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9282: BULL FIELD, WARISH HALL FARM, TAKELEY, ESSEX

UPDATED ECOLOGICAL APPRAISAL

Introduction

1. A planning application was first submitted for the wider Land at Warish Hall Farm (Planning Ref: UTT/21/1987/FUL), for which Ecology Solutions provided professional advice and produced various documents including an Ecological Assessment (October 2021), Bat Survey Report (November 2021), Biodiversity Net Gain Assessment (October 2021), Bird Hazard Management Plan (June 2021) and Woodland Management Plan (October 2021). A Public Inquiry was subsequently held, for which Proof of Evidence (Appeal Ref: APP/C1570/W/22/3291524) in respect of Ecology and Nature Conservation was provided.
2. The current application for Bull Field is a smaller parcel of land that falls within the original red line boundary for the wider Land at Warish Hall Farm application, save for the alternative location of the woodland expansion, which has been relocated to its historic location. The proposal for Bull Field is for a residential development of 96 dwellings, south of Prior's Wood, including associated parking, landscaping, public open space, land for the expansion of Roseacres Primary School, pedestrian and cycle routes to Smiths Green Lane together with associated infrastructure.
3. A Section 62A application for the development was submitted in October 2023 (Application Ref: S62A/2023/0019) and was subsequently refused. A challenge to this refusal was submitted and approved. As such, an updated habitat survey has been completed and species-specific surveys for bats, reptiles and Dormice are planned / currently being undertaken as part of the resubmission.
4. The Site is located to the north of Takeley, approximately 1.3km southeast of London Stansted Airport and approximately 1.5km northeast of Hatfield Forest Site of Special Scientific Interest (SSSI) and National Nature Reserve (NNR) (see Plan ECO1).
5. The immediately adjacent road, Smiths Green Lane bounds the eastern boundary, beyond which lies a line of residential properties. Residential gardens exist immediately adjacent to the southern boundary, along with a portion of the western boundary, with the playing field of Roseacres Primary School bordering to the southwest. A narrow corridor, which will provide the future access road to the Site, extends the Site boundary to the northwest from Bull Field, through the adjacent field known as 7 Acres, where a recently approved commercial development has

now been built (UTT/22/2744/FUL) and onto the premises of the Weston Group Business Centre. Arable fields and associated neutral grassland margins lie adjacent to the remaining western, northern, and eastern boundaries of the Site. The wider area is characterised by residential properties to the south, east, and west, with arable fields to the north.

6. The Site itself is approximately 19.6ha and is predominantly composed of a large arable field, known as Bull Field, intensively managed for arable agriculture, and Prior's Wood, an area of ancient and semi-natural woodland designated as a Local Wildlife Site (LWS). The Site is effectively split along the centre, with Prior's Wood to the north, and Bull Field to the south. Three small ponds exist within Prior's Wood, two in the north and one towards the centre. Bull Field comprises neutral grassland field margins of varying width along its entire perimeter. The narrow corridor extending to the northwest from Bull Field comprises hardstanding. Areas of arable field and associated neutral grassland field margin exist to the north and northeast of the Site, adjacent to Prior's Wood, the area to the north being much larger than the area to the northeast.
7. This document reviews the survey data collected at the Site previously and details the results of the updated habitat and faunal surveys undertaken in September and October 2024. The results of the Biodiversity Net Gain Assessment are also discussed.
8. Comments dated 23 March 2023 were additionally received from Ella Gibbs, Senior Ecological Consultant with Place Services, in relation to a pre-application submission. This document responds to the points made.
9. A summary of the main points received is set out below.
 - Provision of ecological assessment to address survey findings and assessment of priority habitats and species;
 - Provision of biodiversity checklist;
 - Information on financial contributions to Strategic Access Management and Monitoring Strategy (SAMMS);
 - Provision of landscape and ecological management plan to discuss protection of woodland and management and maintenance of Suitable Alternative Natural Greenspace (SANG);
 - Bat surveys;
 - Bat sensitive lighting scheme;
 - Great Crested Newt *Triturus cristatus* surveys;
 - Hazel Dormouse *Muscardinus avellanarius* surveys;
 - Surveys for UK protected species including Badger *Meles meles*, breeding birds and reptiles;
 - Consideration of Non-native invasive species (NNIS); and
 - Biodiversity enhancement and Biodiversity Net Gain.
10. Key decisions relating to biodiversity resulting from the Appeal (Ref. No. APP/C1570/W/22/32911524), relate solely to Prior's Wood and the 15-metre buffer zone required around ancient woodland (see Appendix 1). The comments were positive, with it being agreed that there will be no deleterious effect on Prior's Wood as a result of the development.

Survey Methodology

Desk Study

11. In order to compile background information on the Site and surrounding area, Ecology Solutions contacted the Essex Field Club (EFC). Records of species within a 2.5 km radius of the site were provided by EFC. The distance of records from the site are determined from a central point within the Site.
12. The locations of designated sites in the vicinity of the Site are illustrated on Plan ECO1. Further information on designated sites from a wider-search area was obtained from the online Multi-Agency Geographic Information for the Countryside (MAGIC)¹ database, which uses information held by Natural England and other organisations. Information from MAGIC is included at Appendix 1.

Habitat Survey

13. The Site was first surveyed in October 2020, with further walkover surveys conducted in April 2021, February and June 2023 and September 2024. The Site was initially surveyed based around extended Phase 1 survey methodology in order to ascertain the ecological value of the land within the boundaries of the Site, and to identify the main habitats and associated plant species. The 2024 walkover survey was conducted using UKHab² methodology, which has since superseded the Phase 1 survey methods, as recommended by Natural England.
14. The habitats present on-site were 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.
15. Using the above method, the site was classified into areas of similar botanical community types, with a representative species list compiled for each habitat identified.
16. All species inhabiting each habitat would not necessarily be detectable during survey work carried out at any given time of the year, since different species are apparent during different seasons. Habitat surveys at the Site have been undertaken both in optimal and sub-optimal survey months, with the most recent September survey being within the optimal survey period. It is, therefore, considered that an accurate and robust assessment has been made of the Site's botanical interest.

Faunal Survey

17. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the Site by protected species, priority species, or other notable species.
18. In addition, specific surveys have been undertaken at the Site in respect of bats, Badger *Meles meles*, Hazel Dormouse *Muscardinus avellanarius*, reptiles and Great Crested Newt *Triturus cristatus*.

¹ <http://www.magic.gov.uk>

² UKHab Ltd (2023) *UK Habitat Classification Version 2.0* (at [REDACTED])

19. The results of previous survey work conducted at the Site are detailed within the Ecological Assessment, produced for the wider Warish Hall Farm application. This Ecological Appraisal details updated surveys conducted as part of the resubmission of the Bull Field application. Reference is made to previous surveys where relevant.

Bats

20. Seven activity transect surveys were completed of the wider Warish Hall Farm site between April and October 2021. The Bull Field site was included in surveys for this area. A static bat detector was also deployed on seven occasions adjacent to Prior's Wood in 2021. Given the time that has elapsed since these surveys, an updated activity transect survey was completed in October 2024, with two further surveys planned for spring and summer 2025. To complement the updated surveys, two static bat detector deployments have been conducted in September and October 2024. Further surveys will be completed in spring and summer 2025.
21. The activity surveys were undertaken using iPads paired with Echo Meter Touch 2 PRO bat detectors, across set routes (transects) that covered the majority of the Site with the aim of identifying any bats using the Site for foraging and / or dispersal. In order to maximise the encounter rate of bats (i.e. of both early and late emerging species), transects commenced around sunset and continued until approximately two hours after sunset.
22. SM4BAT detectors were programmed to record from half an hour before sunset to half an hour after sunrise, for five consecutive nights. Recorded data was subsequently analysed using Kaleidoscope software.
23. Surveys were conducted when the night-time temperature was equal to or above 10°C. The insectivorous diet of bats means there is little or no food available when the temperature falls below this level and consequently levels of activity are low and may not accurately reflect the value of the site for bats. The weather conditions for the survey were recorded and any limitations noted.
24. Trees within and adjacent to the Site were also re-assessed for their potential to support roosting bats. Features typically favoured by bats or evidence of past use by bats were searched for including:
 - obvious holes, e.g. rot holes and old woodpecker holes;
 - dark staining on the tree, below a hole;
 - tiny scratch marks around a hole from bat claws;
 - cavities, splits and/or loose bark from broken or fallen branches, lightning strikes etc; and
 - very dense covering of mature Ivy *Hedera helix* over the trunk.
25. The potential opportunities for both foraging and commuting bats were also considered in terms of the habitats present within and immediately adjacent to the Site.

26. All field surveys were undertaken with regard to best practice guidelines issued by CIEEM (2023³), the Joint Nature Conservation Committee (2012⁴) and the Bat Conservation Trust (2023⁵).

Badgers

27. The Site was subject to an updated Badger survey during the walkover conducted in September 2024. The surveys comprised two main elements. For any setts that are encountered, standard survey practice would record the location of each sett entrance, even if the entrance appeared disused. The following specific information is recorded where appropriate:
- i) The number and location of well used or very active entrances; these are clear from 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.
28. Secondly, any evidence of Badger activity, such as well-worn paths and run-throughs, snagged hair, footprints, latrines and foraging signs, were recorded so as to build up a picture of the use of the Site by Badgers.

Hazel Dormouse

29. Nest tube surveys for Hazel Dormouse were completed at the Site from May to September 2021. Footprint tracking tunnel surveys were also completed between May and July 2021. Updated nest tube surveys have been conducted in September, October and November 2024, with further surveys scheduled for April and May 2025.
30. The survey technique involves the installation and checking of nest tubes and boxes in all habitats within the Site considered to be species-rich or of potential value to Dormice.
31. The Dormouse nest tubes utilised were those approved as standard by the Mammal Society. In total, 126 nest tubes and three nest boxes were installed across the Site.

³ Reason, P.F. and Wray, S. (2023). *UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats*. Chartered Institute of Ecology and Environmental Management (CIEEM).

⁴ Mitchell-Jones, A.J. & McLeish, A.P. (Eds.) (2012). *Bat Workers' Manual*. 4th edition. Joint Nature Conservation Committee, Peterborough.

⁵ Collins, J. (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. 4th Edition. The Bat Conservation Trust, London.

32. Nest tubes were placed in accordance with the guidance provided by the Mammal Society and Natural England⁶. Typically, tubes are placed within scrub, hedgerows and woodland approximately every 20 metres where suitable locations can be identified. The nest tubes were attached with wire ties underneath suitably sturdy horizontal branches and positioned approximately 1.5 metres above ground level on average.
33. The survey has been scored for effort according to the method developed from the South West Dormouse Project and carried through in the second edition of *The Dormouse Conservation Handbook* (English Nature, 2006)⁷. The system used provides an overall score that reflects the chances of Dormice being discovered if present, and thus provides an indicator of the 'thoroughness' of a survey. This score is based on the number of tubes used and the number of months the tubes were in place.
34. The months of the year are weighted according to the likelihood of recording Dormice, as set out in Table 2 below.

Table 2. Monthly Score Weighting for Dormouse surveys (Chanin & Woods 2003).

Month	Weighting
April	1
May	4
June	2
July	2
August	5
September	7
October	2
November	2

35. Generally speaking, the index of effort is calculated based on the use of 50 nest tubes as a standard minimum. Tubes were deployed in suitable habitats at the recommended frequency of approximately every 20m, and therefore, this is considered to be reasonable survey effort.
36. A score of 20 (or above) is deemed a thorough survey and a score of 15 to 19 may be regarded as adequate where circumstances do not permit more time or more tubes (particularly if other survey methods have also given negative results).
37. Following the April and May 2025 surveys, a score of 16 will have been achieved. This is considered suitable survey effort on account of previous surveys at the Site and wider Warish Hall Farm site yielding negative results for Hazel Dormouse.

Reptiles

38. Surveys for reptiles were previously completed at the Site in May and June 2021. Given the Site's suitability for reptiles and the identification of a small population of Grass Snake *Natrix helvetica* and Common Lizard *Zootoca vivipara* in 2021, updated surveys have been completed in September and October 2024.

⁶ Chanin, P. & Woods, M. (2003). *Surveying Dormice Using Nest Tubes – Results & Experiences from the South West Dormouse Project*. Research Report 524. English Nature, Peterborough.

⁷ English Nature (2006). *The Dormouse Conservation Handbook*. English Nature, Peterborough.

39. The methodology utilised principally derived from guidance given in Froglife Advice Sheet 10: Reptile Survey⁸, the Herpetofauna Workers' Manual⁹, the Herpetofauna Groups of Britain and Ireland's (HGBI) advisory note¹⁰ and Natural England's standing advice for reptiles¹¹.
40. The survey relies on the deployment of artificial refuges or 'tins', made of roofing felt and approximately 0.25m² in area, in suitable habitats. The tins provide shelter and warm up more quickly than the surroundings in the morning and can remain warmer in the late afternoon. Being ectothermic (cold blooded), reptiles use them to bask under or upon and raise their body temperature, which allows them to forage earlier and later in the day than they would otherwise be able.
41. The refugia were placed within suitable habitat across the Site in September 2024 and, following a 'bedding in' period of 15 days, were checked during suitable weather conditions, such as early in the morning or late in the afternoon when the refugia were not too hot, in line with the recommended guidelines.
42. A total of 145 artificial refugia were initially distributed within suitable on-site habitats.

Great Crested Newt

43. Environmental DNA (eDNA) surveys for Great Crested Newt were undertaken in June 2023 of the three on-site ponds (Ponds P1, P2 and P7) within Prior's Wood, in addition to four off-site ponds (Ponds P3, P4, P6 and P8) in proximity to the Site. A further pond (Pond P5) was dry and could not be surveyed. Ten additional ponds are located within 500m of the site, but access was not permitted to survey these ponds. The results of these surveys remain valid for the application re-submission.

Survey Limitations

44. The reptile and Dormouse surveys conducted in 2024 were hindered by equipment tampering / removal. Reptile tins were frequently removed / damaged by those opposed to the Site's development. Measures were taken to discourage the disturbance of equipment, such as the erection of information signs detailing the surveys taking place. Dormouse nest tubes were also pulled off trees, reducing the number of nest tubes surveyed. The Site is public access and full-time monitoring of the survey equipment was not possible.
45. A total of 145 artificial refugia were distributed. Prior to the first reptile survey, several tins had been removed leaving 130 tins in-situ (and thus surveyed). For surveys two and three, this number dropped further to 122 tins surveyed, despite missing tins being re-deployed following the first survey. Surveys four, five, six and seven also comprised fewer reptile tins; 119, 129, 124 and 124 respectively. The habitats within the Site have not significantly changed since previous surveys completed in 2021. Therefore, despite this survey limitation, it is considered that the Site's suitability for reptiles remains consistent with that previously reported. The reptile population is considered to have remained unchanged.

⁸ Froglife (1999). *Reptile Survey: An Introduction to Planning, Conducting and Interpreting Surveys for Snake and Lizard Conservation*. Froglife Advice Sheet 10. Froglife, Halesworth.

⁹ Gent, T and Gibson, S (2003). *Herpetofauna Workers' Manual*. JNCC, Peterborough.

¹⁰ Herpetofauna Groups of Britain and Ireland (HGBI) (1998). *Evaluating Local Mitigation / Translocation Programmes: Maintaining Best Practice and Lawful Standards*.

¹¹ Natural England (2015). *Reptiles: Surveys and Mitigation for Development Projects*.

<https://www.gov.uk/guidance/reptiles-protection-surveys-and-licences>

46. A total of 126 nest tubes and three nest boxes were deployed within the Site. Prior to the September and October surveys, several nest tubes had been removed, resulting in 61 nest tubes being surveyed in September and 72 for October. A full redeployment of nest tubes was scheduled prior to the November survey. Survey guidelines for Dormice¹² indicate that a minimum of 50 nest tubes should be deployed across the Site. Despite the removal of nest tubes, a suitable number of tubes have been surveyed across suitable Dormouse habitat. Therefore, this limitation is not expected to have impacted the survey results.
47. A hardware fault in one of the static bat detectors occurred during the October deployment survey. This resulted in the detector at Position 2 not recording for five nights (only four nights were recorded). The static detector deployed at Position 2 in September did record five nights' worth of data. Given that a full suite of data was gathered in September and that additional static detector deployments are scheduled for 2025, it is considered that this hardware fault will not impact the results collated.

Designated Sites

Statutory Sites

48. There are no statutory designations of nature conservation value within the site or immediately adjacent to it. The closest statutory designated site is Hatfield Forest SSSI, which lies approximately 1.6 km southwest of the site and also incorporates Hatfield Forest NNR.
49. Hatfield Forest is the only Royal Hunting Forest to remain virtually intact in character and composition. Approximately 403.2ha in size, Hatfield Forest contains mixed ancient coppice woodland, scrub, unimproved grassland chases and plains with ancient pollards, and herb-rich marshland bordering a large lake. The woodland is predominantly wet Ash-Maple and the Ash-Maple variant of Oak-Hornbeam. Over four hundred species of higher plants have been recorded, including thirty trees and shrubs, and many county rarities with Stinking Hellebore *Helleborus foetidus* and Oxlip *Primula elatior* of national importance. It is comparatively rich in bryophytes and lichens and has locally important insect populations and breeding bird communities, including Nightingale *Luscinia megarhynchos*, Grasshopper Warbler *Locustella naevia*, Water Rail *Rallus aquaticus* and Snipe *Gallinago gallinago*.
50. Uttlesford District Council have published interim advice relating to the emerging strategic approach to Hatfield Forest SSSI and NNR, pending the examination of emerging Local Plans. The interim advice considers recreational impacts and the zone of influence of the designation.
51. The National Trust is in the process of formulating Strategic Access Management Measures (SAMM) which new housing projects can contribute towards. Once this package of measures has been finalised and costed, it will enable a tariff-based system to be worked up, towards calculating proportionate financial contributions to be secured (e.g., within s106 agreements). At the current time, packages are being negotiated on a case-by-case basis, and only the largest schemes (projects of 50 or more units) within the zone of influence of 10.4km are required to contribute in this way.

¹² English Nature (2006). The Dormouse Conservation Handbook. English Nature, Peterborough

Non-Statutory Sites

52. Priors Wood LWS falls within the site boundary. Priors Wood LWS is designated for its ancient and semi-natural woodland habitat.
53. A number of other non-statutory designated sites are located within the vicinity and are shown on Plan ECO1.

Habitats

54. Initial habitat surveys were conducted in October 2020 and April 2021 as part of the wider Land at Warish Hall Farm application. Updated walkover surveys at Bull Field were undertaken in February and June 2023, and September 2024. The broad habitats found on-site and within the wider study area are shown on Plan ECO2.
55. The habitats present within the Site, along with their condition and species composition, were recorded and compared against previous surveys to highlight any changes that may have occurred during the intervening period. Overall, the site remains largely consistent with that reported previously.

Arable

56. An arable field dominates the southern portion of the Site. In previous years, the field either contained an arable crop or was ploughed in preparation for the growth of arable crops. During the September 2024 survey the field contained dead crop, with plans to be ploughed within the week. Opportunistic species within the arable field include Willowherb *Epilobium* sp, Dock *Rumex* sp, Spear Thistle *Cirsium vulgare*, Broad-leaved Dock *Rumex obtusifolius* and Common Ragwort *Senecio jacobaea* (see Photograph 1). Arable land is additionally present adjacent to Prior's Wood, to the north and northeast of the site. These areas had been recently ploughed during the September 2024 survey.

Woodland

57. The northern portion of the site is dominated by Priors Wood, an area of ancient and semi-natural woodland. The woodland is comprised of native species including coppiced Hornbeam *Carpinus betulus* and Pedunculate Oak *Quercus robur*, in addition to Ash *Fraxinus excelsior*, Hawthorn *Crataegus monogyna*, and Hazel *Corylus avellana*. Smaller numbers of Field Maple *Acer campestre*, Elm *Ulmus* sp., Willow *Salix* sp, European Larch *Larix decidua* and Scots Pine *Pinus sylvestris* are also present. The area is designated as a LWS.

Other Neutral Grassland

58. The footpath *surrounding* Bull Field is very narrow, aside from the portion situated adjacent to Prior's Wood. Here it is approximately 3m wide and consists of the same rough semi-improved grassland (other neutral grassland) as described in previous surveys (see Photograph 2), including Perennial Rye Grass *Lolium perenne*, Cocksfoot *Dactylis glomerata*, False Oat-grass *Arrhenatherum elatius*, False Brome *Brachypodium sylvaticum*, Cow Parsley *Anthriscus sylvestris*, Cleavers *Galium aparine*, Dandelion *Taraxacum officinale*, Groundsel *Senecio vulgaris*, White Dead-Nettle *Lamium album*, Couch *Elytrigia repens*, Ribwort Plantain *Plantago lanceolata*, Creeping Thistle *Cirsium arvense*, Common Field Speedwell *Veronica persica*, Greater Plantain *Plantago major*, Annual Meadow-grass *Poa annua*, Shepherd's-purse *Capsella bursa-pastoris*, Common Nettle

Urtica dioica, Wood Avens *Geum urbanum*, Bristly Ox-tongue *Helminthotheca echinoides*, Oxeye Daisy *Leucanthemum vulgare*, Common Ragwort, Creeping Buttercup *Ranunculus repens*, Yarrow *Achillea millefolium*, Dove's-foot Crane's-bill *Geranium molle* and Spear Thistle. The 2024 walkover survey noted several additional species including Common Fleabane *Pulicaria dysenterica*, Dock *sp.*, Crested Dog's-tail *Cynosurus cristatus*, Field Bindweed *Convolvulus arvensis*, Autumn Hawkbit *Scorzoneroides autumnalis*, Burdock *Arctium sp.*, Common Bent *Agrostis capillaris*, Hogweed *Heracleum sphondylium*, and Lesser Burdock *Arctium minus*. The field margins to the north of Prior's Wood also comprise neutral grassland, approximately 10m wide, with no heavy footfall. The species composition of the grassland closely matches that previously described, with the addition of Willow *sp.* saplings along the woodland edge to the north. St Johns Wort *Hypericum perforatum*, Water Mint *Mentha aquatica* and Sedge *Carex sp.* was also noted in the area, which is wet due to constant shading from larger trees in the woodland.

59. A large log pile, garden cuttings and waste are also present within the field margin to the southwest of the Site. Oak saplings are additionally located in a gap within the boundary hedgerows to the south.
60. Along the eastern Site boundary is Smiths Green, an area of other neutral grassland comprised of Mugwort *Artemisia vulgaris*, Common Nettle, patches of Hogweed, Perennial Rye Grass, Ribwort Plantain, Burdock *sp.*, Daisy *Bellis perennis*, Timothy *Phleum pratense*, Dandelion, Common Knapweed *Centaurea nigra*, Silverweed *Potentilla anserina*, Agrimony *Agrimonia eupatoria*, Meadow Crane's-bill *Geranium pratense*, Bedstraw *Galium sp.*, Tufted Vetch *Vicia cracca*, Yarrow, Sorrel *Rumex acetosa*, Spear Thistle, Saxifrage *Saxifragaceae sp.* and Great Willowherb *Epilobium hirsutum*.
61. To the south of Smiths Green is a further neutral grassland roadside verge, comprising of Common Mallow *Malva sylvestris*, Common Nettle, Bramble *Rubus fruticosus*, Ribwort Plantain, Ground Ivy *Glechoma hederacea*, Perennial Rye Grass, Brome *Bromus sp.*, Smooth Meadow-grass *Poa pratensis*, Bristly Ox-tongue, Lesser Burdock, Dock *sp.*, Cow Parsley, Red Clover *Trifolium pratense*, Creeping Buttercup, Willowherb *sp.*, Mugwort, Meadow Crane's-bill *Geranium pratense* and Silverweed.

Ditch

62. Four ditches are present along the boundaries of the Site. Ditch D1 is shallow and extends along the eastern boundary of Bull Field. Ditch D2 bounds the northeastern Site boundary and separates the Site from an off-site arable field. Ditch D3 is also shallow, and situated along the eastern Site boundary, separating Priors Wood and an adjacent off-site arable field. Ditch D4 extends east to the west, separating Bull Field from Prior's Wood.
63. Ditch D1 was largely wet at the time of the surveys, containing standing water with no obvious flow. No aquatic or emergent vegetation was present. Ditches D2 and D3 were both dry at the time of the surveys. Ditch D4 is becoming overgrown with self-seeded scrub, which in places is becoming quite dense. No emergent or aquatic marginal vegetation was recorded along this ditch during the surveys.

Hedgerow

64. Four Hedgerows are present along the boundaries of Bull Field. Hedgerows H1 and H2 are native and species-rich. They bound the Site to the west and south.

Dominant species include Hawthorn, Blackthorn *Prunus spinosa*, Hazel, Field Maple, and Bramble. Additional species include Dog Rose *Rosa canina*, Ivy *Hedera helix*, Elder Sambucus *nigra*, Elm sp., Dogwood *Cornus sanguinea*, Oak, Ash and Old Man's Beard *Clematis vitalba* (see Photographs 3 and 4). White Bryony *Bryonia dioica* was also noted in the southwest of the site within Hedgerow H1. Two further native hedgerows (H3 and H4) bound Bull Field to the east, adjacent to the Smiths Green, and to the northeast, adjacent to the grassland field margin. These hedgerows are dominated by the same species as Hedgerows H1 and H2, primarily Hawthorn, Blackthorn, Hazel, Field Maple and Bramble.

65. Species from residential gardens to the southeast and southwest of the Site are encroaching into Hedgerow H2. These species include a Large Cedar *Cedrus libani*, Crab Apple *Malus sylvestris* and Plum *Prunus domestica*, in addition to a large Willow sp.
66. The hedgerow understories constitute Common Nettle, Dock sp., Spear Thistle, Red Dead-nettle *Lamium purpureum*, and Hedge Bindweed *Calystegia sepium*.

Pond

67. Three small ponds exist within Prior's Wood. Ponds P1 and P2 are located in the north of the woodland, whilst Pond P7 is situated towards the centre of the woodland. Fifteen further ponds are located off-site, within 500m of the red line boundary. Plan ECO3 details the location of these ponds.

Hardstanding

68. The narrow corridor extending to the northwest from Bull Field comprises a tarmac path.

Background Records

69. The desk study returned 15 records of plant species listed as vulnerable and near threatened on the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. These species include Alder *Alnus glutinosa*, Chicory *Cichorium intybus*, Corn Mint *Mentha arvensis*, Field Scabious *Knautia arvensis*, Hoary Plantain *Plantago media*, Hound's-tongue *Cynoglossum officinale*, Lady-fern *Athyrium filix-femina*, Narrow Buckler-Fern *Dryopteris carthusiana*, Pyramidal Orchid *Anacamptis pyramidalis*, Sainfoin *Onobrychis viciifolia*, Small-flowered Sweet-briar *Rosa micrantha*, Soft Shield-fern *Polystichum setiferum*, Sulphur Clover *Trifolium ochroleucon*, and Upright Chickweed *Cerastium erectum*. The closest and most recent record relates to Pyramidal Orchid, located between 0.2 and 1.6km northwest of the Site within a 1km grid square.
70. Two records of invasive / non-native plant species were returned by the desk study. These records relate to Buddleia *Buddleja davidii* and Spanish Bluebell *Endymion hispanicus*. The closest and most recent record relates to Spanish Bluebell recorded within a 1km grid square between approximately 1.5 and 2.7km southeast of the Site.

Biodiversity Net Gain

71. A Biodiversity Net Gain Assessment was undertaken in 2021 to support the planning application for the wider Warish Hall Farm site. A separate BNG assessment for the site at Bull Field was undertaken and updated in September 2024.

72. The application for Bull Field is supported by a site-specific and detailed Biodiversity Net Gain Assessment. The proposals would deliver a net gain of 15.69% in habitat units, 56.29% in hedgerow units and 15.98% in watercourse units.
73. In addition to the retention and enhancement of on-site habitat, such as Prior's Wood and the ponds within, the landscape strategy includes several new habitats, including native and non-native tree planting, woodland planting, woodland edge planting, structural planting, defensive shrub planting, ornamental shrub and herbaceous planting, clipped hedge, bulb planting, species-rich wildflower meadow, wetland meadow, amenity grassland and lawn, with vegetated gardens assumed within the residential gardens. A new ditch, measuring 130m will also be established in the south of the Site. In addition to the proposed enhancement of the existing on-site hedgerows (H3 and H4), the post-development landscape strategy proposes the inclusion of three additional native species-rich hedgerows with trees planted along former field boundaries. Furthermore, though no specific measures have been proposed to enhance the on-site ditches and the fact that the ditches are not to form part of the drainage strategy for the development, there will be a betterment to Ditches D1 and D2 as a result of the adjacent land use change from arable to grassland.
74. Enhancements to Prior's Wood will include selective thinning and supplementary planting, where necessary. Areas within the woodland will also be fenced off to prevent browsing and to allow for a strong understorey to develop. The woodland ponds will also be enhanced through light excavation to reprofile the banks and supplementary planting of aquatic species where necessary. A separate Woodland Management Plan has been prepared. Enhancement measures are further detailed within the BNG Report.
75. The above measures will offer a significant increase in opportunities for wildlife, primarily for bats, birds, reptiles and invertebrates, while additional enhancements such as bat and bird boxes will be incorporated across the proposed scheme.

Species

76. Obvious faunal activity, such as birds or mammals observed visually or by call during the course of the surveys, was recorded. Specific attention was paid to any potential use of the site by protected species, priority species, or other notable species.
77. In addition to general observations of faunal activity, special attention was paid to the potential presence of bats, Badgers, Hazel Dormouse, wintering and breeding birds, reptiles and Great Crested Newt *Triturus cristatus*.

Bats

78. 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 (as amended). These include provisions making it an offence to:

- i) Deliberately kill, injure or take (capture) bats;
 - ii) Deliberately disturb bats in such a way as to: -
 - iii) 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
 - iv) affect significantly the local distribution or abundance of the species to which they belong;
 - v) Damage or destroy any breeding or resting place used by bats; and
 - vi) Intentionally or recklessly to obstruct access to any place used by bats for shelter or protection (even if bats are not in residence).
79. 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 were not the primary purpose of the act.
80. 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.
81. In accordance with the Habitats Regulations the licensing authority (Natural England) must apply the three derogation tests as part of the process of considering a licence application. These tests are that:
1. the activity to be licensed must be for imperative reasons of overriding public interest or for public health and safety;
 2. there must be no satisfactory alternative; and
 3. the favourable conservation status of the species concerned must be maintained.
82. Licences can usually only be granted if the development is in receipt of full planning permission.
83. Tree surveys within the Site identified 24 trees with potential opportunities for roosting bats (see Plan ECO4). The suitability of these trees ranges from low to high, with the majority being located along the southern boundary of Prior's Wood.
84. A mature Oak tree (Tree T1) was noted to have high bat roost potential, whilst other trees were classified as having low to moderate roosting potential in 2021. Due to changes in the Bat Survey Good Practice Guidelines (updated in December 2023), the September 2024 walkover survey identified an additional large Oak tree along the eastern Site boundary (Tree T6) as having Potential Roosting Features (PRFs) for a maternity roost (PRF-M), meaning it has the potential to support a larger roost of bats, or numerous bats simultaneously. A summary of trees with high, moderate and PRF-M bat potential are set out in Table 3 below and are illustrated on Plan ECO4.

Table 3. Tree Assessment Summary.

Tree Ref	Species	Potential Roost Features	Evidence of Bats	Roosting Suitability
T1	Oak	Overgrown Ivy and large split	No	High
T2	Ash	Multiple woodpecker holes	No	Moderate
T3	Oak	Knotholes	No	Moderate
T4	Maple	Exposed stump and overgrown Ivy	No	Moderate

Tree Ref	Species	Potential Roost Features	Evidence of Bats	Roosting Suitability
T5	Hornbeam	Multiple holes and overgrown Ivy	No	Moderate
T6	Oak	Large crack down branch, lifted and loose bark along branches, Ivy, knot holes	No	PRF-M (High)

85. Any trees suitable for roosting bats that are to be removed as part of the development should be soft felled, following a prior check by a suitably qualified ecologist. The trees exhibiting bat roost potential should be retained where possible with lighting sensitive towards these features.

Static Bat Detector Surveys

86. SM4BAT detectors were deployed within the wider Site area on seven occasions in 2021 to monitor bat activity across consecutive nights. One of the detectors was located on the eastern edge of Prior's Wood, just to the north of the Bull Field site boundary (see Plan ECO5).
87. Early registrations of Common Pipistrelle *Pipistrellus pipistrellus* and Soprano Pipistrelle *Pipistrellus pygmaeus* recorded during these surveys indicated that roosts for these species may be present within or in close proximity to the Site.
88. Updated static detector deployments have since been conducted in September and October 2024 as an update to previous surveys. Further remote surveys are scheduled between April and August inclusive 2025. The results of the 2025 surveys will be reported as part of the addendum mentioned above.

Static Detector Survey 11.09.24 -15.09.24

89. Three static detectors were deployed and left in situ within the site for five nights in September 2024.
90. Common Pipistrelle, Soprano Pipistrelle, Noctule *Nyctalus noctula*, Leisler's Bat *Nyctalus leisleri* and Barbastelle *Barbastella barbastellus* were recorded at all three positions over the course of the survey. Only 1% of the total number of bat registrations pertained to Barbastelle however. A single registration of Nathusius' Pipistrelle *Pipistrellus nathusii* was also recorded at Position 3. Brown Long-eared Bat *Plecotus auritus*, Myotis *Myotis* sp. and Serotine *Eptesicus serotinus* were additionally recorded.
91. A total of 832 registrations were recorded during the survey, with the majority of registrations relating to Common Pipistrelle (47%) and Soprano Pipistrelle (30%). The earliest registrations were of Soprano Pipistrelle recorded one minute after sunset, at Positions 1 and 2. The last registration before sunrise was attributed to Common Pipistrelle, recorded approximately 37 minutes before sunrise at Position 3. The early registrations of Soprano Pipistrelle corroborate findings from 2021, implying that a roost(s) may be present within or in close proximity to the Site.

Table 4. Static Detector Survey Results 11.09.24 – 15.09.24¹³

Position	Species	No. Registrations	First Registration after sunset	Last Registration before sunrise
1 (11.09.24 – 15.09.24)	Ppip	138	3 min	1 h 36 min
	Ppyg	49	1 min	39 min
	Nn	33	17 min	7 h 34 min
	NI	100	17 min	6 h 20 min
	Pa	2	7 h 51 min	1 h 54 min
	Bb	3	1 h 7 min	5 h 25 min
2 (11.09.24 – 15.09.24)	Ppip	49	16 min	8 h 43 min
	Ppyg	193	1 min	53 min
	Nn	13	5 min	6 h 40 min
	Es	1	1 h 40 min	9 h 45 min
	NI	20	29 min	6 h 44 min
	Myo	1	5 h 56 min	5 h 21 min
3 (11.09.24 – 15.09.24)	Bb	6	52 min	8 h 46 min
	Ppip	204	14 min	37 min
	Ppyg	9	22 min	53 min
	Pnat	1	3 h 32 min	7 h 49 min
	Nn	1	25 min	11 h 1 min
	NI	6	7 min	7 h 49 min
	Myo	1	7 h 56 min	3 h 25 min
Bb	2	1 h 36 min	9 h 21 min	
Total	N/A	832	N/A	N/A

Static Detector Survey 02.10.24 - 06.10.24

92. Three static detectors were deployed and left in situ for five nights in October 2024 (aside from one detector which only recorded for four nights due to a hardware fault).
93. Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's Bat, Brown Long-eared Bat and Barbastelle were recorded across all three locations during the survey. Barbastelle registrations again, constituted a low percentage of the overall bat registrations (2%). A single registration of Nathusius' Pipistrelle was also recorded at Position 2.
94. A total of 542 bat registrations were recorded over the course of the survey, with 40% of registrations being attributed to Common Pipistrelle and 34% attributed to Soprano Pipistrelle.
95. The earliest registration pertained to Noctule, recorded 20 minutes before sunset at Position 2. Leisler's Bat was additionally recorded 15 minutes prior to sunset at Position 3. The last registration before sunrise related to Common Pipistrelle, recorded 24 minutes before sunrise at Position 3.

¹³ In all cases the following abbreviations are used: Bb/Barbastelle *Barbastella barbastellus*; Es/Serotine *Eptesicus serotinus*; Myo/*Myotis* species; Nn/Noctule *Nyctalus noctula*; NI/Leisler's Bat *Nyctalus leisleri*; Nsp/*Nyctalus* species; Pa/Brown Long-eared Bat *Plecotus auritus*; Psp/Pipistrelle species; Pnat/Nathusius' Pipistrelle *Pipistrellus nathusii*; Ppip/Common Pipistrelle *Pipistrellus pipistrellus*; and Ppyg/Soprano Pipistrelle *Pipistrellus pygmaeus*.

96. The early registrations of Noctule and Leisler's Bat suggest that a roost(s) may be present within or in close proximity to the Site.

Table 5. Static Detector Survey Results 02.10.24 – 06.10.24

Position	Species	No. Registrations	First Registration after sunset	Last Registration before sunrise
1 (02.10.24 – 06.10.24)	Ppip	62	16 min	4 h
	Ppyg	59	21 min	35 min
	Nn	5	4 min	6 h 53 min
	NI	13	26 min	6 h 53 min
	Myo	2	1 h 22 min	8 h 51 min
	Pa	17	44 min	2h 33 min
	Bb	2	57 min	11 h 20 min
2 (02.10.24 – 05.10.24)	Ppip	66	22 min	1 h 20 min
	Ppyg	118	20 min	27 min
	Pnat	1	2 h 35 min	9 h 56 min
	Nn	12	-20 min	11 h 12 min
	Es	1	2 h 36 min	9 h 56 min
	NI	40	12 min	1 h 44 min
	Myo	8	1 h 8 min	2 h 3 min
	Pa	2	44 min	6 h 27 min
	Bb	1	3 h 52 min	8 h 40 min
3 (02.10.24 – 06.10.24)	Ppip	89	18 min	24 min
	Ppyg	9	29 min	36 min
	Nn	1	4 min	12 h 32 min
	Es	2	35 min	9 h 25 min
	NI	8	-15 min	7 h 6 min
	Myo	10	1 h 24 min	1 h 32 min
	Pa	8	1 h 40 min	2 h 20 min
	Bb	6	1 hr 37 min	5 h 20 min
Total	N/A	542	N/A	N/A

Activity Transect Surveys

97. On account of the Site's suitability for bats, seven activity transect surveys were completed between April and October 2021. The Site was included in surveys of the wider Warish Hall Farm application area, the full results of which can be found in the respective Ecological Assessment (2021) and Bat Survey Report (2021). These surveys recorded five species utilising the Bull Field site, including Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's Bat and Brown Long-eared Bat, with Barbastelle also recorded just to the north of the Site next to Prior's Wood. Nathusius' Pipistrelle, Myotis sp. and Serotine were also recorded in the wider Site area.
98. The majority of bat activity recorded during these surveys was focused along the Site's northern boundary. The surveys also found, however, that bats are utilising the boundary hedgerows, but to a lesser extent.

99. As an update to previous surveys, a further bat activity transect (autumn) survey was completed in October 2024, with two additional surveys scheduled for spring and summer 2025. The results of the 2025 surveys will be reported in an addendum to this report.

Activity Survey 02.10.24

100. The timings and weather conditions of the survey undertaken on 2 October 2024 are shown in Table 6 below. The results of the activity survey are summarised below and in Table 7. The results are also illustrated on Plan ECO6.

Table 6. Bat Activity Survey Timings and Weather Conditions.

Date	02.10.2024
Sunset	18:35
Survey Start	18:34
Survey End	20:34
Cloud (%)	80
Temp. (°C)	14-12
Weather and Wind	No rain / 10 mph wind

101. A total of 129 bat registrations were recorded over the course of the survey. Registrations were attributed to Common Pipistrelle, Soprano Pipistrelle, Noctule, Leisler's Bat, Myotis *sp.* and Brown Long-eared Bat. Thirteen registrations were social calls, where the species could not be determined.
102. Of the recorded activity, 50% of registrations were attributed to Soprano Pipistrelle. Foraging behaviour was observed for both Common Pipistrelle and Soprano Pipistrelle along the southern boundary of Prior's Wood.
103. The earliest registration pertained to Soprano Pipistrelle, occurring 13 minutes after sunset.

Table 7. Bat Activity Survey Results 02.10.24.

Species	Number of Registrations	First Registration after sunset
Ppip	37	40 min
Ppyg	64	13 min
Nn	6	46 min
Nl	6	44 min
Myo	2	51 min
Pa	1	1 h 40 min
Social	13	45 min
Total	129	N/A

104. The woodland and hedgerows at the boundaries of the Site where bats have been observed foraging and commuting will be retained and / or enhanced as part of the development. New hedgerows will also be provided. As a further enhancement, bat boxes will be installed on suitable retained trees within the Site to offer roosting opportunities post-development.

Background Records

105. The desk study returned 40 records relating to Brown Long-eared Bat, Soprano Pipistrelle, Common Pipistrelle, Noctule, Leisler's Bat, Natterer's Bat *Myotis nattereri*, Daubenton's Bat *Myotis daubentonii*, and Western Barbastelle. One record described as 'Pipistrelle species' and one record described as 'a bat species' were also returned.
106. The closest record pertains to Common Pipistrelle, dating from 2017 and is situated approximately 0.3km south of the Site. The most recent records date from 2021 and relate to Common Pipistrelle, located approximately 0.7km east of the Site, in addition to 1.1km and 2.6km southeast of the Site.

Badgers

107. Badgers are protected by the Protection of Badgers Act 1992, for reasons of animal welfare rather than on account of their intrinsic rarity or nature conservation significance.
108. Surveys for signs of Badger were undertaken within Bull Field and the adjacent off-site habitats in 2021, 2023, and September 2024. No evidence of this species was recorded. Prior's Wood offers suitable habitat for foraging and sett building, and the network of hedgerows offers further foraging and commuting opportunities. These features will be retained and / or enhanced as part of the development. New areas of grassland, shrub and herbaceous planting will be created as part of the development green infrastructure ensuring suitable foraging and commuting habitat will remain on-site post-development.

Background Records

109. The desk study returned five records of Badger within the past ten years. The closest record dates from 2017 and is located approximately 0.3km north of the site. The most recent record is from 2019 and is situated 1km northeast of the Site.

Hazel Dormice

110. Dormice are subject to the same level of legislative protection as bats (see above).
111. The woodland and extensive network of hedgerows, which make up the majority of the Site boundary, provide opportunities for dispersing and foraging Dormice.
112. Suitable Dormouse habitat within and surrounding the site was subject to nest tube surveys for Dormice between May and September 2021. Footprint tracking tunnel surveys were also completed between May and July 2021. No evidence of Dormice was recorded during these surveys. Surveys of the wider Warish Hall Farm application area also found no evidence to suggest that Dormice are present in the area. The updated surveys conducted in September, October and November 2024 have additionally found no evidence of this species within the Site. Further surveys are scheduled for April and May 2025.
113. The weather and timings for the 2024 surveys are summarised below in Table 8. The location of the Dormouse tubing and survey results are illustrated on Plan ECO7.

Table 8. Dormouse Survey Results

Date	Survey	Temp. (°C)	Cloud Cover (%)	Dormouse Evidence Found?
30.09.24	1	15	100	No
16.10.24	2	14	100	No
08.11.24	3	10	100	No

114. Prior's Wood and perimeter hedgerows will be retained and / or enhanced as part of the development and native species planted throughout with the establishment of new native hedges as part of the development. Despite the negative results of the Dormouse surveys, suitable habitat for this species will remain post-development.

Background Records

115. No records pertaining to Dormice were obtained during the data search.

Hedgehogs

116. Hedgehog *Erinaceus europaeus* is a Species of Principal Importance for the Conservation of Biodiversity under Section 41 (England) of the NERC Act 2006. Hedgehog is a UK BAP priority species.

117. 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 published under this section, or...promote the taking by other of such steps.

118. The habitats present on-site offer both foraging and hibernation opportunities for Hedgehog in the form of grassland, hedgerows and woodland. Opportunities will remain for Hedgehogs post-development via the retention and enhancement of woodland and hedgerows, in addition to the planting of native species of grassland woodland, meadow and hedge establishment. 'Hedgehog Gateways' should be installed within new fencing at the Site, to ensure permeability of the Site for wildlife.

Background Records

119. Four records of Hedgehog were returned by the desk study. The closest record dates from 2015 and is located approximately 0.3km southeast of the Site. The two most recent records date from 2016 and are located approximately 0.4km and 2.4km east of the Site.

Water Vole

120. Water Vole *Arvicola amphibius* receive full protection under section 9 of the Wildlife & Countryside Act 1981 (as amended). Under this legislation it is an offence to:

- Intentionally kill, injure or take (capture) a Water Vole;
- Possess or control a live or dead Water Vole, or any part of a Water Vole;
- To sell, offer for sale or advertise for live or dead Water Voles;

- Intentionally or recklessly damage, destroy, or obstruct access to any structure or place which Water Voles use for shelter or protection or disturb them while they are using such a place.

121. As of January 2016, *The Water Vole Mitigation Handbook*¹⁴ specifies that operations where Water Voles are to be trapped or displaced require a conservation licence from Natural England. This may be in the form of a Class Licence or a site-specific licence dependent on whether the proposals meet particular criteria. To obtain either licence the project must deliver a net benefit for Water Voles.
122. The habitats on-site (namely the ditches) do not present suitable opportunities for Water Vole and they are not expected to be present within the Site. No evidence of this species was recorded within the Site.

Background Records

123. Two records of Water Vole were returned by the desk study. The closest and most recent record dates from 2018 and is located 1km northeast of the Site.

Otters

124. Otters *Lutra Lutra* are subject to the same legislative protection as bats (see above). The habitats on-site (namely the ditches) do not present opportunities for Otters.

Background Records

125. The desk study returned four records of Otter in the last 10 years. The closest record is located approximately 0.3km northwest of the Site and dates from 2015. The most recent record dates from 2018 and is situated approximately 1.1km northeast of the Site.

Other Mammals

126. The habitats present on-site offer opportunities for a number of common mammal species.

Background Records

127. Twenty-seven records of other mammal species were returned by the desk study. These records relate to Brown Rat *Rattus norvegicus*, Chinese Muntjac *Muntiacus reevesi*, Fallow Deer *Dama dama*, Grey Squirrel *Sciurus carolinensis*, Rabbit *Oryctolagus cuniculus*, Stoat *Mustela erminea* and Weasel *Mustela nivalis*. The closest of these records is of Fallow Deer, situated approximately 0.3km northeast of the Site. The record dates from 2015. The most recent records pertain to Grey Squirrel and Rabbit, dating from 2019. The two records are situated approximately 2.8km southwest of the Site.

¹⁴ Dean, M., Strachan, R., Gow, D. and Andrews, R. (2016). *The Water Vole Mitigation Handbook (The Mammal Society Mitigation Guidance Series)*. Eds Fiona Mathews and Paul Chanin. The Mammal Society, London.

Birds

128. Section 1 of the Wildlife & Countryside Act 1981 (as amended) is concerned with the protection of wild birds. With certain exceptions all wild birds and their eggs are protected from intentional killing, injuring and taking, and their nests, whilst being built or in use, cannot be taken, damaged or destroyed.
129. Schedule 1 part 1 of the Wildlife & Countryside Act 1981 is a list of the nationally rarer and uncommon breeding birds for which all offences carry special (i.e. greater) penalties. These species also enjoy additional protection whilst breeding, as it is also an offence to disturb adults or their dependant young when at the nest.
130. The proposals for the Site will involve the retention and enhancement of on-site habitat, such as Prior's Wood. The landscape strategy includes several new habitats, including native and non-native tree planting, woodland planting, woodland edge planting, structural planting, defensive shrub planting, species-rich wildflower meadow, wetland meadow, amenity grassland and lawn, with vegetated gardens assumed within the residential gardens. These habitats will provide foraging and nesting opportunities for birds post-development. Planting will include native and berry-bearing species of known benefit to wildlife. Bird boxes will be installed on suitable retained trees as a further enhancement.

Wintering Bird Surveys

131. Three wintering bird surveys were conducted across January and February 2021 as part of the wider Warish Hall Farm application. The surveys encompassed Bull Field.
132. Twenty-one bird species were observed on, flying over or immediately adjacent to the Bull Field site during surveys. Four of these species are protected under Section 41 of the NERC Act 2006 and / or listed on the Red List. These are Mistle Thrush *Turdus viscivorus*, Song Thrush *Turdus philomelos*, Dunnock *Prunella modularis* and Starling *Sturnus vulgaris*. No large flocks of wintering birds were recorded within the Site.
133. Two wintering bird surveys were conducted in January and February 2024 of the wider Warish Hall Farm included the northern boundary of Priors Wood and northeastern boundary of Bull Field.
134. Ten bird species were observed on, flying over or immediately adjacent to Priors Wood or the site boundary. Three of these species are listed as Amber on the Red List, including Wood Pigeon *Columba palumbus*, Wren *Troglodytes troglodytes* and Sparrowhawk *Accipiter nisus*.

Breeding Bird Surveys

135. Three breeding bird surveys were carried out in April, May and June 2021 as part of the wider Warish Hall Farm application. The surveys included the Bull Field site.
136. Twenty-one bird species were observed on, flying over or immediately adjacent to the Bull Field site during the surveys. Four of these species are protected under Section 41 of the NERC Act 2006 and / or listed on the Red List were recorded on site. These include Dunnock, House Sparrow *Passer domesticus*, Starling and Yellowhammer *Emberiza citronella*.

137. The woodland and hedgerows at the boundaries of the Site are considered suitable for foraging and nesting birds and the majority of sightings were recorded within these areas.
138. The arable field which constitutes a large portion of the Site had been recently ploughed at the time of the 2021 survey and generally offered negligible ground nesting opportunities for common species. During the September 2024 habitat survey, the field had no crops growing but had not yet been ploughed. No ground nesting birds were recorded nesting on-site during this survey.
139. Blue Tit pairs were recorded as possible breeders in 2021, nesting in the southern edge of Prior's Wood, near to the northern Site boundary. House Sparrow was also noted carrying nesting material along the southwest boundary of the Site. Two pairs of Great Spotted Woodpecker *Dendrocopos major* were confirmed nesting in Prior's Wood.

Background Records

140. The desk study returned a total of 111 records of bird species protected under Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) and / or listed under Annex 1 of the Birds Directive. The records relate to Avocet *Recurvirostra avosetta*, Barn Owl *Tyto alba*, Bewick's Swan *Cygnus columbianus*, Black Tern *Chlidonias niger*, Black-necked Grebe *Podiceps nigricollis*, Black-tailed Godwit *Limosa limosa*, Brambling *Fringilla montifringilla*, Common Tern *Sterna hirundo*, Crossbill *Loxia curvirostra*, Fieldfare *Turdus pilaris*, Golden Plover *Pluvialis apricaria*, Goldeneye *Bucephala clangula*, Greylag Goose *Anser anser*, Green Sandpiper *Tringa ochropus*, Greenshank *Tringa nebularia*, Hobby *Falco subbuteo*, Kingfisher *Alcedo atthis*, Little Egret *Egretta garzetta*, Little Gull *Hydrocoloeus minutus*, Little Ringed Plover *Charadrius dubius*, Peregrine *Falco peregrinus*, Red Kite *Milvus milvus*, Redwing *Turdus iliacus*, Ruff *Calidris pugnax*, Whimbrel *Numenius phaeopus*, and Wood Sandpiper *Tringa glareola*.
141. The closest of these records pertain to Red Kite, Golden Plover, Redwing, Fieldfare and Barn Owl. The records are located within a 1km grid square which encompasses the entirety of the Site, located between approximately 0 and 0.7km away. These records date from between 2015 and 2023.
142. The most recent records date from 2023 and correspond to Little Egret, Greylag Goose, Little Ringed Plover, Avocet, Black-tailed Godwit, Kingfisher, Red Kite, Ruff, Barn Owl, Fieldfare, Golden Plover, Redwing and Green Sandpiper. These records are located within seven 1km grid squares, one of which encompasses the Site, between approximately 0 and 0.7km away. A single Redwing record is situated here. Remaining records are located between approximately 2.1 and 3.5km southwest of the Site and relate to Little Egret, Red Kite, and Barn Owl. Records of Greylag Goose and Red Kite are situated between approximately 1.6 and 3km northwest of the site. A single record of Golden Plover is located between approximately 1.1 and 2.2km east of the Site and between approximately 1.1 and 2.4km northwest of the site is a further Redwing record. A record relating to Fieldfare is additionally located within a 1km grid square between approximately 1.2 and 2.6km northeast of the Site. Lastly, nine records relating to Avocet, Black-tailed Godwit, Green Sandpiper, Greylag Goose, Kingfisher, Little Egret, Little Ringed Plover, Red Kite and Ruff, are situated between approximately 0.1 and 1.3km west of the Site.
143. The desk study returned 73 records of bird species listed under Section 41 of the NERC Act (2006) and / or listed as priority species by the UK BAP. Species include

Cuckoo *Cuculus canorus*, Grey Partridge *Perdix perdix*, Hawfinch *Coccothraustes coccothraustes*, House Sparrow, Lesser Redpoll *Acanthis cabaret*, Lapwing *Vanellus vanellus*, Reed Bunting *Emberiza schoeniclus*, Ring Ouzel *Turdus torquatus*, Skylark *Alauda arvensis*, Spotted Flycatcher *Muscicapa striata*, Tree Sparrow *Passer montanus*, and Yellowhammer.

144. The closest records relate to Yellowhammer, Cuckoo, Hawfinch, Skylark, Lesser Redpoll, House Sparrow, Reed Bunting and Lapwing. The records are located within a 1km grid square which encompasses the entirety of the Site, located between approximately 0 and 0.7km away. These records date from between 2018 and 2023.
145. The most recent records date from 2023. These records relate to Skylark located within a 1km square grid located approximately between 1.6 and 3km northwest of the Site, Skylark and House Sparrow located within a 1km grid square approximately between 0.1 and 1.1km west of the site, in addition to records of Skylark and Yellowhammer located within a 1km grid square which encompasses the entirety of the site, between approximately 0 and 0.7km. Additional records are located within 1km grid squares, between approximately 1.2 and 2.2km east of the Site (Lapwing) and between approximately 1.3 and 2.6km northeast of the Site (Skylark). Lastly, a record of Hawfinch is located within a 1km grid square between approximately 2 and 3.5km southwest of the Site.
146. Forty-two records were returned by the desk study relating to species listed as locally important and considered to be a species of interest by the Essex Biodiversity Action Plan. These records pertain to three species: Skylark, Song Thrush and Grey Partridge *Perdix perdix*.
147. The closest records relate to Song Thrush and Skylark, dating between 2018 and 2023, located within a 1km grid square which encompasses the entirety of the Site, between approximately 0 and 0.7km away.
148. The most recent records date from 2023 and also refer to Song Thrush and Skylark, located within five 1km grid squares, the closest of which encompasses the entirety of the Site, between approximately 0 and 0.7km away.
149. The desk study also returned 11 records of invasive / non-native bird species. The records pertain to Canada Goose *Branta canadensis* and Ring-necked Parakeet *Psittacula krameria*.
150. The closest record is of Canada Goose, dating from 2023 and located within a 1km grid square which encompasses the entirety of the Site, between approximately 0 and 0.7km away.
151. Four records constitute the most recent, three of which relate to Canada Goose and one, Ring-necked Parakeet. These records are situated within three 1km grid squares, the closest of which occurs between approximately 0.1 and 1.3km west of the Site.

Reptiles

152. Rare, endangered or declining species receive full protection under the Wildlife & Countryside Act 1981 (as amended) as well as protection under the Conservation of Habitats and Species Regulations 2017. Species that are fully protected are Smooth Snake *Coronella austriaca* and Sand Lizard *Lacerta agilis*. It is illegal to:

- i) Deliberately kill, injure or take (capture) these reptiles;
 - ii) Deliberately disturb these reptiles in such a way as to be likely:–
 - iii) to impair their ability to survive, to breed or reproduce, or to rear or nurture their young, or to hibernate; or
 - iv) to affect significantly their local distribution or abundance;
 - v) Damage or destroy any breeding or resting place used by these reptiles;
 - vi) Intentionally or recklessly obstruct access to any place used by these reptiles for shelter or protection (even if the reptiles are not present at the time);
 - vii) Sell, offer for sale, possess or transport for purposes of sale these reptiles (live or dead animal, part or derivative).
153. Given their limited geographical distribution and the nature of the habitats present, neither of these species would be present within the Site.
154. Owing to their abundance in Britain, Common Lizard *Zootoca vivipara*, Slow-worm *Anguis fragilis*, Grass Snake *Natrix helvetica* and Adder *Vipera berus* are 'partially protected' under the Wildlife & Countryside Act 1981 (as amended) and as such only receive protection from:
- i) Intentional killing and injuring; and
 - ii) Being sold or other forms of trading.
155. The habitat of common reptiles is therefore not directly protected. However, because of their partial protection, disturbing or destroying their habitat while they are present may lead to an offence.
156. All reptile species are listed as Species of Principal Importance under Section 41 of the NERC Act 2006. The NERC Act places responsibility upon public bodies to have regard for the conservation of biodiversity in England.
157. The grassland margins situated along the Site boundaries, and in particular along the northern boundary of Bull Field, provide suitable habitat for reptiles.
158. A presence / absence survey was completed in May and June 2021. The survey identified a small population of Grass Snake and Common Lizard within the field margins. Given the time elapsed since these surveys, an updated reptile survey was undertaken in September and October 2024. The results of surveys undertaken are summarised on Table 9 below. The distribution of reptile tines as well as the location of found reptiles are shown on Plan ECO8.

Table 9. Reptile Survey Results.

Date	Survey	Temp. (°C)	Cloud Cover (%)	Reptiles Recorded
30.09.24	1	15	85	0
02.10.24	2	16	90	1 Common Lizard
03.10.24	3	11 - 14	5	0
09.10.24	4	14	100	0
11.10.24	5	11	20	0
14.10.24	6	11	100	0
16.10.24	7	14	100	0

159. Whilst deploying the reptile tins, a single Common Lizard was spotted along the northern field margin of Bull Field (12.09.24). A single Common Lizard was recorded during the seven surveys completed thereafter. Given that the habitats

on-site remain largely similar to that recorded in 2021, it is considered that a small population of Grass Snake and Common Lizard remain within the Site.

160. Proposals for the site include enhancement of existing woodland edge habitat and the establishment of further woodland edge of benefit to reptile species. New areas of meadow, wetland grassland and shrub planting will provide further suitable reptile habitat post-development.

Background Records

161. Seven reptile records were returned by the desk study, pertaining to Common Lizard, Grass Snake, and Slow-worm. The closest record relates to Slow-worm located approximately 0.4km southwest of the Site, recorded in 2020. The most recent record dates from 2022 and also relates to Slow-worm, situated approximately 0.5km southwest of the Site.

Amphibians

162. Great Crested Newt *Triturus cristatus* are subject to the same level of legislative protection as bats and Dormice (see above).
163. There are three ponds located within the Site (and within Prior's Wood) providing suitable aquatic habitat. Fifteen ponds are located within 500m of the Site boundary. The ditches within the Site, in addition to two just beyond the eastern and southern Site boundary, do not contain marginal or aquatic vegetation. Ditch D1 was wet at the time of the September 2024 survey. The surrounding woodland and field boundaries within the Site provide opportunities for amphibians during their terrestrial phase.
164. The on-site ponds and ponds within 500m of the Site that did not fall within the curtilage of private residences were subject to eDNA testing for Great Crested Newt in 2021 (see Plan ECO3). The results of the eDNA testing were returned as negative, indicating the likely absence of this species. Updated surveys of the on-site ponds and publicly accessible off-site ponds were undertaken in 2023. All on-site ponds were returned as negative for the presence of Great Crested Newt DNA, indicating the likely absence of this species from the Site. Pond P8 located approximately 330 metres southwest of the Site, returned a positive result for Great Crested Newt with eight positive DNA replicates found. The location of the pond and intervening urban infrastructure would act as a significant barrier to dispersal, with no suitable dispersal habitat to the Site. Furthermore, the negative test results of on-site ponds and other ponds in closer proximity to the Site indicate the likely absence of any breeding populations.
165. Despite the absence of Great Crested Newts onsite, post-development habitats will provide suitable habitats for amphibians in both their aquatic and terrestrial phases. Including, the provision of wetland meadow habitats, the establishment of a new ditch and the retention and enhancement of on-site ponds within Priors Wood.

Background Records

166. The desk study returned seven records of Amphibian species, pertaining to Common Toad *Bufo bufo*, Smooth Newt *Lissotriton vulgaris* and Great Crested Newt. The closest and most recent record dates from 2023 and refers to Smooth Newt. This record is located approximately 0.8km southwest of the Site.

Invertebrates

167. Based on the habitats present on-site, it is likely that an assemblage of common invertebrates will be present.
168. Post development habitats include the planting of native species within grassland, shrub and woodland habitats providing continued opportunities for wildlife post-development.

Background Records

169. The desk study returned 45 records of invertebrate species listed under Section 41 of the NERC Act (2006) and / or listed as priority species by the UK BAP. These records pertain to twenty-one species: Blood-Vein *Timandra comae*, Brown-spot Pinion *Hadena perplexa*, Buff Ermine *Spilosoma virginica*, Centre-barred Sallow *Celama unula*, Cinnabar *Tyria jacobaeae*, Dot Moth *Melanchra persicariae*, Dusky Thorn *Ennomos fuscantaria*, Feathered Gothic *Tholera cespitis*, Figure of Eight *Hypomecis roboraria*, Ghost Moth *Hepialus humuli*, Green-brindled Crescent *Allophyes oxyacanthae*, Latticed Heath *Chiasmia clathrata*, Oak Hook-tip *Falcaria lacertinaria*, Pretty Chalk Carpet *Mesoleuca albicillata*, Shaded Broad-bar *Acidalia bifasciana*, Small Heath *Coenonympha pamphilus*, Small Phoenix *Ecliptopera silaceata*, Small Square-spot *Dysstroma truncata*, White Admiral *Limenitis camilla*, White-letter Hairstreak *Satyrium w-album*, and Sprawler *Hypomecis roborari*.
170. The *closest* record is of Small Heath, located approximately 1.1km southeast of the Site. The record dates from 2015. The most recent records pertain to Centre-barred Sallow, Dusky Thorn, Feathered Gothic, Pretty Chalk Carpet, Small Phoenix, and Small Square-spot, observed in 2023. The records are situated approximately 2.3km southwest of the site.

Summary

171. Given the habitats on-site have remained largely the same between the 2021, 2023 and 2024 surveys, it is considered likely that use of the Site by the species surveyed will have also remained unchanged. Updated surveys in regards to bats, and dormice are ongoing and will be completed in 2025. The results of these surveys will be provided as an addendum to this report.

Review of Place Services Comments

172. This section of the note addresses in turn each of the pre-application comments received from Place Services on 23 March 2023, which relates to the original submission.

As for any proposal, a planning application will need to be supported by adequate ecological surveys and assessments to enable the LPA to determine any application submitted in line with national and local policy and its statutory duties. This will include likely impacts on designated sites (international, national and local), protected species and Priority habitats and species - not just significant ones.

Ecological assessments should take data search records & survey information and use professional judgement to come to reasoned conclusions as to the likelihood of species being present and affected by the proposed development. The ecological data search from Essex Field Club should inform the scope of surveys needed for protected and Priority species and any designated sites with Zones of Influence which may be greater than 10km. All surveys must be undertaken by suitably qualified ecologists at the appropriate time of year using standard methodologies.

Effective and robust measures, in line with the mitigation hierarchy, must be also proposed which have a high degree of certainty for their deliverability in the long term. If there are residual impacts, these will need to be compensated for on site or offsite with long term management secured, and appropriate enhancements included to ensure Biodiversity Net Gain from development.

Any reporting accompanying a planning application should follow CIEEM guidelines (these also comply with BS42020). Guidelines include Preliminary Ecological Appraisal Report, Guidelines for Ecological Impact Assessment, Ecological Report Writing and Lifespan of Ecological Surveys and Reports.

173. As detailed above, an Ecological Assessment and Bat Survey Report were submitted to support the planning application of the wider Warish Hall Farm site including Bull Field. The Ecological Assessment contains information from a full suite of surveys (Extended Phase 1, bats, Badgers, Dormice, birds, reptiles and Great Crested Newts) that were undertaken in 2021. The Bat Survey Report (November 2021) provides further survey information in relation to bats. In addition to the survey information, these documents, along with the Woodland Management Plan and Bird Hazard Management Plan, contain ecological data search information, an assessment on likely impacts on designated sites in the area, and proposed mitigation and enhancement measures for protected and priority species that have either been recorded on-site, or that are considered likely to be affected by the proposals. A further update Ecological Appraisal was produced in 2023 as an update to the 2021 surveys, in addition to a Great Crested Newt Briefing note.
174. Further surveys have now been completed in 2024 and are scheduled for 2025. The results of these surveys are detailed within this updated report, as part of the re-submission.
175. The aforementioned documents accompany this report to support the planning application for Bull Field, with the survey information and assessments remaining valid. The Woodland Management Plan has been updated to address changes in the proposals.

Essex Biodiversity Validation Checklist

If the development is classed as a major development the Essex Biodiversity Validation Checklist should be submitted with the application.

176. A site-specific Biodiversity Validation Checklist has been submitted as part of the original planning application.

Designated sites

There is one statutory designated site present within 1km radius of the proposed development.

However, we note that the development site is situated within the 10.4km evidenced Zone of Influence for recreational impacts at Hatfield Forest Site of Special Scientific Interest (SSSI)/National Nature Reserve (NNR) as shown on MAGIC map (www.magic.gov.uk). Therefore, Natural England's letter to Uttlesford DC relating to Strategic Access Management and Monitoring Strategy (SAMM) – Hatfield Forest Mitigation Strategy (28 June 2021) should be followed to ensure that impacts are minimised to this site from new residential development.

As a first step towards a comprehensive mitigation package, the visitor management measures required within Hatfield Forest SSSI / NNR have been

finalised in a Hatfield Forest Mitigation Strategy. Natural England are now working with the LPA to consider what level of developer contribution towards a package of funded Strategic Access Management Measures (SAMMs) at Hatfield Forest is appropriate for all residential development within the evidenced Zone of Influence. Natural England's advice is that during this interim period before a co-ordinated strategic solution has been established by all authorities, housing projects of 50 units or greater should provide a proportionate mitigation contribution to be agreed with the National Trust.

For the largest, strategic housing sites (100+ units), Natural England advises that recreational pressure impacts on this designated site are additionally mitigated via the provision of Suitable Accessible Natural Greenspace (SANG), a specific form of Green Infrastructure, to be provided within the red-line boundary of the proposed development. Natural England advise on using a distance of 2.7km for a daily walking route within attractive greenspace on the site and/or with links to surrounding public rights of way (PRoW). ANG 'standard' accepted by Natural England is 8ha greenspace per 1000 population as per Thames Basin Heaths and this requires a commitment to its long-term maintenance and management to be secured by a Landscape and Ecological Management Plan to be secured by a condition of any consent. Such green infrastructure should be designed to absorb significant proportions of the day-to-day recreational needs of new residents, such as walking, dog walking, jogging / exercise, children's play facilities, and other informal recreation. It should also aim to provide a semi-natural character, with significant proportion of tree / woodland cover, and as may be appropriate, café / basic refreshment facilities.

177. The existing Ecological Assessment produced by Ecology Solutions and Landscape Strategy produced by LDA Design for the wider Warish Hall Farm site, as well as the Woodland Management Plan produced specifically for the Bull Field application, provide details on the client's commitment to the provision of a financial contribution for the SAMMS and the delivery of on-site SANG within the areas of open space.

There are three Local Wildlife Sites present within a 1km radius of the proposed site including Prior's Wood adjacent to the northern boundary of the development. This is also Ancient Woodland, an irreplaceable habitat, and a Priority habitat. An appropriate buffer of at least 15m should be put in place around this woodland to protect its root system. A statement as to how impacts upon the Ancient Woodland will be avoided during construction will need to be provided and monitoring included within a Landscape and Ecological Management Plan to ensure any impacts are noted and remedial actions taken. The LPA may be interested in the practical guidance document Planning for Ancient Woodland (Woodland Trust, July 2019) and the applicant should refer to Government's Standing advice on Ancient Woodland, ancient trees and veteran trees: protecting them from development.

178. The Ecological Assessment produced by Ecology Solutions and the Landscape Strategy produced by LDA Design, along with the Woodland Management Plan produced specifically for the Bull Field application, contain information on the protection of Prior's Wood, the area of Ancient and Semi-Natural Woodland in the north of the Site.
179. A Landscape and Ecological Management Plan has been submitted to provide further information on how the woodland will be protected throughout construction, along with a monitoring strategy to ensure impacts and noted and remedial actions taken.

European Protected Species

Any trees (and buildings) to be lost as part of the proposed development, including those within Prior's Wood LoWS, should be surveyed by a suitably qualified

ecologist as part of a Preliminary Roost Assessment (PRA) for bats following best practice guidance (Collins, 2016). If potential for bats to roost is found in these structures, then further surveys such as aerial inspections of trees and/or emergence/re-entry surveys of structures will need to be undertaken at a suitable time of year following best practice guidance (Collins, 2016). The results and details of any mitigation measures will need to be provided to the LPA prior to determination. If any roosts are found, then a licence from Natural England will be required to fell any trees or remove any structure with bat roosts present.

A bat-sensitive lighting scheme will be expected with this application, especially along important bat commuting corridors, retained and adjacent vegetation and this is likely to be needed to avoid impacts on bats.

180. Trees within the Site have been assessed for their bat roosting potential, with details provided within the 2021 Ecological Assessment and Bat Report in addition to further ground level tree assessments being conducted in 2023 and 2024 and included within the 2023 updated Ecological Appraisal and this report. A sensitive lighting strategy will be produced by a lighting consultant in consultation with the project ecologist, to avoid adverse effects on any ecological receptors.
181. Any trees to be felled within Prior's Wood as part of the prescribed woodland management will be assessed from the ground prior to their removal. Any trees that have roosting potential will be avoided where possible, but where it is necessary to fell then subsequent aerial inspections of trees and / or emergence / re-entry surveys will be undertaken. The results of these surveys would be provided to the LPA. If any roosts are found, then a licence from Natural England would be sought.
182. Any trees to be felled within the boundary hedgerows or around the Site with identified bat roosting potential suitability will be removed using a soft felling technique with checks by a suitable qualified ecologist prior to removal.

From OS mapping, 16 ponds look to be present within 500m of the site which is the distance stated in Government Standing Advice on Great crested newts that these European Protected Species are likely to travel from suitable aquatic bodies. We note that the site also contains suitable terrestrial habitat for Great Crested Newts (GCN) (hedgerows). Given the site lies within an Amber Risk Zone for the GCN District Level Licensing (GCN Risk Zones (Essex) | Natural England Open Data Geoportal (arcgis.com)) and suitable habitats are present in close proximity to the site, it is considered possible that GCN will be present. GCN should therefore be considered as part of this planning application.

The applicant may be interested to know that Natural England's District Level Licensing for GCN is now available in Essex – see <https://www.gov.uk/government/publications/great-crested-newts-district-level-licensing-schemes> - where sites can be registered to be covered by this strategic mitigation scheme. Guidance for developers and registration forms to join the scheme are available and the LPA will need an Impact Assessment and Conservation Payment Certificate (IACPC) document countersigned by Natural England as evidence of site registration prior to determination where this European Protected Species is likely to be present and affected by development.

183. The on-site ponds and ponds within 500m of the Site were subject to eDNA testing for Great Crested Newt in 2021 and 2023, where permission for access was granted. Due to company policy pertaining to Covid-19 at the time, ponds that fell within the curtilage of private residencies were not tested. The results of the eDNA testing of all on-site ponds were returned as negative, indicating the likely absence of this species as detailed within the Ecological Assessment. Pond P8 returned a

positive result, however. Due to distance and intervening land use, the presence of Great Crested Newt on-site is highly unlikely.

Hatfield Forest SSSI/LNR, approximately 1.6km south-west of site, has recent records of Hazel Dormice. The hedgerows on site and adjacent Prior's Wood LoWS could provide suitable habitat for Hazel Dormice and as such should be considered as part of the assessment for the proposed development.

184. Dormouse surveys undertaken in 2021 confirmed the absence of this species from the Site, as summarised above and detailed within the Ecological Assessment. Little change has occurred to the suitable habitats on and adjacent to the Site; therefore, it is reasonable to assume that this species has not colonised the Site in the intervening period. Updated dormouse surveys have been completed in September and October 2024 and are scheduled for November 2024 and April and May 2025. So far, these surveys have recorded no Dormice, supporting the above notion.

UK Protected species

An assessment for protected species such as Badger, breeding birds and reptiles should be undertaken.

An assessment for Badger should include a survey for Badger setts on site and up to 30m from the boundary of the site where possible. Signs of Badger on site such as foraging, footprints and latrines should also be noted.

185. Surveys for Badger were undertaken in 2021, 2023 and 2024, with no Badger setts or other signs of activity recorded on or adjacent to the Site. The Ecological Assessment contains precautionary mitigation and enhancement measures in relation to this species.

A breeding bird survey report should also be undertaken to determine the breeding status of the species and distribution of key species of interest, particularly farmland birds. This survey should also provide an assessment of the likelihood of farmland birds being present and affected by the proposed development and should identify offsite mitigation measures for loss or displacement of any nesting or foraging habitat. We recommend that the surveys for actively held territories and nesting attempts at different times during the breeding season and any flocks using the site over winter.

Any territories that are unable to be mitigated for on site should be compensated for offsite e.g. by the use of spring-sown regimes, retention of winter stubble, provision of set-aside or provision of Skylark plots in nearby arable crops (the amount of land which could accommodate the required number of displaced Skylark territories can be calculated using Harry Fox's example, as provided in the CIEEM's InPractice Magazine, 117 47-51 (September 2022)).

186. Wintering and breeding bird surveys were undertaken in 2021. Results of these surveys, along with mitigation and enhancement measures, have been summarised above and further detailed within the Ecological Assessment for the wider Warish Hall Farm site. No ground nesting birds, including Skylark *Alauda arvensis*, were recorded during the breeding bird surveys and therefore no specific mitigation relating to this species has been recommended. Given the habitats and management of the Site remain unchanged, no significant changes in bird species assemblage or distribution are expected.

If habitats on site are considered suitable for reptiles, then a reptile presence/likely absence survey will be required and should follow best practice guidelines (Froglife, 1999). This should be undertaken to determine the likelihood of reptiles being

present on site and what appropriate mitigation measures are necessary for the proposed works.

187. Presence / absence survey for reptiles were undertaken in 2021. The results of the surveys show that a small population of Grass Snake and Common Lizard are present, as summarised above and detailed within the Ecological Assessment. The Ecological Assessment also provides details of the mitigation and enhancement measures that relate to this species group. Updated reptile surveys have been completed in September and October 2024, with a single Common Lizard being recorded.

Priority Habitats and Species (s41 NERC Act)

An assessment for the presence of Priority species on site such as Brown Hare, Harvest Mouse, Hedgehog and Common Toad should be undertaken. Recent records of Hedgehog are present on site through NBN Atlas (NBN Atlas - UK's largest collection of biodiversity information). An assessment of the habitats on site should also be undertaken with any Priority habitats noted to support Biodiversity Metric calculations for the development.

188. An assessment of priority habitats and potential use of the Site by priority species was undertaken as part of the Ecological Assessment for the wider Warish Hall Farm site, with observations or evidence of priority species such as Brown Hare *Lepus europaeus*, Harvest Mouse *Micromys minutus*, Hedgehog and Common Toad *Bufo bufo* sought during habitat and protected species surveys undertaken throughout 2021. The Ecological Assessment contains survey results, along with mitigation and enhancement measures in relation to Hedgehog. The 2023 walkover survey confirmed no significant change in on-site habitats and the priority species assessment remains valid. The 2024 walkover survey noted changes to one tree along the eastern Site boundary. This is not expected to cause any change to species presence on-site and therefore the original priority species survey is valid.

Schedule 9 – Non-native invasive species (NNIS)

Considerations should also be made to any non-native invasive species or risks posed by the development to native species present in the locality.

189. The site has been surveyed, and local data records assessed, for the presence of non-native invasive species within and adjacent to the Site. No non-native invasive species have been identified and therefore no specific mitigation has been recommended.
190. Records of on-native invasive bird species Canada Goose was observed between 0km and 0.7km from the site in a 1km grid square encompassing the site. The presence of this species does not cause any constraint to the development or require specific mitigation.

Biodiversity enhancements and Net Gain

Biodiversity Net Gain is development that leaves biodiversity in a better state than before (CIEEM, 2016). It is also an approach where developers work with local governments, wildlife groups, landowners and other stakeholders in order to support their priorities for nature conservation. The ten principles set out in CIEEM's paper Biodiversity Net Gain - Good practice principles for development, 2016 should be used together to demonstrate net-gain in this development.

We recommend reasonable biodiversity enhancements to secure net gains for biodiversity, as outlined under Paragraphs 174d and 180d of the National Planning Policy Framework 2021. The reasonable biodiversity enhancement measures should be outlined within a Biodiversity Enhancement Strategy and should be secured as a condition of any consent.

For Major and Strategic applications, we recommend that a Biodiversity Net Gain report is provided to demonstrate a baseline assessment and details of losses and compensatory habitat as well as biodiversity enhancements to demonstrate net gain of habitats. We also expect this report to include details of enhancements for relevant species on the site and any need for off-site habitat provision and its long-term management and monitoring.

We recommend that the applicant thoroughly explores all reasonable options to deliver additionality for the measurable BNG to restore biodiversity networks & their ecological functionality and also provide enhancements for Priority species affected by the development. We look forward to the BNG report to be submitted which shows how these species will benefit from these new habitats created and enhanced.

191. A Biodiversity Net Gain Assessment was undertaken for the wider Warish Hall Farm application. As part of this assessment, significant measures were taken to ensure that the proposals would result in a net gain in biodiversity and that the Site was enhanced for priority species recorded within the site.
192. An updated site-specific Biodiversity Net Gain Assessment has been undertaken in 2024 for the Bull Field site, with all efforts made to ensure that the Site delivers a net gain in biodiversity with habitats being either enhanced, or their loss compensated for, through the addition of new planting.
193. The application for Bull Field will deliver a net gain of 15.69% in habitat units, 56.29% in hedgerow units, and 15.98% in watercourse units.
194. In addition to the retention and enhancement of on-site habitat, such as Prior's Wood and the ponds within, the landscape strategy includes several new habitats, including native and non-native tree planting, woodland planting, woodland edge planting, structural planting, defensive shrub planting, ornamental shrub and herbaceous planting, clipped hedge, bulb planting, species-rich wildflower meadow, wetland meadow, amenity grassland and lawn, with vegetated gardens assumed within the residential gardens. A new ditch, measuring 130m will also be established in the south of the Site. In addition to the proposed enhancement of the existing on-site hedgerows (H3 and H4), the post-development landscape strategy proposes the inclusion of three additional native species-rich hedgerows with trees planted along former field boundaries. Furthermore, though no specific measures have been proposed to enhance the on-site ditches and the fact that the ditches are not to form part of the drainage strategy for the development, there will be a betterment to Ditches D1 and D2 as a result of the adjacent land use change from arable to grassland.
195. These measures will offer a significant increase in opportunities for wildlife, primarily for bats, birds, reptiles and invertebrates, while additional enhancements such as bat and bird boxes will be incorporated across the proposed scheme.

Conclusions

196. Overall, there has been no significant material change in the ecological condition of the Site from when it was previously described in the Ecological Assessment in October 2021 and within the previously updated 2023 Ecological Appraisal.

197. Due to the time elapsed since the original Ecological Assessment, updated surveys for bats, dormice and reptiles have been conducted and are scheduled for the 2024/25 season to provide an up-to-date ecological overview of the Site. Thus far, updated survey findings remain consistent with that found previously at the Site.
198. **Bats.** The majority of bat registrations recorded during the surveys relate to common widespread bat species such as Common Pipistrelle and Soprano Pipistrelle. Early registrations of Common Pipistrelle, Soprano Pipistrelle, Noctule and Leisler's Bat recorded during the 2021 and 2024 surveys suggest the presence of a roost(s) within or in close proximity to the Site. Nathusius' Pipistrelle and Barbastelle were recorded on-site, albeit in low numbers. The woodland and hedgerows at the boundaries of the Site, where bats have been observed foraging and commuting, will be retained and / or enhanced as part of the development. New hedgerows will also be provided. As a further enhancement, bat boxes will be installed on suitable retained trees within the Site to offer roosting opportunities post-development. Any trees suitable for roosting bats that are to be removed as part of the development should be soft felled, following a prior check by a suitably qualified and appropriately licenced ecologist. The trees exhibiting bat roost potential should be retained where possible with lighting sensitive towards these features, in addition to Prior's Wood and boundary hedgerows. Further activity transect surveys and static detector deployments are scheduled for spring and summer 2025.
199. **Badgers.** No evidence of this species was recorded on-site during the surveys conducted. Prior's Wood offers suitable habitat for foraging and sett building, and the network of hedgerows offers further foraging and commuting opportunities. These features will be retained and / or enhanced as part of the development. New areas of grassland, shrub and herbaceous planting will be created as part of the development green infrastructure ensuring suitable foraging and commuting habitat will remain on-site post-development.
200. **Hazel Dormice.** Surveys of the wider Warish Hall Farm application area found no evidence to suggest that Hazel Dormice are present in the area. The updated surveys conducted in September, October and November 2024 of Bull Field have additionally found no evidence of this species within the Site. Further surveys are scheduled for April and May 2025.
201. **Hedgehogs.** The habitats present on-site offer foraging and hibernation opportunities for Hedgehog. These opportunities will remain post-development via the retention and enhancement of woodland and hedgerows, in addition to the planting of native species of grassland woodland, meadow and hedge establishment. 'Hedgehog Gateways' should be installed within new fencing at the Site, to ensure permeability of the Site for wildlife.
202. **Water Voles and Otters.** The habitats on-site (namely the ditches) do not present suitable opportunities for Water Voles or Otters and these species are not expected to be present within the Site. No evidence of these species was recorded during the surveys conducted.
203. **Birds.** Several bird species have been recorded on-site during the surveys undertaken, including species listed under Section 41 of the NERC Act 2006 and / or listed on the Amber and Red List. Blue Tit pairs were recorded as possible breeders in 2021, nesting in the southern edge of Prior's Wood, near to the northern Site boundary. House Sparrow was also noted carrying nesting material

along the southwest boundary of the Site. Two pairs of Great Spotted Woodpecker were also confirmed nesting in Prior's Wood. No large flocks of wintering birds were recorded within the Site and no ground nesting birds were recorded during the surveys. The proposals for the Site will involve the retention and enhancement of on-site habitat, such as Prior's Wood. The landscape strategy includes several new habitats, including native and non-native tree planting, woodland planting, woodland edge planting, structural planting, defensive shrub planting, species-rich wildflower meadow, wetland meadow, amenity grassland and lawn, with vegetated gardens assumed within the residential gardens. These habitats will provide foraging and nesting opportunities for birds post-development. Planting will include native and berry-bearing species of known benefit to wildlife. Bird boxes will be installed on suitable retained trees as a further enhancement.

204. **Reptiles.** A small population of Common Lizard was recorded during the 2024 reptile surveys, corroborating previous survey findings. Given that the habitats on-site remain largely similar to that recorded in 2021, it is considered that a small population of Grass Snake also remains within the Site. The enhancement of existing woodland edge habitat and the establishment of further woodland edge will be of benefit to reptile species. New areas of meadow, wetland grassland and shrub planting will provide further suitable reptile habitat post-development.
205. **Amphibians.** Three ponds are located within the Site providing suitable aquatic habitat. Fifteen ponds are located within 500m of the Site boundary. The woodland and field boundaries within the Site provide opportunities for amphibians during their terrestrial phase. Updated eDNA surveys of the on-site ponds and publicly accessible off-site ponds were undertaken in 2023. All on-site ponds were returned as negative for the presence of Great Crested Newt DNA, suggesting the absence of this species from the Site. Pond P8 located approximately 330 metres southwest of the Site, returned a positive result for Great Crested Newt with eight positive DNA replicates found. The location of the pond and intervening urban infrastructure would act as a significant barrier to dispersal, with no suitable dispersal habitat to the Site. Furthermore, the negative test results of on-site ponds and other ponds in closer proximity to the Site suggest the absence of any breeding populations. Despite the absence of Great Crested Newts on-site, post-development habitats will provide suitable habitats for amphibians in both their aquatic and terrestrial phases. Including, the provision of wetland meadow habitats, the establishment of a new ditch and the retention and enhancement of on-site ponds within Priors Wood.
206. **Invertebrates.** Based on the habitats present on-site, it is likely that an assemblage of common invertebrates will be present. Post-development habitats include the planting of native species within grassland, shrub and woodland habitats providing continued opportunities for wildlife post-development.
207. The proposed development will result in a net gain in biodiversity, with the landscape proposals delivering high-quality native and non-native planting. Prior's Wood, and the woodland ponds within, will be retained and/or enhanced, with measures detailed in the Woodland Management Plan and Biodiversity Net Gain Assessment. New planting includes native and non-native trees, woodland, woodland edge planting, structural planting, defensive shrub planting, ornamental shrub and herbaceous planting, clipped hedge, bulb planting, species-rich wildflower meadow, wetland meadow, amenity grassland and lawn, and vegetated gardens. Additional measures including bat and bird boxes will be incorporated as part of the scheme. Overall, there is no insurmountable reason why the development should not be approved on ecological grounds.

Plans

- Plan ECO1: Site Location and Ecological Designations
- Plan ECO2: Ecological Features
- Plan ECO3: Pond Locations and eDNA Results
- Plan ECO4: Bat Tree Assessment
- Plan ECO5: Static Bat Detector Locations
- Plan ECO6: Bat Activity Survey Results 02.10.24
- Plan ECO7: Dormouse Survey Results
- Plan ECO8: Reptile Survey Results

Appendices

- Appendix 1: Extract from Summary of Responses to Appeal Decision Ref. No. APP/C1570/W/22/32911524.

Photographs

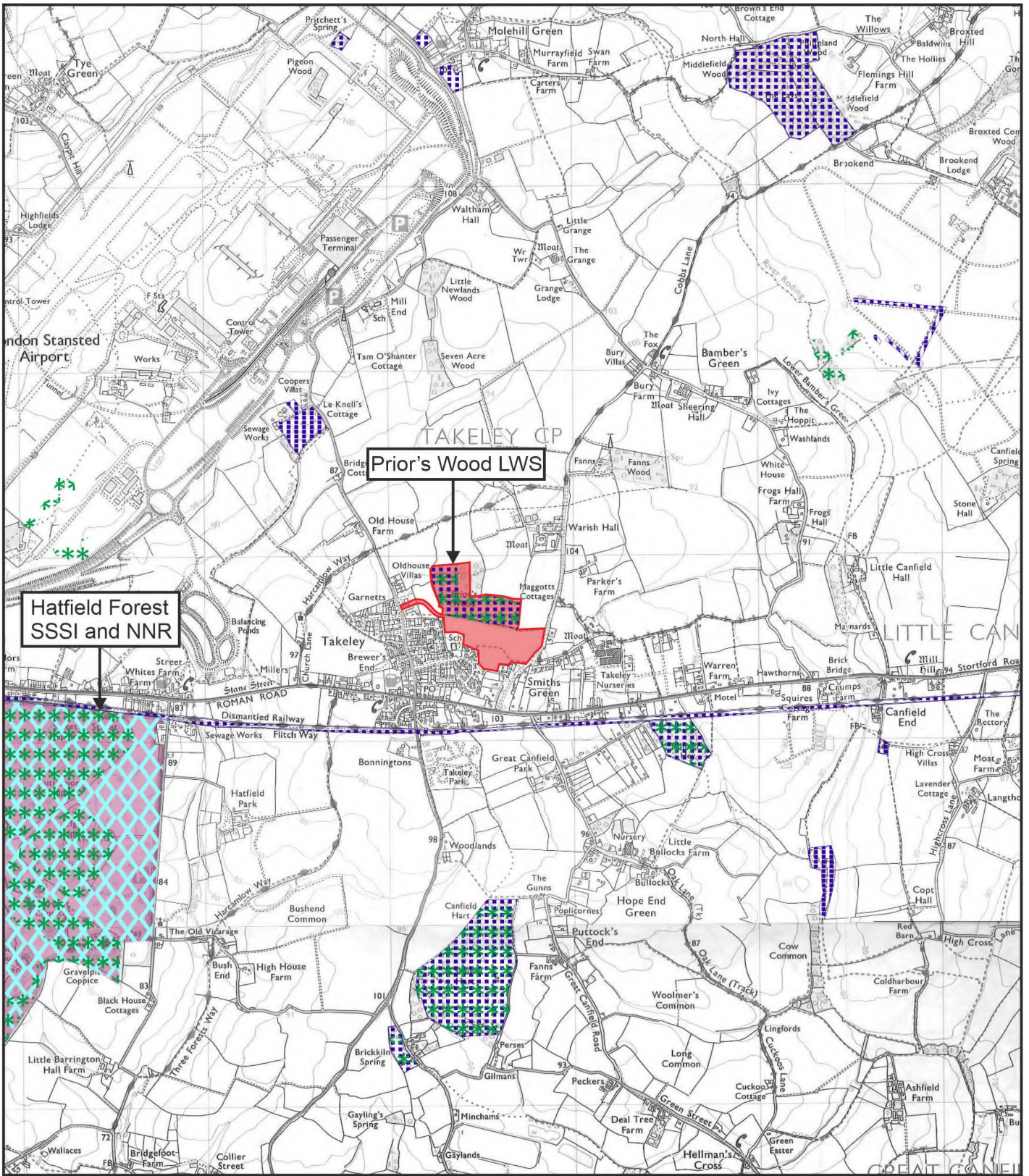
- Photograph 1: Arable field
- Photograph 2: Field margin along northern boundary
- Photograph 3: Western boundary Hedgerow H1
- Photograph 4: Southern boundary Hedgerow H2

Ecology Solutions
November 2024

PLANS

PLAN ECO1

Site Location and Ecological Designations



KEY:

- SITE LOCATION
- SITE OF SPECIAL SCIENTIFIC INTEREST (SSSI)
- NATIONAL NATURE RESERVE (NNR)
- LOCAL WILDLIFE SITE (LWS)
- ANCIENT WOODLAND



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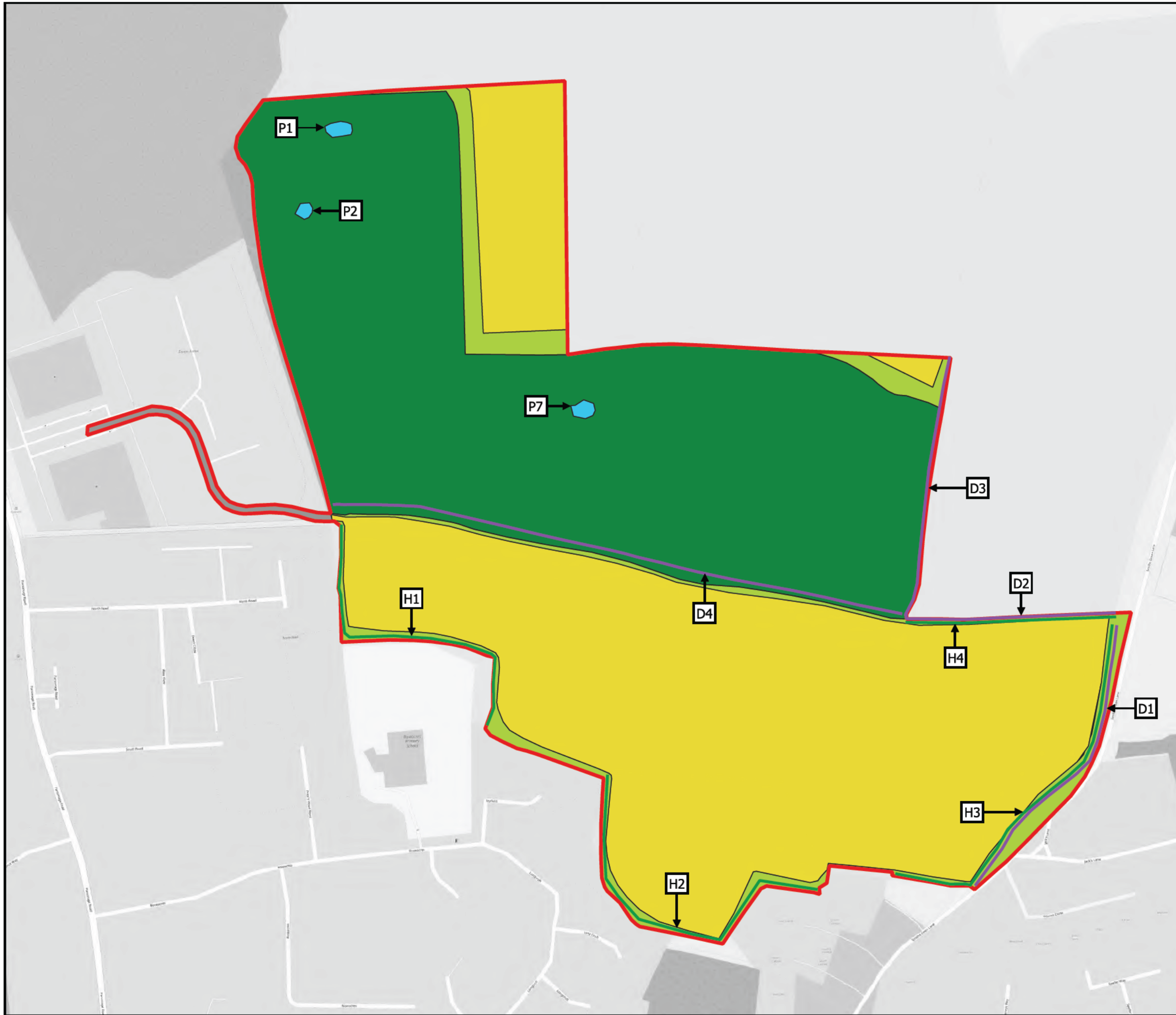
9282: BULL FIELD,
WARISH HALL FARM, TAKELEY, ESSEX

PLAN ECO1: SITE LOCATION AND
ECOLOGICAL DESIGNATIONS

Rev: A
Jun 2023

PLAN ECO2

Ecological Features



- KEY:
- SITE BOUNDARY
 - ARABLE
 - WOODLAND
 - OTHER NEUTRAL GRASSLAND
 - POND
 - HARDSTANDING
 - HEDGEROWS
 - DITCH



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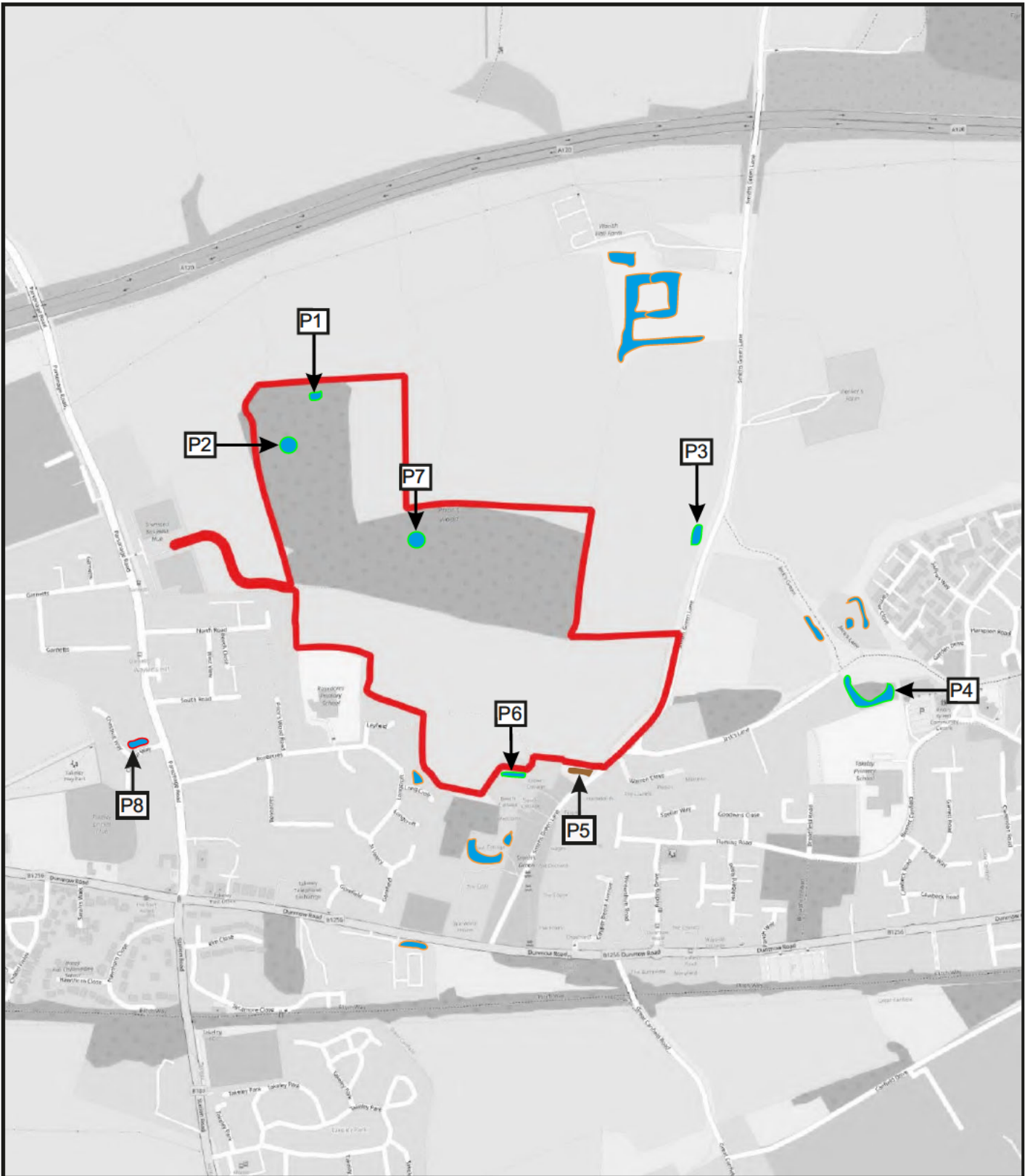
9282: BULL FIELD, WARISH HALL
FARM, TAKELEY, ESSEX

PLAN ECO2: ECOLOGICAL
FEATURES

Rev: A
Sep 2024

PLAN ECO3

Pon Location an eDN Results



KEY:



SITE BOUNDARY



PONDS WITH NEGATIVE eDNA TEST RESULT



POND WITH POSITIVE eDNA TEST RESULT



POND DRY AT TIME OF SURVEY



PONDS WITH ACCESS NOT PERMITTED



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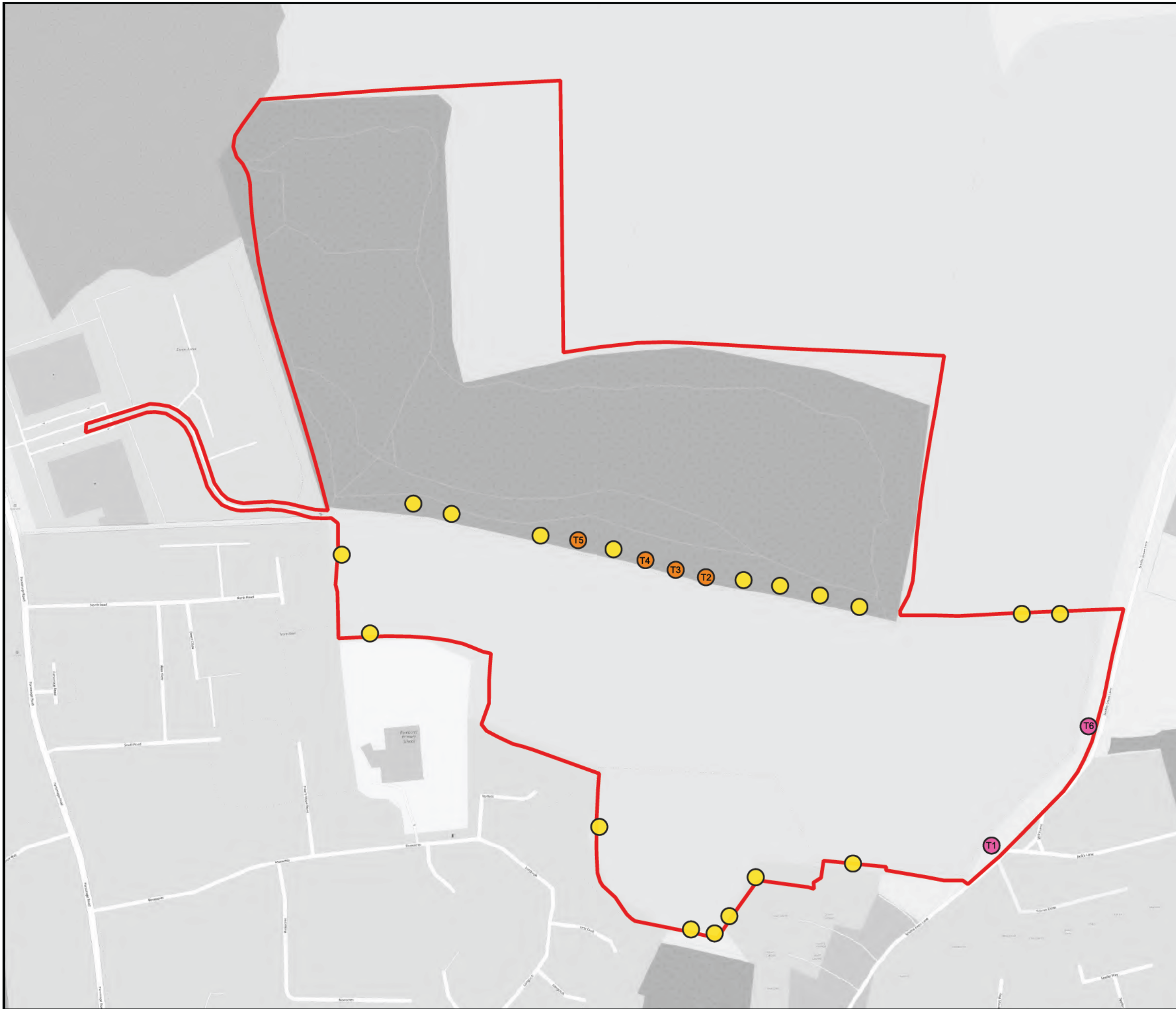
9282: BULL FIELD, WARISH HALL
FARM, TAKELEY, ESSEX





P AN EC 3: P ND LOCATIONS
AND eDNA RESUL S

ev: A
Nov 2024

PLAN ECO4

Bat Tree Assessment



- KEY:
-  SITE BOUNDARY
 -  HIGH BAT POTENTIAL
 -  MODERATE BAT POTENTIAL
 -  LOW BAT POTENTIAL



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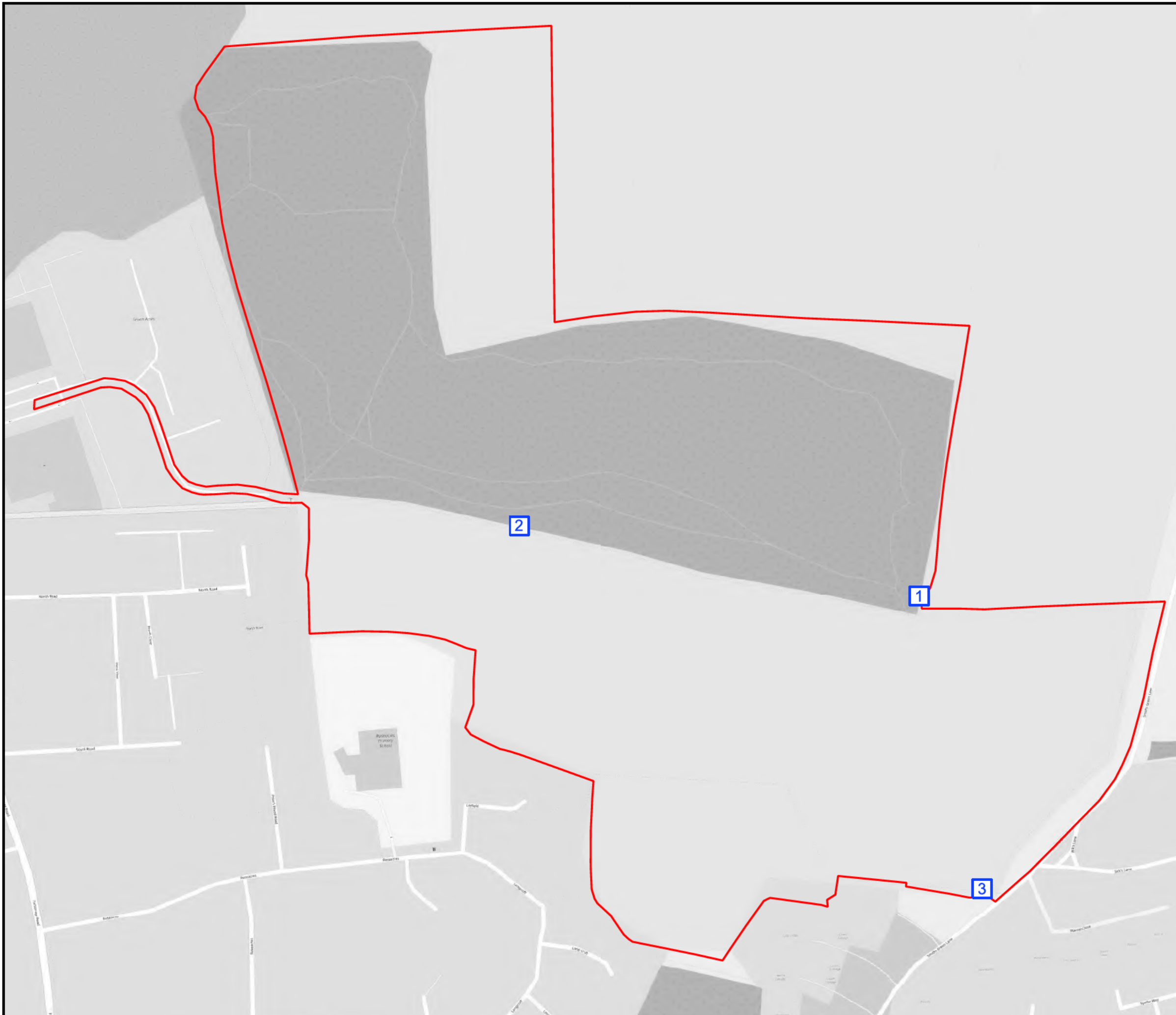
9282: BULL FIELD, WARISH HALL
FARM, TAKELEY, ESSEX

PLAN ECO4: BAT TREE
ASSESSMENT


Rev: A
Sep 2024


P AN ECO5

Static Bat Detector Locations



KEY:

 SITE BOUNDARY

 STATIC BAT DETECTOR



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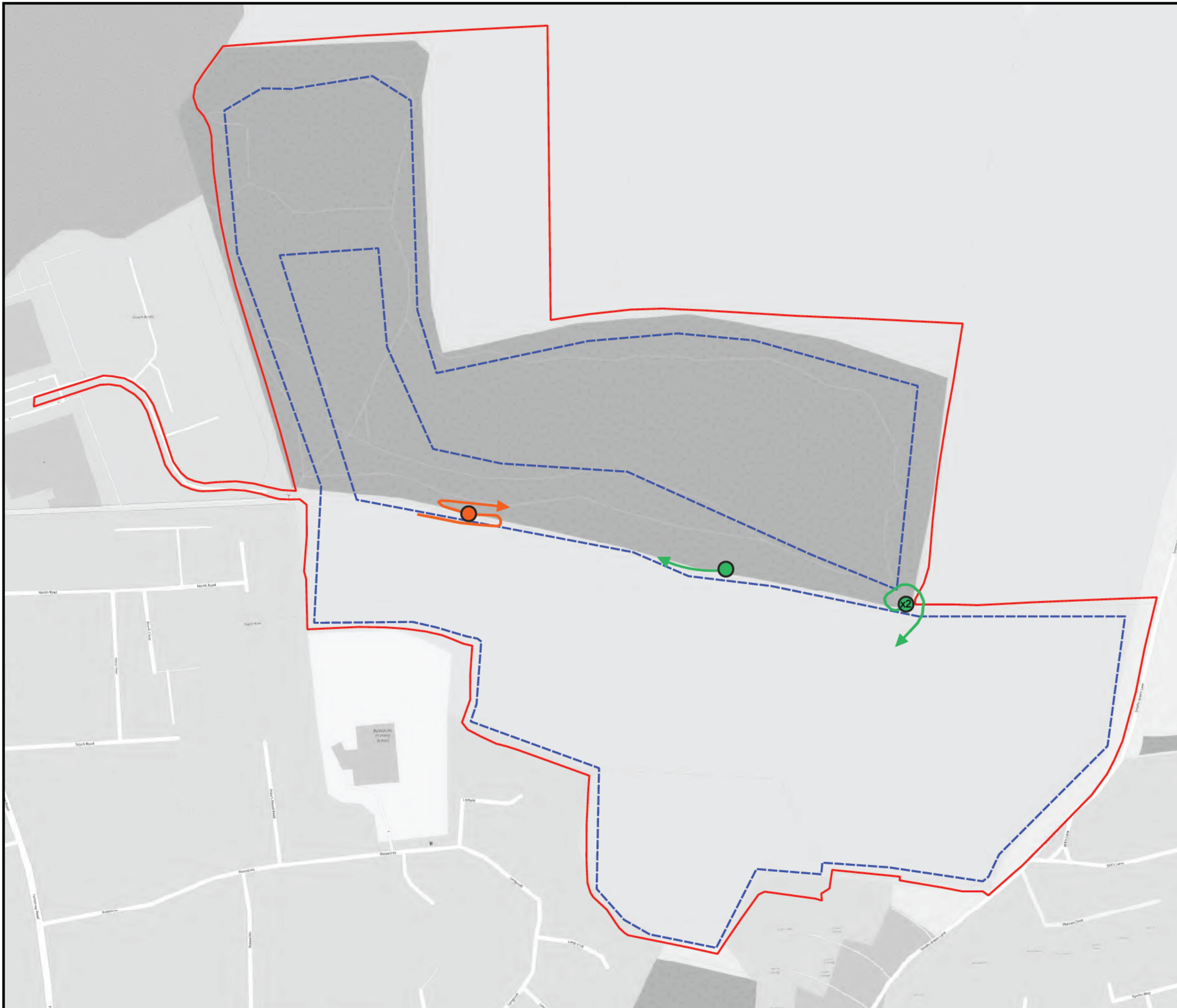
9282: BULL FIELD, WARISH HALL
FARM, TAKELEY, ESSEX

PLAN ECO5: STATIC BAT
DETECTOR LOCATIONS

Rev: A
Nov 2024

PLAN ECO6

Ba Activit Surve Result 02.10.24



- KEY:**
- SITE BOUNDARY
 - BAT TRANSECT ROUTE
 - x2 ABUNDANCE
 - COMMON PIPISTRELLE
 - SOPRANO PIPISTRELLE
 - COMMON PIPISTRELLE FLIGHT PATH
 - SOPRANO PIPISTRELLE FLIGHT PATH



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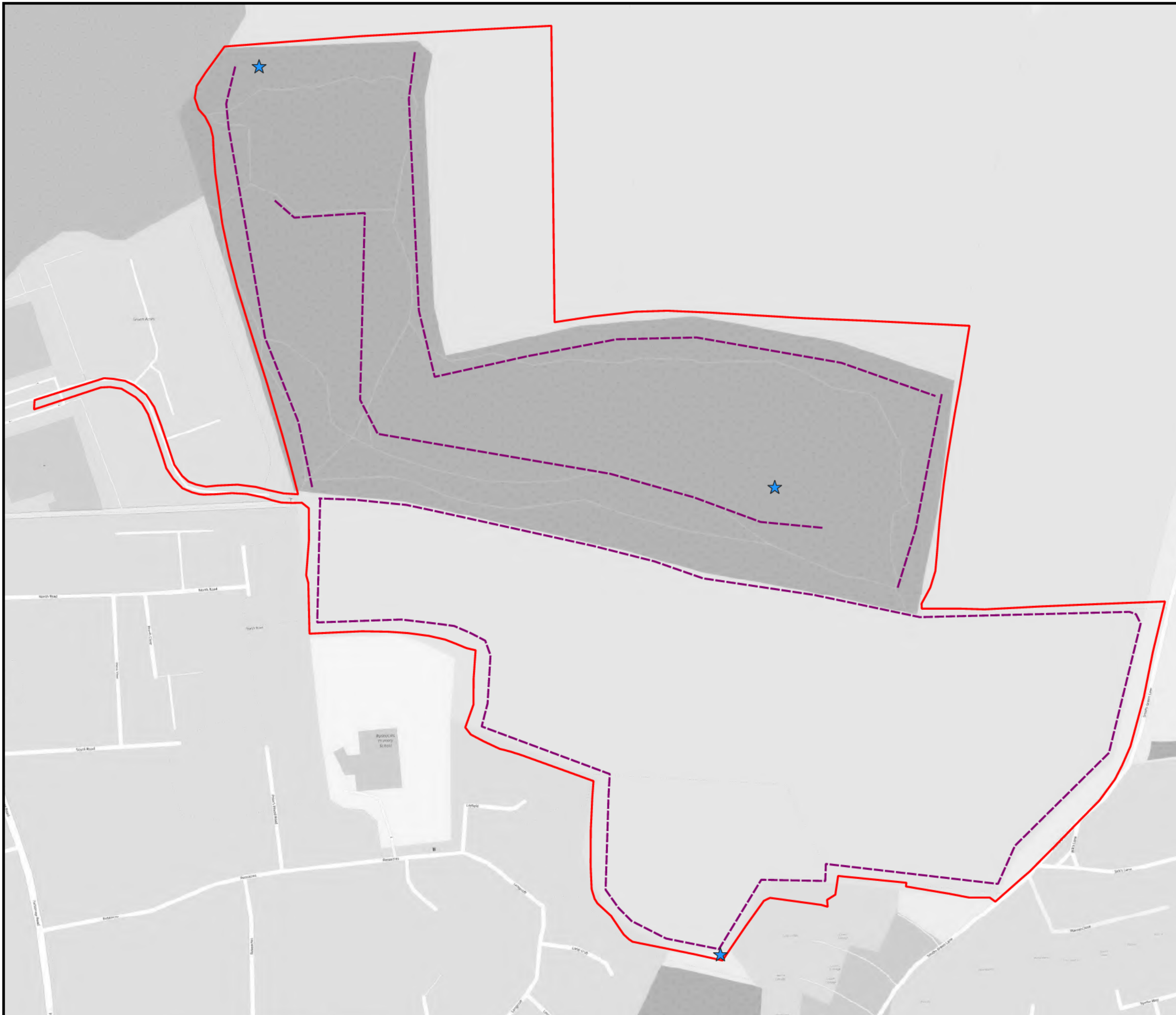
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9282: BULL FIELD, WARISH HALL FARM, TAKELEY, ESSEX

PLAN ECO6: BAT ACTIVITY SURVEY RESULTS 02.10.24	Rev. A Nov 2024
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PLAN ECO7

Dormouse Survey Results



- KEY:
-  SITE BOUNDARY
 -  DORMOUSE TUBING TRANSECT
 -  NEST BOXES



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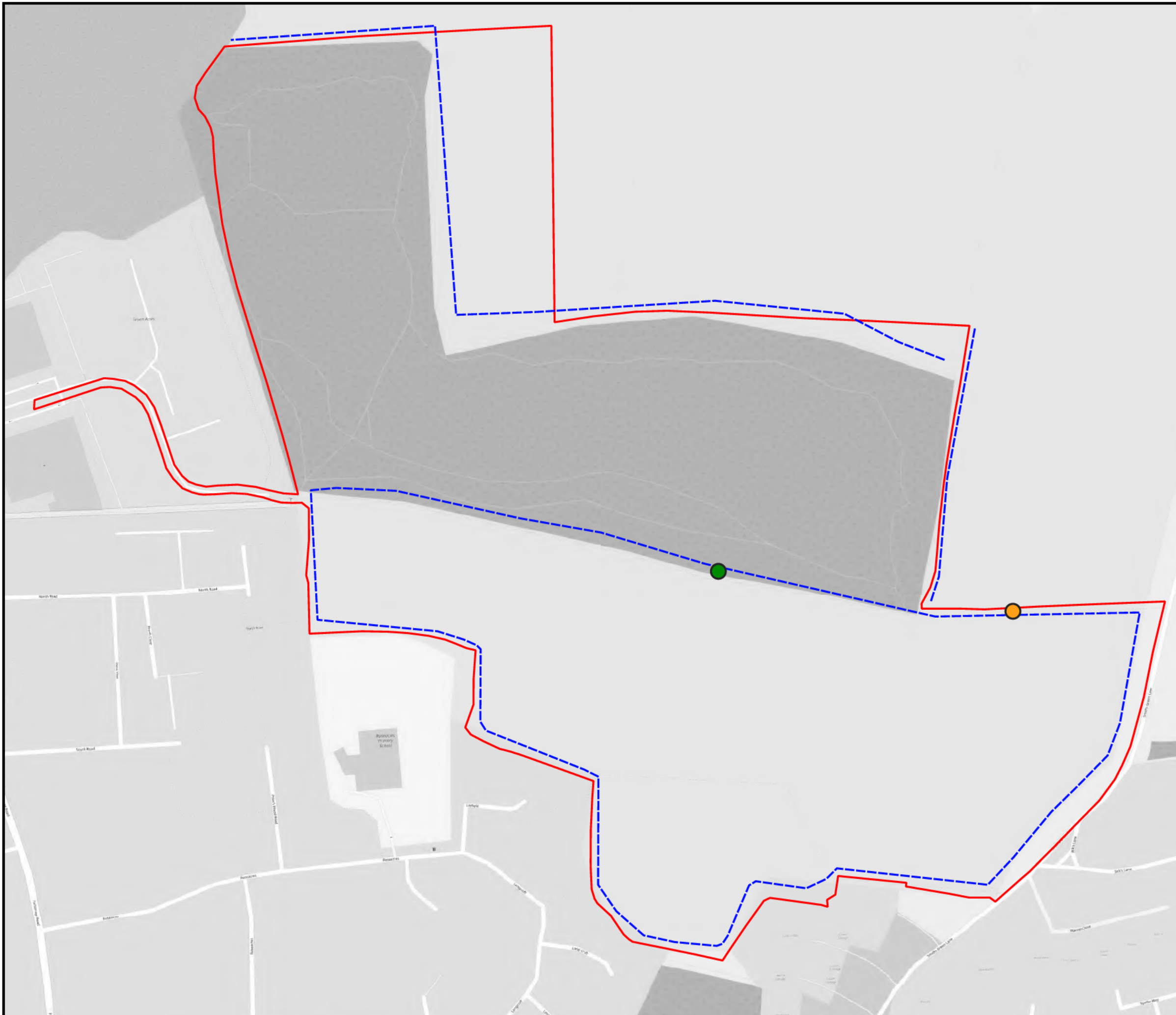
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FARM, TAKELEY, ESSEX

PLAN ECO7: DORMOUSE SURVEY RESULTS	Rev. A Nov 2024
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PLAN ECO8

Reptile Survey Results



- KEY:
-  SITE BOUNDARY
 -  REPTILE TINNING TRANSECT
 -  COMMON LIZARD 12.09.24
 -  COMMON LIZARD 02.10.24



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9282: BULL FIELD, WARISH HALL
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PLAN ECO8: REPTILE SURVEY
RESULTS

Rev: A
Nov 2024

APPENDICES

APPENDIX 1:

Extract from Summary of Responses to Appeal
Decision Ref. No. APP/C1570/W/22/32911524

Para No.	Text from Inspector's Decision	Response	Relevant Report
70	Concerns were raised that the proposal would fail to provide a sufficient buffer between the proposal, including the access road, cycleway and dwellings, and the ancient woodland of Prior's Wood. This arises from the Standing Advice issued by Natural England and The Forestry Commission which recommends that a buffer zone of at least 15 metres from the boundary of the woodland should be provided in all cases.	The Inspector sets out at Paragraph 77 that he is content with the proposals for this perspective and this situation has not changed from the Appeal Scheme; therefore, it is deemed to be acceptable.	Arboricultural Impact Assessment Landscape Strategy
72	Whilst paragraph 180(c) of the NPPF makes clear that development resulting in the loss or deterioration of irreplaceable habitats (such as ancient woodland) should be refused, unless there are wholly exceptional reasons and a suitable compensation strategy, the Council's ecology advice from Place Services raised no issues as regards impacts on Prior's Wood in respect of any resulting loss or deterioration.	The situation here has not changed, and there is no further impact on the woodland being proposed. The impact is being reduced as set out above. As such, the proposals would not result in loss or deterioration of Prior's Wood.	Arboricultural Impact Assessment Landscape Strategy
73	Indeed, it is common ground between the Council and the appellant that there is no objection to the technical design of the proposal as a result of any impact on trees, and no trees within Prior's Wood are to be removed, or would be impacted directly, as a result of the proposed route through the buffer. Moreover, mitigation of the impact on Prior's Wood includes the Woodland Management Plan (which is part of the S106 Agreement).	The proposals before do not result in any impact on trees, and no tree within Prior's Wood is proposed to be removed. No trees will be impacted directly as a result of the proposed route through the buffer. A Woodland Management Plan has also been submitted and the application also proposes an extension to the woodland. Accordingly, the position set out in the Inspector's report does not change.	Arboricultural Impact Assessment Landscape Strategy
74	The parties disputed where the buffer zone should be measured from, with the appellant preferring the trunks of the trees on the outer edge of the woodland and the Council, the outer edge of the ditch. Either way, it is agreed that the 15m buffer would be breached by the cycle way along the southern edge of Prior's Wood and a 35m stretch of the access road connecting 7 Acres and Bull Field (referred to at the Inquiry as the "pinch point"). I heard, as agreed in the SoCG, that no trees within Prior's Wood would be removed or would be impacted on directly as a result of the proposed access road and cycle way route within the buffer, including the road layout at the pinch point.	As set out above, no trees are directly impacted by the proposed route through the buffer. As such this position does not change.	Arboricultural Impact Assessment Landscape Strategy

75	<p>In this regard, I agree with the Inspector in a previous appeal concerning an issue with strong similarities to this case where that Inspector noted that “some development is proposed within the buffer, through a mixture of road or car parking and re-grading and other landscaping works”. In considering the Standing Advice and the recommendation for a 15m buffer, that Inspector found that there was compliance with what is now para 180(c) of the NPPF. This was on the basis that “no above ground built form is proposed in that area, such as housing” and “the level of incursion is relatively minor”. I consider that the circumstances of this case are very similar.</p>	<p>As set out above, no trees are directly impacted by the proposed route through the buffer. As such, this position does not change</p>	<p>Arboricultural Impact Assessment</p> <p>Landscape Strategy</p>
76	<p>The Inspector also accepted that the development that would take place would be contrary to the Standing Advice, as is the situation in the appeal before me, but went on to note that it had “been demonstrated that there would be no incursions into the root protection area”. From my assessment of this proposal, I consider that there would be no incursion into the root protection area and no harm to trees would result, as set out in the SoCG.</p>	<p>As with the Appeal Scheme, this application would not result in incursions into the root protection areas. As such there would be no harm to any trees in this instance.</p>	<p>Arboricultural Impact Assessment</p> <p>Landscape Strategy</p>
77	<p>In addition, I am content from the submitted written evidence and what I heard at the Inquiry, that neither the proposed road or cycleway within the buffer or proposed housing in the vicinity, would lead to indirect effects on the ancient woodland as identified in the Standing Advice, given the proposed measures set out in the Prior’s Wood Management Plan.</p>	<p>Likewise, this situation remains akin to that proposed under the Appeal Scheme. Therefore, the proposed housing, road and cycleway would not lead to any indirect effects on the ancient woodland.</p>	<p>Arboricultural Impact Assessment</p> <p>Landscape Strategy</p>

PHOTOGRAPHS

PHOTOGRAPH 1: Arable field



PHOTOGRAPH 2: Field margin along northern boundary



PHOTOGRAPH 3: Western boundary Hedgerow H1



PHOTOGRAPH 4: Southern boundary Hedgerow H2





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