



Boorley Green
Land at Oak & Apple Tree Cottage, Winchester Road,
Boorley Green, Hampshire

Preliminary Ecological Appraisal

April 2024

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Contents

Executive summary	5
1.0 Introduction	6
1.1 Site location.....	6
1.2 Background to the activity/development	6
1.3 Objectives.....	6
2.0 Methodology.....	8
2.1 Designated sites of conservation importance records.....	8
2.2 Habitats of principal importance records	8
2.3 Ancient woodland records	8
2.4 Protected species records	8
2.5 Habitats	9
2.6 Badgers.....	9
2.7 Bats.....	10
2.8 Birds.....	12
2.9 Great crested newts.....	12
2.10 Hazel dormice.....	13
2.11 Reptiles.....	13
2.12 Other protected and notable species	14
2.13 Limitations.....	14
3.0 Results	16
3.1 Designated sites of conservation importance records.....	16
3.2 Habitats of principal importance records	17
3.3 Ancient woodland records	17
3.4 Protected species records	17
3.5 Habitats	22
3.6 Badgers.....	26
3.7 Bats.....	26
3.8 Birds.....	28
3.9 Great crested newts.....	28
3.10 Hazel dormice.....	28
3.11 Reptiles.....	29
3.12 Other protected and notable species	29
4.0 Recommendations.....	30
4.1 Designated sites of conservation importance records.....	30
4.2 Habitats of principal importance records	30
4.3 Ancient woodland records	30
4.4 Protected species records	30
4.5 Habitats	30
4.6 Badgers.....	30
4.7 Bats.....	31
4.8 Birds.....	32
4.9 Great crested newts.....	32
4.10 Hazel dormice.....	33
4.11 Reptiles.....	33
4.12 Other protected and notable species	34
4.13 Survey updates.....	34

5.0	References and bibliography	35
5.1	Publications	35
5.2	Websites	37
6.0	Photographs	38
7.0	Figures	46
Figure 1	Site location plan	46
Figure 2	Proposed site plan (courtesy of terra firma landscape architects)	47
Figure 3	Statutory designated sites plan (courtesy of Natural England open data geoportal dataset)	48
Figure 4	Impact risk zones plan (courtesy of Natural England open data geoportal dataset)	49
Figure 5	Statutory and non-statutory designated sites plan (courtesy of HBIC)	50
Figure 6	Habitats of principal importance plan (courtesy of HBIC)	51
Figure 7	Ancient woodland plan (courtesy of Natural England open data geoportal dataset)	52
Figure 8	Granted European protected species applications with a 2km buffer zone (courtesy of MAGIC)	53
Figure 9	Great crested newt class survey licence returns with a 2km buffer (courtesy of MAGIC)	54
Figure 10	Preliminary ecological appraisal plan	55
Figure 11	Buildings location plan	56
Figure 12	Waterbodies within 500m plan	57
8.0	Appendices	58
Appendix A	Wildlife legislation and national planning policy	58
Appendix B	First Ecology employee qualifications, accreditations and memberships	63
Appendix C	Acronyms	64
Appendix D	Field signs	66

Executive summary

The site is located at Oak and Apple Tree Cottage to the west of Winchester Road, Boorley Green, Hampshire, SO32 2DH, centred on national grid reference SU 50468 14817. McCarthy and Stone Retirement Lifestyles Limited is seeking planning permission for the demolition of existing buildings on site and the development of a retirement facility with associated infrastructure and landscaping.

First Ecology was commissioned to undertake a preliminary ecological appraisal of the site to confirm the ecological constraints relating to the works and provide recommendations, as appropriate, to enable statutory compliance.

The desk study confirmed that no statutory or non-statutory designated sites of conservation importance intersect or adjoin the site. However, there were two statutory designated sites and 29 non-statutory designated sites within a 2km radius of the site. The works fall within the identified risk category which relates to the nutrient neutrality area within the catchment of at least one Ramsar, Special Area of Conservation, Special Protection Area and/or Special Site of Scientific Interest site(s).

There were records of six habitats of principal importance within a 2km radius of the site. There were five records of ancient woodlands within a 2km radius of the site.

There were records of 135 legally protected and notable species within a 2km radius of the site, with further records of four taxa of bats that were not identified to species level. There were records of five granted, including one modified, European protected species licence applications within a 2km radius of the site. In addition, there were no great crested newt class survey licence returns within a 2km radius of the site.

The preliminary habitat assessment identified eight habitats, of which the traditional orchard and hedgerows qualify as a habitat of principal importance. Eight buildings were identified on site.

There was no evidence of protected species within the site. However, the site does have the potential to support great crested newts and various species of bat, bird and reptile.

Recommendations are as follows:

- A nutrient neutrality assessment.
- Biodiversity net gain assessment.
- Adherence to the arboricultural method statement.
- Retention, protection and/or enhancement of the traditional orchard habitat.
- Badger non-licensable method statement.
- Bat roost surveys of buildings.
- Bat activity surveys.
- Breeding bird non-licensable method statement.
- Waterbody survey (HSI).
- Unexpected encounter - hazel dormouse protocol implementation.
- Reptile survey.

Further ecological consultation should be sought if the scope of the work changes significantly or if the onset of the work is delayed by more than 12 months from the date of this survey.

1.0 Introduction

1.1 Site location

- 1.1.1 The site is located at Oak & Apple Tree Cottage, to the west of Winchester Road, Boorley Green, Hampshire, SO32 2DH, centred on national grid reference SU 50468 14817 (Figure 1).
- 1.1.2 The site currently comprises of eight buildings and land totalling 0.8 hectares.

1.2 Background to the activity/development

- 1.2.1 McCarthy and Stone Retirement Lifestyles Limited is seeking full planning permission for the demolition of existing buildings on site and the development of a retirement facility with associated infrastructure and landscaping (Figure 2).
- 1.2.2 The site has previously been subject to ecological assessment on behalf of Foreman Homes:
- Jessop, A. (2022). Preliminary Ecological Appraisal. Ecosupport, Lee-on-the-Solent.
 - Domblides, A. (2022). Phase II Bat Surveys. Ecosupport, Lee-on-the-Solent.
 - Domblides, A. (2022). Reptile Mitigation Strategy. Ecosupport, Lee-on-the-Solent.
 - Jessop, A. (2020). The Biodiversity Metric 2.0. Ecosupport, Lee-on-the-Solent.
- 1.2.3 The client has advised that pre-application consultation with the local planning authority in relation to the proposed works has not been sought.
- 1.2.4 First Ecology was commissioned to undertake a preliminary ecological appraisal of the site to confirm the current ecological constraints relating to the works and provide recommendations, as appropriate, to enable statutory compliance (Appendix A).

1.3 Objectives

- 1.3.1 The assessment objectives are listed as follows:
- Identify all relevant statutory and non-statutory designated areas of conservation importance and features of ecological significance relating to the site and area within a 2km radius of the site.
 - Identify habitats of principal importance relating to the site and area within a 2km radius of the site.
 - Identify protected species and species of principal importance within the site and area within a 2km radius of the site.
 - Broadly classify habitats within the site in accordance with UKHab categories.
 - Identify incidental and supplementary evidence of protected species activity and assess the potential of the site to support protected species.
 - Assess the potential impact of the works on protected and notable habitats and species.
 - Provide recommendations for further surveys, if required, to confirm the extent and type of protected species activity or value of habitats.
 - Inform the design of a proportionate strategy to avoid negative impacts on protected and notable habitats and species.
 - If avoidance is not possible, propose actions to mitigate the impact of the works on protected and notable habitats and species.
 - If mitigation is not possible, specify compensation habitat for the protected and notable habitats and species impacted.

- Identify and propose options for the ecological enhancement of the site, if required.

2.0 Methodology

2.1 Designated sites of conservation importance records

2.1.1 Statutory and non-statutory designated site information relating to the site and area within a 2km radius of the site was reviewed. The review was undertaken by Charlie Fayers (Appendix B). The resources consulted included the following:

- HBIC (Appendix C) was commissioned to conduct a search for statutory and non-statutory designated sites of conservation importance. Information was received on the 21st February 2024.
- The JNCC website was visited to obtain citation details of the European statutory designated sites on the 8th March 2024.
- The Natural England website was visited to obtain citation details of the English statutory designated sites on the 8th March 2024.

2.2 Habitats of principal importance records

2.2.1 Habitats of principal importance records relating to the site and area within a 2km radius of the site was reviewed. The review was undertaken by Charlie Fayers. The resources consulted included the following:

- HBIC was commissioned to conduct a search for habitats of principal importance records. Information was received on the 21st February 2024.
- The Natural England open data geoportal dataset was consulted to identify inventory habitats of principal importance within the site and area within a 2km radius of the site. The review was undertaken on the 21st February 2024.

2.3 Ancient woodland records

2.3.1 The Natural England open data geoportal dataset was consulted to identify ancient woodland within the site and area within a 2km radius of the site. The review was undertaken on the 8th March 2024 by Charlie Fayers.

2.4 Protected species records

2.4.1 Protected and notable species records within a 2km radius of the site were reviewed. The review was undertaken by Charlie Fayers. Information was obtained from the following sources:

- HBIC was commissioned to conduct a search for legally protected species and species of principal importance. Information was received on the 21st February 2024.
- The MAGIC website was consulted to identify relevant granted European protected species licence applications and great crested newt (*Triturus cristatus*) class survey licence returns on the 8th March 2024.
- The previous ecological reports by Ecosupport were reviewed for site specific ecological information on the 8th March 2024.

2.5 Habitats

2.5.1 The survey was completed in accordance with best practice guidance:

- British Standards Institution (2013). BS42020: Biodiversity Code of Practice for Planning and Development. British Standards Institution, London.
- British Standards Institution (2020). BS 8683. Process for designing and implementing Biodiversity Net Gain. Specification. British Standards Institution, London.
- Chartered Institute of Ecology and Environmental Management (CIEEM) (2017). Guidelines for Preliminary Ecological Appraisal, 2nd Edition. Chartered Institute of Ecology and Environmental Management, Winchester.
- UKHab Ltd (2023). UK Habitat Classification Version 2.01.

2.5.2 The site survey was undertaken on the 28th February 2024 by Charlie Fayers.

2.5.3 The survey involved a baseline habitat assessment following a combination of the methodology detailed in the UK Habitat Classification Version 2.01 (UKHab) and the methodology detailed in The Statutory Biodiversity Metric User Guide (draft) and Technical Annexes. Habitats were classified in accordance with The Statutory Biodiversity Metric habitat types following definitions set out within UKHab, Annex I Habitats for Natura 2000, EUNIS habitat type hierarchical view or WFD lake typologies. A minimum of three 1x1m quadrats were sampled within grassland habitat parcels, with relative botanical species abundance recorded using the DAFOR scale with thresholds at >75%, 51-75%, 26-50%, 11-25% and 1-10%, respectively. The survey involved recording incidental observations of any notable and invasive, non-native plant species, and determining whether the habitats qualify as habitats of principle importance.

2.5.4 During the survey, a minimum mapping unit of 25m² for area and 5m for linear habitats was adopted with the exception of buildings, standing open water bodies, rural/urban trees, refuse piles and compost heaps for which the precise location and scale of any features were mapped as the information is relevant for protected species recommendations.

2.5.5 Where possible, all aspects of the structures were surveyed to identify the status, construction type and materials.

2.6 Badgers

2.6.1 The survey was completed in accordance with best practice guidance:

- Harris, S., Cresswell, P. and Jefferies, D. (1989). Surveying Badgers. Mammal Society, London.
- Natural England (2009). Guidance on 'Current Use' in the definition of a Badger Sett, WMLG17. Natural England, Peterborough.
- Neal, E. and Cheeseman, C. (2004). Badgers. Poyser Natural History, London.
- Roper, T. J. (2010). Badger. Collins New Naturalist, Glasgow.
- Scottish Natural Heritage (2003). Best Practice Guidance - Badger Surveys. Inverness Badger Survey 2003. Commissioned Report No. 096.

2.6.2 The preliminary badger (*Meles meles*) survey was undertaken on the 28th February 2024 by Charlie Fayers.

2.6.3 The survey involved inspecting the site and recording incidental evidence of badger activity in the form of live and dead badgers, day nests, faeces, footprints, hair, paths, push-throughs, scratching posts, setts and snuffle holes (Appendix D).

2.6.4 The survey also involved a visual inspection of the habitats within the site to assess their potential suitability for badgers to breed, commute, forage, rest and shelter.

2.7 Bats

2.7.1 Supplementary records of bats within the site were obtained from previous survey work (Domblides, A., 2022).

2.7.2 The survey was completed in accordance with best practice guidance:

- Collins, J. (ed.) (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition). The Bat Conservation Trust, London.
- Mitchell-Jones A. and McLeish A. (2004). Bat Workers Manual (3rd Edition). Joint Nature Conservation Committee. Peterborough.
- Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. Chartered Institute of Ecology and Environmental Management, Ampfield.

2.7.3 The preliminary bat survey was undertaken on the 28th February 2024 by Charlie Fayers.

2.7.4 The survey involved inspecting and undertaking ground-level tree assessments of buildings and trees within the survey area and recording incidental evidence of bat activity in the form of live and dead bats, droppings, feeding remains, perch abrasions, characteristic staining from urine and marks from grease secretions. The survey also focused on identifying roosting features of value to bats such as crevices, perches and access points. Visual assessments were aided by Barr and Stroud 10x42 binoculars and an LED Lenser p7 torch.

2.7.5 In addition, Ordnance survey maps and aerial photographs were reviewed to identify habitats of potential value to bats in the wider landscape.

2.7.6 The buildings and trees were subsequently ascribed a bat roost suitability status based on evidence of bat roosting activity, PRFs and habitat features within the landscape (Tables 1-2)

Table 1. Bat roost suitability within structures (defined by Bat Conservation Trust) (table continues).

Roost suitability	Description
Confirmed	A structure exhibiting evidence of bat roost activity in the form of live and dead bats, notable quantities of droppings and/or feeding remains, perch abrasions, characteristic staining from urine and marks from grease secretions. Where a confirmed roost is identified the roost suitability categorisation still stands and will be stated i.e. moderate - confirmed.

Roost suitability	Description
High	A structure with one or more potential roost sites that are obviously suitable for use by large numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat. These structures have the potential to support high conservation status roosts (i.e. maternity or classic cool/stable hibernation site). Where there is potential or a confirmed hibernation roost the structure will also be defined as classic (i.e. underground tunnel, cellar, cave mine or above ground tunnel, ice house and lime kilns) or non-classic (i.e. within/behind a buildings external features such as a raised section of bargeboard).
Moderate	A structure with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only and not species conservation status).
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically at any time of year. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity and not a classic cool/stable hibernation site, but could be used by individual hibernating bats).
Negligible	No obvious habitat features on site likely to be used by roosting bats; however, a small element of uncertainty remains as bats can use small and apparently unsuitable features on occasion.
None	No habitat features on site likely to be used by any roosting bats at any time of year (i.e. a complete absence of crevices/suitable shelter at all ground/underground levels).

Table 2. Bat roost suitability within trees (defined by Bat Conservation Trust).

Roost suitability	Description
PRF-M	A tree with potential roost feature(s) suitable for multiple bats and may therefore be used by a maternity colony.
PRF-I	A tree with potential roost feature(s) only suitable for individual bats or very small numbers of bats either due to the size or the lack of suitable surrounding habitats.
PRF	A tree with at least one potential roost feature present.
FAR	Further assessment required to establish if potential roost features are present in the tree.
None	Either no potential roost features in the tree or highly unlikely to be any.

2.7.7 The survey also involved a visual inspection of the habitats within the site to assess their potential suitability for bats to commute and forage.

2.7.8 The site was subsequently ascribed a bat commuting and foraging habitat potential suitability status based on habitat features within the site and within the surrounding landscape (Table 3).

Table 3. Bat commuting and foraging habitat potential suitability within the site (defined by the Bat Conservation Trust) (table continues).

Potential suitability	Description
High	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by bats for flight-paths such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. The site is close to, and connected to, known roosts.

Potential suitability	Description
Moderate	Continuous habitat connected to the wider landscape that could be used by bats for flight-paths such as lines of trees and scrub or linked backgrounds.
Low	Habitat that could be used by small numbers of bats as flight-paths such as a gappy hedgerow or unvegetated stream, but isolated i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Negligible	No obvious habitat features on site likely to be used as flight-paths or by foraging bats; however, a small element of uncertainty remains in order to account for non-standard bat behaviour.
None	No habitat features onsite likely to be used by any commuting or foraging bats at any time of the year (i.e. no habitats that provide continuous lines of shade/protection for flight-lines, or generate/shelter insect populations available to foraging bats).

2.8 Birds

2.8.1 The survey was completed in accordance with best practice guidance:

- Bird Survey & Assessment Steering Group. (2022). Bird Survey Guidelines for assessing ecological impacts, v.0.1.0. BTO, Norfolk.
- British Trust for Ornithology (BTO) (2018). Breeding Bird Survey Instructions. BTO, Norfolk.

2.8.2 The preliminary bird survey was undertaken on the 28th February 2024 by Charlie Fayers.

2.8.3 The survey involved inspecting the site and recording incidental evidence of bird activity in the form of live and dead birds, feeding remains, pellets, active and inactive nests, eggs, eggshells, droppings and feathers. Visual assessments were aided by Barr and Stroud 10x42 binoculars and an LED Lenser p7 torch.

2.8.4 The survey also involved a visual inspection of the habitats within the site to assess their potential suitability for birds to bathe, breed, commute, drink, forage and roost.

2.9 Great crested newts

2.9.1 The survey was completed in accordance with best practice guidance:

- Brady, L. (2010). Great Crested Newt Habitat Suitability Index. ARG UK Advice Note 5. Amphibian and Reptile Groups of the United Kingdom.
- Gent, T. and Gibson, S. (eds) (2003). Herpetofauna Workers' Manual 2003. Joint Nature Conservation Council, Peterborough.
- Hayes, C. and Whitehurst, J. (2001, as amended). Great Crested Newt Mitigation Guidelines. English Nature, Northminster House, Peterborough.
- Langton, T.E.S., Beckett, C.L., and Foster, J.P. (2001). Great Crested Newt Conservation Handbook, Froglife, Halesworth.

2.9.2 The preliminary great crested newt survey was undertaken on the 28th February 2024 by Charlie Fayers.

- 2.9.3 The survey involved inspecting the site and recording incidental evidence of great crested newt activity in the form of live and dead great crested newts and eggs.
- 2.9.4 The survey involved a visual inspection of the habitats within the site to assess their potential suitability for great crested newts to disperse, forage, hibernate, rest and shelter.
- 2.9.5 In addition, ordnance survey maps and aerial photographs were reviewed to identify waterbodies of potential value to great crested newts within a 500m radius of, and with habitat connectivity to, the site.

2.10 Hazel dormice

- 2.10.1 The survey was completed in accordance with best practice guidance:
- Bright, P. Morris, P. and Mitchell-Jones, T. (2006). The dormouse conservation handbook (2nd Edition). English Nature, Peterborough.
- 2.10.2 The preliminary hazel dormouse (*Muscardinus avellanarius*) survey was undertaken on the 28th February 2024 by Charlie Fayers.
- 2.10.3 The survey involved inspecting the site and recording incidental evidence of hazel dormouse activity in the form of live and dead hazel dormice, feeding remains and active and inactive nests.
- 2.10.4 The survey also involved a visual inspection of the habitats within the site to assess their potential suitability for hazel dormice to breed, commute, forage, hibernate, rest and shelter.

2.11 Reptiles

- 2.11.1 Supplementary records of reptiles within the site were obtained from previous survey work (Domblides, A., 2022).
- 2.11.2 The survey was completed in accordance with best practice guidance:
- Froglife (1999) Reptile survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10. Froglife, London.
 - Gent, A. H. and Gibson, S. D. (2003). Herpetofauna Workers' Manual, 2nd Edition. Joint Nature Conservation Committee, Peterborough.
 - Herpetofauna Groups of Britain and Ireland (1998). Evaluating local mitigation/translocation programmes: Maintaining best practice and lawful standards. HGBI advisory notes for Amphibian and Reptile Groups (ARGs). HGBI, c/o Froglife, Halesworth.
- 2.11.3 The preliminary reptile survey was undertaken on the 28th February 2024 by Charlie Fayers.
- 2.11.4 The survey involved inspecting the site and recording incidental evidence of reptile activity in the form of live and dead reptiles, eggs, eggshells and moults.
- 2.11.5 The survey also involved a visual inspection of the habitats within the site to assess their potential suitability for reptiles to breed, disperse, forage, hibernate, rest and shelter.

2.12 Other protected and notable species

- 2.12.1 A preliminary assessment was made of the sites potential to support other protected and notable species such as otters (*Lutra lutra*), water voles (*Arvicola amphibius*) and white-clawed crayfish (*Austropotamobius pallipes*).

2.13 Limitations

- 2.13.1 Preliminary ecological appraisals are not intended to produce comprehensive lists of species present but, nevertheless, it is considered that the survey undertaken is sufficient to evaluate the ecological resources within the site and thus to identify potential issues of relevance to the works.
- 2.13.2 It must be noted that even in situations where the survey evidence suggests the likely absence of species there is still the possibility of encounter due to species dispersal or other undetected or unpredicted changes in species movements.
- 2.13.3 This report is intended to provide the client and the project team with outline information on the ecological constraints and opportunities associated with the site. It will be necessary to undertake further surveys to inform a detailed ecological assessment report which will adequately enable compliance with relevant planning policy and legislative requirements.
- 2.13.4 Whilst the HBIC habitat of principal importance mapping includes habitat categories additional to those listed under section 41 of the NERC Act (e.g. unknown terrestrial vegetation) only those listed as habitats of principal importance under section 41 of the Act are considered within this report.
- 2.13.5 The presence or likely absence of ancient woodland records within the site or a 2km radius of the site is based on the Natural England open data geoportal dataset Ancient Woodland Inventory mapping and does not account for unmapped ancient woodlands whose low tree density or small area does not register as woodland on historic maps.
- 2.13.6 The baseline habitat survey was undertaken outside of the main botanical season (which runs April-September). However, based on the habitat types identified, update surveys within the main botanical season are not expected to yield different results.
- 2.13.7 The protected status of trees in relation to Tree Preservation Orders and Conservation Areas has not been assessed as it is beyond the scope of this report.
- 2.13.8 No internal visual inspection was possible within building 6 at the time of survey due to access restrictions. However, as no potential roost or access features were identified, this is not considered a constraint to this report.
- 2.13.9 The assessment of buildings and trees for bat PRFs was undertaken from ground level only and from within the boundary of the site, and it is possible that PRFs located at height may have been obscured by foliage and/or by virtue of their orientation.
- 2.13.10 The ground-level tree assessment for bat roost potential does not include an internal inspection of individual roosting features identified and therefore roost suitability ratings assigned (as defined by Bat Conservation Trust) are estimated unless direct evidence of a roost has been confirmed.
- 2.13.11 Habitat suitability for bats was attributed to the bat roost suitability within structures and trees and commuting and foraging habitat potential suitability which most closely related to the Bat Conservation Trust's definitions. With all definitions, professional judgement has been applied.

2.13.12 These limitations have been taken into consideration within the recommendations of this report.

3.0 Results

3.1 Designated sites of conservation importance records

3.1.1 No statutory designated sites of conservation importance intersect or adjoin the site. However, there were two statutory designated sites located within a 2km radius of the site (Table 4, Figure 3).

Table 4. Statutory designated sites of conservation importance within a 2km radius of the site.

Name	Status	Distance and direction from site	Description
Moorgreen Meadows	SSSI	1.75km W	Neutral meadows and alder wood flanking a small tributary of the River Hamble on the Bracklesham beds of the Hampshire Basin. The meadows lie on alluvium and clay with thin deposits of peat. The sward comprises at least 17 codominant herbs and grasses and is of exceptional scientific importance for its populations of marsh orchids.
Wildern	LNR	1.9km SW	The 10 hectare site is essentially a wetland habitat featuring a mosaic of ponds, two flooded meadows, woodlands and a valley mire all linked by the streams which flow through the site.

3.1.2 The site is located within the impact risk zone(s) of at least one Ramsar, SAC, SPA and/or SSSI (Figure 4). The works are of a type (*nutrient impact area: new development with overnight accommodation*) considered to pose a potential risk in relation to nutrient levels within the site or sites.

3.1.3 No non-statutory designated sites of conservation importance intersect or adjoin the site. However, there were 29 non-statutory designated sites located within a 2km radius of the site (Table 5, Figure 5).

Table 5. Non-statutory designated sites of conservation importance within a 2km radius of the site (table continues).

Name	Status	Location (Figure 5)	Description
Alder Strip	SINC	7	None provided
Botley Golf Course Wood	SINC	12	
Botley Mill Woodland	SINC	18	
Botley Park Wood	SINC	11	
Bottom Copse/Bushy Copse	SINC	6	
Brokes Gully South	SINC	27	
Durley Mill Copse	SINC	25	
Ford Lake Meadow	SINC	13	
Ford Lake Woodland	SINC	10	
Holly Tree Farm Meadow	SINC	21	
Holly Tree Farm Wood	SINC	20	
Little Gold Copse	SINC	28	
Maddoxford Farm Meadows	SINC	16	
Marshy Grassland, Botley	SINC	19	
Meadow West of Wangfield Copse	SINC	22	
Moorgreen Woodlands	SINC	1	

Name	Status	Location (Figure 5)	Description
Mount Folly Copse (1)	SINC	29	None provided
Mount Folly Copse (2)	SINC	26	
Newhouse Farm Woodland & Swamp	SINC	15	
Pudbrook Lake	SINC	14	
Railway Line Field	SINC	24	
Scorey's Copse	SINC	3	
Scorey's Copse Meadow	SINC	4	
Scorey's Copse Rush Pasture	SINC	5	
Sherecroft Farm Meadow	SINC	17	
Snakemoor Farm Meadow	SINC	8	
Wangfield Copse	SINC	23	
Wildern Nature Park	SINC	2	
Woodhouse Gully Wood	SINC	9	

3.2 Habitats of principal importance records

3.2.1 No habitats of principal importance records intersect or adjoin the site. However, there were six habitats of principal importance located within a 2km radius of the site (Figure 6):

- Coastal and floodplain grazing marsh
- Deciduous woodland
- Lowland fens
- Lowland meadows
- Purple moor grass and rush pasture
- Traditional orchards

3.2.2 Further consideration of habitats of principal importance identified via the baseline habitat survey are provided in Section 3.5 Habitats.

3.3 Ancient woodland records

3.3.1 No ancient woodland intersects or adjoins the site. However, there were five ancient semi-natural/plantation ancient woodlands located within a 2km radius of the site (Figure 7).

3.4 Protected species records

3.4.1 There were records of 135 legally protected species and/or species of principal importance within a 2km radius of the site. In addition, there were records of four taxa of bats that were not identified to species level (Table 6).

Table 6. Summary of legally protected species and/or species of principal importance records within a 2km radius of the site (table continues).

Common name	Scientific name	EU protected	EU priority	WACA 1981	NERC Act 2006
Amphibians					
Common toad	<i>Bufo bufo</i>				*
Great crested newt	<i>Triturus cristatus</i>	*	*	*	*
Bats					
Barbastelle	<i>Barbastella barbastellus</i>	*	*	*	*
Bat species	<i>Chiroptera sp.</i>	*		*	*
Brown long-eared bat	<i>Plecotus auritus</i>	*		*	*
Common pipistrelle	<i>Pipistrellus pipistrellus</i>	*		*	
Daubenton's bat	<i>Myotis daubentonii</i>	*		*	
Leisler's bat	<i>Nyctalus leisleri</i>	*		*	
Long-eared species	<i>Plecotus sp.</i>	*		*	*
Mouse-eared species	<i>Myotis sp.</i>	*		*	*
Nathusius' pipistrelle	<i>Pipistrellus nathusii</i>	*		*	
Natterer's bat	<i>Myotis nattereri</i>	*		*	
Noctule	<i>Nyctalus noctula</i>	*		*	*
Pipistrelle species	<i>Pipistrellus sp.</i>	*		*	*
Serotine	<i>Eptesicus serotinus</i>	*		*	
Soprano pipistrelle	<i>Pipistrellus pygmaeus</i>	*		*	*
Whiskered bat	<i>Myotis mystacinus</i>	*		*	
Birds					
Barn owl	<i>Tyto alba</i>	*		*	
Black-headed gull	<i>Chroicocephalus ridibundus</i>	*	*		
Brambling	<i>Fringilla montifringilla</i>			*	
Bullfinch	<i>Pyrrhula pyrrhula</i>				
Crossbill	<i>Loxia curvirostra</i>	*		*	
Cuckoo	<i>Cuculus canorus</i>				*
Fieldfare	<i>Turdus pilaris</i>		*	*	
Firecrest	<i>Regulus ignicapilla</i>	*		*	
Golden plover	<i>Pluvialis apricaria</i>	*	*		
Great black-backed gull	<i>Larus marinus</i>	*	*		
Green sandpiper	<i>Tringa ochropus</i>	*		*	
Grey heron	<i>Ardea cinerea</i>	*			
Grey wagtail	<i>Motacilla cinerea</i>	*			
Hawfinch	<i>Coccothraustes coccothraustes</i>	*			*
Herring gull	<i>Larus argentatus</i>	*	*		
Hobby	<i>Falco subbuteo</i>	*		*	
House sparrow	<i>Passer domesticus</i>				*

Common name	Scientific name	EU protected	EU priority	WACA 1981	NERC Act 2006
Kingfisher	<i>Alcedo atthis</i>	*	*	*	
Lapwing	<i>Vanellus vanellus</i>	*	*		*
Lesser black-backed gull	<i>Larus fuscus</i>	*	*		
Lesser redpoll	<i>Acanthis cabaret</i>				*
Linnet	<i>Linaria cannabina</i>	*			
Little egret	<i>Egretta garzetta</i>	*	*		
Marsh harrier	<i>Circus aeruginosus</i>	*	*	*	
Marsh tit	<i>Poecile palustris</i>	*			
Mediterranean gull	<i>Ichthyaelus melanocephalus</i>	*	*	*	
Merlin	<i>Falco columbarius</i>	*	*	*	
Mistle thrush	<i>Turdus viscivorus</i>		*		
Nightingale	<i>Luscinia megarhynchos</i>	*			
Osprey	<i>Pandion haliaetus</i>	*	*	*	
Peregrine	<i>Falco peregrinus</i>	*	*	*	
Pied flycatcher	<i>Ficedula hypoleuca</i>	*			
Red kite	<i>Milvus milvus</i>	*	*	*	
Redstart	<i>Phoenicurus phoenicurus</i>	*			
Redwing	<i>Turdus iliacus</i>		*	*	
Reed bunting	<i>Emberiza schoeniclus</i>	*			*
Ring ouzel	<i>Turdus torquatus</i>	*			*
Siskin	<i>Spinus spinus</i>	*			
Skylark	<i>Alauda arvensis</i>		*		*
Snipe	<i>Gallinago gallinago</i>	*	*		
Song thrush	<i>Turdus philomelos</i>		*		
Spotted flycatcher	<i>Muscicapa striata</i>	*			*
Starling	<i>Sturnus vulgaris</i>		*		
Tree pipit	<i>Anthus trivialis</i>	*			*
Turtle dove	<i>Streptopelia turtur</i>		*		*
Water rail	<i>Rallus aquaticus</i>	*	*		
Wheatear	<i>Oenanthe oenanthe</i>	*			
Whimbrel	<i>Numenius phaeopus</i>	*	*	*	
Whinchat	<i>Saxicola rubetra</i>	*			
White stork	<i>Ciconia ciconia</i>	*	*		
Willow tit	<i>Poecile montanus</i>	*			
Woodcock	<i>Scolopax rusticola</i>	*	*		
Yellow wagtail	<i>Motacilla flava</i>	*			
Yellowhammer	<i>Emberiza citrinella</i>	*			*
Fish					
Brook lamprey	<i>Lampetra planeri</i>		*		

Common name	Scientific name	EU protected	EU priority	WACA 1981	NERC Act 2006
Brown trout	<i>Salmo trutta</i>				*
Common eel	<i>Anguilla anguilla</i>				*
Miller's thumb	<i>Cottus gobio</i>		*		
Invertebrates					
August thorn	<i>Ennomos quercinaria</i>				*
Beaded chestnut	<i>Agrochola lychnidis</i>				*
Blood-vein	<i>Timandra comae</i>				*
Brindled beauty	<i>Lycia hirtaria</i>				*
Buff Ermine	<i>Spilosoma lutea</i>				*
Centre-barred sallow	<i>Atethmia centrargo</i>				*
Cinnabar	<i>Tyria jacobaeae</i>				*
Currant-shoot borer	<i>Lampronia capitella</i>				*
Dark-barred twin-spot carpet	<i>Xanthorhoe ferrugata</i>				*
Deep-brown dart	<i>Aporophyla lutulenta</i>				*
Dot moth	<i>Melanchra persicariae</i>				*
Dusky brocade	<i>Apamea remissa</i>				*
Dusky thorn	<i>Ennomos fuscantaria</i>				*
Ear moth	<i>Amphipoea oculatea</i>				*
Feathered gothic	<i>Tholera decimalis</i>				*
Figure of eight	<i>Diloba caeruleocephala</i>				*
Galium carpet	<i>Epirrhoe galiata</i>				*
Garden tiger	<i>Arctia caja</i>				*
Ghost moth	<i>Hepialus humuli</i>				*
Goat moth	<i>Cossus cossus</i>				*
Green-brindled crescent	<i>Allophyes oxyacanthae</i>				*
Grey dagger	<i>Acronicta psi</i>				*
Heath rustic	<i>Xestia agathina</i>				*
Jersey tiger moth	<i>Euplagia quadripunctaria</i>		*		
Knot grass	<i>Acronicta rumicis</i>				*
Large nutmeg	<i>Apamea anceps</i>				*
Large wainscot	<i>Rhizedra lutosa</i>				*
Minor shoulder-knot	<i>Brachylomia viminalis</i>				*
Mottled rustic	<i>Caradrina morpheus</i>				*
Mouse moth	<i>Amphipyra tragopoginis</i>				*
Mullein wave	<i>Scopula marginepunctata</i>				*
Oak hook-tip	<i>Watsonalla binaria</i>				*
Powdered quaker	<i>Orthosia gracilis</i>				*
Pretty chalk carpet	<i>Melanthia procellata</i>				*
Rosy Minor	<i>Litoligia literosa</i>				*

Common name	Scientific name	EU protected	EU priority	WACA 1981	NERC Act 2006
Rosy rustic	<i>Hydraecia micacea</i>				*
Sallow	<i>Cirrhia icteritia</i>				*
September thorn	<i>Ennomos erosaria</i>				*
Shaded broad-bar	<i>Scotopteryx chenopodiata</i>				*
Shoulder-striped wainscot	<i>Leucania comma</i>				*
Small emerald	<i>Hemistola chrysoprasaria</i>				*
Small heath	<i>Coenonympha pamphilus</i>				*
Small phoenix	<i>Ecliptopera silaceata</i>				*
Small square-spot	<i>Diarsia rubi</i>				*
Stag beetle	<i>Lucanus cervus</i>		*		*
The lackey	<i>Malacosoma neustria</i>				*
The rustic	<i>Hoplodrina blanda</i>				*
The spinach	<i>Eulithis mellinata</i>				*
The sprawler	<i>Asteroscopus sphinx</i>				*
The streak	<i>Chesias legatella</i>				*
White admiral	<i>Limenitis camilla</i>				*
White ermine	<i>Spilosoma lubricipeda</i>				*
White letter hairstreak	<i>Satyrrium w-album</i>				*
Mammals					
Badger	<i>Meles meles</i>				
Brown hare	<i>Lepus europaeus</i>				*
Harvest mouse	<i>Micromys minutus</i>				*
Hazel dormouse	<i>Muscardinus avellanarius</i>	*		*	*
Hedgehog	<i>Erinaceus europaeus</i>				*
Otter	<i>Lutra lutra</i>	*	*	*	*
Water vole	<i>Arvicola amphibius</i>			*	*
Reptiles					
Adder	<i>Vipera berus</i>			*	*
Common lizard	<i>Zootoca vivipara</i>			*	*
Grass snake	<i>Natrix helvetica</i>			*	*
Slow-worm	<i>Anguis fragilis</i>			*	*

3.4.2 The site is not located within any protected species consultation zones.

3.4.3 There were five granted, including one modified, European protected species licence applications within a 2km radius of the site (Table 7, Figure 8).

Table 7. Summary of the granted, and modified, European protected species licence applications within a 2km radius of the site.

Species	Distance / direction from the site	Case reference	Licence start and end dates	Impact
Bats				
Common pipistrelle	1.8km / N	2018-36779-EPS-MIT	01/09/2018 30/09/2019	Destruction of a resting place
Common pipistrelle	0.4km / E	2016-23119-EPS-MIT	20/05/2016 20/05/2021	Destruction of a resting place
Brown long-eared bat, common pipistrelle	1.9km / NE	2020-49807-EPS-MIT	25/10/2020 31/07/2026	Damage of a resting place
Mammals				
Hazel dormouse	0.4km / E	2014-6322-EPS-MIT	20/01/2015 31/01/2020	Damage and destruction of a resting place
		2014-6322-EPS-MIT-1	03/03/2016 31/01/2021	

3.4.4 There were no great crested newt class survey licence returns within a 2km radius of the site (Figure 9).

3.5 Habitats

3.5.1 There were eight habitat types within the site (Tables 8-22, Photos 1-44, Figures 10 and 11). The traditional orchard and native hedgerows qualify as habitats of principal importance.

Table 8. Grassland - modified grassland.

Habitat type	Modified grassland
Location details	Across the site
Species, DAFOR abundance	Quadrat 1: perennial rye grass (<i>Lolium perenne</i>) A, meadow buttercup (<i>Ranunculus acris</i>) O, creeping buttercup (<i>Ranunculus repens</i>) R, white clover (<i>Trifolium repens</i>) R, hairy bitter-cress (<i>Cardamine hirsuta</i>) R. Quadrat 2: perennial rye grass A, Yorkshire fog (<i>Holcus lanatus</i>) O, marsh thistle (<i>Cirsium palustre</i>) R, common sorrel (<i>Rumex acetosa</i>) R, common mouse-ear (<i>Cerastium fontanum</i>) R, white clover R, round-leaved crane's-bill (<i>Geranium rotundifolium</i>) R. Quadrat 3: perennial rye grass A, ribwort plantain (<i>Plantago lanceolata</i>) R, dandelion (<i>Taraxacum officinale</i>) R, white clover R, common sorrel R, creeping buttercup R. Average species/m² = 8
Management	Mown. Sward height 50-300mm.
Photo	1

Table 9. Grassland - traditional orchards.

Habitat type	Traditional orchards
Location details	In the centre of the site
Species	Variety of apple, cherry and pear fruit trees (<i>Rosaceae</i> spp.)
Management	Mown. Sward height 50-300mm.
Photo	2

Table 10. Heathland and shrub - hedgerows.

Habitat type	Native hedgerow
Location details	Hedgerows 2 and 3, located along the western and southern boundaries of the site
Dominant species	Hazel (<i>Corylus avellana</i>), honeysuckle (<i>Lonicera periclymenum</i>), hawthorn (<i>Crataegus monogyna</i>), English oak (<i>Quercus robur</i>), holly (<i>Ilex aquifolium</i>) and bramble (<i>Rubus fruticosus</i>).
Management	Flailed
Photo	3

Table 11. Heathland and shrub - hedgerows.

Habitat type	Native hedgerow with trees
Location details	Hedgerows 1 and 4, located along the northern and eastern boundaries of the site
Dominant species	Hazel, English oak, common ivy (<i>Hedera helix</i>), holly, bramble, blackthorn (<i>Prunus spinosa</i>), honeysuckle.
Management	None
Photo	4

Table 12. Urban - Artificial unvegetated, unsealed surface.

Habitat type	Artificial unvegetated, unsealed surface
Location details	In the centre of the site
Dominant species	N/A
Management/use	Access track
Photo	5

Table 13. Urban - Vacant or derelict land.

Habitat type	Vacant or derelict land
Location details	In the centre of the site
Dominant species	N/A
Management/use	Previously used as a vegetable garden and now used for storing materials.
Photo	6

Table 14. Urban - Building 1.

Habitat type	Building - workshop
Building reference	Building 1 (Photos 7-9)
Maximum number of floors	One
Roof structure and finish	Mono-pitched roof covered in corrugated metal and translucent sheets.
Eaves/rakes	A uPVC soffit box was present along the northeastern elevation.
Wall construction and finishing	Single skinned timber cladding, plasterboard and corrugated metal sheet walls.
Windows and doorways	A double doorway was present within the western elevation with large metal doors which were closed at the time of the survey.
Roof voids/vaulted areas present	There were no roof voids within the building.
Room	The building contained one room which was uncluttered and used for storage (Photo 9). The internal area had a plasterboard ceiling with the internal conditions recorded as light, dry and cool.

Table 15. Urban - Building 2.

Habitat type	Building - shipping container
Building reference	Building 2 (Photos 10-14)
Maximum number of floors	One
Roof structure and finish	A prefabricated metal storage container with a flat roof.
Wall construction and finishing	A prefabricated metal storage container with double skinned walls.
Windows and doorways	A single doorway was present within the northeastern elevation which opened into the internal space of building 1, and was closed at the time of the survey.
Roof voids/vaulted areas present	There were no roof voids within the building.
Rooms	Internally the container was split into two rooms by a stud plywood wall. Insulation material was present on the walls and ceiling (Photo 14). The internal conditions were dark, draught free and cool.

Table 16. Urban - Building 3.

Habitat type	Building - garage
Building reference	Building 3 (Photos 15-20)
Maximum number of floors	Two
Roof structure and finish	Double pitched roof covered in interlocking cement tiles. Expandable foam was noted as having been used on the northwestern gable end where the barge board was absent.
Eaves/rakes	uPVC barge boards were present on the southeastern gable end with uPVC fascia boards present along the northeastern and southwestern elevations.
Wall construction and finishing	The building was constructed of a single skinned brick walls with uPVC cladding on the southeastern and northwestern gable ends with ivy growth on the southwestern and northwestern elevations.
Windows and doorways	One window was present within the southeastern gable end with a further two in the southwestern elevation, all glazed and closed at the time of the survey. A double doorway was present within the northwestern elevation which was closed at the time of the survey.
Roof voids/vaulted areas present	A single roof void was present which was used for stored belongings and was uncluttered (Photo 19). The void was finished throughout with plasterboard and was warm, dry and light.
Room	One room was present at ground level which had a plasterboard ceiling and was used as a garage with stored belongings and tools (Photo 20). The room was recorded as light, dry and warm.

Table 17. Urban - Building 4 (table continues).

Habitat type	Building - derelict workshop
Building reference	Building 4 (Photos 21-23)
Maximum number of floors	One
Roof structure and finish	Mono-pitched roof covered in corrugated metal sheets.
Wall construction and finishing	Corrugated metal walls.
Windows and doorways	The building had no windows or doorways but was permanently open on the southeastern and southwestern elevations where a previous building located to the south of building 4 had been demolished.
Roof voids/vaulted areas present	There were no roof voids within the building.

Rooms	A single room was present which was disused with an exposed timber frame and recorded as being light, draughty, cold and damp.
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Table 18. Urban - Building 5.

Habitat type	Building - shed
Building reference	Building 5 (Photos 24-28)
Maximum number of floors	One
Roof structure and finish	Double pitched roof covered in bitumen felt.
Eaves/rakes	Wooden bargeboards present along the western and eastern gable ends.
Wall construction and finishing	Single skinned overlap timber cladding.
Windows and doorways	A window was present within each of the southern and western elevations, all glazed and closed at the time of the survey. A doorway was present within the western elevation and was closed at the time of the survey.
Roof voids/vaulted areas present	There were no roof voids within the building.
Rooms	A single room which was cluttered with building materials and open to the roof which was lined with insulation board with an exposed timber truss system. The internal conditions were light, draught free and cool.

Table 19. Urban - Building 6.

Habitat type	Building - shipping container
Building reference	Building 6 (Photos 29-32)
Maximum number of floors	One
Roof structure and finish	A prefabricated metal storage container with a flat roof.
Wall construction and finishing	A prefabricated metal storage container with double skinned walls.
Windows and doorways	One doorway within the southeastern elevation, which was closed at the time of the survey.

Table 20. Urban - Building 7.

Habitat type	Building - storage barn
Building reference	Building 7 (Photos 33-37)
Maximum number of floors	One
Roof structure and finish	Mono-pitched roof covered in corrugated metal sheets.
Eaves/rakes	Wooden fascia boards present on the southeastern and northwestern elevations with timber bargeboard present on the northeastern and southwestern elevations.
Wall construction and finishing	The walls were constructed from timber decking boards with patch repairs of plywood. The southeastern elevation was permanently open fronted.
Roof voids/vaulted areas present	There were no roof voids within the building.
Rooms	A single internal area which was used for storage with the roof unlined and timber frame and truss system of the building exposed (Photo 37). The area was light, draughty, cold and damp.

Table 21. Urban - Building 8.

Habitat type	Building - summerhouse
Building reference	Building 8 (Photos 38-43)
Maximum number of floors	One
Roof structure and finish	Section a of the building had a double pitched roof covered in bitumen felt roof with section b observed as having a flat roof covered in bitumen felt.
Eaves/rakes	Bargeboards were present along the northern and southern gable ends.
Wall construction and finishing	The building was constructed of a combination of double-skinned tongue and groove, overlap and decking board timber walls. Cavity wall insulation was present.
Windows and doorways	A single window was located within the southern and western elevations, all of which were glazed. The windows in the western elevation were open at the time of the survey. A doorway was present within the western elevation and was closed at the time of the survey.
Roof voids/vaulted areas present	There was one roof void within section a of the building.
Roof void 1 description	The void had an exposed timber rafter truss system and was lined throughout with OSB. The void floor was insulated with fibreglass throughout and was uncluttered by the truss system/personal belongings. The void was dark, draught-free, cold and humid (Photo 42).
Rooms	Two rooms were present at ground level, one of which was finished with plaster. Internal conditions of both rooms were light, draught-free and cold.

Table 22. Rural trees.

Habitat type	Rural trees
Location details	In the northwestern and central section of the site
Dominant species	Hazel, English oak and <i>Rosaceae</i> spp.
Management	The hazel had been recently coppiced. The oak trees and <i>Rosaceae</i> were young and unmanaged.
Photo	44

3.6 Badgers

3.6.1 No conclusive evidence of badger activity was observed within the site.

3.6.2 The habitat features within the site of potential value to badgers were recorded as follows:

- The modified grassland, traditional orchard and native hedgerows constitute suitable foraging habitat for this species and allow unobstructed dispersal across the site.
- The native hedgerows also provide suitable locations for sett creation.

3.7 Bats

3.7.1 Previous survey work by Ecosupport did not record any bats roosting within the buildings on site but did confirm the presence of common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), noctule (*Nyctalus noctula*) and serotine (*Eptesicus serotinus*) commuting and foraging on site.

- 3.7.2 No live or dead bats, droppings, feeding remains, perch abrasions, characteristic staining from urine or marks from grease secretions were observed within the buildings or trees on site during the preliminary bat survey.
- 3.7.3 Buildings 1-5 and 7-8 exhibited PRF's (Table 23).

Table 23. Potential roost features identified within the buildings and roost suitability assessment.

Building reference	Structure	Location (elevation)	Potential roost feature	Roost suitability
Building 1 - workshop	Roof	SW	Gaps under translucent roof panels	Moderate
		N/A	Gaps beneath corrugated metal roof panels and plasterboard	
	Fascia	NE	Gaps between fascia and corrugated metal wall	
	Internal	N/A	Perch features on internal fixtures, fittings and possessions	
Building 2 - shipping container	Wall	SW	Gaps between metal wall and insulation accessed via holes in external wall	Moderate
Building 3 - garage	Wall	SE, NW	Gaps beneath uPVC cladding on gable ends	Moderate
		NE, SW	Gaps beneath uPVC fascia	
	Roof	All	Gaps beneath cement tiles	
Building 4 - derelict workshop	Roof	SE, SW	Gaps in exposed timber truss from partial demolition	Low
		N/A	Perch features from the exposed timber frame	
Building 5 - shed	Roof	E, W	Gaps behind wooden barge boards	Low
	Internal	N/A	Perch feature from the exposed timber frame	
Building 7 - storage barn	Roof	N/A	Perch feature from exposed timber truss system	Low
	Wall	NE, SW	Gaps behind wooden fascia	
Building 8 - summerhouse	Wall	N, S	Gaps between wood panels	Moderate
	Roof	All	Gaps in bitumen felt roof	
		N/A	Perch features from the exposed timber truss system and OSB lining.	
	Internal	N/A	Perch features from the fixtures and fittings	

- 3.7.4 Building 6 was assessed as offering a negligible roost suitability.
- 3.7.5 All trees within the survey area were assessed as offering a roost suitability of 'none'.
- 3.7.6 It is considered likely that buildings 1, 3 and 8 have the potential to be a 'non-classic' buildings which offers suitable roost features with a stable temperature and high humidity for hibernating bat species. It is not considered that buildings 2, 4, 5 and 7 are suitable for hibernating bat species.
- 3.7.7 The habitat features within the site of potential value to commuting, and foraging bats are as follows:
- The modified grassland, traditional orchard and native hedgerows support a diversity and abundance of invertebrates and opportunities for foraging.

- The native hedgerows also provide protected routes for commuting and covered enclosed areas for foraging.

3.7.8 These habitats are connected to the wider landscape and could be used by moderate numbers of bats and, therefore, are assessed as providing moderate suitability commuting and foraging habitat.

3.8 Birds

3.8.1 The preliminary bird survey confirmed the presence of birds.

3.8.2 Bird species observed on site during the survey, included blackbird (*Turdus merula*), blue tit (*Cyanistes caeruleus*), great tit (*Parus major*), robin (*Erithacus rubecula*) and wood pigeon (*Columba palumbus*).

3.8.3 No breeding bird activity was observed and there was no evidence of breeding birds in the form of active or inactive nests, eggs, eggshells, droppings or feathers within the site.

3.8.4 The habitat features within the site of potential value to birds were recorded as follows:

- The modified grassland, traditional orchard, native hedgerows and rural trees constitute suitable foraging habitat for these species and materials for nest creation.
- The buildings, refuse piles, traditional orchard, native hedgerows and rural trees provide suitable locations for nest creation and roosting.

3.9 Great crested newts

3.9.1 The preliminary great crested newt survey did not find any live or dead great crested newts within the site.

3.9.2 There were no waterbodies within the site. The terrestrial habitat features within the site of potential value to great crested newts were recorded as follows:

- The traditional orchard and native hedgerows provide damp, protected features suitable for rest and shelter, and opportunities for foraging.
- The native hedgerows also provide crevices which protect against frost, flooding and predators suitable for hibernation.
- The modified grassland, traditional orchard and native hedgerows allow unobstructed dispersal routes and opportunities for foraging.

3.9.3 There were three waterbodies within a 500m radius of the site which were not separated from the site by significant barriers to amphibian dispersal (Figure 12):

- Waterbody 1 was located approximately 310m to the east of the site.
- Waterbody 2 was located approximately 300m to the southwest of the site.
- Waterbody 3 was located approximately 420m to the west of the site.

3.10 Hazel dormice

3.10.1 No live or dead hazel dormice, feeding remains, active or inactive nests were observed within the site.

3.10.2 The habitat feature within the site of potential value to hazel dormice was recorded as follows:

- The native hedgerows constitute suitable foraging habitat as well as offering materials and suitable locations for nest creation.

3.11 Reptiles

3.11.1 Previous survey work confirmed the presence of slow worm (*Anguis fragilis*) on site.

3.11.2 The preliminary reptile assessment did not find any live or dead reptiles, eggs, eggshells or moults within the site.

3.11.3 The site provides potentially suitable habitat for grass snake (*Natrix helvetica*), slow-worm and viviparous lizard (*Zootoca vivipara*). The habitat features within the site of potential value to reptiles were recorded as follows:

- The traditional orchard and native hedgerows provide damp, protected features suitable for rest and shelter, and opportunities for foraging as well as crevices which protect against frost, flooding and predators suitable for hibernation.
- The modified grassland allows unobstructed dispersal routes, opportunities for foraging and protected basking areas.

3.12 Other protected and notable species

3.12.1 No protected or invasive, non-native species of plant were identified and the habitats within the site which will be impacted by the works were not deemed to provide critical resources for any other protected or notable species of animal such as otter, water vole or white-clawed crayfish.

4.0 Recommendations

4.1 Designated sites of conservation importance records

- 4.1.1 Information regarding the management of nutrient levels arising from the proposed development which may impact, either directly or indirectly, on at least one Ramsar, SAC, SPA and/or SSSI should be submitted to the competent authority, to enable them to undertake a HRA.
- 4.1.2 No further actions are required in relation to non-statutory designated sites as the works are not considered likely to pose a potential risk to this designation.

4.2 Habitats of principal importance records

- 4.2.1 No further actions are required in relation to habitats of principal importance records as the works pose no potential risks to these habitats. Recommendations regarding the habitats of principal importance recorded on site during the baseline habitat survey are provided in Section 4.5 Habitats.

4.3 Ancient woodland records

- 4.3.1 No further actions are required in relation to ancient woodland as the works pose no potential risks to this habitat.

4.4 Protected species records

- 4.4.1 No further actions are required in relation to the protected species records.

4.5 Habitats

- 4.5.1 A biodiversity net gain baseline assessment has been undertaken to ascertain the biodiversity baseline of the site (Fayers, C. 2024). The results of this work will enable the preparation of a biodiversity net gain assessment in accordance with legislative and policy requirements.
- 4.5.2 An arboricultural assessment of the site compliant with BS5837 (2012) has been undertaken, including the preparation of a tree schedule, tree constraints plan, arboricultural impact assessment, method statement and tree protection plan (Keen Consultants, 2024). The works should adhere to the detailed avoidance, mitigation, compensation and enhancement measures, which include the retention and protection of the existing hedgerows.
- 4.5.3 The traditional orchard habitat should be retained within the scheme where possible. Replacement habitat will be required to compensate for the loss of any traditional orchard habitat of principal importance. Further details of this mitigation should be detailed within the ecological assessment and biodiversity net gain report.

4.6 Badgers

- 4.6.1 Any work excavations should be covered or fitted with ramps when not in use so that badgers do not become trapped during the works.
- 4.6.2 Excavations which are more than 1m in depth and less than 1m wide should be covered with a timber sheet material. The timber sheet material should be of a thickness which remains rigid when installed across the excavation and could support the weight of an adult badger (i.e. 20kg). The timber sheet

material should also retain structural integrity in wet conditions. The timber sheet material should be secured to the ground using robust fixings (i.e. metal stakes at least 50cm in length). Covered excavations should be visually inspected every day to confirm that the timber sheet material has not become damaged and that no animals have become trapped within the excavation. If an animal is observed within the excavation, a suitably qualified ecologist should be contacted immediately for advice. The site manager will be responsible for the installation of the timber sheet material, checking of covered excavations and, if required, contacting a suitably qualified ecologist for advice.

- 4.6.3 In the unlikely event that a badger or potential sett is unexpectedly encountered, works should cease until further advice is provided by the suitably qualified ecologist. If the badger is injured, it should be taken to the nearest suitably qualified wildlife rehabilitator.

4.7 Bats

- 4.7.1 Bat roost surveys consisting of one dusk emergence survey on buildings 4, 5 and 7 and two dusk emergence surveys on buildings 1, 2, 3 and 8 should be undertaken to determine the current presence or likely absence of bats roosting within the buildings. The surveys should take place in the period from the 1st May to the 30th September and where two surveys are required, at least one survey should be completed between the 1st May and the 31st August with at least three weeks between each survey. The surveys should be undertaken by one to three surveyors per building observing potential roost and access features.
- 4.7.2 Dusk emergence surveys should commence 15 minutes before sunset and continue for 90 minutes after sunset. The surveys should be scheduled to take place in suitable weather conditions with sunset temperature 10°C or above and no rain or strong wind.
- 4.7.3 In addition, NVAs comprised of night vision camcorders with infrared lights together with automated static detectors should be deployed. At the darkest point of the survey a screenshot from the camera should be taken to illustrate the field of view and visibility. Footage should subsequently be reviewed in association with bat call sonogram analysis to confirm, if possible, the identification of any species of bat emerging from or re-entering the buildings.
- 4.7.4 If roosts are identified within the buildings, one or two further dusk emergence or pre-dawn re-entry surveys may be required to allow an accurate assessment of the potential impacts of the works on bats and inform the design of a strategy to avoid all negative impacts on these species.
- 4.7.5 An automated static detector should be left within buildings 1, 2, 3 and 8 for a minimum of five consecutive nights and should be programmed to record continuously. On completion of the survey the recordings should be analysed to determine the species present and roost type.
- 4.7.6 Bat activity surveys comprising a total of three dusk transect surveys should take place each season with one undertaken in spring (April and May), one in summer (June, July and August) and one in autumn (September and October). The surveys should be scheduled to be spaced a minimum of three weeks apart and to take place in suitable weather conditions with sunset temperature 10°C or above and no rain or strong wind.
- 4.7.7 The dusk transect surveys should involve two surveyors being on site from sunset until 2 hours after sunset. The survey should commence at defined positions at potential roost locations such as buildings, trees or structures for a minimum of 30 minutes up to a maximum of 60 minutes after sunset. If no potential roost locations are present then the survey should commence on a defined position such as a linear feature like a hedgerow, line of trees or water course. Between 30 minutes to 2 hours after sunset the surveyors should walk a predefined route across the site and amongst all

habitat types. The requirement for detours of the predefined route and occasional stops to observe bat behaviour should be determined in the field based on live observations of bat activity on the night. The surveyors should be equipped with a bat detector and recording equipment, with the capacity to time-stamp calls, and record bats and their activity in a defined area. On completion of the surveys, the recordings should be analysed to determine the species present and the frequency and type of activity.

- 4.7.8 In addition, automated static detector surveys should be undertaken once a month in the period from the 1st April to the 31st October. The surveys should be scheduled to be spaced a minimum of three weeks apart and to take place in suitable weather conditions with sunset temperature 10°C or above and no rain or strong wind.
- 4.7.9 The automated static detector survey should involve the deployment of three automated static detectors within the site in fixed locations. The automated static detectors should be programmed to activate 30 minutes before sunset and deactivate 30 minutes after sunrise. On completion of the surveys, the recordings should be analysed to determine the species present and the frequency and type of activity.
- 4.7.10 The survey data should allow an accurate assessment of the potential impacts of the works on bats and inform the design of a strategy to avoid all negative impacts on these species. If avoidance is not possible the survey data should enable the preparation of a proportionate mitigation, compensation and enhancement strategy to be approved by the local planning authority and Natural England prior to the commencement of the works.

4.8 Birds

- 4.8.1 Suitable nesting habitats should be retained within the proposals where possible. Where building demolition and/or vegetation removal is required, works should, in preference, be undertaken in the period from the 1st September to the 28th February to avoid any potential risk of impacting breeding birds and in accordance with other protected species recommendations.
- 4.8.2 If it is necessary to undertake works in the period from the 1st March to the 31st August, a pre-works inspection should be undertaken by a suitably qualified ecologist in the 24 hour period prior to the works. The inspection should take place between sunrise and 10:00 or between 16:00 and sunset, and should be scheduled to take place in suitable weather conditions with air temperatures between 4°C and 20°C and with no rain or strong wind.

4.9 Great crested newts

- 4.9.1 A habitat suitability index assessment should be applied to waterbodies 1-3 to determine their potential to support breeding great crested newts.
- 4.9.2 There are 10 suitability indices which are known to influence the presence of the species: geographical location, waterbody area, waterbody permanence, water quality, percentage shade of waterbody margin, number of waterfowl, occurrence of fish, number of ponds within a 1km radius of the site, terrestrial habitat quality and macrophyte cover. Each suitability index should be assessed and expressed on a scale from 1 representing optimal suitability for great crested newts to 0 representing negligible suitability. The 10 suitability indices should then be combined using a geometric mean (habitat suitability index = $(SI1 \times SI2 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9 \times SI10)^{1/10}$) to derive the final score for the waterbodies. For waterbodies over 2ha in area, nine suitability indices should then be combined using a geometric mean (habitat suitability index = $(SI1 \times SI3 \times SI4 \times SI5 \times SI6 \times SI7 \times SI8 \times SI9$

$\times SI10)^{1/9}$) to derive the final score for the waterbodies. The score, between 0.01 and 1, should then be equated to a 'poor' to 'excellent' suitability for breeding great crested newts (Table 24).

Table 24. Habitat suitability index score and suitability of the waterbody for breeding great crested newts (table continues).

Score	Suitability of the waterbody for breeding great crested newts
0.01 – 0.49	Poor
0.50 – 0.59	Below average
0.60 – 0.69	Average
0.70 – 0.79	Good
0.80 – 1.00	Excellent

4.9.3 If the waterbodies are assessed as unsuitable for breeding great crested newts no further survey, mitigation, compensation or enhancement will be required in relation to these waterbodies. If any of the waterbodies have a "below average" or above suitability to support breeding great crested newts they should be subject to an environmental DNA (eDNA) survey to confirm the presence or likely absence of great crested newts; and, if present, it may be necessary to undertake a breeding great crested newt survey to establish the size of the population.

4.10 Hazel dormice

4.10.1 During the works, if a hazel dormouse is unexpectedly encountered, it should be allowed to move independently to a location outside the works area and works should cease. The suitably qualified ecologist should be contacted immediately and will advise on further actions and attend site if necessary. If it is not possible for the hazel dormouse to disperse of its own accord, and the hazel dormice is active or torpid it should be relocated in its existing nest outside of the construction zone within 100m of the 'capture' location. If the hazel dormouse is hibernating, it should be relocated, with surrounding material, to location outside of the construction zone within 100m of the site similar in condition and aspect to the existing hibernation nest location. It should then be covered by suitable material (e.g. a log or tile) for protection. In the unlikely event of the animal rousing from hibernation it should be taken into captivity until it can be released within 100m of its capture site at a suitable time. If a breeding nest is discovered, works should cease and provision should be made for the nest to be retained, protected, undisturbed and connected to contiguous habitat, until the young have been weaned and allowed to disperse naturally. Once the hazel dormouse or hazel dormice are safe, works should not recommence until further advice is provided by the suitably qualified ecologist.

4.11 Reptiles

4.11.1 A reptile survey should be undertaken to establish the current presence or likely absence of reptiles and, if necessary, determine the relative population size of each species within the site. Reptile surveys can be undertaken between the 1st March and the 31st October but should ideally be scheduled to take place within the optimal months of April, May, June and September. Furthermore, the surveys should all be scheduled to take place in suitable weather conditions with air temperatures between 9°C and 18°C and with no rain or strong wind.

4.11.2 The surveys should consist of deploying artificial refuges (i.e. 0.5m² tins or roofing felt) at a minimum density of 10 per 10,000m² in areas of suitable reptile habitat. Refuges should be left for a minimum period of seven days to weather and become familiar to, and used by, any reptiles within the site. The refuges and any naturally occurring refuges should then be checked on seven separate occasions, with no more than two surveys scheduled per week.

- 4.11.3 If no reptiles are found during the survey period, no further surveys will be required. Should reptiles be recorded during the presence or likely absence surveys a further eight visits would be required to establish the relative sizes of the species populations. The survey results should enable an accurate assessment of the potential impacts of the works on reptiles and inform the design of a proportionate strategy to avoid all negative impacts on these species. If avoidance is not possible the survey data should enable the preparation of a proportionate mitigation, compensation and enhancement strategy to be approved by the local planning authority prior to the commencement of the works.

4.12 Other protected and notable species

- 4.12.1 In the unlikely event that a protected species, not otherwise detailed in this report, is encountered, and the protected species is not at risk of harm or injured, it will be allowed to disperse of its own accord. If the protected species is at risk of harm, works will cease until further advice is provided by the suitably qualified ecologist. If the protected species is injured, it will be taken to the nearest suitably qualified wildlife rehabilitator.

4.13 Survey updates

- 4.13.1 Further ecological consultation should be sought if the scope of the work changes significantly or if the onset of the work is delayed by more than 12 months from the date of this survey.

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6.0 Photographs



Photo 1. The modified grassland located across the site.



Photo 2. The traditional orchard located in the centre of the site.



Photo 3. The native hedgerow located on the western site boundary.



Photo 4. The native hedgerow with trees located along the northern site boundary.



Photo 5. The artificial unvegetated, unsealed surface in the eastern section of the site.



Photo 6. The vacant or derelict land in the centre of the site.



Photo 7. The northeastern elevation of building 1.



Photo 8. The southwestern elevation of building 1.

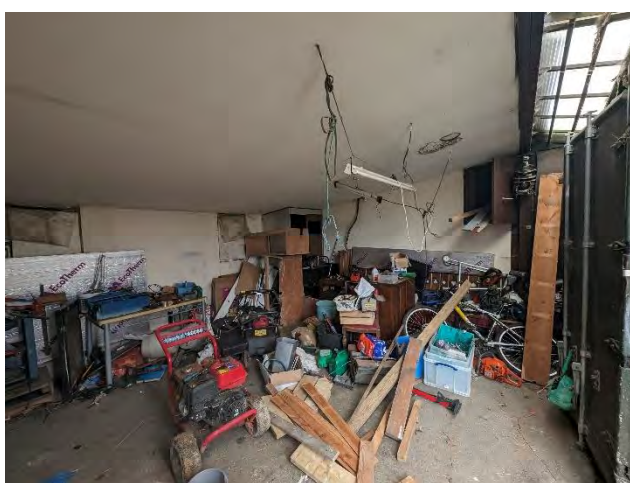


Photo 9. The internal area of building 1.

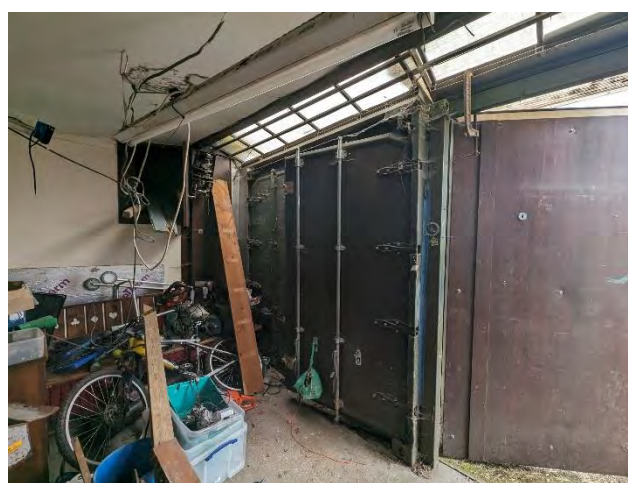


Photo 10. The northeastern elevation of building 2.



Photo 11. The southeastern elevation of building 2.



Photo 12. The southwestern elevation of building 2.



Photo 13. The northwestern elevation of building 2.

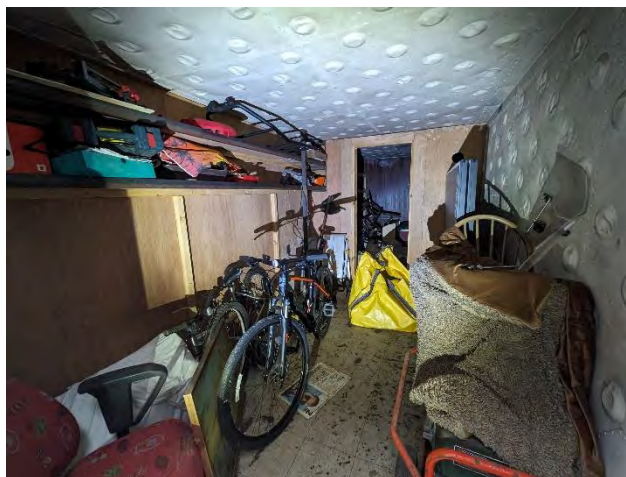


Photo 14. The internal area of building 2.



Photo 15. The northeastern elevation of building 3.



Photo 16. The southeastern gable end of building 3.



Photo 17. The southwestern elevation of building 3.



Photo 18. The northwestern elevation of building 3.



Photo 19. The internal area of the roof void of building 3.

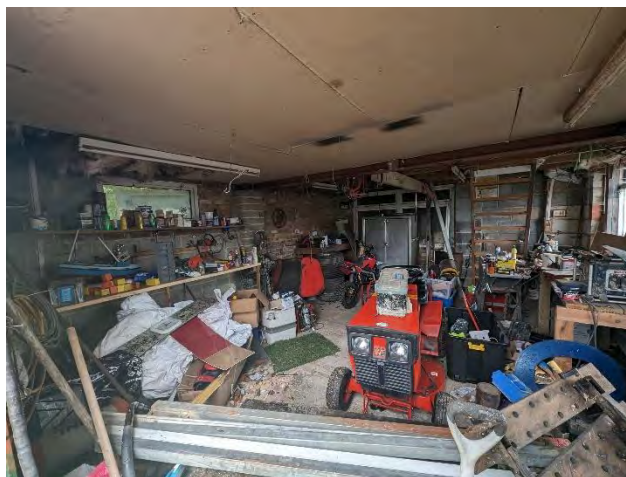


Photo 20. The internal area of the ground floor of building 3.



Photo 21. The southeastern elevation of building 4.



Photo 22. The southwestern elevation of building 4.



Photo 23. The internal area of building 4.



Photo 24. The northern elevation of building 5.



Photo 25. The eastern elevation of building 5.



Photo 26. The southern elevation of building 5.



Photo 27. The western elevation of building 5.

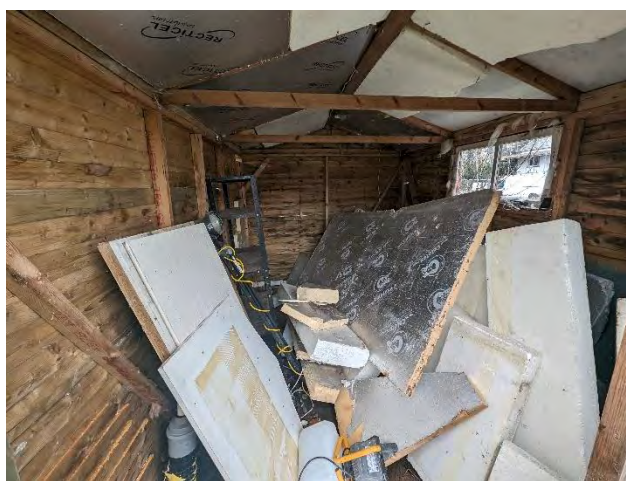


Photo 28. The internal area of building 5.



Photo 29. The northeastern elevation of building 6.



Photo 30. The southeastern elevation of building 6.



Photo 31. The southwestern elevation of building 6.



Photo 32. The northwestern elevation of building 6.



Photo 33. The northeastern elevation of building 7.



Photo 34. The southeastern elevation of building 7.



Photo 35. The southwestern elevation of building 7.



Photo 36. The northwestern elevation of building 7.



Photo 37. The internal area of building 7.



Photo 38. The northern elevation of building 8.



Photo 39. The eastern elevation of building 8.



Photo 40. The southern elevation of building 8.



Photo 41. The western elevation of building 8.



Photo 42. The internal area of the roof void of section a of building 8.



Photo 43. The internal area of section b of building 8.



Photo 44. The individual rural trees located in the northwestern section of the site.

7.0 Figures

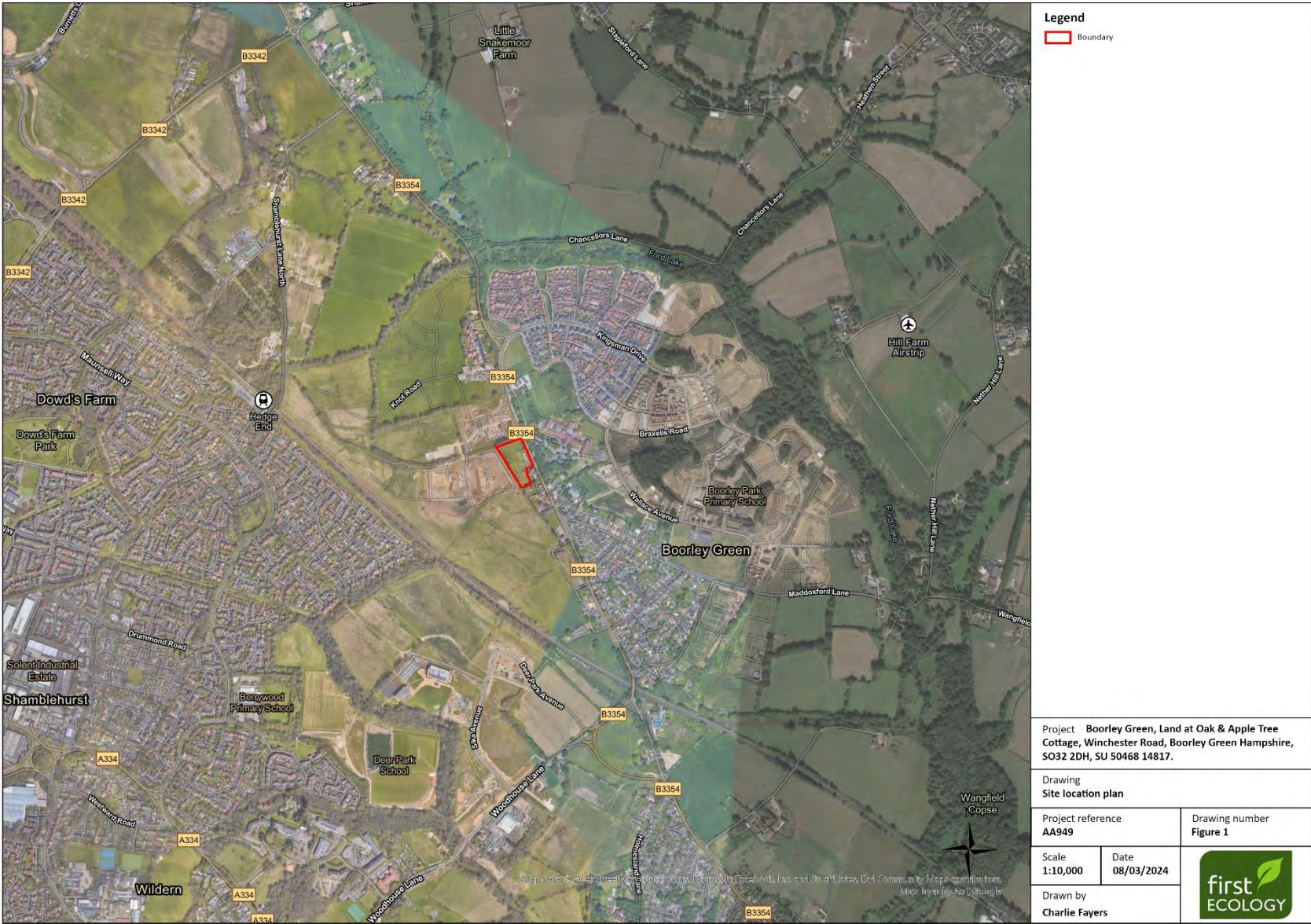
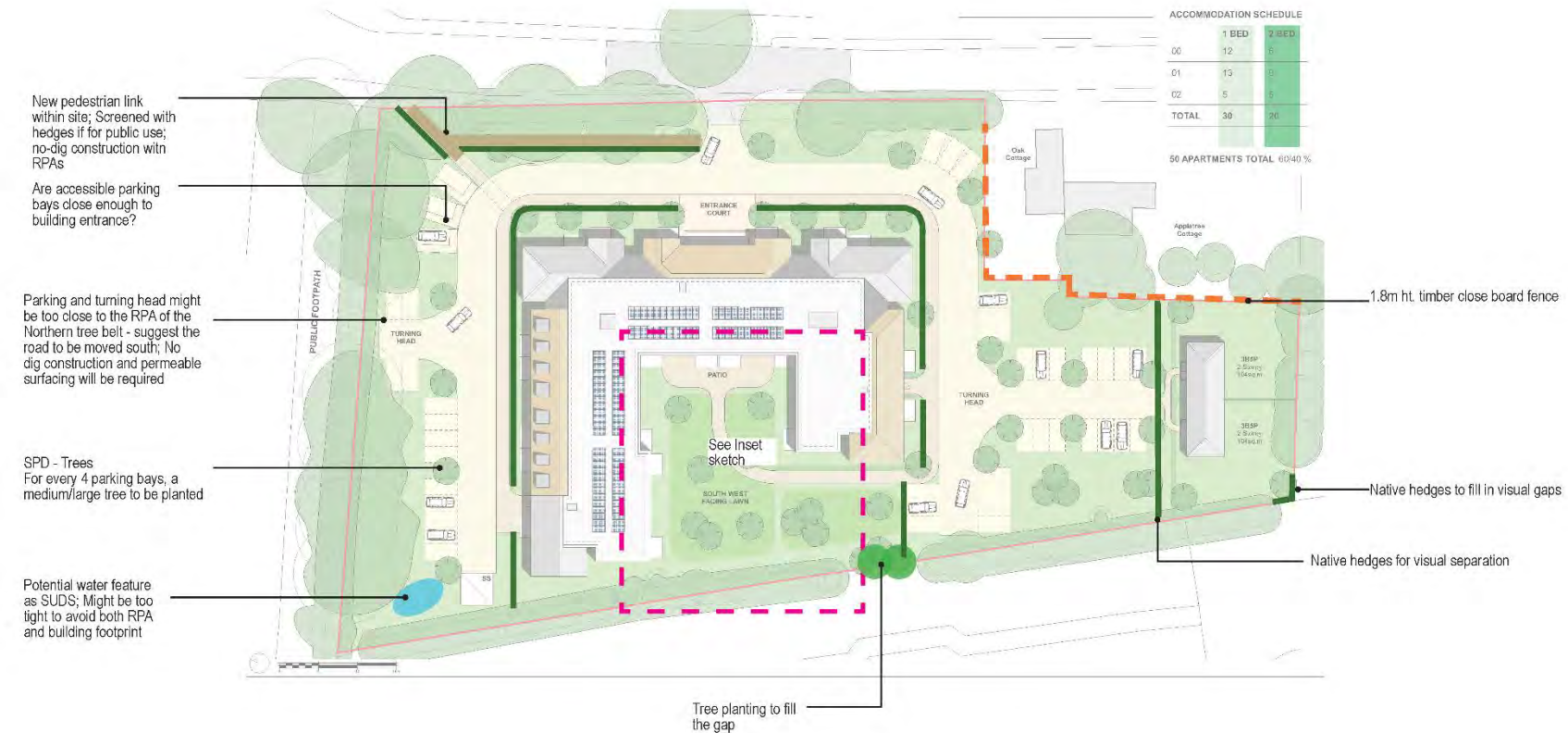


Figure 1 Site location plan

LANDSCAPE COMMENTS

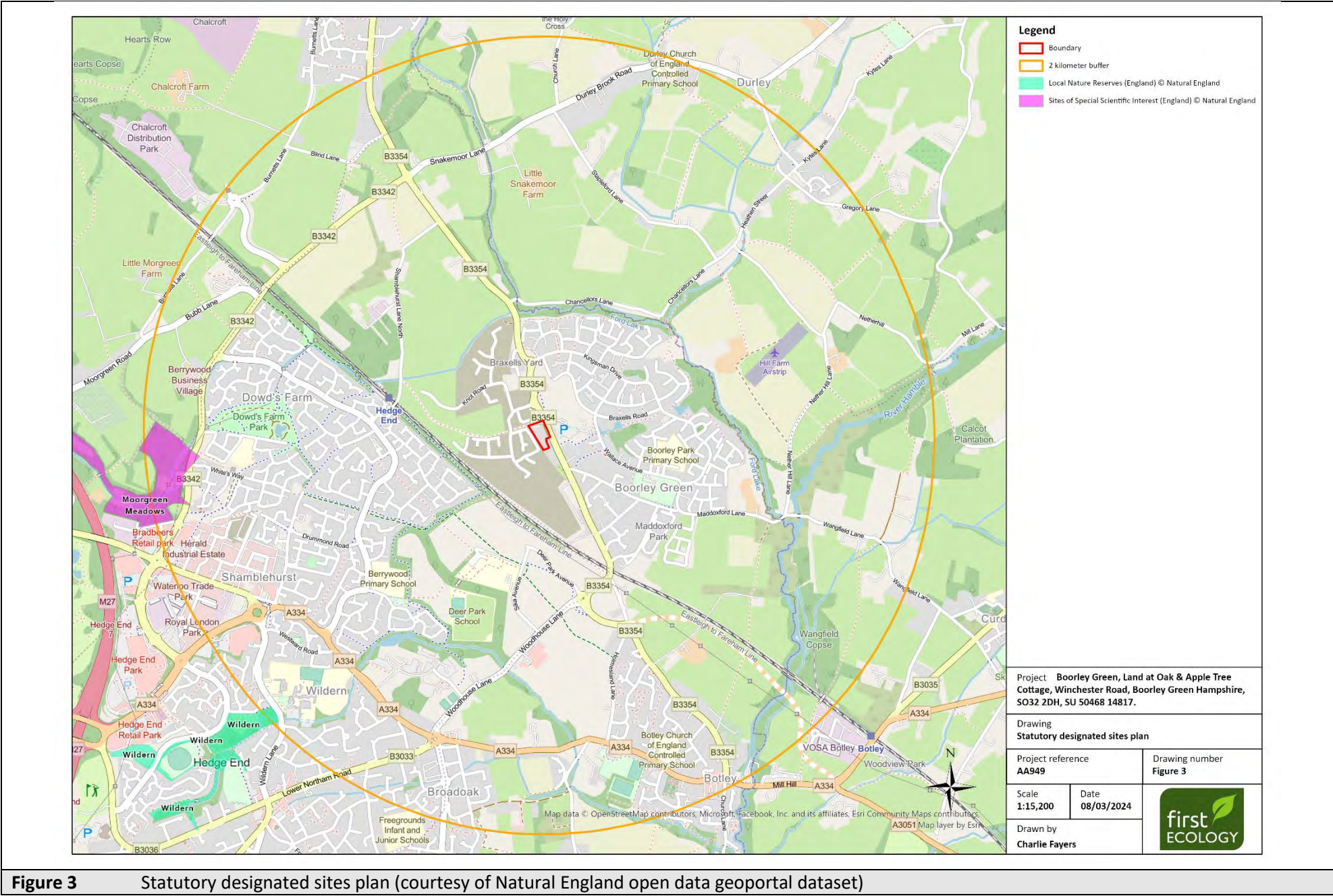
- Drainage design looks sensible; Attenuation requirement? and water feature?
- HV to be buried underground; To check alignment with new planting
- Reintroduction of fruit trees to the garden area
- EVCP assumed for every parking bay



Project: Winchester Road, Boorley Green
Drawing title: Initial landscape comments
Drawing no: 2505-TFC-SK-L-20240227
Date: 2024.02.27

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Figure 2 Proposed site plan (courtesy of terra firma landscape architects)



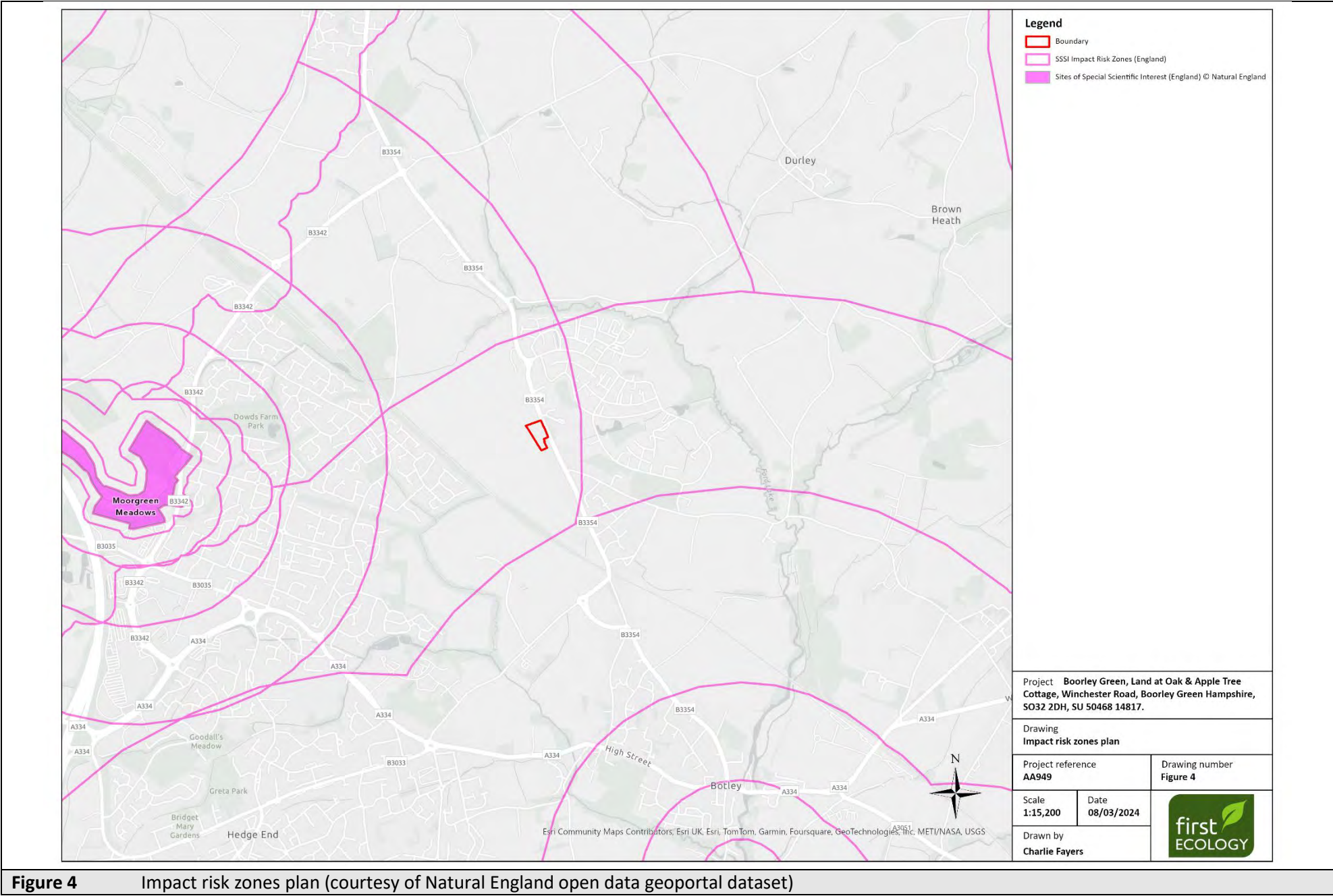


Figure 4 Impact risk zones plan (courtesy of Natural England open data geoportal dataset)

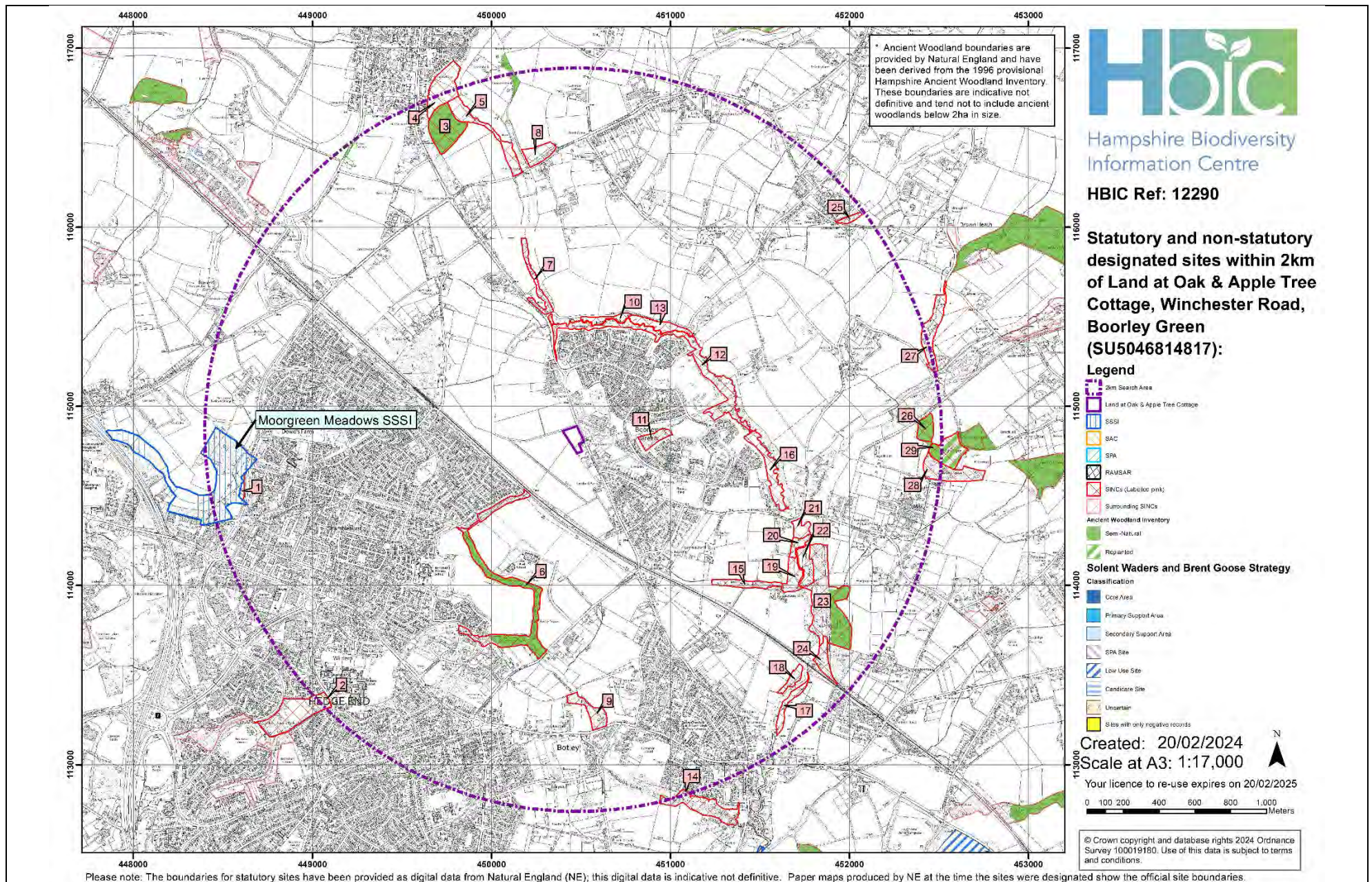


Figure 5 Statutory and non-statutory designated sites plan (courtesy of HBIC)

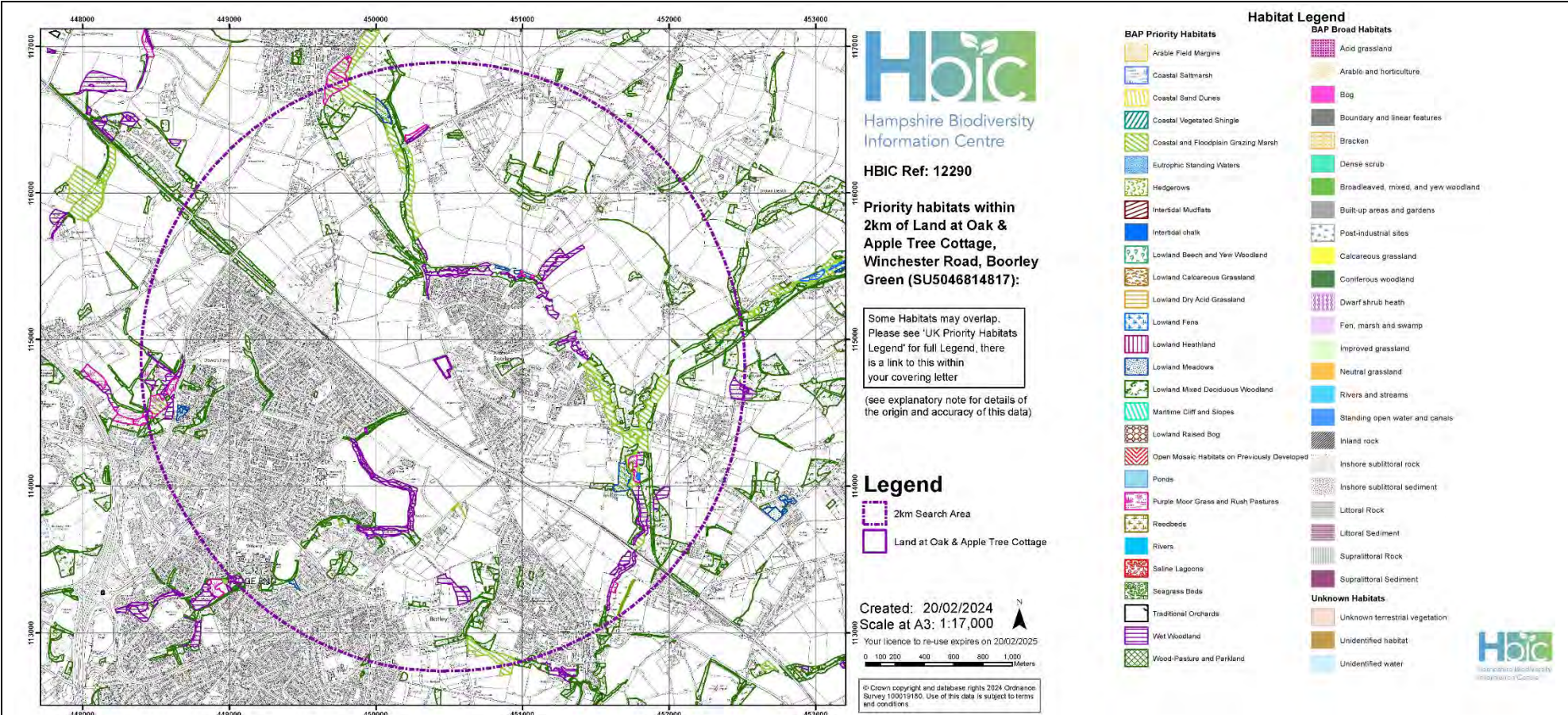
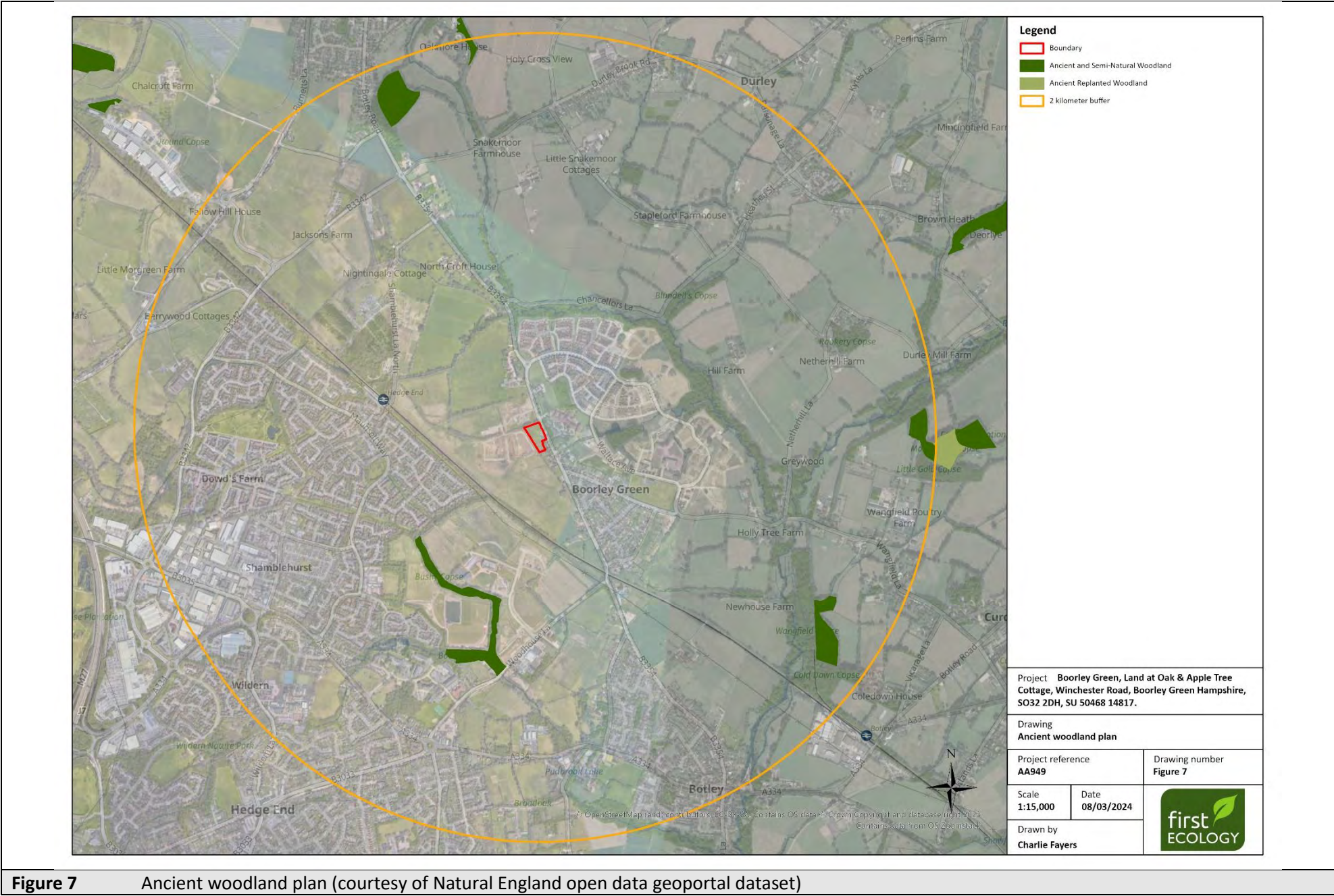


Figure 6 Habitats of principal importance plan (courtesy of HBIC)



MAGiC

Granted European protected species applications

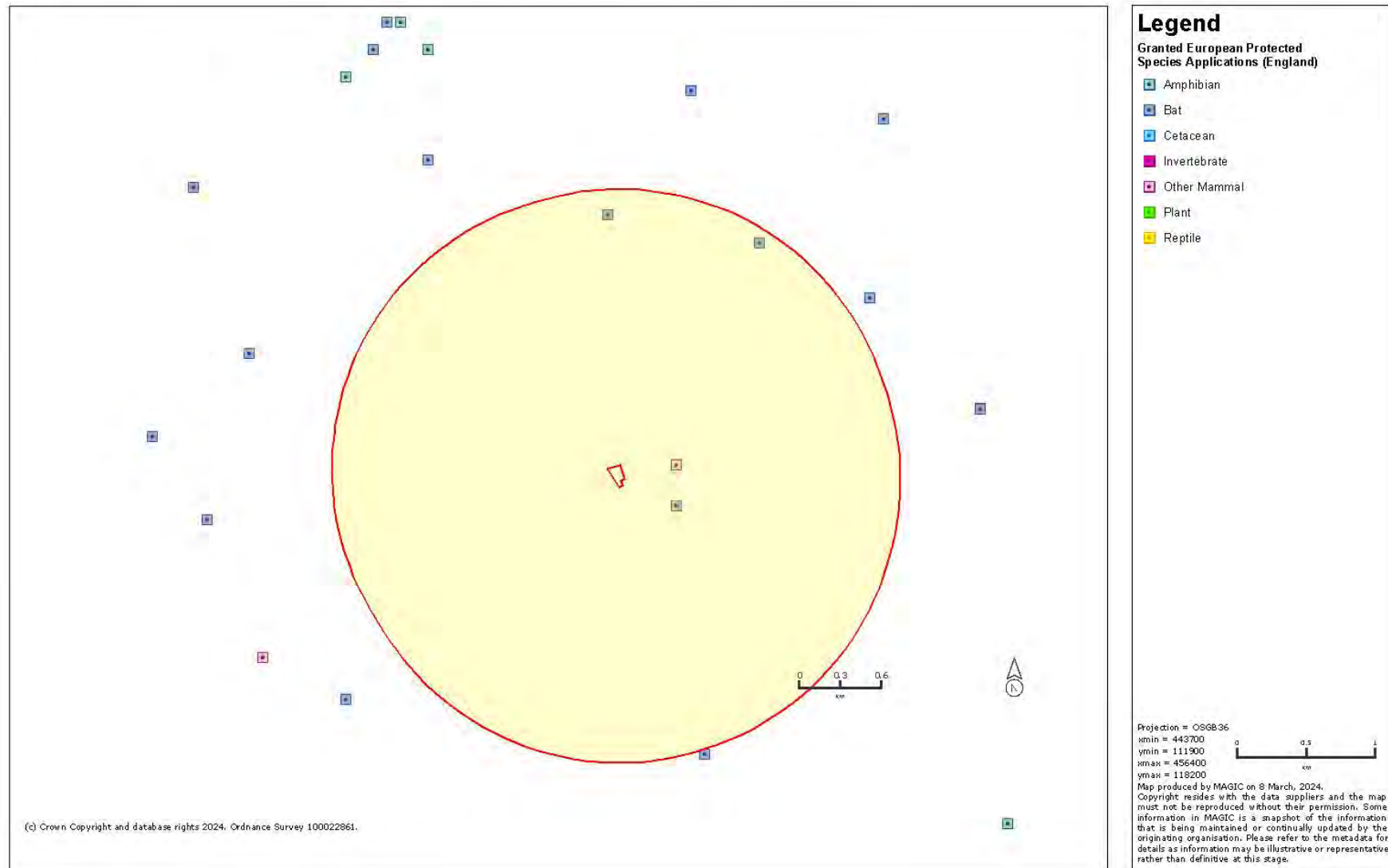


Figure 8 Granted European protected species applications with a 2km buffer zone (courtesy of MAGiC)

MAGIC

Great crested newt class survey licence returns

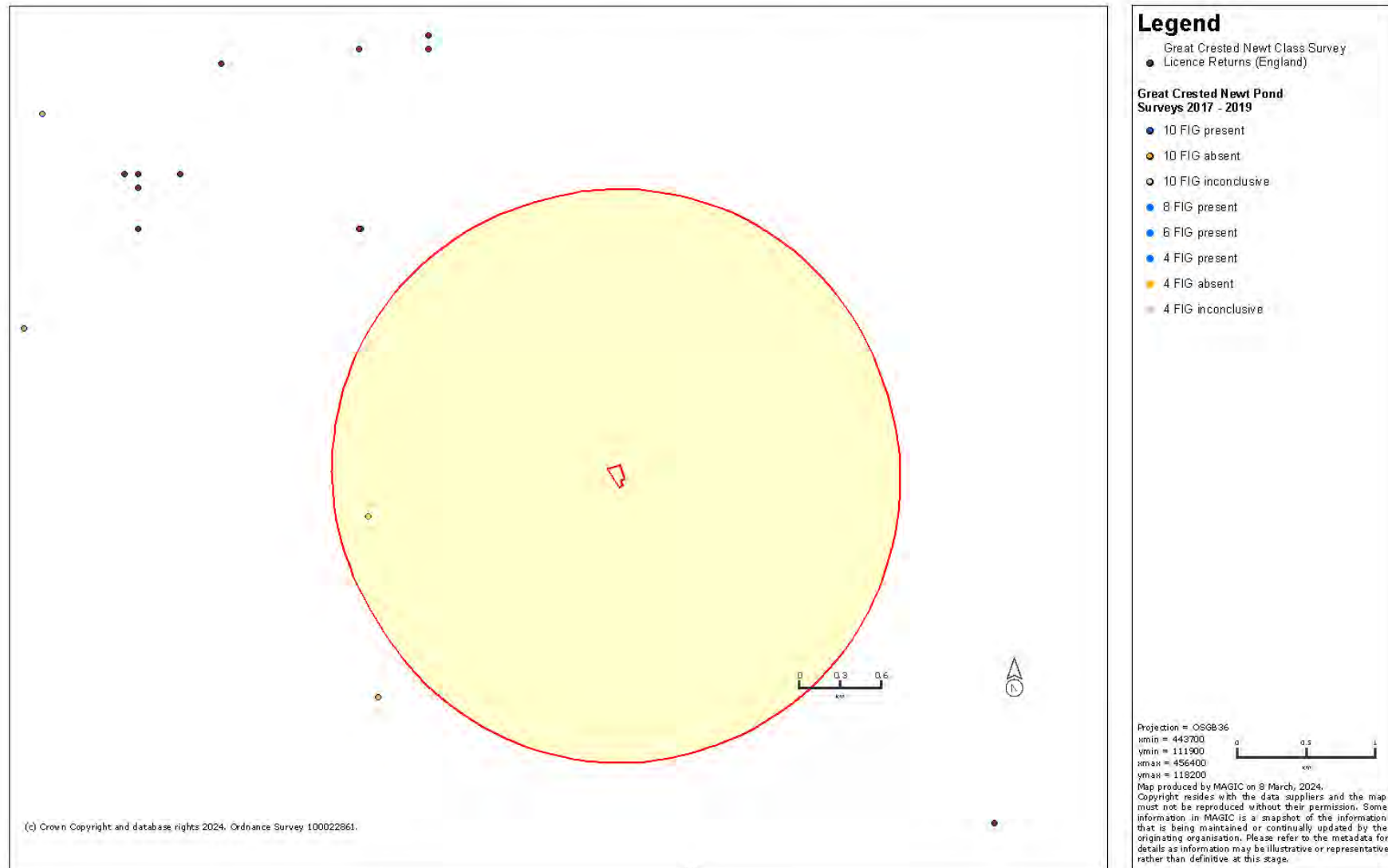


Figure 9 Great crested newt class survey licence returns with a 2km buffer (courtesy of MAGIC)



Figure 10 Preliminary ecological appraisal plan

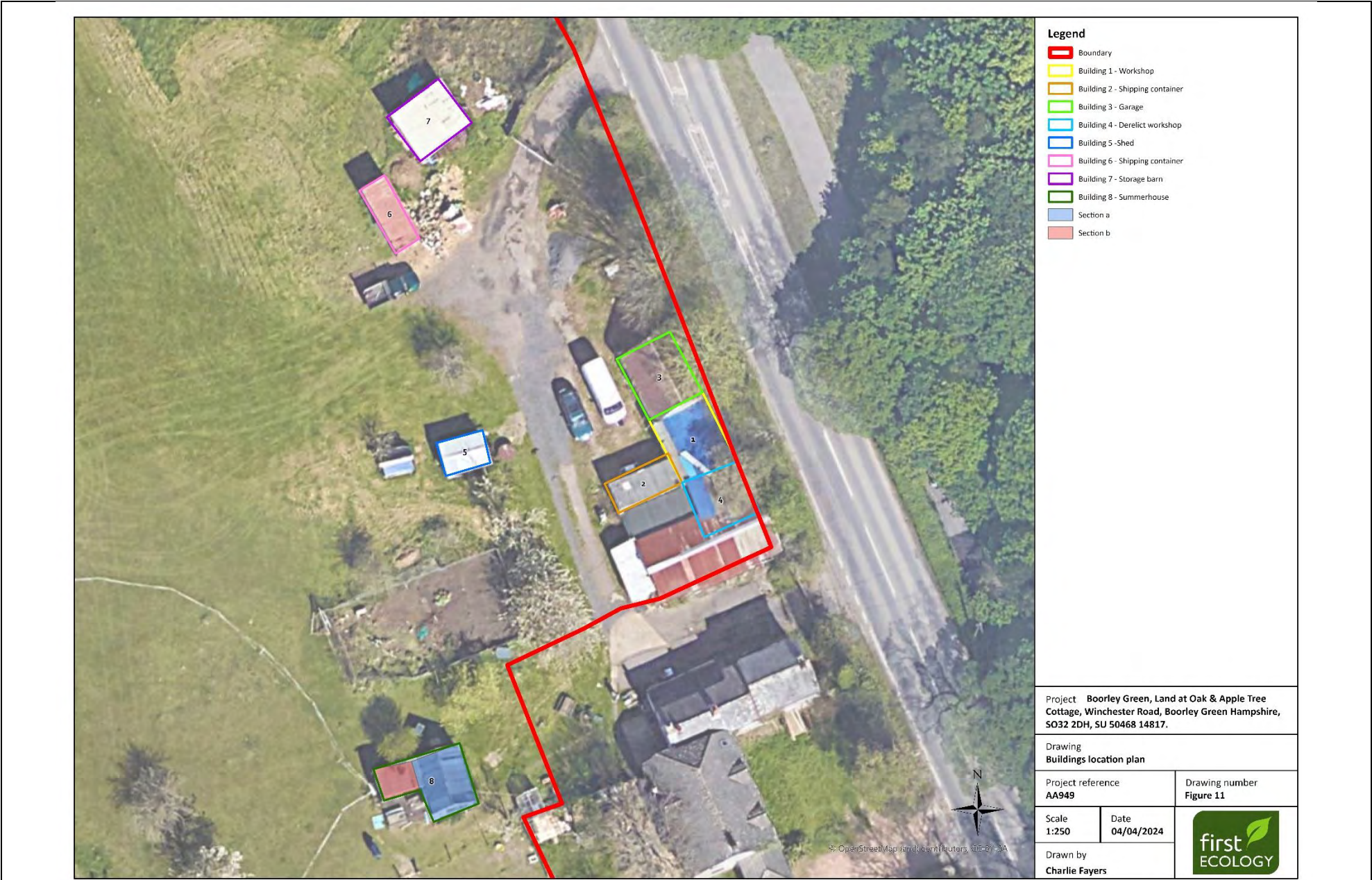
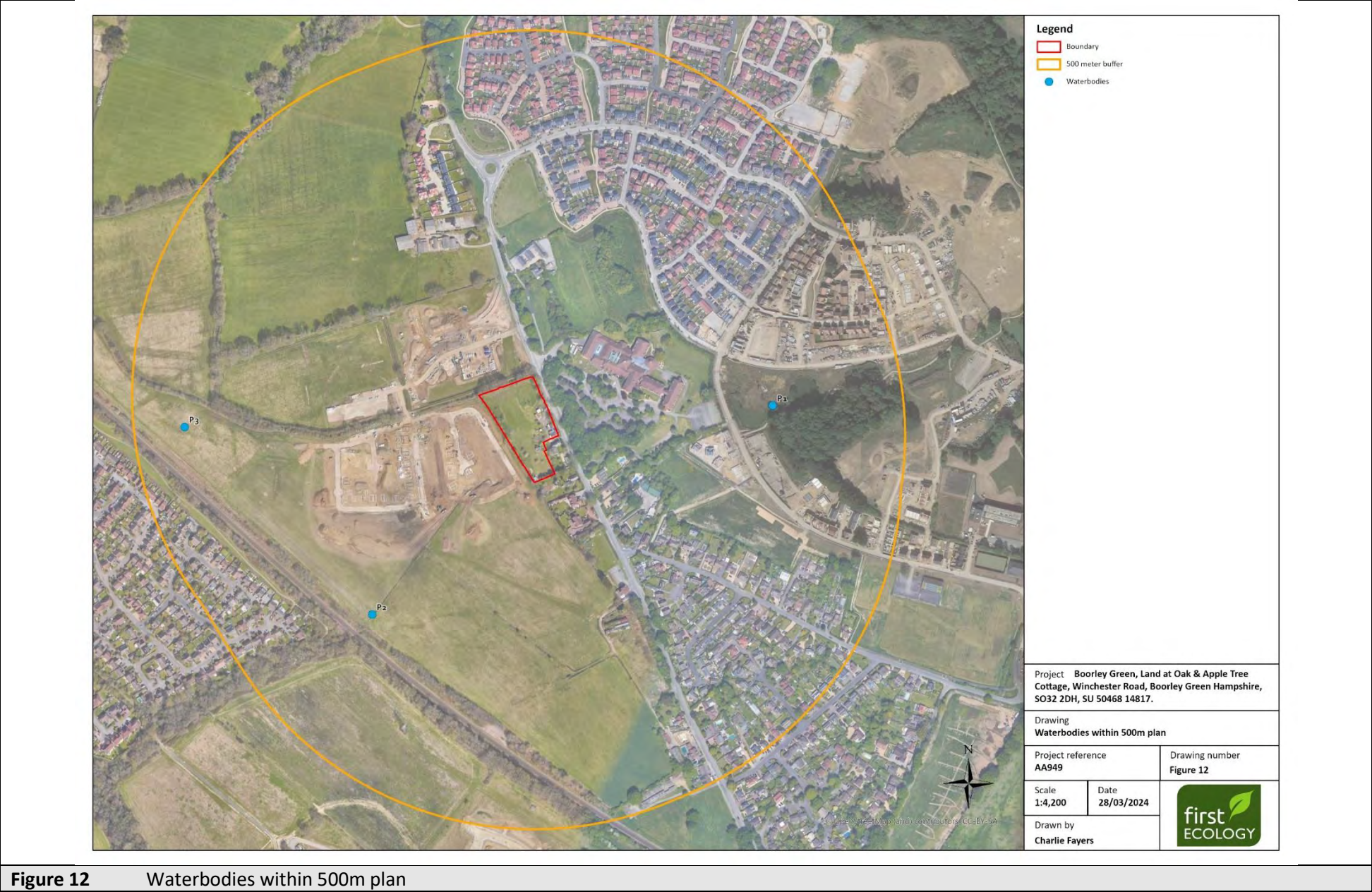


Figure 11 Buildings location plan



8.0 Appendices

Appendix A Wildlife legislation and national planning policy

The following information provides a summary of wildlife legislation and national planning policy which affords protection to plants and animals and seeks to conserve, enhance and restore biodiversity.

Table 25. Summary of wildlife legislation afforded to terrestrial and freshwater animals.

Species	Legislation
Birds	All species of bird whilst actively nesting are afforded legal protection under the Wildlife and Countryside Act 1981 (as amended) and additional penalties are incurred for offences relating to birds listed on Schedule 1.
Amphibians	The great crested newt is afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and is therefore a European Protected Species (EPS). Common amphibian species (common frog (<i>Rana temporaria</i>), common toad (<i>Bufo bufo</i>), smooth newt (<i>Lissotriton vulgaris</i>) and palmate newt (<i>Lissotriton helveticus</i>)) are afforded limited legal protection under the act (as amended). Common toad and great crested newt are also listed as species of principal importance under Section 41 of the NERC Act 2006 (as amended).
Badger	Badgers are afforded legal protection under the Badgers Act 1992 and are afforded limited protection under the Wildlife and Countryside Act 1981, Section 11, Schedule 6 (as amended).
Bats	All species of bat and their roosts are protected under the Wildlife and Countryside Act 1981 (as amended) (Section 9 (4)(b), (1) and (5)), the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 listed in Schedule 2 as European protected species, the Countryside and Rights of Way (CroW) Act 2000 and the Wild Mammals Protection Act 1996.
Hazel dormouse	The hazel dormouse is afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and is therefore a European protected species.
Otter	The otter is afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). It is also listed under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and is therefore a European protected species.
Reptiles	Common reptiles are afforded limited legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are also listed as species of principal importance under section 41 of the NERC Act 2006 (as amended)
Water vole	Water voles are afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are also listed as species of principal importance under section 41 of the NERC Act 2006).
White-clawed crayfish	White-clawed crayfish are afforded limited legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). They are also listed as species of principal importance under section 41 of the NERC Act 2006 (as amended).

Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019

The Habitats Directive and Birds Directive provide protection for a wide range of habitats and species within the European Community in order to meet their obligations as a signatory to the Bern Convention. The Conservation of Habitats and Species Regulations 2017 transposes these directives into European law. On the

departure of the UK from the EU in 2020, this legislation was transposed into domestic law via the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

The Conservation of Habitats and Species Regulations 2017 (SI No. 2017/1012) update and supersede the Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490) and the Conservation Regulations 1994 (as amended). The 2017 Regulations are the principal means by which the European Habitats Directive is transposed in England and Wales.

The Regulations provide for the designation and protection of a network of 'European Sites' termed Natura 2000, the protection of 'European protected species', and the adaptation of planning and other controls for the protection of European Sites.

The Conservation of Habitats and Species Regulations 2017 apply in the terrestrial environment and in territorial waters out to 12 nautical miles. The EU Habitats and Wild Birds Directives are transposed in UK offshore waters by separate regulations - The Conservation of Offshore Marine Habitats and Species Regulations 2017 (the "2017 Regulations") which consolidate and update the Offshore Marine Conservation (Natural Habitats, &c.) Regulations 2007 (the "2007 Regulations").

Regulation 43 relates to the protection of European protected species listed under Schedule 2 of the Regulations. Taken together it is an offence to undertake the following acts with regard to European protected species:

- deliberately capture, injure or kill any wild animal of a European protected species;
- deliberately disturb animals of any such species in such a way as to be likely to:
 - impair their ability to survive, breed, rear or nurture their young, hibernate or migrate, or
 - affect significantly the local distribution or abundance of the species to which they belong;
- deliberately take or destroy the eggs of such an animal; or
- damage or destroy a breeding site or resting place of such an animal.

The disturbance offence is generally taken to refer to a discernible effect at population level and biogeographic level, rather than simply to an individual animal. However, in certain circumstances the disturbance of one individual animal may have population level effects.

The Regulations also make it an offence (subject to exceptions) to deliberately pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 5.

However, the actions listed above can be made lawful through the granting of licences (European protected species licence) by the appropriate authorities (Natural England in England). Licences may be granted for several purposes (such as science and education, conservation, preserving public health and safety), but only after the appropriate authority has determined that the following regulations are satisfied:

- the works under the licence are being carried out for the purposes of 'preserving public health and public safety, or for other imperative reasons of overriding public interest, including those of a social or economic nature and beneficial consequences of primary importance for the environment';
- there is 'no satisfactory alternative'; and
- the action 'will not be detrimental to the maintenance of the population of the species concerned at favourable conservation status in their natural range'.

To apply for a licence, the following information is required:

- the species concerned;

- the size of the population at the site (note this may require a survey to be carried out at a particular time of the year);
- the impact(s) (if any) that the development is likely to have upon the populations; and
- what measures can be conducted to mitigate for the impact(s).

The Wildlife and Countryside Act 1981

The Wildlife and Countryside Act 1981 (as amended) is the principal piece of UK legislation relating to the protection of wildlife. It consolidates and amends existing national legislation to implement the Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) and Council Directive 79/409/EEC on the Conservation of Wild Birds (Birds Directive) in Great Britain.

The Act makes it an offence (with exception to species listed in Schedule 2) to intentionally kill, injure, or take any wild bird or their eggs or nests. Special penalties are available for offences related to birds listed on Schedule 1, for which there are additional offences of disturbing these birds at their nests, or their dependent young. The Secretary of State may also designate SPA (subject to exceptions) to provide further protection to birds. The Act also prohibits certain methods of killing, injuring, or taking birds, restricts the sale and possession of captive bred birds, and sets standards for keeping birds in captivity.

The Act makes it an offence (subject to exceptions) to intentionally kill, injure, or take, possess, or trade in any wild animal listed in Schedule 5, and prohibits interference with places used for shelter or protection, or intentionally disturbing animals occupying such places. The Act also prohibits certain methods of killing, injuring, or taking wild animals listed in Schedule 6.

The Act makes it an offence (subject to exceptions) to pick, uproot, trade in, or possess (for the purposes of trade) any wild plant listed in Schedule 8, and prohibits the unauthorised intentional uprooting of such plants.

The Act contains measures for preventing the establishment of non-native species which may be detrimental to native wildlife, prohibiting the release of animals and planting of plants listed in Schedule 9. It also provides a mechanism making any of the above offences legal through the granting of licences by the appropriate authorities.

The Countryside and Rights of Way Act 2000

The Countryside and Rights of Way Act 2000 (CroW) was passed to provide additional levels of protection for wildlife whilst also strengthening the protection afforded to SSSI.

Schedule 12 of the Act amends the Wildlife and Countryside Act 1981, strengthening the legal protection for threatened species. The provisions make certain offences 'arrestable', create a new offence of 'reckless' disturbance, confer greater powers to police and wildlife inspectors for entering premises and obtaining wildlife tissue samples for DNA analysis, and enable heavier penalties on conviction of wildlife offences.

Natural Environment and Rural Communities Act 2006

The Natural Environment and Rural Communities Act 2006 (NERC), effective in England, is designed to help achieve a rich and diverse natural environment and thriving rural communities through modernised and simplified arrangements for delivering Government policy.

It was created to make provision in connection with wildlife, SSSI, National Parks and the Broads; to amend the law relating to rights of way; to make provision as to the Inland Waterways Amenity Advisory Council; to provide for flexible administrative arrangements in connection with functions relating to the environment and rural affairs and certain other functions; and for connected purposes.

Section 40 of NERC carries an extension of the earlier CroW Act biodiversity duty to public bodies and statutory undertakers to have due regard to the conservation of biodiversity. Section 41 requires the Secretary of State, as respects England, to publish a list of the living organisms and types of habitat which in the Secretary of State's opinion are of principal importance for the purpose of conserving biodiversity. The updated S41 list, published in August 2010, identified 56 habitats and 943 species of principal importance.

The Environment Act 2021

The Environment Act 2021 achieved Royal Assent in November 2021, providing a new legislative framework for developments to consider in respect of potential environmental impacts and opportunities. Within the Act, there is a requirement for all developments within England (unless exempt) to exceed the pre-development biodiversity value of onsite habitat by at least 10%, measured using the Statutory Biodiversity Metric Calculation Tool.

On the 12th February 2024 it became a mandatory requirement of the planning process for the majority of planning applications (unless exempt), with a delay applied for 'small sites' and NSIPs until the 2nd April 2024 and late November 2025, respectively.

The Protection of Badgers Act 1992

In the UK badgers are primarily afforded protection under the Protection of Badgers Act 1992. This makes it illegal to wilfully kill, injure, take, possess or cruelly ill-treat a badger, or to attempt to do so and to intentionally or recklessly interfere with a sett. Sett interference includes disturbing badgers whilst they are occupying a sett, as well as damaging or destroying a sett or obstructing access to it.

Badgers also receive limited protection under Schedule 6 of the Wildlife and Countryside Act 1981 (as amended). This outlaws certain methods of taking or killing animals.

Under Section 10 (1)(d) of the Protection of Badgers Act 1992, a licence may be granted by Natural England to interfere with a badger sett for the purpose of development, as defined by Section 55(1) of the Town and Country Planning Act 1990.

Section 3 of the Protection of Badgers Act 1992 defines interference as:

- damaging a badger sett;
- destroying a badger sett;
- obstructing access to, or any entrance of, a badger sett;
- causing a dog to enter a sett; or
- disturbing a badger when it is occupying a badger sett.

Natural England guidance has suggested that the following operations may disturb badgers in their setts, and therefore unless these can be avoided a licence may be required for:

- excavation within 20m of any entrance to an active sett;
- excavation or other ground disturbance using heavy machinery within 30m of a sett;
- fire or chemicals within 20m of a sett;
- tree felling in the area of a sett – trees should be felled away from setts and cleared away from badger paths; and
- other disturbances such as loud noises or vibrations; some activities such as pile driving and the use of explosives that may result in a disturbance over a much greater distance will require individual consideration.

The Wild Mammals (Protection) Act 1996

The Wild Mammals (Protection) Act 1996 makes it an offence for any person to mutilate, kick, beat, nail or otherwise impale, stab, burn, stone, crush, drown, drag or asphyxiate any wild mammal with intent to inflict unnecessary suffering.

The Animal Welfare Act 2006

Prior to the Animal Welfare Act 2006, people only had a duty to ensure that an animal didn't suffer unnecessarily. The new Act keeps this duty but also imposes a broader duty of care on anyone responsible for an animal to take reasonable steps to ensure that the animal's needs are met. This means that a person has to look after the animal's welfare as well as ensure that it does not suffer. The Act says that an animal's welfare needs include:

- a suitable environment (how it is housed);
- a suitable diet (what it eats and drinks);
- the ability to exhibit normal behaviour patterns;
- any need it has to be housed with, or apart from, other animals; and
- protection from pain, suffering, injury and disease.

With regards to development, this may have implications when translocations of animals are proposed. As such, care must be taken to ensure that any receptor sites are suitable for the species in terms of habitat and carrying capacity.

The Hedgerows Regulations 1997

The Hedgerows Regulations 1997 were introduced to protect hedgerows of importance from destruction. However, the legislation does not apply to any hedgerow which is within or marking the boundary of the curtilage of a dwelling house.

For the Regulations to be applicable, the hedgerow must be at least 20m in length or, if less than 20m, it must meet another hedgerow at each end. A hedgerow is deemed to be important if it is more than thirty years old and meets at least one of the criteria listed in Part II of Schedule 1 of the Regulations.

If a hedgerow which qualifies under the Regulations is to be removed, the landowner must contact the local planning authority in writing by submitting a hedgerow removal notice. The local planning authority then has a period of 42 days to decide whether or not the hedgerow meets the importance criteria of the regulations.

The National Planning Policy Framework

The National Planning Policy Framework (NPPF) sets out national planning policy and provides guidance to local planning authorities to apply within local plans. Of particular relevance to ecology is paragraph 180, which specifies that planning permission should be refused in cases where the development would cause significant harm to biodiversity, have adverse impacts on designated sites or result in deterioration of irreplaceable habitats.

Appendix B First Ecology employee qualifications, accreditations and memberships

- Adam Chambers, First Ecology, Ecologist, BSc (Hons), qualifying member of the CIEEM, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2022-10402-CL08-GCN. Accredited agent of Hannah Bates to Bat Survey Level 1 under 2019-41077-CLS-CLS and S092610/1.
- Alexander Zee, First Ecology, Ecologist, BSc (Hons). Natural Resources Wales Great Crested Newt Licence Number: S092506/1, Natural England Class Licence CL51 (Beavers: licence to modify or remove dams, burrows and lodges). Registration Number: 2023-80-BVR-CLASS.
- Alexia Michaelides, First Ecology, Ecologist, MBIol (Hons), ACIEEM, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2019-41269-CLS-CLS, Natural Resources Wales Great Crested Newt Licence Number: S091465/1, Natural England Dormouse Level 1 Survey Class Licence CL10a Registration Number: 2022-10028-CL10a-DOR, Natural Resources Wales Dormouse Licence Number: S091240/1, Natural England Barn Owl Class Licence Number 2023-11261-CL29-OWL. Accredited agent of Hannah Bates, First Ecology, Senior Ecologist, BSc (Hons), MSc, ACIEEM, to Bat Survey Level 1 under Natural England Class Licence CL18 (Bat Survey Level 2) Registration Number: 2019-41077-CLS-CLS and Natural Resources Wales Bat Licence number: S092610/1.
- Charlie Fayers, First Ecology, Senior Ecologist, BSc (Hons), ACIEEM, Natural England Class Licence CL18 (Bat Survey Level 2) Registration Number: 2016-21963-CLS-CLS, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number: 2016-23475-CLS-CLS. Accredited agent of Hannah Bates to Bat Survey Level 1 under S092610/1.
- Hannah Bates, First Ecology, Senior Ecologist, BSc (Hons), MSc, ACIEEM, Natural England Class Licence CL18 (Bat Survey Level 2) Registration Number: 2019-41077-CLS-CLS, Natural Resources Wales Bat Survey Licence Number S092610/1, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2022-10308-CL08-GCN, Natural England Dormouse Class Licence CL10A (Dormouse Survey) Registration Number: 2016-22096-CLS-CLS, Natural Resources Wales Dormouse Licence Number: S088845/1.
- Helen Ward, First Ecology, Consultancy Manager, BSc (Hons), MCIEEM, Natural England Class Licence CL18 (Bat Survey Level 2) Registration Number: 2016-19350-CLS-CLS, Registered Consultant Reference Number RC127, Natural Resources Wales Bat Survey Licence Number S088357/1, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2016-20068-CLS-CLS, Natural England Dormouse Class Licence CL10A (Dormouse Survey) Registration Number: 2016-22343-CLS-CLS.
- Jennifer Lackie, First Ecology, Senior Ecologist, MSci (Hons), ACIEEM, Natural England Class Licence CL17 (Bat Survey Level 1) Registration Number: 2020-45241-CLS-CLS, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number: 2018-35503-CLS-CLS, Natural England Class Licence CL29 (Barn Owl Survey) Registration Number: CL29/00423.
- Kari McSherry, First Ecology, Assistant Ecologist, BSc (Hons), qualifying member of the CIEEM.
- Robyn Ablitt, First Ecology, Senior Arboriculturist/Ecologist, BSc (Hons), ACIEEM, Natural England Class Licence CL17 (Bat Survey Level 1) Registration Number: 2023-11693-CL17-BAT, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2015-16924-CLS-CLS, Natural Resources Wales Great Crested Newt Licence Number: S090845/1, professional member of the Arboricultural Association (MArborA). Accredited agent of Alexia Michaelides, First Ecology, Ecologist, MBIol (Hons), ACIEEM, Natural England Dormouse Level 1 Survey Class Licence CL10a Registration Number: 2022-10028-CL10a-DOR and Natural Resources Wales Dormouse Licence Number: S091240/1.
- Stephanie Bentham-Green, First Ecology, Principal Ecologist, BSc (Hons), ACIEEM, Natural England Class Licence CL17 (Bat Survey Level 1) Registration Number: 2021-51332-CLS-CLS, Natural England Class Licence CL08 (Great Crested Newt Survey Level 1) Registration Number 2018-37987-CLS-CLS, Natural Resources Wales Great Crested Newt Licence Number: S090961/1, Natural England Dormouse Class Licence CL10A (Dormouse Survey) Registration Number: 2019-39610-CLS-CLS, Natural Resources Wales Dormouse Licence Number: S090966/1. Accredited agent of Hannah Bates to Bat Survey Level 1 under S092610/1.

Appendix C Acronyms

Table 26. Glossary of acronyms used in the report (table continues).

Acronym	Description
ACIEEM	Associate member of the Chartered Institute of Ecology and Environmental Management
AONB	Area of Outstanding Natural Beauty
ASNW	Ancient and Semi-Natural Woodland
AWI	Ancient Woodland Inventory
AWIS	Ancient Woodland Indicator Species
BSc (Hons)	Bachelor of Science with Honours
CEMP	Construction Ecological Management Plan
CIEEM	Chartered Institute of Ecology and Environmental Management
CWS	County Wildlife Site(s)
E	East (-ern/-erly)
eDNA	Environmental Deoxyribonucleic Acid
ENE	Eastnortheasterly
EPS	European Protected Species
ESE	Eastsoutheasterly
EUNIS	European Nature Information System
G	Good
HBIC	Hampshire Biodiversity Information Centr
Hons	Honours
HRA	Habitat Regulations Assessment
HSI	Habitat Suitability Index
IAW	Inventory of Ancient Woodland
IHS	Integrated Habitat System
JNCC	Joint Nature Conservation Committee
LNR	Local Nature Reserve(s)
LWS	Local Wildlife Site(s)
M	Moderate
MAGIC	Multi-Agency Geographic Information for the Countryside
Mbiol (Hons)	Master of Biology (Mbiol) with Honours (Hons)
MCIEEM	Full member of the Chartered Institute of Ecology and Environmental Management
MEWP	Mobile Elevated Working Platform
MSc	Master of Science
mtDNA	Mitochondrial Deoxyribonucleic Acid
N	North (-ern/-erly)
N/A	Not Applicable
NE	Northeasterly
NNE	Northnortheasterly
NNR	National Nature Reserve(s)
NVAs	Night Vision Aids
NW	Northwesterly
OSWI	Other Site(s) of Wildlife Interest
P	Poor
PAWS	Plantations on Ancient Woodland Sites
pCWS	Potential County Wildlife Site(s)
PCR	Polymerase Chain Reaction
PRF	Potential Roost Feature
Ramsar	Wetland Site(s) of International Importance

Acronym	Description
RSPB	Royal Society for the Protection of Birds
S	South (-ern/-erly)
SAC	Special Area(s) of Conservation
SE	Southeasterly
SNCI	Site(s) of Nature Conservation Importance
SPA	Special Protection Area(s)
SSE	Southsoutheasterly
SSSI	Site(s) of Special Scientific Interest
SSW	Southsouthwesterly
SW	Southwesterly
TPO	Tree Preservation Order
UKHab	United Kingdom Habitat Classification
UWS	Unconfirmed Wildlife Site
W	West (-ern/-erly)
WFD	Water Framework Directive
WSW	Westsouthwesterly

Appendix D Field signs

Table 27. Descriptions of field signs used in the report (table continues).

Species	Field sign	Definition
Badger	Day nests	Bundles of grass and other vegetation where badgers may sleep above ground.
	Faeces	Usually deposited in characteristic excavated pits, concentrations of which, known as latrine sites, are typically found at home range boundaries.
	Footprints	Typically observed in damp mud, prints comprise the impression of a large, wide pad with five toes aligned in front.
	Hair traces	Black and white, appearing shiny when fresh.
	Paths	Between setts or leading to foraging areas.
	Push-throughs	Where a badger passes beneath a boundary feature creating a depression in the ground or pushes up fencing.
	Scratching posts	At the base of tree trunks.
	Setts	Comprising either single isolated entrances or a series of entrances, likely to be interconnected underground.
	Snuffle holes	Small scrapes where badgers have searched for insects, earthworms and plant tubers.
Bats	Droppings	A dropping that when rolled between fingers will crumble and disintegrate. Bats droppings vary in shape, size and particle size and they can appear sparkly as a result of the wing fragments of invertebrates within the material.
	Feeding remains	The remains of prey including butterfly and moth wings lacking an abdomen and beetle casings.
	Grease secretions	Brown in appearance and caused by an oily substance secreted by bats skin usually found around a frequently used access point or within a crevice roost feature.
	Perch abrasions	A favoured location where bats have repeatedly perched resulting, for example, in timber becoming rough or breathable roofing felt fluffing where bat claws scratch the wood or tangle in the membrane fibres respectively.
	Urine staining	A collection of urine that looks like a dense water or oil stain which may be wet or dry and smell of urine. Usually found directly below a perch roost feature that is frequently used for a longer period of time and within a cluster of bat droppings.
Birds	Droppings	White splattering's, often with a black/brown centre.
	Eggs / egg shells	Eggs are found in a variety of shapes, sizes and colours which are characteristic of different species. The presence of eggs and/or egg shells provides evidence of breeding activity.
	Feathers	Discarded feathers or fragments of down.
	Feeding remains	Different species of birds leave different types of feeding remains, but these can include empty snail shells, insect wings and carcasses.
	Pellets	A mass of undigested parts of a bird's food (i.e. bones, hair, feathers, grain husks) that are regurgitated by some bird species and particularly raptors and corvids.
	Nest - active	A nest which is in use containing eggs and/or chicks; or is being constructed.
	Nest - inactive	A nest which has collapsed or deteriorated, contains cold eggs and/or debris.
Great crested	Egg	Great crested newt eggs are white surrounded by a jelly capsule 4.5-6.0mm in diameter. Single eggs are folded inside leaves of aquatic plants.

Species	Field sign	Definition
newts		
Hazel dormice	Feeding remains	Nuts with tooth marks around the rim of the hole, smoothing it out, with a few toothmarks on the nut surface. Nuts opened by hazel dormice will have no transverse tooth marks across the rim of the nut shell.
	Active nests	Typically, these are grapefruit-size and often found in brambles or other low-growing shrubs and are most likely to be found in the autumn. Dormouse nests are woven from strips of honeysuckle bark, or similar material, and frequently have whole leaves incorporated into the outer layers. These are often collected fresh and are either green or faded to grey. The nests are spherical and lack an obvious entrance hole.
	Inactive nests	As above but showing clear signs of degradation.
Otter	Breeding sites	An area of land or open water, large enough to provide security from disturbance, with one or more potential natal dens, play areas for cubs, access to a food supply and an area where there is no risk of flooding.
	Couches	Above ground daytime resting places for otters typically comprising a nest like structure or an area of flattened vegetation.
	Feeding remains / stations	Remains such as fish skeletons.
	Footprints	Usually 5-7cm wide, with five toes and webbed feet.
	Holts	Underground sites used by otters for sleeping and resting usually situated on riverbanks.
	Latrines or spraint sites	Typically located at prominent points along riverbanks, on rocks or under bridges to mark territories.
	Natal dens	Used by female otters to give birth to cubs and are usually similar in structure to holts with an opening leading into a cavity.
	Spraints	Otter faeces which are typically 2-7cm long, black when fresh, often contain fish bone fragments and have a characteristic fishy odour.
	Slides	A worn area down a bank that otters use for play and for access to a watercourse.
Reptiles	Egg / egg shell	Grass snakes and sand lizards are the UK's only egg-laying reptiles. Grass snake eggs are laid in rotting vegetation including garden compost heaps. They typically lay 10-40 white leathery eggs which are approximately 25-30 mm in diameter.
	Moult	The molting of the skin occurs regularly in reptiles. Molting is common, and results in the entire outer layer of epidermis being lost.
Water voles	Burrows	Water vole burrows are typically wider than they are high with a diameter of 4-8cm.
	Droppings	Cylindrical with blunt ends, usually 12mm long and 4-5mm wide. The colour is variable but they are often green and sometimes have a faint musty smell.
	Latrines	Used to mark range boundaries or are located at favoured spots close to burrows. They typically consist of a flattened mass of old droppings topped with fresh ones.
	Feeding remains / stations	Pieces of cut vegetation to favoured feeding stations close to the water's edge and leave remains.
	Footprints	Star-shaped print and are typically 3-4cm long in neat piles. Well-grazed 'lawns' are also often found surrounding burrow entrances.