



ECOLOGYSOLUTIONS

Part of the ES Group

LAND OFF THE FORTY
AND CHELWORTH ROAD,
CRICKLADE,
WILTSHIRE

Ecological Assessment

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1. INTRODUCTION

1.1. Background & Proposals

1.1.1. Ecology Solutions Limited was originally commissioned by Hannick Homes & Developments Ltd in March 2021 to undertake an ecological assessment of Land off The Forty and Chelworth Road, Cricklade, Wiltshire (see Plan ECO1), hereafter referred to as the application site.

1.1.2. The application site comprises two separate parcels of land (annotated as Parcel A and Parcel B on Plan ECO1). The development proposals are as follows:

“Outline planning application (with all matters except access reserved) for up to 49 dwellings and associated works and provision of a cemetery together with access and associated works”.

1.1.3. An Illustrative Layout Plan (Cricklade _40_001) for the proposals (Parcel A) has been produced, with a copy included at Appendix 1 of this assessment.

1.2. Application Site Characteristics

1.2.1. Parcel A is 2.998 hectares in size and is located to the south of The Forty, Cricklade. This parcel primarily comprises two semi-improved grassland fields separated by and bounded by treelines and hedgerows. Existing residential development is located to the north, north-east and west of Parcel A, with agricultural land located to the south and south-west.

1.2.2. Parcel B is 0.769 hectares in size and is located to the north of Chelworth Road (to the west of Parcel A). This parcel comprises semi-improved grassland bounded by hedgerows to the north, west and south. Existing residential development and gardens are located to the east, with agricultural land located to the north and west.

1.3. Ecological Assessment

1.3.1. This document assesses the ecological interest of the application site. The importance of the habitats present is evaluated with regard to current guidance published by the Chartered Institute of Ecology and Environmental Management (CIEEM)¹.

1.3.2. This report outlines the existing baseline conditions for the application site, setting these in the correct planning policy and legal framework and assessing any potential impacts which may occur from the proposed development. Appropriate mitigation where necessary is identified such that it will offset any negative impacts

¹ CIEEM (2018) *Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine*. Version 1.2 Updated April 2022. Chartered Institute of Ecology and Environmental Management, Winchester.

and where possible provide for the ecological enhancement of the application site, in accordance with relevant planning policy.

2. SURVEY METHODOLOGY

- 2.1. The methodology utilised for the survey work can be split into three areas, namely desk study, habitat survey and faunal survey. These are discussed in more detail below.

2.2. Desk Study

- 2.2.1. In order to compile background information on the application site and its immediate surroundings, Ecology Solutions contacted Wiltshire & Swindon Biological Records Centre (WSBRC) in July 2023.
- 2.2.2. Information has been provided by WSBRC and is referenced within this report where appropriate. Due to publication conditions, the raw data received as part of the desk study exercise cannot be included as an appendix to this document; however, pertinent information regarding non-statutory designated sites is illustrated on Plan ECO1.
- 2.2.3. Further information on designated sites from a wider search area was also obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)² database. This information is reproduced at Appendix 2 and where appropriate on Plan ECO1.

2.3. Habitat Survey

- 2.3.1. Habitat survey work was undertaken in May 2021 (Parcel A only) and August 2023 (Parcels A and B) to ascertain the general ecological value of the application site and to identify the main habitats and associated plant species.
- 2.3.2. The application site was surveyed based around the extended Phase 1 survey methodology³ and UK Habitat Classification (UKHab) methodology⁴, as recommended by Natural England and DEFRA, whereby the habitat types present are identified and mapped, together with an assessment of the species composition of each habitat. This technique provides an inventory of the basic habitat types present and allows identification of areas of greater potential which require further survey. Any such areas identified can then be examined in more detail.
- 2.3.3. Using the above method, the application site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.
- 2.3.4. All the species that occur in each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent at different seasons.

² MAGIC website. Available at: <http://magic.defra.gov.uk>

³ Joint Nature Conservation Committee (2010). *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. England Field Unit, Nature Conservancy Council, reprinted JNCC, Peterborough.

⁴ UKHab Ltd (2023). *UK Habitat Classification Version 2.0* Available at <https://www.ukhab.org>

However, given that the August 2023 survey was undertaken at an optimal time of year for the assessment of grassland habitats, it is considered that an accurate and robust assessment has been made.

2.4. Faunal Survey

2.4.1. General faunal activity observed during the course of the extended Phase 1 survey was recorded, whether visually or by call. Specific attention was paid to the presence or potential presence of any protected, rare, notable or Priority Species, and the extent to which the application site provides any potential opportunities for these species / groups. In addition, specific surveys were undertaken in respect of bats, Badgers *Meles meles*, amphibians and reptiles.

2.4.1. **Bats.** A ground level appraisal survey was undertaken in May 2021 (Parcel A only) and August 2023 (Parcels A and B) to assess the potential of existing trees, buildings and structures within and immediately adjacent to the application site to support roosting bats. This work was undertaken by experienced bat workers and aimed to establish the likelihood of presence / absence of bats.

2.4.2. Field surveys were undertaken with regard to best practice guidelines issued by Natural England (2004⁵), the Joint Nature Conservation Committee (2004⁶) and the Bat Conservation Trust (2016⁷).

2.4.3. All trees present within and immediately adjacent to the application site were assessed for their potential to support roosting bats. For a tree to be classed as having some potential for roosting bats it must usually have one or more of the following characteristics:

- obvious holes, e.g., rot holes and old woodpecker holes;
- dark staining on the tree below the hole;
- tiny scratch marks around a hole from bats' claws;
- cavities, splits and/or loose bark from broken or fallen branches, lightning strikes etc.;
- very dense covering of mature Ivy *Hedera helix* over trunk.

2.4.4. Consideration was also afforded to the habitats present within and adjacent to the application site in terms of the potential opportunities that they provide for foraging and commuting bats in the local area.

2.4.5. Bat activity surveys were undertaken in order to establish whether any features of potential significance for foraging and commuting bats are present within or adjacent to the application site (Parcel A). Monthly activity surveys were completed between June and October 2021 inclusive.

⁵ Mitchell-Jones, A. J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

⁶ Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2004). *Bat Workers' Manual*. 3rd edition. Joint Nature Conservation Committee, Peterborough.

⁷ Collins, J. (Eds.) (2016). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edition)*. Bat Conservation Trust, London.

- 2.4.6. For the walked transects, routes were identified to ensure comprehensive coverage of all habitats present within the application site. Surveyors utilised Echo Meter 2 (EMT2) bat detectors to aid identification of bats and record data. All bat activity observed or recorded on the detector was noted by the surveyor. Transect surveys were conducted from 15 minutes before sunset to approximately 2 hours after sunset. Walked transect survey work was completed during optimal conditions for bat surveys.
- 2.4.7. In addition, a number of automated bat detectors (SM4 and SM Mini) were deployed each month for a minimum of five consecutive nights in strategic locations within the application site. All data recorded was subsequently analysed using bat sound analysis software, providing long-term data regarding the use of the application site by foraging and commuting bats. Detectors were set to record each night from 20 minutes prior to sunset until 20 minutes after sunrise.
- 2.4.8. All data recorded during the walked transects and static detector surveys were subsequently analysed using Kaleidoscope bat sound analysis software.
- 2.4.9. **Badgers.** Survey work to search for evidence of Badgers was also undertaken in May 2021 (Parcel A only) and August 2023 (Parcels A and B), which comprised two main elements. The first of these was a thorough search for evidence of Badger setts. For any setts encountered each sett entrance would be recorded and plotted, even if the entrance appeared disused. The following information was recorded if appropriate:
- (i) The number and location of well used or very active entrances; these are clear of any debris or vegetation and are obviously in regular use and may, or may not, have been excavated recently.
 - (ii) The number and location of inactive entrances; these are not in regular use and have debris such as leaves and twigs in the entrance or have plants growing in or around the edge of the entrance.
 - (iii) The number of disused entrances; these have not been in use for some time, are partly or completely blocked and cannot be used without considerable clearance. If the entrance has been disused for some time all that may be visible is a depression in the ground where the hole used to be and the remains of the spoil heap.
- 2.4.10. Secondly, Badger activity such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs were also searched for in order to build up a picture of the use of the application site by Badgers.
- 2.4.11. **Amphibians.** Specific survey work was undertaken in June 2021 to ascertain any evidence to indicate the presence or absence of amphibians (including Great Crested Newts *Triturus cristatus*) within the application site and local area.

- 2.4.12. Survey work was undertaken of all wet ditches and depressions recorded within and immediately adjacent to the application site boundary, in addition to off-site waterbodies present in the local area where permission was granted to undertake survey work by the relevant landowner (with ponds identified from OS mapping and aerial photography).
- 2.4.13. The survey methodology entailed the completion of environmental DNA (eDNA) surveys of all relevant waterbodies. This survey methodology entails collecting twenty 40ml samples of water at equally spaced locations around the perimeter of each waterbody, where access is available. The 20 samples are then mixed in a plastic sample bag to form a single amalgamated sample of the water from the pond. The amalgamated sample is then mixed thoroughly to ensure that any DNA present is distributed evenly throughout the sample bag.
- 2.4.14. A total of 15ml of water is then taken from the amalgamated sample and added to 35ml of ethanol within a separate sample tube, to preserve any DNA present. The sample tubes are then shaken vigorously to mix the water sample and ethanol thoroughly and to prevent the degradation of any DNA. This technique is then repeated six times, using water from the amalgamated sample, such that a total of six sample tubes are filled for the waterbody.
- 2.4.15. The six sample tubes are subsequently sent to be analysed by a laboratory using Polymerase Chain Reaction (PCR) amplification techniques. The analysis involves producing DNA sequences that verify the taxonomic assignment of amplified DNA signals.
- 2.4.16. Each sample is run in 12 replicates. The results are then reported as the proportion of these 12 replicates that have successfully amplified, indicating whether Great Crested Newt DNA is present (e.g., 1/12 up to 12/12). A negative result is given if all of the replicates are negative; a positive result is given if one or more of the replicates are positive.
- 2.4.17. **Reptiles.** Specific surveys to identify the presence or absence of common reptiles within the application site were undertaken at the application site (Parcels A and B) between August and October 2023 inclusive.
- 2.4.18. Survey work was undertaken with regard to the methodology outlined in the *Herpetofauna Workers' Manual*⁸ and involved the deployment of 180 artificial refugia or 'tins' (0.5m x 0.5m squares of roofing felt) distributed throughout all suitable reptile habitats within the application site. These tins will be left in place for a suitable period of time to 'bed in'.
- 2.4.19. The tins provide shelter and heat up quicker than the surroundings in the morning and can remain warmer than the surroundings in the

⁸ Gent, T. & Gibson, S. (2003). *Herpetofauna Workers' Manual*. JNCC, Peterborough.

late afternoon. Being ectothermic (cold blooded), reptiles use them to bask and raise their body temperature which allows them to forage earlier and later in the day.

- 2.4.20. Subsequently, the artificial refugia (and any natural refugia such as logs or brash within the site) were inspected during suitable weather conditions, with details recorded of any reptiles encountered. Any reptiles observed within the site in general (e.g., whilst walking quietly and carefully between refugia) were also noted. A total of seven check surveys were completed in suitable weather conditions.
- 2.4.21. Suitable weather conditions for carrying out the surveys are when the air temperature is between 9 and 18°C. Heavy rain and windy conditions were avoided.

3. ECOLOGICAL FEATURES

3.1. As outlined above, the application site was subject to survey work in May 2021 (Parcel A only) and August 2023 (Parcels A and B). The vegetation present enabled the habitat types to be satisfactorily identified and an accurate assessment of the ecological interest of the habitats to be undertaken.

3.2. The following main habitat / vegetation types were identified within the application site:

- Species-poor Semi-improved Grassland;
- Semi-improved Grassland;
- Hedgerows and Treelines;
- Dense Scrub and Ruderal Vegetation; and
- Existing Structures.

3.3. The location of these habitats is shown on Plan ECO2. Each habitat present is described below with an account of their representative plant species.

3.4. Species-poor Semi-improved Grassland

3.4.1. Field F1 is located in the north of Parcel A and comprises species-poor semi-improved grassland that has been divided into smaller paddocks with electric wire fencing. Parts of this field were recorded to be subject to intensive grazing by Horses in August 2023, with other areas not currently subject to grazing supporting a longer sward.

3.4.2. Species associated with this habitat include Yorkshire-fog *Holcus lanatus*, Perennial Rye-grass *Lolium perenne*, Cock's-foot *Dactylis glomerata*, Common Sorrel *Rumex acetosa*, Common Mouse-ear *Cerastium fontanum*, Lords-and-ladies *Arum maculatum*, Sedge *Carex* sp, Creeping Buttercup *Ranunculus repens*, Cut-leaved Crane's-bill *Geranium dissectum* and Ribwort Plantain *Plantago lanceolata*.

3.5. Semi-improved grassland

3.5.1. Field F2 comprises a large semi-improved grassland field which comprises the majority of Parcel A. Whilst this field was originally recorded to be subject to intensive grazing by Cattle in May 2021, it was recorded to support a longer more unmanaged, rank sward during updated survey work undertaken in August 2023.

3.5.2. Species recorded in F2 include Perennial Rye, Yorkshire-fog *Holcus lanatus*, Cock's-foot, Sweet Vernal-grass *Anthoxanthum odoratum*, Cow Parsley *Anthriscus sylvestris*, Red Clover *Trifolium pratense*, Common Sorrel, Creeping Buttercup and Broad-leaved Dock *Rumex obtusifolius*. This field supports various dips and depressions including damper areas dominated by Soft Rush *Juncus effusus* and Hard rush *Juncus inflexus*.

- 3.5.3. Parcel B primarily comprises of a large semi-improved grassland field (F3) which at the time of survey in August 2023 was recorded to support a long, rank grassland sward. Species recorded in this habitat include Perennial Rye-grass, Cock's-foot, False Oat-grass *Arrhenathrum elatius*, Yorkshire-fog, Marsh Foxtail *Alopecurus geniculatus*, Creeping Bent *Agrostis stolonifera*, Crested Dog's-tail *Cynosurus cristatus*, White Clover *Trifolium repens*, Common Mouse-ear, Creeping Thistle *Cirsium arvense* and Common Sorrel.

3.6. Hedgerows and treelines

- 3.6.1. Treeline T1 is located along the northern boundary of Parcel A adjacent to The Forty. This feature comprises a line of unmanaged scrub and young trees, dominated by Blackthorn *Prunus spinosa*, with other species present including Pedunculate Oak *Quercus robur*, Ash *Fraxinus excelsior* and Hawthorn *Crataegus monogyna*.
- 3.6.2. Treeline T2 represents the boundary between Fields F1 and F2 in the northern part of Parcel A. This feature primarily comprises unmanaged Willow *Salix spp.* trees in addition to Ash, Blackthorn *Prunus spinosa* and Hawthorn.
- 3.6.3. Hedgerow H1 is located on the western boundary of F2 and comprises a managed Hornbeam *Carpinus betulus* hedgerow associated with the adjoining residential property and a fence.
- 3.6.4. Hedgerow H2 is situated on the south-western boundary of F2. This hedgerow is dominated by Blackthorn, with other species present including Field Maple *Acer campestre*, Hawthorn, Elder *Sambucus nigra*, Ash, Dog Rose *Rosa canina* and Bramble.
- 3.6.5. Hedgerow H3 forms the south-eastern boundary of Parcel A and supports a similar complement of species to H2.
- 3.6.6. Hedgerow H4 represents a dense band of dense Bramble scrub with ruderal vegetation, associated with the fence line adjoining existing residential development to the north-east of Parcel A.
- 3.6.7. Hedgerows H5, H6 and H7 form part of the northern, southern and eastern boundaries of Field F3 respectively (which incorporates Parcel B). The eastern part of H5 and H7 are located within the application site boundary. These features represent unmanaged hedgerows approximately 6 metres in height, which are dominated by Blackthorn with other species present including Elm *Ulmus procera*, Hawthorn, Field Maple, Ash, Elder, Bramble and Dog-Rose.
- 3.6.8. Species present in the ground layer of hedgerows and treelines within the application site include Bramble *Rubus fruticosus* agg., Cleavers *Galium aparine*, Cow Parsley *Anthriscus sylvestris*, Lords-and-ladies *Arum maculatum*, Ivy, Sedges *Carex spp.* and Lesser Celandine *Ranunculus ficaria*.

3.7. Dense Scrub and Ruderal Vegetation

- 3.7.1. An area of dense scrub with ruderal vegetation is located along part of the south-western boundary of F2 (Parcel A), adjoining hedgerow H2. This area of dense scrub primarily comprises Blackthorn and Hawthorn in addition to Bramble, Elder and Dog Rose.
- 3.7.2. This area also supported tall ruderal vegetation with species present including Cow Parsley *Anthriscus sylvestris*, Cleavers *Galium aparine*, Lords and Ladies *Arum maculatum*, Red Dead-nettle *Lamium purpureum*, Common Nettle *Urtica dioica*, Spear Thistle *Cirsium vulgare* and Broadleaved Dock *Rumex obtusifolius*.

3.8. Existing Structures

- 3.8.1. A wooden shed / Horse shelter was recorded to be present within field F1 during the survey undertaken in August 2023, with a slanted corrugated metal sheet roof.

3.9. Background Information.

- 3.9.1. The desk study undertaken with WSBRC did not return any records from within or immediately adjacent to the application site boundary. Furthermore, no records of invasive non-native botanical species were returned from within or immediately adjacent to the application site boundary.
- 3.9.2. The nearest record of notable plant species returned pertains to Snake's-head Fritillary *Fritillaria meleagris*, recorded at a location approximately 0.6km to the east of the application site in 2015.
- 3.9.3. Other records of protected and notable botanical species recorded within the search area included Great Yellow Cress *Rorippa amphibia*, Tubular Water-dropwort *Oenanthe fistulosa*, River Water-dropwort *Oenanthe fluviatilis*, Yellow-juiced Poppy *Papaver lecoqii*, Good King Henry *Blitum bonus-henricus*, Orange Foxtail *Alopecurus aequalis*, Pink Water Speedwell *Veronica catenate*, Knotted Hedge Parsley *Torilis nodosa*, Slender Spike-rush *Eleocharis uniglumis*, Great Burnet *Sanguisorba officinalis*, Sweet-brier *Rosa rubiginosa*, Pale Toadflax *Linaria repens*, Downy-fruited Sedge *Carex filiformis*, Strawberry Clover *Trifolium fragiferum*, Louisewort *Pedicularis sylvatica*, Pasqueflower *Pulsatilla grandis*, Rat's-tail Fescue *Vulpia myuros* and Thread-leaved Water-crowfoot *Ranunculus trichophyllus*.
- 3.9.4. None of these species were recorded within the application site during the survey work undertaken and given the habitats present it is considered unlikely that they would be present.

4. WILDLIFE USE OF THE APPLICATION SITE

- 4.1. During surveys that have been undertaken within the application site, general observations have been made of any faunal use, with specific attention paid to the potential presence of protected or notable species. Specific surveys were also undertaken for bats, Badgers, amphibians and reptiles.

4.2. Bats

Preliminary Roost Assessments

- 4.2.1. **Existing Buildings / Structures.** The wooden shed / Horse shelter present in the northern part of Field F1 does not provide any potential opportunities for roosting bats, primarily on account of its structure as it comprises wooden walls and a slanted corrugated metal sheet roof. The structure does not possess any voids or other crevices which could be utilised by this group.
- 4.2.2. There are no other buildings or structures present within or located immediately adjacent to the application site which provide potential opportunities for roosting bats.
- 4.2.3. **Trees.** The vast majority of existing trees present within and adjacent to the application site do not have any potential to support roosting bats, lacking features such as cracks, splits, holes or a dense covering of Ivy.
- 4.2.4. A number of Willow trees associated with treeline T2 were identified to support cracks and splits from the initial ground level assessment which could be of some value for bats. However, following the completion of further detailed inspection of each of these features utilising endoscopes undertaken in June 2021 identified that crevices associated with these features were either open to the elements, light and/or damp. As such, adopting a precautionary approach, these trees were assessed to have low potential to support roosting bats.
- 4.2.5. The updated ground-level assessment undertaken in August 2023 did not identify any material changes in terms of the opportunities that these (or indeed other) trees present within and adjacent to the application site provide for roosting bats.
- 4.2.6. There are no trees present within or adjacent to Parcel B that posses potential features of value for roosting bats.

Activity Surveys – Walked Transects

- 4.2.7. As outlined in Section 2 above, bat activity surveys were undertaken at the application site (Parcel A) between June and October 2021 inclusive, to ascertain the value of habitats present within the application site for foraging and commuting bats in the local area. This included walked transect surveys in addition to static detector surveys.

- 4.2.8. Table 1 below outlines the dates and weather conditions for the walked transect survey work which was undertaken.

Month	Survey Type	Date	Weather Conditions
June	Dusk	14/06/2021	19°C, 50% cloud cover, light breeze, dry
July	Dusk	12/07/2021	18°C, 20% cloud cover, light breeze, dry
August	Dusk	17/08/2021	16°C, 100% cloud cover, light breeze, dry
September	Dusk	14/09/2021	16°C, 100% cloud cover, light breeze, light drizzle
September	Dawn	15/09/2021	13°C, 100% cloud cover, light breeze, dry
October	Dusk	18/10/2021	16°C, 100% cloud cover, light breeze, light drizzle

Table 1: Summary of dates and weather conditions of walked transect surveys

- 4.2.9. Tables 2 to 6 inclusive below summarise the overall findings of the walked transect surveys undertaken at the application site, with the total number of registrations of each species identified during each survey.

June	
Species	Total Number of Registrations
Common Pipistrelle <i>Pipistrellus pipistrellus</i>	35
Soprano Pipistrelle <i>Pipistrellus pygmaeus</i>	33
Noctule <i>Nyctalus noctula</i>	9
<i>Myotis</i> sp.	1

Table 2: Bat registrations during June dusk activity survey

July	
Species	Total Number of Registrations
Common Pipistrelle	32
Soprano Pipistrelle	84
<i>Myotis</i>	1
Noctule	53

Table 3: Bat registrations during July dusk activity survey

August	
Species	Number of Registrations
Common Pipistrelle	8
Soprano Pipistrelle	7
Noctule	9

Table 4: Bat registrations during August dusk activity survey

September	
Species	Number of Registrations
Common Pipistrelle	11
Soprano Pipistrelle	19
<i>Myotis</i> sp.	2
Noctule	99

Table 5: Bat registrations during September dusk and dawn activity survey (combined)

October	
Species	Number of Registrations
Common Pipistrelle	24
Soprano Pipistrelle	4
Noctule	1
Nathusius Pipistrelle <i>Pipistrellus nathusii</i>	2

Table 6: Bat registrations during October dusk activity survey

- 4.2.10. The activity surveys completed at the application site identified that the application site is utilised by a range of bats for foraging and commuting. Surveys identified that the majority of activity pertains to Common Pipistrelle, Soprano Pipistrelle, and Noctule bats, with occasional *Myotis* sp. and Nathusius' Pipistrelle registrations recorded.
- 4.2.11. Bat activity was recorded throughout Parcel A. However, analysis of the data recorded identified that more activity was recorded in the north of the application site (field F1) primarily treelines T1 and T2. Activity was generally evenly distributed along the eastern, western and southern boundaries of field F2.

Activity Surveys – Static Detectors

- 4.2.12. As outlined in Section 2, static detector surveys were also undertaken on a monthly basis between May and October 2021. The dates of each survey period are outlined in Table 7 below.

Survey	Dates	Number of Static Monitoring Nights
May 2021	20/05/2021 – 25/05/2021	5
June 2021	14/06/2021 – 21/06/2021	8
July 2021	13/07/2021 – 19/07/2021	8
August 2021	17/08/2021 – 23/08/2021	7
September 2021	14/09/2021 – 19/09/2021	6
October 2021	18/10/2021 – 25/10/2021	8

Table 7: Dates of static detector monitoring periods

- 4.2.13. Detectors were deployed at two strategic locations within the application site (Parcel A) each month (labelled 1 and 2 on Plan ECO3). The findings of each period of survey are summarised in Tables 8 to 11 inclusive below.
- 4.2.14. The results are presented as the average number of registrations of each species per night at each location, which were recorded during the survey period (i.e. within any given month).

June		
Species	Static Detector Locations	
	1	2
Common Pipistrelle	0.2	0.6
Soprano pipistrelle	8.4	0.8
Nathusius' pipistrelle	-	0.2
Noctule	0.2	0.2
Myotis sp.	0.2	5.0

Table 8: Results of June static detector survey (average number of registrations across the survey period per species)

July		
Species	Static Detector Locations	
	1	2
Common Pipistrelle	48.8	1
Soprano pipistrelle	49.8	0.9
Nathusius' pipistrelle	1.1	-
Noctule	15.8	1.1
Myotis sp.	1.8	-
Brown Long-eared <i>Plecotus auritus</i>	0.1	-
Serotine <i>Eptesicus serotinus</i>	0.5	-
Leisler's bat <i>Nyctalus leisleri</i>	1.0	-

Table 9: Results of July static detector survey (average number of registrations across the survey period per species)

August		
Species	Static Detector Locations	
	1	2
Common Pipistrelle	12.9	11.4
Soprano pipistrelle	15.6	7.8
Noctule	1.4	13.9
Myotis sp.	2.1	2.4
Leisler's bat	0.1	1.6
Serotine	0.1	1.5
Brown Long-eared	0.1	-

Table 10: Results of August static detector survey (average number of registrations across the survey period per species)

September		
Species	Static Detector Locations	
	1	2
Common Pipistrelle	3.5	17.7
Soprano pipistrelle	2.8	0.8
Nathusius' pipistrelle	-	0.3
Noctule	14.5	-
Leisler's bat	0.1	-
Brown Long-eared	-	0.3
Myotis sp.	2.0	4.0
Barbastelle	-	0.1
Serotine	-	0.1

Table 11: Results of September static detector survey (average number of registrations across the survey period per species)

October		
Species	Static Detector Locations	
	1	2
Common Pipistrelle	38.4	3.1
Soprano pipistrelle	4.4	1.5
Noctule	0.4	0.8
Leisler's bat	0.2	-
Myotis sp.	0.3	1.9
Barbastelle	-	0.1

Table 11: Results of October static detector survey (average number of registrations across the survey period per species)

- 4.2.15. As with the walked transect survey, the majority of bat activity recorded during the static detector surveys pertained to registrations of Common Pipistrelle, Soprano Pipistrelle and Noctule bats. Detectors also recorded the presence of other species during selected months, including *Myotis* spp., Nathusius' Pipistrelle, Brown Long-eared, Serotine, Leisler's and Barbastelle bats.
- 4.2.16. Activity of these additional species was limited both in terms of the months during which it was recorded and also in terms of the average number of registrations. For instance, surveys did not record more than 5.0 registrations of *Myotis* bats on average per night during any given survey period, and no more than 1.6 registrations of Leisler's bats on average per night during a survey period. Indeed, the findings for the other species were lower still.
- 4.2.17. Static surveys identified relatively little difference between activity levels at Locations 1 and 2 during most months, either in terms of the number of registrations recorded or the species present.
- 4.2.18. Specifically regard to more light sensitive bat species, including Barbastelle and Brown Long-eared bats, activity levels recorded were low (maximum of 0.3 registrations on average per night per survey period for Brown Long-eared and 0.1 for Barbastelle respectively), and recorded in selected months only (Brown Long-eared in July, August and September and Barbastelle at Location 2 in September and October only).
- 4.2.19. **Background Information.** The desk study undertaken with WSBRC did not return any records of bat species within or directly adjacent to the application site. The closest record returned pertains to an unidentified bat species, returned from a location approximately 0.2km to the northeast of the application site from 2019.
- 4.2.20. Other bat species recorded within the locality include Brown Long-eared Bat, Noctule, Serotine, Common Pipistrelle and Soprano Pipistrelle.

4.3. Badgers

- 4.3.1. Survey work undertaken in May 2021 (Parcel A) and August 2023 (Parcels A and B) did not identify the presence of any Badger setts within or in close proximity to the application site. Furthermore, no other evidence indicating the presence of Badgers (such as latrines, footprints, hairs, or foraging signs) was recorded within the application site during the survey work undertaken.
- 4.3.2. The woodland, scrub and grassland habitats present within the application site offer suitable sett-building and foraging opportunities for this species.
- 4.3.3. **Background Information.** The desk study undertaken with WSBRC did not return any records of Badgers from within or adjacent to the application site. The closest record returned was from a location approximately 0.7km to the south of the application site from 2016.

4.4. Hazel Dormice

- 4.4.1. The existing hedgerows and treelines present within the application site offer superficially suitable opportunities for foraging and nesting Hazel Dormice *Muscardinus avellanarius*. However, it is noted that these features are poorly connected to suitable Dormouse habitat within the wider area, with the application site separated from areas of extensive woodland and scrub and adjoining existing residential development to the north, north-east and west.
- 4.4.2. Moreover, treelines and hedgerows within the application site have limited botanical and structural diversity, such that they would provide sub-optimal opportunities for this species in any event.
- 4.4.3. A visual search of treelines and hedgerows for the presence of any nests undertaken during August 2023 did not record any evidence to indicate the presence of Dormice.
- 4.4.4. Given the limited connectivity between the application site and superficially suitable habitat for Dormice in the local area, the sub-optimal nature of the habitats on-site, the lack of any evidence to indicate presence and the absence of any records from the local area, it is considered highly unlikely that Dormice would be present within the application site.
- 4.4.5. On this basis, no further consideration has been afforded to this species within this Ecological Assessment.
- 4.4.6. **Background Information.** The desk study undertaken with WSBRC did not return any records of Hazel Dormice within the application site boundary or local area.

4.5. Other Mammals

- 4.5.1. The application site does not support any suitable riparian or aquatic habitat that would provide opportunities for Water Vole *Arvicola amphibius* or Otter *Lutra lutra*. On this basis, no further consideration has been afforded to these species within this Ecological Assessment.
- 4.5.2. The habitats present within the application site could provide suitable foraging, dispersal and sheltering opportunities for Hedgehogs *Erinaceus europaeus* in the local area, primarily associated with the hedgerows, scrub and ruderal vegetation along the field boundaries.
- 4.5.3. **Background Information.** The desk study undertaken with WSBRC did not identify any species of Water Vole or Otter from within or adjacent to the application site. The nearest records of Otter was returned from a location approximately 0.9km to the north-east from 2020, with the nearest record of Water Vole returned from a location approximately 0.2km to the south-east from 2020.
- 4.5.4. The desk study identified several records of Hedgehogs from the local area, the nearest of which was from a location approximately 0.1km to the north of the application site from 2021.

4.6. Amphibians

- 4.6.1. A small number of ditches and depressions are present within Parcel A of the application site, associated with boundary hedgerows and undulations within field F2. There are no waterbodies present within or adjacent to Parcel B. In addition, a number of off-site waterbodies are also present in the local area, with locations illustrated at Plan ECO4.
- 4.6.2. In light of the potential opportunities that waterbodies present within the application site and local area could provide for breeding amphibians (including Great Crested Newts), specific survey and assessment work was undertaken in June 2021.
- 4.6.3. Although it is known that Great Crested Newts can disperse up to 500 metres through suitable terrestrial habitat from their breeding pond, it is widely accepted that they tend to utilise suitable terrestrial habitat within a much closer distance. Activity is usually concentrated within 100 metres of breeding ponds, with key habitat is located within 50 metres (typically described by Natural England as 'core habitat').
- 4.6.4. As such, permission was requested from the relevant landowners in May 2021 to undertake survey work of all off-site waterbodies present within 250 metres of the application site boundary (specifically Parcel A). The intention was to undertake eDNA survey of waterbodies both present within the application site and local area, in accordance with the methodology set out at Section 2 above.

- 4.6.5. At the time of the survey visit in June 2021, the waterbodies which had been recorded to be present within and immediately adjacent to the application site during the initial Phase 1 survey in May 2021 had fully dried up, preventing the ability to undertake eDNA survey work. These features were again recorded to be completely dry during the updated August 2023 survey.
- 4.6.6. Whilst permission was sought to survey off-site waterbodies in May 2021, consent was not obtained from any relevant landowners to undertake survey work on their land. As such, it was not possible to complete eDNA survey work of any off-site waterbodies in 2021.
- 4.6.7. The habitats present within the application site boundary provide superficially suitable terrestrial opportunities for amphibians, primarily in the form of longer grassland, hedgerows, trees and scrub. However, areas of intensively grazed grassland present within Parcel A (F1) provide sub-optimal opportunities at best for this species.
- 4.6.8. During the course of reptile survey work undertaken in 2023, a total of four adult Great Crested Newts were recorded under artificial refugia along the western boundary of field F3. Whilst these were recorded outside of the application site boundary (i.e. not within Parcel B), they were recorded in contiguous habitat and could therefore potentially utilise habitat within this part of the application site.
- 4.6.9. No Great Crested Newts were recorded to be present within Parcel A during the reptile surveys in 2023.
- 4.6.10. **Background Information.** The desk study undertaken with WSBRC did not return any records of amphibian species from within or immediately adjacent to the application site.
- 4.6.11. A total of 26 records of Great Crested Newts were returned from within 2km of the application site. The nearest record was returned from a location approximately 0.2km to the east of the application site, recorded in 2014.
- 4.6.12. Other records of amphibian species returned within the data search pertained to Common Frog *Rana temporaria* and Common Toad *Bufo bufo*.

4.7. Reptiles

- 4.7.1. Survey work undertaken in August 2023 identified that the application site supported superficially suitable reptile habitat, primarily in the form of longer grassland and tall ruderal vegetation. To ascertain the presence or absence of this group specific survey work was therefore undertaken, in accordance with the methodology set out in Section 2 above.

4.7.2. A total of 134 tins were utilised for the reptile survey. Given that the total size of the application site (Parcels A and B combined) is approximately 4.2 hectares, the density of the tins therefore significantly exceeded the standard density of 10 per hectare.

4.7.3. The results of these surveys are summarised in Table 13 below.

Date	Survey Number	Weather Conditions	Reptiles Recorded
18/09/23	1	100% cloud cover, 17°C	No Reptiles Recorded
22/09/23	2	15% cloud cover, 12°C	No Reptiles Recorded
26/09/23	3	30% cloud cover, 17°C	No Reptiles Recorded
03/10/23	4	15% cloud cover, 16°C	No Reptiles Recorded
06/10/23	5	30% cloud cover, 16°C	No Reptiles Recorded
09/10/23	6	100% cloud cover, 18°C	No Reptiles Recorded. 4 x GCN
11/10/23	7	100% cloud cover, 18°C	No Reptiles Recorded.

Table 13: Reptile Survey Results

4.7.4. No reptiles were recorded within either Parcel A or Parcel B during the survey work undertaken in September and October 2023.

4.7.5. As such, it is considered highly unlikely that common reptiles are present within the site. No further consideration has been afforded to this group within this Ecological Assessment.

4.7.6. **Background Information.** The desk study undertaken with WSBRC did not return any records of common reptiles from within or immediately adjacent to the application site. The nearest record pertained to Grass snake *Natrix helvetica*, recorded at a location approximately 0.2km to the east of the application site from 2020.

4.7.7. Other records of reptile species returned from the locality include Common lizard *Zootoca vivipara*, Adder *Vipera berus* and Slow-worm *Anguis fragilis*.

4.8. Birds

4.8.1. The hedgerows, treelines and scrub habitats within the application site provide potential opportunities for nesting birds. However, the semi-improved grassland that comprises the majority of the application site offers fairly limited opportunities for this group.

There is no evidence to suggest that any particularly rare, protected, or notable bird species or assemblages are likely to be reliant upon the application site.

- 4.8.2. **Background records.** The desk study undertaken with WSBRC did not return any records of protected bird species within or directly adjacent to the site. The closest record was of Swift *Apus apus* from a location approximately 0.1km to the southwest of the application site from 2007.
- 4.8.3. Other protected and notable bird species records noted within the local area include Tree Sparrow *Passer montanus*, House Sparrow *Passer domesticus*, Starling *Sturnus vulgaris*, Greylag Goose *Anser anser*, Whooper Swan *Cygnus cygnus*, Little Ringed Plover *Charadrius dubius*, Golden Plover *Pluvialis apricaria*, Lapwing *Vanellus vanellus*, Black Tern *Chlidonias niger*, Little Gull *Hydrocoloeus minutus*, Curlew *Numenius arquata*, Eurasian Whimbrel *Numenius phaeopus*, Turtle Dove *Streptopelia turtur*, Kingfisher *Alcedo atthis*, Cuckoo *Cuculus canorus*, Sparrowhawk *Accipiter nisus*, Buzzard *Buteo buteo*, Marsh Harrier *Circus aeruginosus*, Red Kite *Milvus milvus*, Western Osprey *Pandion haliaetus*, Peregrine *Falco peregrinus*, Hobby *Falco subbuteo*, Skylark *Alauda arvensis*, Woodlark *Lullula arborea*, Reed Bunting *Emberiza schoeniclus*, Brambling *Fringilla montifringilla*, Red Crossbill *Loxia curvirostra*, Tree Pipit *Anthus trivialis*, Spotted Flycatcher *Muscicapa striata*, Black Redstart *Phoenicurus ochruros*, Common Firecrest *Regulus ignicapilla*, Redwing *Turdus iliacus*, Fieldfare *Turdus pilaris*, Little Egret *Egretta garzetta*, Mistle thrush *Turdus viscivorus* and Barn Owl *Tyto alba*.

5. ECOLOGICAL EVALUATION

5.1. The Principles of Site Evaluation

- 5.1.1. The latest guidelines for ecological evaluation produced by CIEEM propose an approach that involves professional judgement, but makes use of available guidance and information, such as the distribution and status of the species or features within the locality of the project.
- 5.1.2. The methods and standards for site evaluation within the British Isles have remained those defined by Ratcliffe⁹. These are broadly used across the United Kingdom to rank sites, so priorities for nature conservation can be attained. For example, current Site of Special Scientific Interest (SSSI) designation maintains a system of data analysis that is roughly tested against Ratcliffe's criteria.
- 5.1.3. In general terms, these criteria are size, diversity, naturalness, rarity, and fragility, while additional secondary criteria of typicalness, potential value, intrinsic appeal, recorded history and the position within the ecological / geographical units are also incorporated into the ranking procedure.
- 5.1.4. Any assessment should not judge sites in isolation from others, since several habitats may combine to make it worthy of importance to nature conservation.
- 5.1.5. Further, relying on the national criteria would undoubtedly distort the local variation in assessment and therefore additional factors need to be taken into account, e.g., a woodland type with comparatively poor species diversity, common in the south of England may be of importance at its northern limits, say in the border country.
- 5.1.6. In addition, habitats of local importance are often highlighted within a local Biodiversity Action Plan (BAP).
- 5.1.7. Levels of importance can be determined within a defined geographical context from the immediate site or locality through to the international level.
- 5.1.8. The legislative and planning policy context are also important considerations and have been given due regard throughout this assessment.

⁹ Ratcliffe, D A (1977). *A Nature Conservation Review: the Selection of sites of Biological National Importance to Nature Conservation in Britain*. Two Volumes. Cambridge University Press, Cambridge.

5.2. Habitat Evaluation

Designated sites

Statutory sites

- 5.2.1. There are no statutory designated sites of nature conservation interest located within or immediately adjacent to the application site boundary.
- 5.2.2. The nearest statutory designated site is North Meadow Site of Scientific Interest (SSSI) and North Meadow & Clattinger Farm Special Area of Conservation (SAC), located approximately 1km to the north of the application site at its closest point (straight line distance; see Plan ECO1).
- 5.2.3. The SSSI and SAC is designated on account of the grassland habitat that it supports, and notably the presence of a significant population of the UK population of Snake's-head Fritillary *Fritillaria meleagris*.
- 5.2.4. North Meadow & Clattinger Farm SAC is a European / international designated site of nature conservation interest. The site qualifies under article 4(4) of the Directive (92/43/EEC), as it hosts the following habitats listed in Annex I:
- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)(2005)
- 5.2.5. The citations for the SAC and component SSSI are included at Appendices 3 and 4 respectively of this document.
- 5.2.6. As illustrated at Plan ECO1, the application site is separated from the closest part of the SAC / SSSI by areas of existing development and infrastructure within the town of Cricklade. Given the distances concerned and the intervening land use, combined with the nature and scale of the development proposals (small scale residential development), it is considered that the development proposals would not be likely to lead to any direct effects upon the European designated site via pathways such as direct loss of habitats, lighting or air quality.
- 5.2.7. The habitats present within the application site primarily comprise semi-improved grassland. As a result, the application site does not provide any suitable habitat which could support the Annex I species which are associated with the SAC. As a result, the application site does not represent land which could potentially be considered as 'functionally linked land' associated with the European designated site.
- 5.2.8. The development proposals will however result in an increase in local residents (albeit one that is relatively small). Recreational pressure arising due to an increase in visitors has been identified as a factor affecting the SAC /SSSI, with a Zone of Influence (Zol)

of 0 – 4.2km (inner zone) and 4.2 – 9.4km (outer zone) identified for the North Meadow part of the designated site¹⁰.

- 5.2.9. Further consideration has therefore been afforded to the potential for adverse effects to arise to the SAC / SSSI via an increase in recreational pressure, both when the proposals are considered alone and in combination with other plans and projects.
- 5.2.10. To address the potential for effects to arise, a package of avoidance and mitigation measures are proposed. The measures which are proposed fully accord with the North Meadow SAC Interim Mitigation Strategy 2023 – 2028, which was published in May 2023 by the affected local planning authorities (specifically, Wiltshire Council, Swindon Borough Council and Cotswold District Council) in conjunction with Natural England.
- 5.2.11. As the site falls within the inner part of the Zol, in line with the strategic approach the development proposals will provide avoidance and mitigation via three pathways.
- 5.2.12. The first entails the provision of an appropriate financial contribution towards Strategic Access Management and Monitoring (SAMM) measures, which are enacted at the designated site itself. These measures will avoid and mitigate for adverse effects arising from recreational activity at the designated site, and include elements such as wardening, infrastructure, education and awareness and monitoring. In line with the Interim Mitigation Strategy, a financial contribution of £323 per dwelling will be made towards SAMM.
- 5.2.13. The second element entails a further appropriate financial contribution towards off-site measures which provide alternative recreational opportunities for residents in the local area, referred to as Infrastructure Mitigation Projects (IMPs) and/or Suitable Alternative Natural Greenspace (SANG) in the Interim Mitigation Strategy. In line with the Interim Mitigation Strategy, a financial dwelling of £480 per dwelling will be made towards IMP / SANG.
- 5.2.14. Thirdly, an area of open space 0.24ha in size for use by new residents is included in the north of the site to facilitate dog walking. The scheme will provide a secure, enclosed area where dog owners can safely train and exercise their dogs off-lead. This targeted mitigation is intended to offer new residents a suitable alternative space, reducing the likelihood of dog-related pressure on the designated site. The chosen location is unlikely to encourage further access to the SAC. Revised proposals also include on-site parking, waste bins for dog fouling, informative signage, and seating areas.
- 5.2.15. Subject to the delivery of these three elements, which accord fully with the agreed strategic avoidance and mitigation strategy (Appendix 5), and which would be secured via legal agreement, it is considered that the development proposals would not lead to an

¹⁰ Gallagher, M; Hobson, D; Jones, R; Price, S; Squirrell, N (2023) 'North Meadow and Clattinger Farm Special Area of Conservation Interim Recreation Mitigation Strategy 2023 – 2028'. Cotswold District Council, Natural England, Swindon Borough Council, Wiltshire Council

adverse effect upon the integrity of any statutory designated sites, either considered alone or in combination with other plans or projects. Natural England have been consulted on the above measures through their Discretionary Advice Service (DAS) and accord with this position.

Non-statutory sites

- 5.2.16. There are no non-statutory designated sites of nature conservation interest located within or immediately adjacent to the application site.
- 5.2.17. The nearest non-statutory designated site is Dance Common Local Wildlife Site (LWS), located approximately 0.2km to the south-east of the application site at its closest point (see Plan ECO1). This non-statutory site is designated on account of the semi-natural grassland with high species diversity habitat that it supports.
- 5.2.18. A number of other non-statutory designated sites are also present within the local area. These are illustrated on Plan ECO1 and include:
- Blakehill Farm Wiltshire Wildlife Trust (WWT) Reserve LWS, located approximately 1km southwest of the application site;
 - Thames or Isis LWS, located approximately 2.2km to the east and 1.1km to the north of the application site; and
 - South Lane Meadows LWS, located approximately 1.8km to the south of the application site.
- 5.2.19. The application site is separated from all non-statutory designated sites in the local area by areas of existing development, infrastructure, and open space. Furthermore, there are no known existing hydrological links between the application site and these designations.
- 5.2.20. Standard engineering protocols and best practice shall be adopted throughout the construction phase, in order to minimise the potential for adverse effects to occur through pathways such as dust deposition and other air quality pathways, and via contaminated run-off. The full detail of such measures may be secured as part of a Construction Environmental Management Plan (CEMP), prior to the commencement of site works.
- 5.2.21. Subject to the incorporation of measures as outlined above, which can be secured as required by suitably worded planning conditions, it is considered that the development proposals would not lead to any significant adverse effects upon non-statutory designated sites.

Ancient Woodland

- 5.2.22. There are no areas of Ancient Woodland situated within or immediately adjacent to the application site, although there are

some areas of Ancient Woodland present in the local area. As such, the development proposals will not lead to any adverse effects upon this habitat.

Habitats

- 5.2.23. As illustrated on Plan ECO2 and described above, the application site primarily comprises semi-improved grassland fields. Whilst the fields support a range of botanical species as well as provide opportunities for faunal groups (see below), they are of relatively limited diversity, comprising species which are common and widespread in both a national and local context.
- 5.2.24. The habitats of relatively greater ecological value in the context of the application site are existing hedgerows, treelines and dense scrub associated with the boundaries. Although these too support relatively limited diversity at present, they comprise a range of native species and provide potential opportunities for faunal groups such as bats and birds (see below).
- 5.2.25. Under the development proposals for Parcel A, areas of existing grassland habitat will be lost to facilitate the new development. Some minor losses are also required to treelines and hedgerows in order to facilitate access. However, the majority of boundary vegetation will be retained.
- 5.2.26. The proposals for Parcel B involve the loss of small area of existing vegetation on the southern boundary to facilitate access. The remainder of Parcel B will remain as grassland, albeit with a change of use to cemetery.
- 5.2.27. In respect of retained habitats, it is recommended that measures are adopted throughout the construction phase to prevent potential damage, such as the use of temporary protective fencing (Heras or equivalent), installed in line with the relevant British Standard, to prevent encroachment of machinery and personnel, and the storage of materials such as fuels and oils away from such features.
- 5.2.28. As outlined above in respect of non-statutory designated sites, standard engineering protocols and best practice shall be adopted throughout the construction phase, in order to minimise the potential for adverse effects to occur through pathways such as dust deposition and other air quality pathways, and via contaminated run-off. Full detail of ecological mitigation measures, including measures to protect retained habitats, can be provided in the form of a CEMP.
- 5.2.29. As illustrated on the Illustrative Layout Plan (Appendix 1), the development proposals entail the provision of open space in the northern part of the application site, in addition to open space to east and south-east. Through the provision of new native and species-rich habitats such as wildflower grassland, trees, scrub, hedgerows and wetland features, there are opportunities to provide new diverse habitats.

- 5.2.30. In addition, new wetland habitats are proposed as part of the Sustainable Urban Drainage System (SuDS). Whilst the design of these features will focus on their primary function (drainage), there will be opportunities to introduce marginal, aquatic and wet wildflower grassland planting to maximise opportunities for wildlife.
- 5.2.31. Through the use of native seed mixtures, in addition to the implementation of an appropriate management regime which seeks to maximise the ecological value of retained and new habitats, it is considered that biodiversity benefits can be achieved.
- 5.2.32. It is envisaged that detailed prescriptions for the creation and enhancement of new and retained habitats and subsequent long-term management can be outlined within a Landscape and Ecological Management Plan (LEMP), which may be secured via a suitably worded planning condition. Management of open space will be undertaken with due regard to the presence of protected species, including bats and nesting birds (see below).
- 5.2.33. The retention of existing habitats and provision of new species-rich planting will also provide improved opportunities for faunal groups including bats, reptiles, invertebrates and foraging birds. The use of native, nectar-rich and berry-bearing species of local provenance as part of the planting mixture would further enhance the biodiversity value of the site post-development.
- 5.2.34. In conclusion, whilst the development proposals will necessarily result in losses to some of the existing habitats, it is considered that the retention and enhancement of the existing hedgerows, treelines and scrub, and the provision of new species-rich habitats within the site, together with long-term management, can mitigate for habitat losses and deliver enhancements.

5.3. Faunal Evaluation

Bats

- 5.3.1. **Legislation.** All bats are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"), as amended. These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) bats;
 - Deliberately to disturb bats in such a way as to: -
 - I. be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or
 - II. affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by bats; or

- To intentionally or recklessly to obstruct access to any place used by bats for shelter or protection.
- 5.3.2. While the legislation is deemed to apply even when bats are not in residence, Natural England guidance suggests that certain activities such as re-roofing can be completed outside sensitive periods when bats are not in residence provided these do not damage or destroy the roost.
- 5.3.3. The words deliberately and intentionally include actions where a court can infer that the defendant knew that the action taken would almost inevitably result in an offence, even if that was not the primary purpose of the act.
- 5.3.4. The offence of damaging or destroying a breeding site or resting place (which can be interpreted as making it worse for the bat) is an absolute offence. Such actions do not have to be deliberate for an offence to be committed.
- 5.3.5. European Protected Species licences are available from Natural England in certain circumstances, and permit activities that would otherwise be considered an offence.
- 5.3.6. Licences can usually only be granted if the development is in receipt of full planning permission, and it is considered that:
- (i) The activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 - (ii) There is no satisfactory alternative; and
 - (iii) The action authorised will not be detrimental to the maintenance of the population of the species concerned at a favourable conservation status in their natural range.
- 5.3.7. **Application Site Evaluation.** As outlined above, there are no buildings or structures present within or immediately adjacent to the application site which provide opportunities for roosting bats. A small number of trees associated with treeline T2 were assessed to have low bat roosting potential.
- 5.3.8. Bat activity surveys completed at the application site (Parcel A) have confirmed that it is used by a range of common and widespread bat species for foraging and commuting. The majority of activity recorded pertains to Common Pipistrelle, Soprano Pipistrelle and Noctule bats, which are the most common and widespread species both in a national, regional and local context.
- 5.3.9. Survey work also recorded that the application site is utilised by other bat species, albeit on a more occasional basis with lower levels of activity recorded. Whilst surveys identified the presence of more light sensitive species, such as Brown Long-eared bats and Barbastelle, the level of activity recorded was very limited indeed

(far less than 1 registration per night across the survey period for each of these species). The evidence from the surveys therefore indicates that the application site is utilised on an occasional basis by these species for commuting, and therefore is unlikely to represent a site of particular significance or importance for these more notable species either in terms of commuting or foraging.

- 5.3.10. Whilst detailed bat activity surveys were not undertaken of Parcel B of the application site, given its proximity to Parcel A, similar levels of connectivity in terms of bat foraging and commuting habitats between this parcel and the adjoining land to the north and west, and the fact that the habitats present within Parcel B are very similar to those within Parcel A, it is reasonable to expect that the use of this area by bats in the local area for foraging and commuting would be very similar.
- 5.3.11. **Avoidance, Mitigation and Enhancements.** Under the proposed development, the majority of trees which have low potential to support roosting bats would be retained (with treeline T2 to be located within an area of open space). However, losses to facilitate road access into the site are likely to result in the loss of a small number of trees with low bat roosting potential.
- 5.3.12. In line with best practice guidance, no further survey work or specific mitigation would be required in respect of the loss of trees with low bat roosting potential. However, a precautionary approach will be adopted to works affecting trees with bat roosting potential (including both removal of any trees to facilitate the access road as well as arboricultural works). A 'soft' methodology shall be utilised for any limbs to be removed, with works to be undertaken in a systematic and stepwise manner by a suitably qualified and experienced professional. In the unlikely event that bats are encountered, works shall cease, advice shall be sought from a suitably qualified ecologist and a licence would be required from Natural England before proceeding.
- 5.3.13. Under the development proposals, as outlined above existing boundary vegetation within Parcel A will be retained with the exception of minor losses to facilitate access. The retention and enhancement of habitats in the northern part of the development (F1) and boundary hedgerows and treelines, combined with the provision of new native and species-rich habitats as part of the planting scheme, will ensure that connectivity and opportunities for foraging and commuting bats are retained post-development.
- 5.3.14. As survey work has identified occasional use of the application site by more light-sensitive bat species, it is recommended that a detailed lighting strategy is developed prior to commencement of development by a suitably qualified and experienced lighting engineer, in conjunction with an ecologist. Where possible, this strategy should adopt the following principles, particularly where lighting is required in close proximity to any new or retained semi-natural habitats and green corridors:

- Minimising the installation of new lighting to ensure that it only pertains to areas where it is required, and that dark corridors are identified and maintained;
 - Providing early consideration to specialist bollard or low-level downward directional luminaires to retain darkness (based on specialist advice from the suitably qualified lighting consultant), where lighting is required in close proximity to boundary features;
 - The use of LED luminaires, which have a sharp cut-off, lower intensity, good colour rendition and dimming capability, mounted on the horizontal to avoid any upward tilt;
 - Restricting lighting columns to the lowest acceptable height and the use of measures such as hoods, cowls, and louvres, to minimise light spill and to direct lighting only to where it is required, and limiting the number of lighting columns to the minimum required to achieve the requisite safe lighting level; and
 - Only utilising luminaires with an upward light ratio of 0%.
- 5.3.15. Subject to the adoption of measures such as those noted above, the detail of which can be secured via a suitably worded planning condition (noting that this relates to detailed design of the proposals), it is considered that dark corridors and navigational routes for foraging and commuting bats at the application site can be retained post-development.
- 5.3.16. As an enhancement for roosting bats in the local area, new bat boxes will be provided on suitably mature retained trees and/or new dwellings at the application site. It is recommended that Schwegler 1FF or 3FF (or similar equivalent) boxes are provided on the basis of their suitability for the species recorded during survey work and that they do not require regular maintenance.
- 5.3.17. Boxes should be installed at a suitable height (at least 4 metres above ground where safe installation is possible) to prevent potential disturbance from cats and vandals, and in locations away from any artificial light sources. Indicative locations are shown on Plan ECO5.
- 5.3.18. With regard to Parcel B, the proposals entail the provision of new road access, to permit the balance of this land to be utilised as a cemetery. If lighting is required it is anticipated that the detailed design would be subject to a suitability worded planning condition which incorporates measures as outlined above in relation Parcel A. Given the limited level of change both in terms of habitats and the adoption of a sensitive lighting approach (if lighting is required), it is considered unlikely that the proposals for this parcel of land would result in significant effects for foraging and commuting bats in the local area.

Badgers

- 5.3.19. **Legislation.** The Protection of Badgers Act 1992 consolidates the previous Badgers Acts of 1973 and 1991. The legislation aims to protect the species from persecution, rather than being a response to an unfavourable conservation status, as the species is in fact common over most of Britain, with particularly high populations in the south-west.
- 5.3.20. As well as protecting the animal itself, the 1992 Act also makes the intentional or reckless destruction, damage, or obstruction of a Badger sett an offence. A sett is defined as “*any structure or place which displays signs indicating current use by a Badger*”. ‘Current use’ is usually defined as any use within the preceding 12 months, although there is a degree of professional judgement.
- 5.3.21. In addition, the intentional elimination of sufficient foraging area to support a known social group of Badgers may, in certain circumstances, be construed as an offence by constituting ‘cruel ill treatment’ of a Badger.
- 5.3.22. Previous guidelines issued by Natural England on the types of activity that it considers should be licensed within certain distances of sett entrances. They stated that works that may require a licence include using heavy machinery within 30m of any entrance to an active sett, using lighter machinery within 20m, and light work such as hand digging within 10m. However, interim guidance issued in September 2007 specifically states that:
- “It is not illegal, and therefore a licence is not required, to carry out disturbing activities in the vicinity of a sett if no Badger is disturbed and the sett is not damaged or obstructed.”*
- 5.3.23. More recent guidance produced in 2009 states that Badgers are relatively tolerant of moderate levels of disturbance and that low levels of disturbance at or near to Badger setts do not necessarily disturb the Badgers occupying those setts¹¹. However, the guidance continues by stating that any activity that will, or is likely to, cause one of the interferences defined in Section 3 (such as damaging a sett tunnel or chamber or obstructing access to a sett entrance) will continue to be licensed.
- 5.3.24. In addition, this latest guidance no longer refers to any 30m/20m/10m radius as a threshold for whether a licence would be required. Nonetheless, it is stated that tunnels may extend for 20m, so care needs to be taken when implementing excavating operations within the vicinity of a sett and to take appropriate precautions with vibrations and noise, etc. Fires / chemicals within 20m of a sett should specifically be avoided.
- 5.3.25. This guidance allows greater professional judgement as to whether an offence is likely to be committed by a particular development

¹¹ Natural England (2009). *Protection of Badgers Act 1992 (as amended). Interpretation of Disturbance in relation to Badgers occupying a sett*. Natural England, Peterborough.

activity and therefore whether a licence is required or not. For example, if a sett clearly orientates southwards into an embankment, it may be somewhat redundant to have a 30m-exclusion zone to the north.

- 5.3.26. **Application Site Evaluation, Avoidance and Mitigation.** As outlined above, no evidence of Badgers was found within the application site, however it is considered that the habitats present offer some suitable sett-building and foraging opportunities for this species, and it is possible that setts could be present in the local area.
- 5.3.27. Given the dynamic nature of this species, it would be prudent to undertake an updated check survey in respect of Badgers prior to commencement of any works at the site, in order to confirm that there has been no material change to the existing baseline. In the unlikely event that a sett is encountered, advice will be sought from a suitably qualified and experienced ecologist with regard to mitigation and whether a licence would be required from Natural England.
- 5.3.28. In any event, the development proposals will provide areas of suitable foraging and sett-building habitat for this species in the form of open space and are anticipated to deliver benefits in terms of new habitats suitable for foraging. As such, opportunities for Badgers within the application site will be retained post-development, notwithstanding the absence of any evidence to indicate the use of the application site by this species at the present time.

Hedgehogs

- 5.3.29. **Legislation.** Hedgehog is not a specially protected species, with the exception of the prevention of killing or trapping by certain methods under Schedule 6 of the Wildlife and Countryside Act 1981, as amended.
- 5.3.30. However, Hedgehog is a priority species under Section 42 of the Natural Environment and Rural Communities Act 2006. The NERC Act 2006 requires the Secretary of State to:
- “...take such steps as appear...to be reasonably practicable to further the conservation of the living organisms and types of habitat included in any list published under this section, or...promote the taking by others of such steps”*
- 5.3.31. **Avoidance, Mitigation and Enhancements.** Areas supporting superficially suitable vegetation for Hedgehogs (specifically areas of dense scrub, ruderal vegetation, hedgerows and trees) will be cleared outside the hibernation period (October to April) wherever possible or alternatively will be checked by an ecologist prior to removal, to ensure no hibernating Hedgehogs are present. However, the majority of existing boundary vegetation present within the application site boundary will be retained under the proposals.

- 5.3.32. Any trenches or deep pits associated with construction that are to be left open overnight will be provided with a means of escape in case a Hedgehog enters. This is particularly important if the trench fills with water and will take the form of a roughened plank of wood placed in the trench as a ramp to the surface.
- 5.3.33. 'Hedgehog Highways' will also be provided to enable small mammals such as Hedgehogs to move through and across the new development. This will take the form of small holes under boundary fencing, no smaller than 13cm by 13cm.
- 5.3.34. The provision of new native and species-rich planting within the application site such as wildflower grassland, scrub and trees will also provide improved foraging, sheltering and dispersal opportunities for small mammals including Hedgehogs.

Great Crested Newts

- 5.3.35. **Legislation.** Great Crested Newts are also protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) and included on Schedule 2 of the Conservation of Habitats and Species Regulations 2017 ("the Habitats Regulations"), as amended. These include provisions making it an offence:
- Deliberately to kill, injure or take (capture) Great Crested Newts;
 - Deliberately to disturb Great Crested Newts in such a way as to:-
 - (i) be likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate or migrate; or
 - (ii) affect significantly the local distribution or abundance of the species to which they belong;
 - To damage or destroy any breeding or resting place used by Great Crested Newts;
 - Intentionally or recklessly to obstruct access to any place used by Great Crested Newts for shelter or protection.
- 5.3.36. European Protected Species licenses are available from Natural England in certain circumstances, and permit activities which would otherwise be considered an offence.
- 5.3.37. Whilst it is recognised that GCN can theoretically disperse up to 500m through suitable terrestrial habitat from their breeding pond, it is widely accepted that they most commonly utilise suitable terrestrial habitat within a much closer distance, and activity is usually concentrated within 100m of breeding ponds with key habitat being located within 50m.
- 5.3.38. Furthermore, research produced by Natural England concludes that *"Captures on fences (and by other methods) at distances between 100m and 200-250m from breeding ponds tended to be so low as to raise serious doubts about the efficacy of this as an approach"*.

- 5.3.39. **Application Site Evaluation.** As outlined above, whilst initial survey work undertaken in May 2021 identified the presence of wet ditches and depressions within and adjacent to Parcel A (including waterbody P1), subsequent work undertaken in June 2021 found these to have dried up. Updated survey completed in August 2023 also recorded these features to be completely dry. The survey work undertaken did not record any waterbodies present within or immediately adjacent to Parcel B.
- 5.3.40. Mindful that wetland features would have to support standing water for a reasonable period in late Spring / early Summer to facilitate breeding amphibians, it is therefore considered that the application site does not provide opportunities for breeding amphibian species.
- 5.3.41. Unfortunately, due to access not being granted by relevant landowners, it was not possible to undertake eDNA survey work of off-site waterbodies in the local area.
- 5.3.42. Waterbodies P2 and P3 appear to be recently constructed features associated with new residential development located to the east of Parcel A and are therefore considered highly unlikely to support Great Crested Newts. Mindful that waterbody P1 was recorded to be dry during survey work in 2021 and 2023, the closest waterbodies to Parcel A which could potentially support breeding amphibians are therefore P4 and P5. As illustrated on Plan ECO4, both of these waterbodies are located over 200 metres away at their closest points to this part of the application site.
- 5.3.43. Moreover, these waterbodies are separated from the application site by grassland fields with hedgerows, such that any amphibians associated with these features would have to traverse apparently suitable terrestrial habitat in order to access similar opportunities within the application site itself.
- 5.3.44. No Great Crested Newts were also recorded within Parcel A during the course of the reptile surveys which were completed in 2023.
- 5.3.45. It is therefore considered unlikely that Great Crested Newts would be present within Parcel A of the application site during their terrestrial phase.
- 5.3.46. Nonetheless, consideration has been afforded to the 'Rapid Risk Assessment' tool which forms part of Natural England's Great Crested Newt Method Statement to further inform the potential for the development proposals for Parcel A to lead to harm to newts, should they be present within these off-site waterbodies.
- 5.3.47. As outlined in Table 14 below, assuming the presence of Great Crested Newts within both of these waterbodies, the Rapid Risk Assessment tool indicates that even if one was to assume total loss of all habitats present within Parcel A to facilitate the proposed development (which is not proposed), the development proposals

would be unlikely to lead to an offence under the legislation given the distances and areas of land involved.

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1
Land >250m from any breeding pond(s)	1 - 5 ha lost or damaged	0.04
Individual great crested newts	No effect	0
Maximum:		0.1
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

Table 14: Rapid Risk Assessment result assuming GCN presence (Parcel A)

- 5.3.48. It is therefore considered that the development proposals for Parcel A would not be likely to lead to harm to Great Crested Newts, in the event that they are present. Nonetheless, on a precautionary basis an appropriate methodology will be adopted during site clearance works to avoid any potential for harm to arise (see below).
- 5.3.49. As outlined above in Section 4, a total of four Great Crested Newts were recorded under artificial hibernacula along the western boundary of field F3. Whilst these were recorded outside of the application site boundary (i.e. not within Parcel B), they are situated in contiguous and connected habitat, such that they could utilise habitat within this part of the application site during their terrestrial phase.
- 5.3.50. From analysis of OS mapping and aerial photography, it is considered most likely that the newts recorded within field F3 are associated with off-site waterbodies situated towards the south-west (P10) or west (P11 to P18).
- 5.3.51. Consideration was also afforded to the Rapid Risk Assessment tool in respect of the proposals for Parcel B, again assuming the presence of Great Crested Newts in the closest waterbodies to this part of the application site (P10 and P11) and assuming the loss of all existing habitats within the redline boundary. The latter assumption clearly represents a clear overestimate with regard to potential effects, noting that the proposals are for the provision of access to facilitate the use of the site as a cemetery.
- 5.3.52. The results of the Rapid Risk Assessment tool are present in Table 15 below. As with Parcel A, the results also indicate that the development proposals would be unlikely to lead to an offence under the legislation given the distances and areas of land involved.

Component	Likely effect	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.1 - 0.5 ha lost or damaged	0.1

Land >250m from any breeding pond(s)	0.1 – 0.5 ha lost or damaged	0.005
Individual great crested newts	No effect	0
Maximum:		0.1
Rapid risk assessment result:		GREEN: OFFENCE HIGHLY UNLIKELY

Table 15: Rapid Risk Assessment result assuming GCN presence (Parcel B)

- 5.3.53. It is therefore considered that the development proposals for Parcel B would not be likely to lead to harm to Great Crested Newts, such that a licence would be required from Natural England to permit such works. However, as outlined below a suitable methodology will be employed to ensure that the small-scale clearance required to facilitate the works for Parcel B (access to permit change of use).
- 5.3.54. **Avoidance, Mitigation and Enhancements.** For the reasons outlined above, it is considered that a licence from Natural England would not be required in order to facilitate the proposed development, either in respect of Parcel A or Parcel B. However, given the presence of Great Crested Newts within contiguous habitat to Parcel B, and mindful of adopting a precautionary approach in respect of Parcel A, the following non-licensed avoidance methodology will be adopted for site clearance works at this site.
- 5.3.55. Works will be undertaken in a stepwise and systematic manner, with vegetation initially cut down to a height of no less than 15cm before being removed to ground level. The exercise would be undertaken under the direct supervision of a suitably qualified ecologist, during suitable weather conditions (mild and dry, with temperatures no less than 10C) and during the active period for amphibians (April to September / October inclusive).
- 5.3.56. In the unlikely event that a newt is encountered, works will cease, and advice will be sought from a suitably qualified ecologist before proceeding. If necessary, works may be undertaken in line with a District Level Licence. However, based on the outcome of the Rapid Risk Assessment methodology (as presented above), it is not considered that a licence would be required in order to facilitate the proposals at this site.
- 5.3.57. The proposals for Parcel B result in minor losses to superficially suitable terrestrial habitats for Great Crested Newts. However, with the exception of the road access, the change of use from agricultural land to cemetery use is not anticipated to lead to loss of existing terrestrial opportunities for this species, mindful that the land will remain essentially undeveloped. As a result, the proposals would not lead to a loss of habitat which would adversely affect the favourable conservation status of local populations of this species, should they be present within the application site boundary.

Birds

- 5.3.58. **Legislation.** Section 1 of the Wildlife and Countryside Act 1981 is concerned with the protection of wild birds, whilst Schedule 1 lists species which are protected by special penalties.

- 5.3.59. **Application Site Evaluation.** The application site offers some limited opportunities for nesting and foraging birds in form of scrub, hedgerows and treelines. However, the intensively managed grassland which comprises the majority of the application site offers few opportunities for this group.
- 5.3.60. **Avoidance, Mitigation and Enhancements.** As all species of birds receive general protection whilst nesting, clearance of any suitable nesting habitats should be undertaken outside of the main development of the main bird breeding season (typically considered to March to July inclusive).
- 5.3.61. Should this not be possible, potential nesting habitat will be subject to a nesting bird check by an experienced ecologist, immediately prior to its removal. Should any nesting birds be identified, then the nest should be fully safeguarded *in situ* and subject to an appropriate disturbance buffer (as advised by the ecologist), and only removed once it has been confirmed all fledglings have left the nest and it is no longer active.
- 5.3.62. It is recommended that new planting within the application site utilises seed and berry-bearing species wherever possible, in order to provide enhanced foraging opportunities for birds (once established). The provision of new habitats within the application site boundary will represent a benefit to birds compared to the existing situation at the application site.
- 5.3.63. In order to provide new nesting opportunities, new bird nesting boxes will be provided within the application site. A range of box types shall be installed, including hole-fronted and open-fronted boxes, which will serve to provide opportunities for a range of species. All nest boxes should be situated out of direct sunlight and out of reach of predators, particularly cats. Indicative locations are shown on Plan ECO5.

6. PLANNING POLICY CONTEXT

- 6.1. The planning policy framework that relates to nature conservation in Wiltshire is issued at two main administrative levels: nationally through the National Planning Policy framework (NPPF); and locally through the Wiltshire Council Core Strategy (adopted January 2015).
- 6.2. The proposed development will be judged in relation to the policies contained within these documents.

6.3. National Policy

National Planning Policy Framework

- 6.3.1. The National Planning Policy Framework (NPPF) sets out the Government's requirements for the planning system and was adopted on 27th March 2012 and subsequently revised on the 24 July 2018, 19 February 2019, 20 July 2021 and September 2023.
- 6.3.2. The key element of the NPPF is that there should be "*a presumption in favour of sustainable development*" (paragraphs 10 to 11).
- 6.3.3. The revised NPPF is comparable to previous versions (which it replaces), including reference to minimising impacts on biodiversity and provision of net gains to biodiversity where possible (paragraph 179) and ensuring that Local Authorities place appropriate weight to statutory and non-statutory nature conservation designations, protected species, and biodiversity.
- 6.3.4. The NPPF also considers the strategic approach that Local Authorities should adopt with regard to the protection, maintenance and enhancement of Green Infrastructure, priority habitats and ecological networks, and the recovery of priority species.
- 6.3.5. Paragraph 180 of the NPPF comprises a number of principles which Local Authorities should apply, including:
- encouraging opportunities to incorporate biodiversity in and around developments;
 - provision for refusal of planning applications if significant harm cannot be avoided, mitigated or, as a last resort, compensated for; and
 - the provision for the refusal for developments resulting in the loss or deterioration of 'irreplaceable' habitats unless the need for, and benefits of, the development in that location clearly outweigh the loss.
- 6.3.6. National policy therefore implicitly recognises the importance of biodiversity and that with sensitive planning and design, development and conservation of the natural heritage can co-exist, and benefits can, in certain circumstances, be obtained.

6.4. **Local Policy**

Wiltshire Council Core Strategy 2015 – 2026

- 6.4.1. The Core Strategy (adopted January 2015) and will provide the planning framework guiding local planning decisions up until 2026. Core Objectives of the Wiltshire Core Strategy include the conservation and enhancement of the district's natural environment. The Plan's core objectives are further informed through a specific planning policy.
- 6.4.2. *Core Policy 50: Biodiversity and geodiversity* states that all development proposals must demonstrate how they will protect features of nature conservation. Such features must be retained where possible and if not a plan of managing and maintaining their ecological value in the long term will be made. The protection and biodiversity enhancement of sites by delivering measures of biodiversity gains. Developments will avoid direct and indirect impacts upon local sites, and if unavoidable will demonstrate that a reasonable contribution to favourable management in the long term is made.

6.5. **Discussion**

- 6.5.1. Recommendations have been put forward in this report that would safeguard the existing ecological interest of the application site. Based on the survey and assessment work undertaken, the presence and potential presence of protected and notable species has been given due regard and measures have been put forward as part of the proposed development to avoid and mitigate for adverse effects and moreover deliver enhancements.
- 6.5.2. In conclusion, implementation of the measures set out in this report ensure that the development proposals fully accord with planning policy and guidance for ecology and nature conservation at all administrative levels.

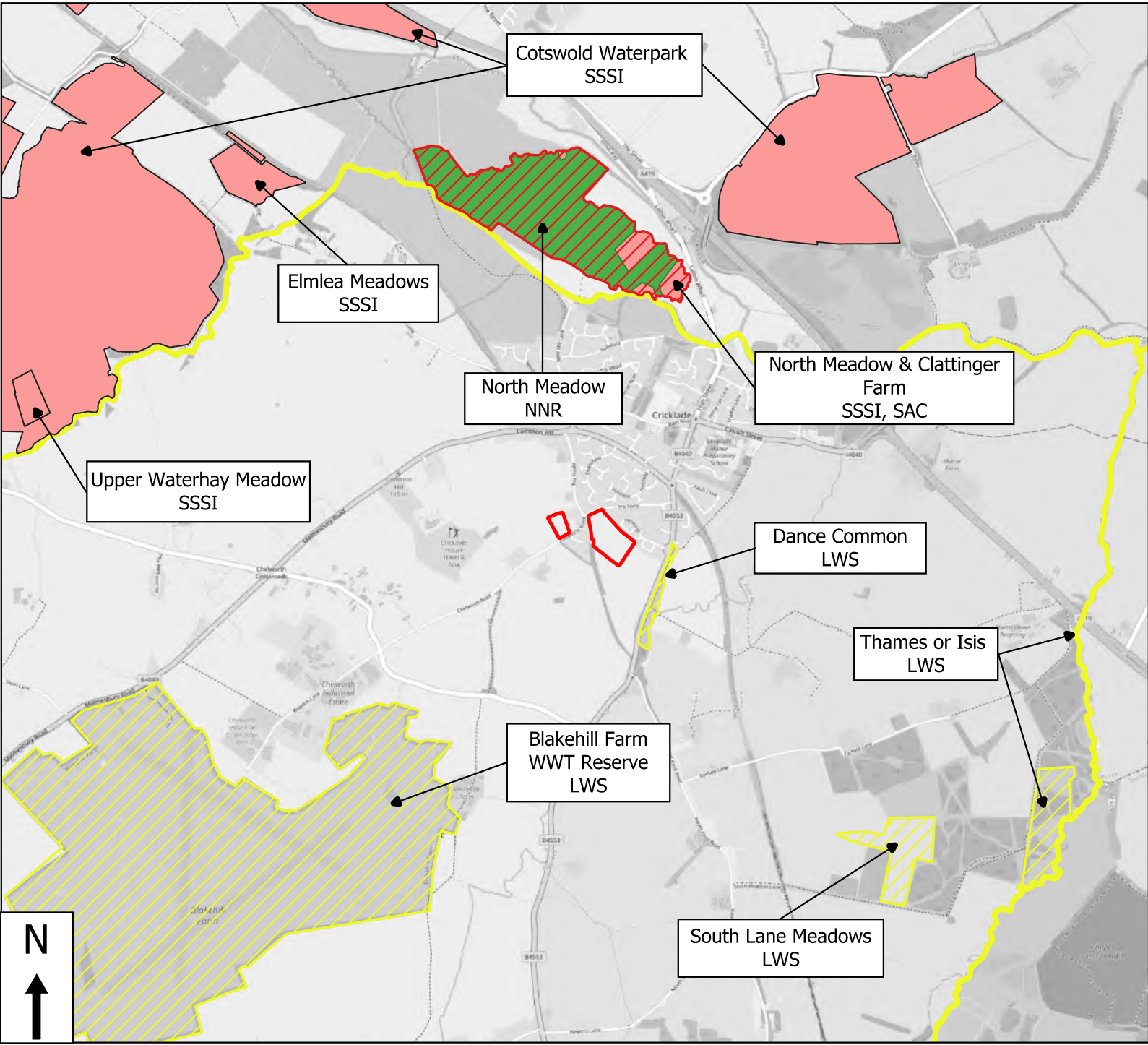
7. SUMMARY AND CONCLUSIONS

- 7.1. Ecology Solutions Limited was originally commissioned by Hannick Homes and Developments Ltd in March 2021 to undertake an ecological assessment of Land off The Forty and Chelworth Road, Cricklade.
- 7.2. There are no statutory or non-statutory designated sites of nature conservation interest located within or immediately adjacent to the application site.
- 7.3. Detailed consideration has been afforded to the potential for effects to arise to North Meadows and Clattinger Farm SAC / SSSI as a result of the proposed development. The avoidance and mitigation strategy proposed and agreed with Natural England includes an appropriate financial contribution, in addition to the provision of onsite dog walking areas, and fully accords with the agreed strategic approach. Subject to securing the measures outlined within this report via an appropriate mechanism (legal agreement), it can be concluded that the development proposals would not lead to an adverse effect on the integrity of any European designated sites, either when the proposals are considered alone or in combination with any other plans or projects.
- 7.4. Subject to the implementation of standard engineering protocols and best practice throughout the construction period, it is considered that the proposed development is unlikely to have any significant impacts on any designated sites within the local area, during either the construction or operational phase.
- 7.5. The application site primarily supports semi-improved grassland fields which are bounded by hedgerows, dense scrub, ruderal vegetation and treelines. Where losses are required, these will be offset through the retention and enhancement of existing habitats, and the provision of new species-rich habitats within areas of open space. With the adoption of long-term management with a focus on biodiversity, there is an opportunity for the proposals to deliver enhancements compared to the existing situation.
- 7.6. A range of protected species surveys have been undertaken, including surveys in respect of bats, Badgers, reptiles and Great Crested Newts. Appropriate mitigation measures have been proposed, including measures to safeguard bats, nesting birds and Great Crested Newts (on a precautionary basis). Subject to the implementation of the avoidance, mitigation and enhancement measures as outlined in this report, adverse effects to protected species will be avoided and opportunities for key faunal groups will be retained and moreover enhanced post-development.
- 7.7. In conclusion, the development proposals for the site will not only avoid potential adverse ecological effects but moreover deliver enhancements compared to the existing situation. On this basis, the development proposals accord with all legislation and planning policy of relevance to ecology and nature conservation.

PLANS

PLAN ECO1

Application Site Location and Ecological
Designations



Key:

Application Site Location

- Sites of Special Scientific Interest (SSSI)
- Special Areas of Conservation (SAC)
- National Nature Reserves (NNR)
- Local Wildlife Sites (LWS)



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9673: LAND OFF THE FORTY AND
CHELWORTH ROAD, CRICKLADE

PLAN ECO1: APPLICATION SITE
LOCATION AND ECOLOGICAL
DESIGNATIONS

Rev: A
NOV 2023

PLAN ECO2

Ecological Features



Key:

- Application Site Boundary
- Semi-Improved Grassland
- Species-Poor Semi-Improved Grassland
- Scrub
- Hedgerow
- Treeline
- Fence

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PLAN ECO2: ECOLOGICAL
FEATURES

Rev:A
NOV 2023

PLAN ECO3

Protected Species



Key:

-  Application Site Boundary
-  Static Detector Locations



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PLAN ECO3: PROTECTED
SPECIES

Rev:A
NOV 2023

PLAN ECO4

Location of Off-site Waterbodies



Key:

- Application Site Location
-  Location of Off-Site Waterbodies

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9673: LAND OFF THE FORTY AND CHELWORTH ROAD, CRICKLADE	
PLAN ECO4: LOCATION OF OFF-SITE WATERBODIES	Rev:A NOV 2023

PLAN ECO5

Ecological Parameters Plan



- Key:
- Application Site Boundary
 - Developed Land; Sealed Surface
 - Residential
 - Created Modified Grassland 0.05ha
 - Attenuation Feature (SuDS) 0.21ha
 - Enhanced Modified Grassland 0.33ha
 - Retained Scrub 0.04ha
 - Created Other Neutral Grassland 1.14ha
 - Retained Tree with Low Bat Roosting Potential
 - Proposed Urban Trees (Indicative)
 - Buffer of 3m Distance from Retained Features and Development
 - - - Lost Hedgerow 0.04km
 - - - Retained Hedgerow 0.55km
 - ↔ Potential Dark Corridors
 - ↔ Wildlife Corridors
 - Bat Bricks/Boxes (Indicative)
 - Bird Bricks/Boxes (Indicative)
 - ◆ Bee Hotel (Indicative)
 - ◆ Log Pile (Indicative)



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9673: LAND SOUTH OF THE FORTY AND NORTH OF CHELWORTH ROAD

INDICATIVE ECOLOGICAL PARAMETERS PLAN	Rev: B AUG 2025
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APPENDICES

APPENDIX 1

Indicative Landscape Masterplan



LEGEND

- Existing vegetation to be retained and protected
- Proposed scrub planting
- Proposed swale feature
- Proposed native trees to open space
- Proposed structural trees
- Proposed meadow mix to open space
- Main site access
- Proposed 1.2m high stock-proof fencing
- Proposed 2 mi. circular walk from the site
- Proposed gated access
- Proposed dog bin locations
- Proposed signage and information board locations
- Proposed mown grass path along the open space

NOTES

- Proposed fenced dog training and exercise area, enclosed by a wooden stock-proof fence with a gated entrance, and includes dog litter bins and information boards.
- Proposed new access and gate to the adjacent field for use by the landowner only.
- Proposed meadow grassland with variety of species to increase biodiversity and ecological benefits as well as providing visual interest for residents.
- Proposed native trees will be planted within the open spaces and along the boundary where it will integrate with the wider landscape whilst creating landscape buffers with the development where required.
- Proposed street trees will create a natural vertical element for the development and enhance the street scene.
- SuDS features to be planted with wetland wildflower planting to provide additional wildlife habitat whilst simultaneously enhance biodiversity within the development.
- Proposed ornamental planting to plot frontages softening and creating an attractive streetscape within development.
- Existing vegetation retained ensuring existing habitats and aesthetic is retained, these will be supplemented with native scrub and tree planting, increasing biodiversity and ensuring longevity of these habitats for the future.

Land South of the Forty, Cricklade

Indicative Landscape Masterplan

DRI	13.08.25	Client Comments	ALK
Rev	Date	Details	Drawn



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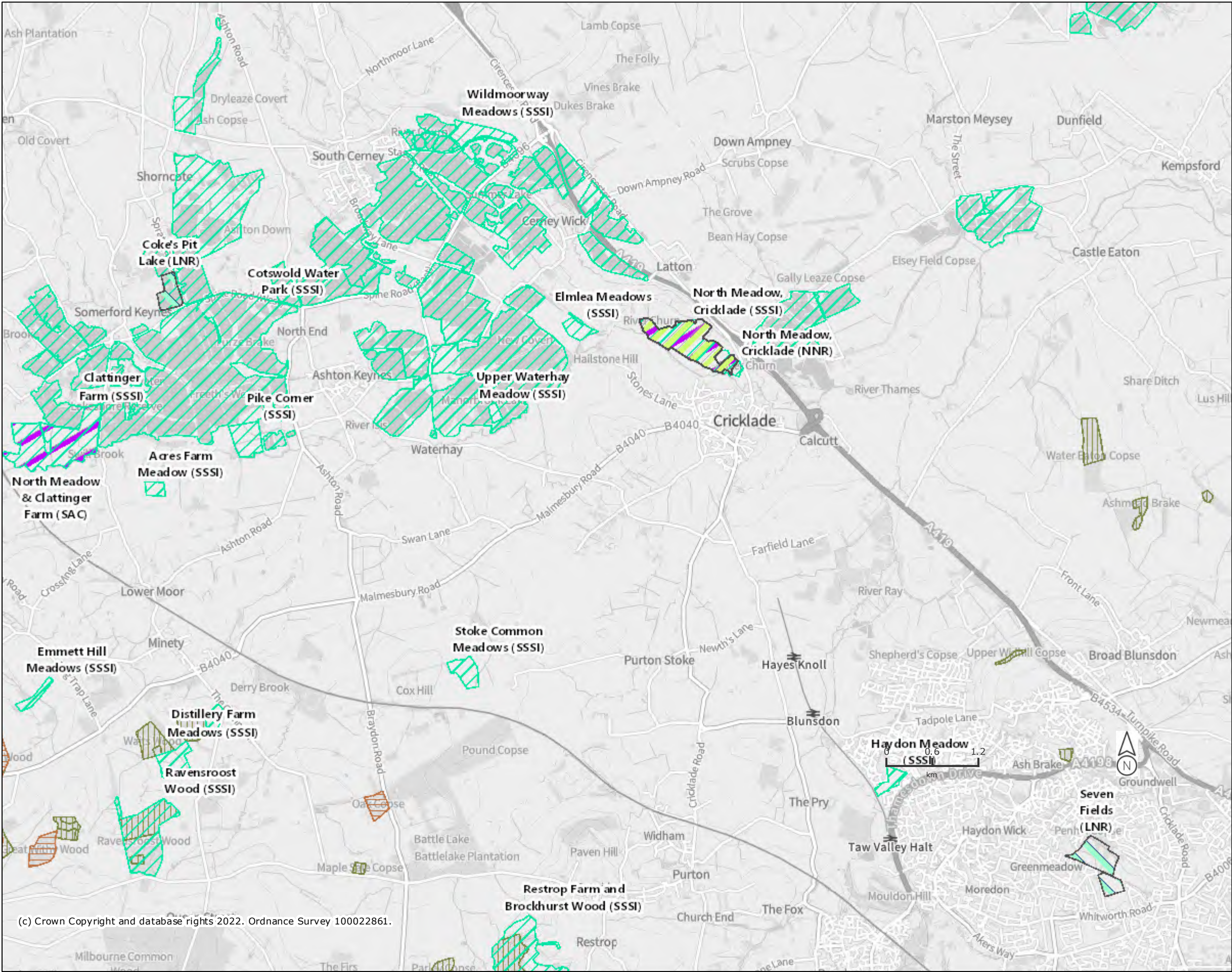


scheme: Land South of the Forty,
Cricklade
client: Hannick Homes
drawing: Indicative Landscape Masterplan
date: July 2025
scale: 1:500@A1
drawing no: PRI24735 09
drawn: ACG checked: HCS

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APPENDIX 2

Information Obtained from MAGIC



Legend

- Local Nature Reserves (England)
- National Nature Reserves (England)
- Sites of Special Scientific Interest (England)
- Special Areas of Conservation (England)

Ancient Woodland (England)

- Ancient and Semi-Natural Woodland
- Ancient Replanted Woodland

Projection = OSGB36
xmin = 395700
ymin = 186400
xmax = 421100
ymax = 199100

Map produced by MAGIC on 3 November, 2023.
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APPENDIX 3

North Meadow & Clattinger Farm SAC Citation

EC Directive 92/43 on the Conservation of Natural Habitats and of Wild Fauna and Flora

Citation for Special Area of Conservation (SAC)

Name: North Meadow and Clattinger Farm
Unitary Authority/County: Wiltshire
SAC status: Designated on 1 April 2005
Grid reference: SU014934
SAC EU code: UK0016372
Area (ha): 104.88
Component SSSI: Clattinger Farm SSSI, North Meadow, Cricklade SSSI

Site description:

This site in the Thames Valley represents an exceptional survival of the traditional pattern of management of lowland hay meadows. It contains a very high proportion of the surviving UK population of fritillary *Fritillaria meleagris*, a species highly characteristic of damp lowland meadows in Europe and now rare throughout its range.

Qualifying habitats: The site is designated under **article 4(4)** of the Directive (92/43/EEC) as it hosts the following habitats listed in Annex I:

- Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*).

This citation relates to a site entered in the Register of European Sites for Great Britain.

Register reference number: UK0016372

Date of registration: 14 June 2005

Signed: *Trevor Salmon*

On behalf of the Secretary of State for Environment,
Food and Rural Affairs

APPENDIX 4

North Meadow SSSI Citation

APPENDIX 5

North Meadow & Clattinger Farm SAC Mitigation Strategy

NORTH MEADOW AND CLATTINGER FARM SPECIAL AREA OF CONSERVATION INTERIM RECREATION MITIGATION STRATEGY 2023 - 2028 May 2023



Photo credit – Des Hobson



**Prepared by Cotswold District Council, Swindon Borough Council
and Wiltshire Council in partnership with Natural England**

Reference as: Gallagher, M; Hobson, D; Jones, R; Price, S; Squirrell, N (2023) 'North Meadow and Clattinger Farm Special Area of Conservation Interim Recreation Mitigation Strategy 2023 – 2028'. Cotswold District Council, Natural England, Swindon Borough Council, Wiltshire Council

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1. Summary

1.1 This Strategy sets out a strategic approach to mitigate recreational impacts, associated with new development, on the North Meadow part of the North Meadow and Clattinger Farm Special Area of Conservation (SAC).

1.2 This provides a framework under which planning applications, which are likely to have a significant effect on the SAC, can be permitted. It sets out measures to ensure that adverse effects on the integrity of the SAC can be ruled out. This enables development, while ensuring sufficient protection is in place for the SAC. The Strategy applies to larger developments, which may affect the integrity of these sites alone, and smaller developments where “in combination” effects may be the critical factor.

1.3 The Clattinger Farm part of the SAC is not subject to this Strategy.

1.4 The site has two main types of users – local year round visitors (walkers and dog walkers), who originate from very locally and seasonal visitors from further afield, who come to view the flowering fritillaries. Accordingly, the Strategy sets two Zones of Influence (Zol), -

- an inner zone of 0 – 4.2km from North Meadow
- an outer zone of 4.2 – 9.4km from North Meadow

1.5 Within the inner Zol, all new relevant development will be expected to provide mitigation, both at North Meadow - Strategic Access Management and Monitoring (SAMM) measures and through the provision of additional measures which provide alternatives for potential local users of North Meadow e.g. improved natural greenspace.

1.6 Within the outer Zol all new relevant development will be expected to provide mitigation at North Meadow - Strategic Access Management and Monitoring (SAMM) measures.

1.7 The Strategy is an interim approach, while further monitoring and surveys are undertaken and will be reviewed within 5 years or earlier, if required.

With thanks to our colleagues at the three Councils and at Natural England for their help in preparing this Strategy.

2. Introduction and Overview

2.1 This Strategy is an approach to mitigate recreational impacts, associated with new developments, on the North Meadow and Clattinger Farm Special Area of Conservation¹ (SAC). The SAC is part of a network of European sites (Habitat sites) that are of great importance for nature conservation and subject to strict legal protection. The strategy applies only to the North Meadow Site of Special Scientific Interest part of the SAC.

2.2 The Strategy has been prepared and agreed by Cotswold District Council, Swindon Borough Council and Wiltshire Council in partnership with Natural England (NE). Joint working between these organisations will continue through the setting up of a North Meadow and Clattinger Farm SAC Interim Recreation Mitigation Steering Group.

2.3 Because the exact level and type of adverse recreational impacts on the SAC has not been determined, it has been concluded, following the precautionary approach, that an interim 5 year Mitigation Strategy is the appropriate way forward. Data collected, as part of the monitoring elements of the Interim Mitigation Strategy will enable the Strategy to be reviewed.

2.4 The objective of the Strategy is to provide a mitigation framework that enables new development of varying scales, which might otherwise have a significant effect on the SAC, either alone or in combination, to come forward. It offers a mechanism by which planning applications can be progressed and site allocations can be included in Development Plans, while ensuring that adverse recreational effects on the integrity of the SAC are avoided.

2.5 The Strategy is relevant to all new developments within the Zols that may either alone or in combination with other developments, plans and projects, increase recreational impacts on the SAC. The relevant development types are listed in more detail in section II, but include net increases in overnight accommodation (new dwellings, tourist accommodation, student accommodation, Gypsy and Traveller sites etc). The Strategy covers both larger developments that by virtue of their size or location may have the potential to directly affect the integrity of the SAC on their own or smaller developments, which may, together with other developments have an “in combination” impact on the SAC.

¹ <https://sac.jncc.gov.uk/site/UK0016372>

3. Background

3.1 The three Local Authorities are in the process of either updating/reviewing their Local Plans or in the case of Swindon producing a new integrated Local Plan. This process is supported by Habitats Regulations Assessments of the plans, which highlighted that there could be Likely Significant Effects (LSE) on the North Meadow and Clattinger Farm SAC from increased recreational pressures due to new developments, either alone or in combination with other developments, plans and projects.

3.2 Natural England raised specific concerns about recreational impacts on the SAC. As a result of this Swindon Borough Council initiated the preparation of a visitor survey to take place in April 2020. This survey work was prevented by the pandemic. Land Use Consultants were commissioned to undertake a high-level literature review of the Zols of other comparable sites (September 2020), which concluded, based on the best available scientific evidence (and in the absence of visitor survey information) that an 8km Zol was appropriate. This was agreed by all the partner Local Authorities and NE as an interim Zol.

3.3 The Local Planning Authorities (LPAs) have used this 8km Zol in deciding whether planning applications should be subject to the Habitats Regulations Assessment processes. The new Zols (section 8) set out in this 2023 Strategy supersede the previous 8km Zol.

3.4 A visitor survey was commissioned by the Local Authorities in 2022 (lead Authority – Swindon Borough Council) and undertaken by the consultancy, Ecological Planning and Research (EPR) in 2022. A final report was submitted in March 2023. Further information is provided in section 7 of this Strategy.

4. Legislation

4.1 The key legislation is the Conservation of Habitats and Species Regulations 2017 (as amended)² commonly referred to as the ‘Habitats Regulations’. Recent amendments (the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019) take account of the UK’s departure from the EU.

4.2 The government has provided additional guidance³ on how the Regulations should be implemented.

4.3 In summary, the Local Authorities, as “competent authorities”, are legally obliged under the Habitats Regulations to consider whether any project or proposal, including planning applications or Development Plans would affect the integrity of an SAC. A project/proposal (e.g. approve a planning application, adopt a Local Plan) can only progress where the competent authority is certain that it will not lead to a negative impact on the ecological integrity of the SAC, i.e. the precautionary approach operates. This consideration is undertaken by a process called Habitats Regulations Assessment (HRA), which is divided into a number of steps – screening, appropriate assessment and derogations.

4.4 At the appropriate assessment stage of the process, the competent authority considers any mitigation measures, where there is evidence to show that their implementation would prevent negative impacts on the integrity of the SAC. By providing a package of mitigation measures delivered by the authorities, the strategy avoids the need for individual planning applicants to prepare bespoke mitigation proposals. This particularly assists small scale developments. Through appropriate contributions to this strategic approach, the measures set out in the North Meadow and Clattinger Farm SAC Interim Recreation Mitigation Strategy (2023) can be implemented. This provides a robust and comprehensive consideration of the avoidance and mitigation measures necessary to adequately prevent adverse recreational effects on the SAC.

4.5 A planning applicant may provide bespoke mitigation based upon their own evidence (usually in the form of a shadow HRA), however these require the advice of a specialist, can be expensive and time-consuming to prepare and may not be sufficiently evidence-based to show conclusively that they can be effectively implemented.

² <https://www.legislation.gov.uk/uksi/2017/1012/contents/made>

³ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

5. North Meadow and Clattinger Farm Special Area of Conservation – Description, Nature Conservation Importance and Statutory Designations

5.1 The SAC is divided into two units –

- North Meadow near Cricklade
- Clattinger Farm near Ashton Keynes and Somerford Keynes.

5.2 Both lie within Wiltshire but very close or adjacent to the Gloucestershire and Swindon boundaries. (Appendix I)

5.3 North Meadow and Clattinger Farm are examples of lowland hay meadow. North Meadow is located in the Thames Valley and represents an exceptional surviving example of the traditional pattern of management of lowland hay meadows. The grassland habitats present on typical floodplain soils are very restricted in distribution and form the basis for the SAC designation. North Meadow also contains a very high proportion of the surviving UK population of snake's head fritillary *Fritillaria meleagris*, a plant highly characteristic of damp lowland meadows in Europe and now rare throughout its range. The snake's head fritillary is also present at Clattinger Farm in lower abundance.

5.4 Both North Meadow and Clattinger Farm are meadows within the Cotswold Water Park which is a largely man-made area of wetlands created by the restoration of sand and gravel workings. The Cotswold Water Park covers an area of 40 square miles with over 150 lakes of varying size. Prior to the exploitation of sand and gravel this area of the Upper Thames catchment was made up of floodplain grassland, river habitats and arable farming.

5.5 Management of both sites aims to maintain traditional hay-meadow regimes of hay cutting from midsummer, followed by grazing with livestock through the autumn and into the winter as ground conditions permit. This management allows plants to flower and set seed prior to hay cutting. Both sites, but in particular North Meadow, are regularly flooded by their adjacent watercourses such as the river Thames.

5.6 The qualifying features⁴ / habitats for the SAC are –

Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)

5.7 The conservation objectives⁵ for the SAC (Natural England 2014) are –

With regard to the SAC and the natural habitats and /or species for which the site has been designated (the Qualifying Features) and subject to natural change:

Ensure the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintain or restoring:

- the extent and distribution of qualifying natural habitats
- the structure and function (including typical species) or qualifying natural habitats, and
- the supporting processes on which qualifying habitats rely

(In respect of the objectives, “to maintain” implies restoration if the feature is not currently in favourable condition.)

⁴ <https://sac.jncc.gov.uk/site/UK0016372>

⁵ <http://publications.naturalengland.org.uk/publication/6299293463871488>

5.8 North Meadow⁶ is also a Site of Special Scientific Interest (SSSI), a National Nature Reserve (NNR) and part of the site is common land, where the public have a right of access on foot. (Appendix 2)

5.9 North Meadow NNR is open to the public and includes almost 4km of designated pathways around the site to facilitate access, including the Reedbed Walk, the River Walk and the Willow Walk. In addition to these the Thames Path, a 298km national trail, passes along the southern boundary of the SAC adjacent to the river. There is no official car park associated with North Meadow, but there is unrestricted on-street parking locally. North Meadow is also readily accessible on foot from the settlement of Cricklade.

5.10 More general information, including information for visitors can be found on the website for the Cricklade Court Leet.⁷

5.11 Clattinger Farm SSSI is managed by Wiltshire Wildlife Trust as a nature reserve.

⁶

<https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=S1002417&SiteName=North%20Meadow&countyCode=&responsiblePerson=&SeaArea=&IFCAArea=>

⁷ <https://crickladecourtleet.org.uk/>

6. Likely Significant Effects on the North Meadow and Clattinger Farm SAC

Clattinger Farm

6.1 The Clattinger Farm SSSI component of the SAC is managed by the Wiltshire Wildlife Trust. Access to the area is through a visitor centre and is carefully managed by the Trust. At North Meadow, which is Common Land, the public have access on foot over the whole area, unlike at Clattinger Farm where the Trust can open and close areas and routes. The habitats at Clattinger Farm are not considered to be subjected to damaging recreational pressures at present and the site is therefore not considered further in this Interim Mitigation Strategy. The area will be subject to a low level of visitor monitoring as part of the Strategy to confirm the baseline levels of access and ensure that changes in visitor management at North Meadow do not impact upon Clattinger Farm.

North Meadow

6.2 Natural England has highlighted that growing visitor numbers in recent years have led to an increase in recreational impacts at North Meadow and considers that the increase in visitors is driven by increases in local population as well as an increased propensity to visit the countryside.

6.3 The Site Improvement Plan⁸ (2014) for the SAC includes under “Priority & Issue” - “Public Access/Disturbance”, with the measure to address this being -

- Manage and mitigate the effects of public access.

6.4 The action associated with this priority is –

- Seek to minimise the impact of high levels of trampling by the general public, especially during times when Snake's head fritillary is in flower

6.5 The types of potential damage from recreational pressures on grassland habitats can include –

- Trampling. This can lead to changes in vegetative communities and soil compaction, which reduce permeability to rain and floodwater (exacerbating flooding issues). The 3 main walks at North Meadow total approximately 4km of paths which equates to roughly 0.8ha (approximately 1.8% of the overall lowland meadow habitat). The high footfall within these paths favours competitive grasses which are more tolerant of disturbance. Over time, the vegetative communities within the paths have become distinct from the rest of the meadow, reducing the area of lowland meadow. In addition, the vegetative communities adjacent to the paths differ from undisturbed areas of the meadow due to the edge effect. Over time the paths are also likely to widen as walkers try to avoid muddy areas.
- Eutrophication / Nutrient enrichment from dog faeces. The current management regime helps maintain the intermediate fertility of North Meadow. Increased nutrient levels cause competitive grasses to dominate resulting in reduced species diversity. In particular, species such as the snake's head fritillary may reduce in abundance following excessive nutrient input.
- Litter
- Interference with hay production e.g. dog toys in the grassland; dog faeces in the grassland; flattened grasses.

⁸ <http://publications.naturalengland.org.uk/publication/4565167836758016>

- Interference with grazing e.g. free-roaming dogs
- Picking of flowers

6.6 North Meadow has been subject to a high level of botanical monitoring, however this has focussed on the core parts of the site and the most important species and habitats. The Floodplain Meadows Trust have carried out a number of surveys and further information is available on their website⁹. There is currently a lack of data related to the nature of the impacts of recreational pressure on the SAC, in terms of exact location, timing and long-term effects. A more detailed understanding of recreational pressure is required and monitoring to establish that evidence forms part of this Mitigation Strategy.

6.7 This Mitigation Strategy does not consider other potential impacts on the SAC such as air quality or nutrient enrichment from diffuse pollution.

⁹ <https://www.floodplainmeadows.org.uk/content/north-meadow-cricklade>

7. Visitor Survey Analysis

7.1 Consultants, Ecological Planning and Research, were commissioned by Swindon Borough Council on behalf of the Steering Group to undertake visitor questionnaire surveys in 2022. The surveys followed a recognised visitor survey methodology using tally counts and questionnaires. The visitor survey comprised surveys within two key windows: the 'peak' season in April/May 2022 when the snake's head fritillaries are flowering; and in July/August 2022, the 'off-peak' season, when the meadow had been cut.

7.2 The full report of the visitor survey is available on request to the 3 Local Authorities.

7.3 Key findings of the survey are:

- The majority of visitors travel from home to visit North Meadow;
- Approximately 7% of visitors to the site are on holiday
- The majority of visitors travel from within a 1km radius of North Meadow;
- Dog walkers are the most frequent visitors to the site, with the majority visiting at least once a week, throughout the year;
- Walkers represent another user group who visit the site on a regular basis throughout the year;
- During the 'peak' (i.e. flowering) season, an additional cohort of visitors visit the site to view the meadow and flowers, they travel longer distances to reach the site, but visit less frequently.

7.4 The EPR report recommended not including holiday accommodation users within the assessment of impacts. However, further consideration of the data has shown that the post code information for that visitor group was inconsistently answered. It has been concluded that there is insufficient evidence, adhering to the precautionary approach, to exclude this user group from requiring mitigation. New holiday accommodation is included within the scope of development types to which this Interim Strategy applies.

7.5 There are two key groups of visitors to North Meadow –

- Local year round users, often dog walking (arrive at site by car or on foot)
- Fritillary visitors (seasonal)

7.6 There are also users of the Thames Path and other types of users but they have been considered under the above two categories and only occur in very small numbers.

7.7 A number of other visitor surveys have been undertaken at North Meadow, for example the Ethos Visitor Survey¹⁰ (2017) and their results are broadly consistent with the findings of the EPR 2022 visitor survey.

¹⁰ Ethos (2017). *DRAFT Visitor Survey. North Meadow, Cricklade National Nature Reserve*. Ethos, Wick.

8. Setting the Zones of Influence

8.1 The two groups of site users, the “local year round users” and the “fritillary visitors” come from different locations (distances from the SAC); exhibit different behaviours and have different reasons for visiting, it is therefore necessary to set two Zols, within which different forms of mitigation are appropriate.

8.2 Taking the distances visitors from the two groups travelled to reach the SAC, the data can be used to define the visitor catchment or Zone of Influence. The 75th percentile figure taken from a cumulative frequency distribution curve defines the distance from within which 75% of visitors have travelled to reach a site. Such a figure is typically used for catchment analysis in most SAC recreation mitigation strategies (Liley *et al.* 2013; Southgate *et al.* 2018). This is because it excludes the upper distances travelled by only a few visitors that skew calculated averages, providing a more representative understanding of travel patterns.

8.3 For consistency, travel distance is taken as the linear distance from the home postcode to the closest boundary of the SAC.

8.4 The two Zones of Influence have been set –

- Inner Zone (local users arriving on foot and by car all year round) is set at 0 - 4.2km from the boundary of the SAC. It represents the area within which 75% of local year round users originate. They visit the site all year round.
- Outer Zone (fritillary visitors) is set at 4.2 - 9.4km from the boundary of the SAC. It represents the area within which 75% of those that come to view the fritillaries during the main summer flowering season originate.

8.5 If the curtilage of a unit of accommodation and its point of access is located on the boundary between the 2 Zols, it will be considered to fall within the inner zone. If it falls on the outer boundary of the outer Zol it will be considered to fall within that outer zone.

8.6 Maps of the Zols can be found at Appendix 3.

9. Predicted local housing (and other relevant development) growth

9.1 Data on potential future housing growth and other relevant development types for the period 2023 - 2028 was provided by the three Local Planning Authorities, both allocated sites and potential windfalls.

Table 1. Potential Housing and other relevant development 2023 - 2028	
Local Planning Authority	Potential housing and other relevant growth 2023-2028 (number of units) within 9.4km of North Meadow
Cotswold District Council	486
Swindon Borough Council	300
Wiltshire Council	133
Total	919

9.2 These estimates of housing growth are approximate and a snapshot in time, but highlight the scale of growth requiring mitigation. If substantially more development comes forward than currently predicted, the mitigation proposals in the Strategy are scalable and would be able to deliver the required levels of mitigation to address any additional impacts, without the need to review the Strategy.

10. Proposed Mitigation Measures (and costs)

10.1 Recreational mitigation strategies have been used successfully at a number of internationally important sites across the UK to enable new developments to come forward without increasing recreational impacts. They usually include a suite of mitigation measures ensuring that if one measure is less successful there is certainty that the measures taken together as a package will deliver the required mitigation.

10.2 Mitigation measures normally include –

- On-site measures such as increased wardening/rangers; monitoring; signage etc. (often termed SAMMs – Strategic Access Management and Monitoring)
- Off-site measures such as new greenspaces (often called SANGs – Suitable Alternative Natural Greenspaces), enhancement of public rights of way etc. (known as “infrastructure mitigation projects” (IMPs)

10.3 Local year round users visit North Meadow as a location to walk their dogs and take exercise and would be likely to use an alternative(s) if that was available. However the summer visitors come to view the ecological interest of the site – the fritillaries, and the creation of an alternative site with such a rich flora would be extremely difficult, particularly within the 5 year period of this Interim Mitigation Strategy. Their impacts are best addressed by on-site visitor management mechanisms, which will also help to reduce the impacts of local year round users.

10.4 Given the differences between the users, a different range of mitigation measures will be required in each Zol.

- Within the inner Zol (0 – 4.2km) both on-site (SAMMs) and off-site (Infrastructure Mitigation Projects (IMPs) and/or SANG) measures will need to be delivered as mitigation for any potential recreational impacts.
- Within the outer Zol (4.2 – 9.4km), for most developments only on-site measures (SAMMs) will need to be delivered as mitigation for any potential recreational impacts. Larger developments may need to provide additional mitigation (e.g. SANG) as advised by NE.

On-site measures (SAMMs)

10.5 These are relevant to all in scope developments within 0-9.4km of the SAC.

TABLE 2. ON-SITE MITIGATION MEASURES (SAMMs) Relevant to all in scope developments within 9.4km of the SAC			
Theme	On-site mitigation measures	Likely cost over 5 years	Justification
Staff	On site wardening – 0.75FTE for 5 years (site management; visitor management; raising public awareness, investigation of future mitigation measures (e.g. changes to car parking etc)	£170,000	Warden will work with local, year round users and “fritillary” visitors to interpret and explain the special biodiversity of the meadows and how they can avoid harming this during their visit. (Existing staff focus primarily on site management.)
Education and awareness	Social media strategy and online campaign	£10,000	Provide a regularly updated facility for promoting and explaining appropriate use of the SAC as well as promoting other natural greenspaces and circular walks to visitors and potential visitors in the 9.4km Zol to complement existing information.
	Information pack for new residents (and holiday makers); National Nature Reserve leaflet; DL-size flyer; walks information and countryside sites within 9.4km of the SAC	£2,000	Inform residents in new homes (and holiday homes) about nearby alternative countryside sites and walks and how to visit the countryside without harming biodiversity
	Develop Code of Practice during flowering period to be printed on DL, two sides in colour with QR code	£3,000	A simple message for visitors at peak flowering period to encourage behaviour which does not harm biodiversity
Infrastructure	Temporary walk boards at muddy points	£1,500	Managing the visitor pressure when the meadows are wet during peak visitor period to avoid trampling, widening paths and invasive plants

	Temporary signage during flowering period	£5,000	Encouraging visitors to avoid harm to the SAC during the peak flowering period
	Dog waste bins near entrance to North Meadows – 2 bins (including maintenance)	£6,000	Reducing and avoiding the concentrated enrichment of the site by dog faeces
Monitoring	Visitor surveys e.g. 'Winter' survey monitoring – early and late day winter survey	£20,000	This is to provide certainty that the Strategy is delivering suitable mitigation during the interim period and resolve some aspects of visitor evidence.
	Annual visitor counts data and reporting (annual fee x 5 years)	£15,000	Natural England manage remote data loggers, the data collected needs to be analysed and interpreted professionally on an annual basis to show visitor access levels.
	Habitat impact study to establish harm (baseline) and continued monitoring	£24,000	There are significant amounts of historic survey data, this will be reviewed against the adverse impacts on the SAC and used to confirm/adjust ongoing monitoring priorities such as a Natural England path survey in 2023.
	Review of strategy evidence and a survey update to be undertaken in year 3	£40,000	This will present the monitoring data collected for use by the Steering Group and Councils.
	TOTAL COST OF ON-SITE MITIGATION MEASURES OVER 5 YEARS	£296,500	
	PREDICTED NUMBER OF UNITS OF RELEVANT NEW DEVELOPMENT WITHIN 9.4KM OF NORTH MEADOW	919	
	FINANCIAL MITIGATION CONTRIBUTION COST PER UNIT	£323	total cost of on-site mitigation measures over 5 years divided by predicted number of units of relevant new development within 9.4km of North Meadow

10.6 All costs to be reviewed annually by the Steering Group so that costings can be amended in the light of inflation (CPI measure) and other pressures. All measures undertaken will be sensitive to protected characteristic groups, including particularly disability and age with published online / offline material in accessible formats and physical site accessibility suitable for all users.

10.7 The cost of delivering these mitigation measures over the five year period of the Interim Mitigation Strategy should be shared by all relevant developments coming forward. The housing and other relevant new development predictions in section 9 have been used to calculate a per unit cost.

10.8 Given these SAMM costs and that an estimated 919 units of accommodation will come forward in the next five years, the cost per unit is £323 to ensure effective mitigation of potential impacts.

Off-site Measures (SANGs/IMPs)

10.9 These are relevant to all in scope developments within 4.2km of the boundary of the SAC.

10.10 In line with recreation mitigation strategies prepared for other SACs, large scale developments of 50+ residential/holiday units will normally be expected to provide sufficient natural recreational focussed greenspace to ensure that residents do not impact upon the SAC. This natural green space provision should meet the requirements set out in Appendix 4.

10.11 For smaller scale developments (less than 50 units), where it would be difficult for planning applicants to provide their own SANGs an alternative solution will be necessary. This is to set up an Infrastructure Mitigation Projects system, to combine funds from developments to deliver measures that will encourage new and existing users of the SAC to use alternative sites. This is similar to the approach used in the Dorset Heathlands Mitigation Strategy¹¹ and elsewhere. This could include –

- The provision of new dedicated dog training/exercising sites (where dogs can be safely let off the lead)
- Improvements of existing and creation of new footpaths
- Enhancements/extensions of existing public recreational natural open spaces or creation of new ones.

10.12 Given the interim nature of this Strategy and the current lack of certainty on what proposals might come forward as infrastructure mitigation projects, it is difficult to exactly estimate the costs. As a surrogate for that detailed costing an estimate has been made based on work done on the Thames Basin Heaths SAC¹² where it was concluded that 8ha of Suitable Alternative Natural Greenspace should be provided per 1000 people, using an estimate of 2.4 people per dwelling¹³. Using government figures¹⁴ for 2019 with an approximate agricultural land value set at £25,000/ha that results in a figure of £480/unit of accommodation.

10.13 This figure should be reviewed when the next government land value figures become available.

¹¹ <https://www.dorsetcouncil.gov.uk/planning-buildings-land/planning/mitigation/heathland-mitigation#:~:text=Mitigation%20delivery,education%20and%20monitoring%20the%20strategy.>

¹² <https://www.bracknell-forest.gov.uk/sites/default/files/2021-08/thames-basin-heaths-spa-delivery-framework.pdf>

¹³ <https://www.ons.gov.uk/peoplepopulationandcommunity/householdcharacteristics/homeinternetandsocialmediausage/bulletins/householdandresidentcharacteristicsenglandandwales/census2021>

¹⁴ <https://www.gov.uk/government/publications/land-value-estimates-for-policy-appraisal-2019>

10.14 Taken as a package of measures deliverable within a specified duration (5 years) Natural England has confirmed that these will provide sufficient certainty that development securing the mitigation measures may proceed and that where predicted housing delivery is exceeded the measures may be scaled up accordingly using the agreed contribution rates.

11. Implementation of Mitigation measures

11.1 The relevant Local Authorities will work together with Natural England to ensure that the Interim Mitigation Strategy is effectively and collaboratively implemented.

11.2 Given the nature of the impacts on the SAC, the following types of development are likely to cause detrimental impacts on the SAC if they occur within one of the Zols –

- All residential units (i.e. C3 Use Class)
- Residential/holiday/guest annexes
- Houses in Multiple Occupation (sui generis);
- Residential institutions within the C2 Use Class where the residents are not severely restricted by illness or mobility;
- Student accommodation;
- Sites for Gypsy, Roma, Travellers and Travelling Showpeople;
- Tourist accommodation, including hotels, self-catering, caravan and touring holiday accommodation.

11.3 And any other type of development that may lead to an increase in visitors to the SAC.

11.4 It is crucial that any development that could, either alone or in combination, lead to increased recreational pressures on the SAC is subject to appropriate assessment and where necessary required to provide mitigation. The list of application types above is a guide. There may be instances where application types on the above list are not required to provide mitigation, for example replacement dwellings of similar size and for development types not included on the above list to be required to provide mitigation.

11.5 The exact type, scale and location of development and the level of mitigation required will need to be considered on a case by case basis even if a “standard approach” is normally adopted. (This is particularly relevant where developers are proposing to create their own SANGs or IMPs.) These considerations should be undertaken prior to the application determination stage, preferably as part of pre-application discussions. They will form part of any appropriate assessment, which must be completed prior to determination. If necessary, these considerations should be subject to discussion and consultation with Natural England¹⁵.

11.6 There is potential for large scale developments (those that trigger the EIA Regulations) in the outer zone (4.2 – 9.4km) to impact on the SAC in their own right, particularly where there are good transport links to the SAC. They will be required to contribute to the SAMM measures at the SAC but may also be required deliver SANGs, or enhanced Green Infrastructure.

11.7 The crucial test is whether the development can demonstrate that it avoids a risk of increasing recreational pressures on the SAC. Where it is unclear if large scale developments (outside the 9.4km Zol) would require mitigation, developers should enter into dialogue with the Local Planning Authority (LPA) and Natural England as early on in the design process as possible. Site specific IMP / SANG solutions may be required.

¹⁵ <https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals>

11.8 Any SANG provision would normally be expected to meet the guidelines set out in Appendix 4.

11.9 Some types of development do not require planning permission from the Local Planning Authority. These include developments covered by prior approval, permitted development, permission in principle and technical consents. These developments must be compliant with the Habitats Regulations (Regs 75¹⁶-78) and cannot be implemented if the Habitats Regulations issues have not been resolved. The most straightforward way to achieve this is for the proposals to deliver the relevant avoidance and/or mitigation measures, as set out in this Strategy. The Local Planning Authority can enter into agreements (e.g. s.111 agreements) with anyone undertaking such developments. This will secure avoidance and mitigation measures in line with this Strategy, as appropriate

¹⁶ <https://www.legislation.gov.uk/uksi/2017/1012/regulation/75/made>

11.10 The financial contribution per unit is –

Table 3. Mitigation Financial Contributions			
Zone	SAMM contribution per unit	Infrastructure Mitigation Projects/SANG contribution per unit	Total financial contribution to delivery of the Strategy/ per unit
Inner zone (0 – 4.2km) Relevant developments under 50 units	£323	£480	£803
Inner zone (0 – 4.2km) Relevant developments over 50 units	£323	Normally provided within the development site ie SANG, see Appendix 4 for criteria.	£323
Outer zone (4.2 – 9.4 km) All relevant developments	£323	N/A (except for larger developments (eg those that trigger the EIA Regulations), which will be considered on a site by site basis)	£323
Outside 9.4km	N/A (Except for larger developments (eg those that trigger the EIA Regulations), which will be considered on a site by site basis)	N/A (Except for larger developments (eg those that trigger the EIA Regulations), which will be considered on a site by site basis)	N/A (Except for larger developments (eg those that trigger the EIA Regulations), which will be considered on a site by site basis)

Securing developer contributions

11.11 Developer contributions can be secured using s.111 or s.106 agreements / unilateral undertakings with planning applicants. The Local Planning Authorities will also require planning applicants to pay an administrative charge for each legal agreement. Details are available on the websites of the Local Planning Authorities.

11.12 In order to ensure that the appropriate mitigation is delivered in a timely manner and that any adverse impacts on the SAC are avoided the developer financial mitigation contributions should be paid prior to determination (s.111 agreements) or prior to commencement (s.106 agreements).

11.13 Where zones of Influence for different Special Areas of Conservation or Special Protection Areas overlap it will be necessary to ensure mitigation for all relevant SAC/SPAs and contributions will therefore normally be necessary for each SAC/SPA, i.e. a development may have to pay SAMM and SANG/IMP contributions for more than one SAC/SPA.

12. Governance

12.1 Each Local Planning Authority (LPA) will be responsible for securing developer contributions and ensuring that they are spent on the relevant mitigation as set out in the Mitigation Strategy. Details on the practical implementation of the mitigation strategy will be established through implementation guidance to include: financial procedures, interest and banking mechanisms, charges for administrative tasks and other monitoring costs.

12.2 The LPAs and Natural England will form a North Meadow and Clattinger Farm Special Area of Conservation Interim Recreation Mitigation Strategy Steering Group to further develop governance arrangement including terms of reference and a set of implementation guidance. This group will meet regularly and collaborate on the implementation of the Strategy. This Group will also be responsible for -

- up-dating the costs set out in the Strategy on a regular basis
- confirming the work plan and priorities for the Warden post
- reviewing the success of the Strategy
- amending the Strategy on an interim basis if major issues arise
- planning for a more long-term Mitigation Strategy
- setting up a monitoring framework.

13. Strategy Monitoring and Review

13.1 This Strategy has been designed as an interim solution until such time as more monitoring and analysis has taken place to clarify the types and location of visitor pressures. The Strategy will be subject to –

- Brief annual review by all partners to ensure no major issues have arisen e.g. sudden increase or decrease in housing figures; inflationary changes to costs of mitigation etc
- Full review in year 3 to ensure new long-term Strategy in place for 2028 onwards.

APPENDICES

Appendix 1

Map to show general location of North Meadow and Clattinger Farm

Appendix 2

Map to show boundaries of SAC, SSSI, NNR and common land at North Meadow

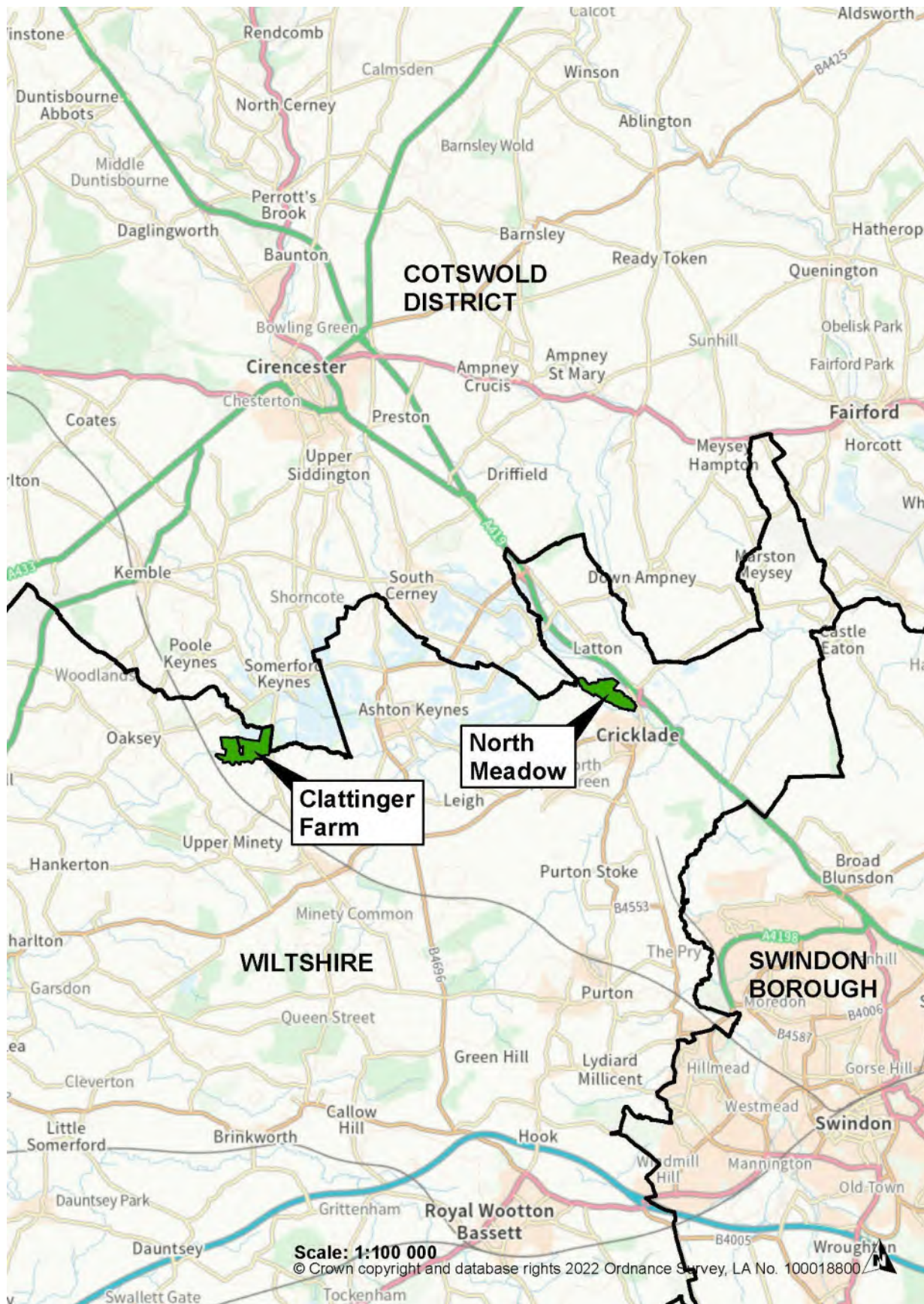
Appendix 3

Map to show the two Zols and the administrative boundaries

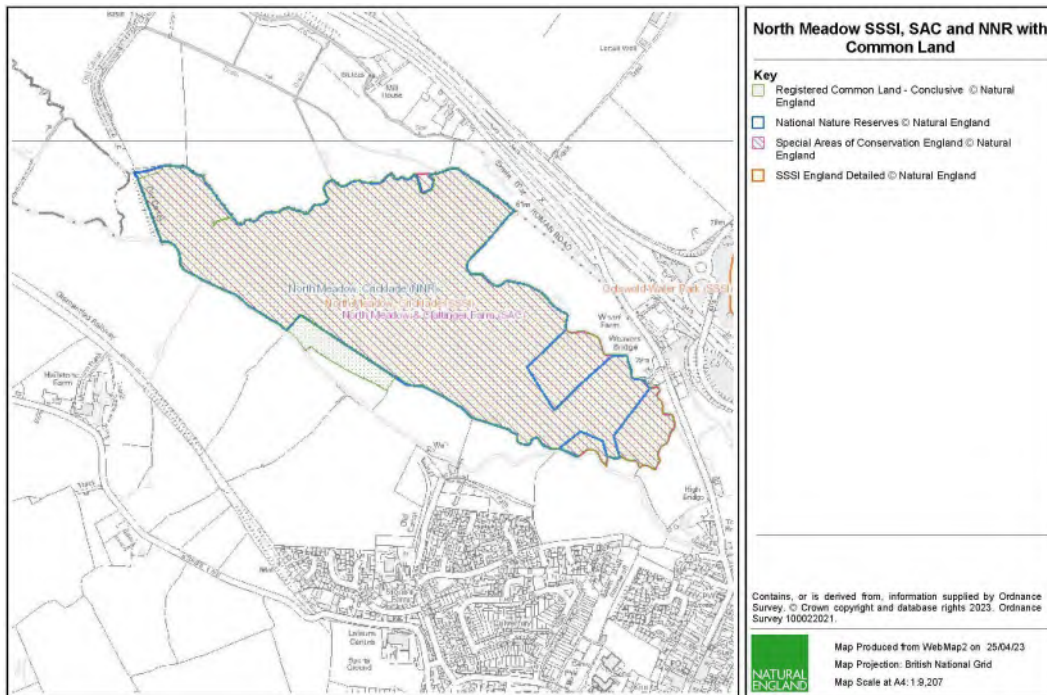
Appendix 4

Guidelines for Developer delivered SANGs

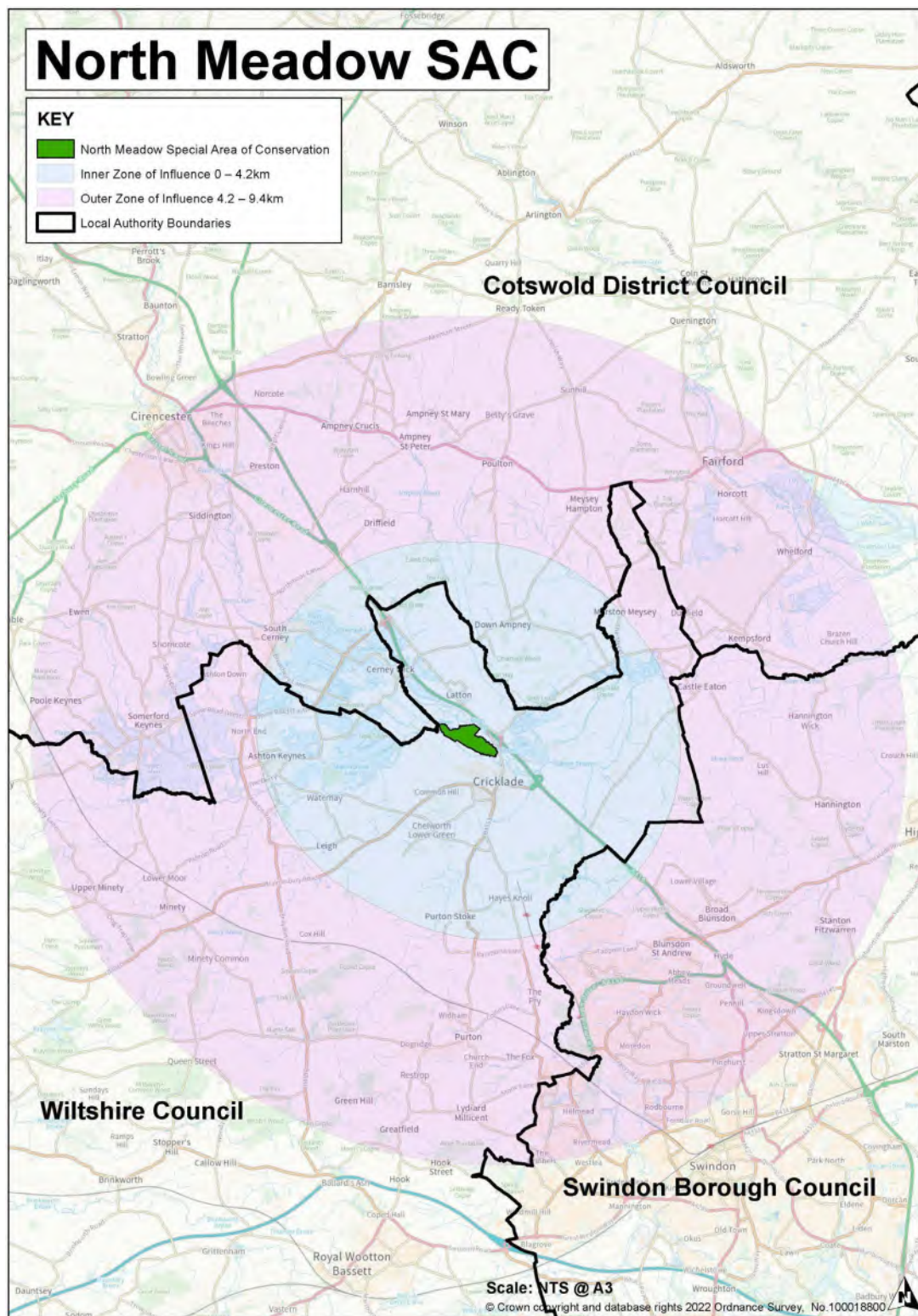
Appendix I: Map to show general location of North Meadow and Clattinger Farm



Appendix 2: Map to show boundaries of SAC, SSSI, NNR and Common Land at North Meadow



Appendix 3: Map to show the two Zols and the administrative boundaries



Appendix 4: Guidelines for Developer delivered SANGs

For developments of over 50 units within the inner ZOI (0 – 4.2km) developments will be expected to provide their own SANG unless there is a robust justification why a financial contribution towards the IMP/SANG project system as set out in the Mitigation Strategy, would be more appropriate.

Where developers are delivering SANGs as part of their own developments, the mitigation they deliver should aim to encourage local year round (both existing and potential new) users away from North Meadow by providing suitable functional and accessible greenspace. These are to be considered as guidelines and each site requiring a SANG will need to be assessed on a case by case basis, early engagement with the planning authority and Natural England will be welcomed.

The SANGs should –

- Be suitable and attractive to walkers and dog walkers (for example including areas where dogs can be walked off-lead, access to drinking water for dogs, dog poo bins etc.)
- Provide for visits of 30 - 60 minutes in duration, with at least 1.6km of walking distance, i.e. be of a reasonable size (North Meadow is 44 ha/108acres)
- Provide a high quality landscape
- Deliver a biodiversity quality that is above that in the wider countryside and which is visually attractive
- Be well promoted among existing and new residents and other users
- Provide appropriate on-site facilities including surfaced paths, litter bins, signage etc
- Provide good on-site facilities, such as benches, parking, surfaced paths and signage
- Deliver an area of functional natural greenspace at a quantum in line with 8 ha / per 1000 residents. (sports fields, play areas etc would not count towards this figure)
- If the SANG includes areas of existing natural greenspace or footpaths the current usage should be measured and taken into account in estimating the quantum of natural greenspace required
- Provide easy (and preferably traffic free) access from the units on the development site
- Not be subject to long periods of extensive flooding or other issues that may prevent use at certain times of the year.
- Not include areas of existing biodiversity value, such as Local Sites (nature conservation) or County Wildlife Sites, which could be adversely affected by increased recreational use
- Be provided in perpetuity or at least for the lifetime of the development (generally 80 years).