2010 (as amended)

The Conservation of Habitats and Species Regulations 2010 (as amended) are the means by which the EC Habitats and Species Directive (92/43/EC) is transposed in England and Wales and update the legislation and consolidate many amendments which have been made to the Regulations since they were first made in 1994.

These Regulations provide protection for European Protected Species (animals and plants listed in Annex IV Habitats Directive which are resident in the wild in Great Britain) including bats, dormice, great crested newts and otters. The Conservation of Habitats and Species (Amendment) Regulations 2012 placed new duties on public bodies to help “preserve, maintain and re-establish habitat for wild birds”.

The designation and protection of domestic and European Sites e.g. Sites of Special Scientific Interest and Special Areas of Conservation (SAC) also falls within these Regulations.

Public bodies (including the Local Planning Authority) have a duty to have regard to the requirements of the Habitats Directive in carrying out their duties i.e. when determining a planning application.

European Protected Species (EPS) occurring in Cornwall: Bats, Dormice and Otter are protected under both the Conservation Regulations 2010 and the Wildlife and Countryside Act 1981 (as amended), it is an offence to:

- Intentionally kill, injure or capture an EPS;
- Intentionally or recklessly disturb an EPS;
- Intentionally or recklessly damage, destroy or obstruct access to a place of shelter or breeding (for example, bat roosts, hedgerows used by dormice), and this applies regardless of whether the species is actually present at the time (for example, a bat roost used in the winter for hibernation is protected throughout the year, even during the summer when it is not occupied).
- Possess or transport a bat or any part of an EPS, unless acquired legally;
- Sell, barter or exchange bats, or parts of an EPS.
- Intentionally handle a wild EPS or disturb an EPS whilst using a place of shelter/ breeding unless licensed to do so by the statutory conservation agency (Natural England).

Town and Country Planning Environmental Impact Assessment Regulations 2017

These regulations apply the amended EU directive “on the assessment of the effects of certain public and private projects on the environment” (usually referred to as the ‘Environmental Impact Assessment Directive’) to the planning system in England.

Case Law

There are several case laws in Britain relating to the duty of developers and planning authorities with respect to wildlife, resulting in several key principles summarised in the table below:

Case / Appeal	Providing support for
Morge v Hampshire County Council (2011)	‘Disturbance’ under the Conservation Regulations 2010 applies to an activity likely to impact negatively on the local population of a European Protected Species.
R v Cheshire East Council ‘The Woolley Case’ (2009)	Regarding European Protected Species, Local Authorities must apply the ‘three tests’ under the Conservation Regulations 2010 when deciding on planning applications: that there is no satisfactory alternative, there is an appropriate reason for the development, and that the development will not affect the favourable conservation status of protected species present.
APP/P9502/A/08/2070105 (Appeal decision, Brecon, 2008)	Para 18: Local Planning Authorities cannot condition provision of a mitigation scheme; detailed mitigation must be provided prior to determination.

APP/C0820/A/07/2046271
(Appeal decision, Padstow,
2007)

Para 18: Full survey information must be provided prior to determination; not just for protected species, but also for BAP species (in this case corn buntings).

R v London Borough Council
Bromley (2006)

Para 30: Environmental Impact Assessment required at outline planning stage.

R v Cornwall County Council
'The Cornwall Case' (2001)

Surveys for protected species cannot be conditioned; must be undertaken prior to determination.