

Appendix EDP 3

Extended Phase 1 Habitat Survey

METHODOLOGY

- A3.1 The survey technique adopted for the Extended Phase 1 Habitat survey was at a level intermediate between a standard Phase 1 survey technique, involving habitat mapping and description, and a Phase 2 survey, based on detailed habitat and species surveys. The survey involved identifying and mapping the main habitat types (including priority habitats) and scoping any potential protected or priority species populations. This level of survey is not intended to compile a complete floral and faunal inventory for the Site.
- A3.2 The Extended Phase 1 Habitat survey was originally undertaken by a suitably experienced surveyor on 11 November 2022 and updated on 07 June 2023, during which the weather was fair.

Limitations

- A3.3 The survey was originally undertaken during winter which is a suboptimal botanical period. However, considering the habitat types present, and the subsequent survey within the core botanical period (to update and confirm findings), it is not considered to be a limitation.

RESULTS

- A3.4 The principal habitats within the Site together with their dominant/characteristic plant species identified during the surveys are discussed in turn below. The type, distribution and species composition of the habitats present is discussed below. Information on habitat condition, as required for completion of the Biodiversity Metric, is included within **Appendix EDP 8**.
- A3.5 The following should be read in conjunction with **Plan EDP 1** and illustrative photographs provided where appropriate.

Modified Grassland

- A3.6 At the time of survey in November 2022, the grassland habitat which dominates the site was recorded to be modified in poor condition, with evidence of grazing still clear (short sward and manure). It is understood that the grassland management regime changed from pasture to hay crop in 2023, and so an updated Phase 1 was undertaken in the optimal month of June 2023.
- A3.7 The grassland across the majority of the Site is distinctly modified, dominated by perennial rye grass (*Lolium perenne*) and supporting a very limited presence of forb species, however a relatively higher number of grassland species were noted in the southern, and southern-eastern parts of the Site. Whilst the grassland in the southern part of the site was found to support additional species which are less indicative of improved conditions, including sweet vernal (*Anthoxanthum odoratum*) grass and, palatable grasses still dominate, and forb diversity is low. Given this abundance of palatable grasses and poor species-diversity across the Site, the grassland is recorded as modified grassland which condition assesses as 'poor'.

- A3.8 Other grass species recorded within the fields include Yorkshire fog (*Holcus lanatus*), crested dog's tail (*Cynosurus cristatus*), rough meadow-grass (*Poa trivialis*), cock's-foot (*Dactylis glomerata*) meadow foxtail (*Alopecurus pratensis*), smooth meadow grass (*Poa pratensis*), false oat-grass (*Arrhenatherum elatius*), creeping bent (*Agrostis stolonifera*) and soft brome (*Bromus hordeaceus*). Herbaceous species are present but not abundant and include dandelion (*Taraxacum officinalis*), white clover (*Trifolium repens*), greater plantain (*Plantago major*), creeping buttercup (*Ranunculus repens*), chickweed (*Stellaria media*), broad-leaved dock, soft rush (*Juncus effusus*), common sorrel (*Rumex acetosa*), broad-leaved dock (*Rumex obtusifolius*), daisy (*Bellis perennis*), creeping thistle (*Cirsium arvense*), and common mouse-ear (*Cerastium fontanum*).



Image EDP A3.1: Example of modified grassland within the Site

- A3.9 Given the comparatively species-poor composition of the grassland sward across these areas, and the common nature of this habitat within the local area, the grassland is judged to be of Site level importance.

Species-rich Intact Hedgerow

- A3.10 A single hedgerow (see **H1** on **Plan EDP 1**) sits on the northern boundary of the Site. It is associated with a dry ditch and post and wire fence. It is regularly managed and supports semi-mature oak trees. A number of tree guards were recorded, although it is considered this is the result of historical bolster planting, rather than an indication of its overall age.
- A3.11 **H1** supports a seven woody species, such that it would be considered species-rich. Moreover, the feature qualifies as 'important' under the Hedgerow Regulations 1997 (see **Appendix EDP 4** for Hedgerow Survey).

Mature Treelines

- A3.12 **TL1** (as shown on **Plan EDP 1**) delineates the southern boundary of the northernmost field. It comprises a small number of mature Oak (*Quercus robur*) and Ash trees (*Fraxinus excelsior*),

some which appear to be in poor health. This feature is bordered by post and wire fencing on both flanks, and is associated with a shallow ditch which has been recorded as dry during most survey visits. Other species recorded include bracken (*Pteridium aquilinum*), hazel, field maple (*Acer campestre*), and goat willow (*Salix caprea*), with a single instance of butchers broom (*Ruscus aculeatus*) also present. Notable ground flora included greater stitchwort (*Ranunculus holostea*), bluebell (*Hyacinthoides non-scripta*), wood anemone (*Anemone nemorosa*) and primrose (*Primula vulgaris*).

- A3.13 Two more treelines (**TL2** and **TL3**) are situated on the north-eastern and eastern boundaries of the Site, however these features do not sit fully within the Site boundary. They mostly comprise large mature oak trees with Hawthorn (*Crataegus monogyna*), dogwood (*Cornus sanguinea*), blackthorn (*Sambucus nigra*), holly (*Ilex aquifolium*), and hazel (*Corylus avellana*) scrub. These features are also associated with dry shallow ditches.

Ditches

- A3.14 A wet ditch (**Image EDP A2.2**) sits on the southern boundary, which is steep sided and narrow channelled. This feature has been recorded as holding water on most survey visits to site, although water is typically shallow (moving west to east) and slow moving. Floating sweet-grass (*Glyceria fluitans*) was recorded within the channel itself, with bankside vegetation including greater willowherb (*Epilobium hirsutum*), soft rush, bristly ox-tongue (*Helminthotheca echioides*), bramble (*Rubus fruticosus* agg.), Canadian fleabane (*Erigeron canadensis*), bulrush (*Typha latifolia*), tufted hair-grass (*Deschampsia cespitosa*), and pendulous sedge (*Carex pendula*).



Image EDP A3.2: Wet Ditch.

- A3.15 As above, dry ditches are also present within the Site and associated with the mature treelines/hedgerow. These features are typically overshadowed and support limited species.

Appendix EDP 4 Hedgerow Survey

METHODOLOGY

- A4.1 An assessment of the entire hedgerow network on-site was undertaken on 23 July 2024, to determine their importance with reference to the Wildlife and Landscape criteria provided in Part II of Schedule 1 of the Hedgerows Regulations 1997. The Hedgerows Regulations 1997 serve the purpose of ensuring the retention of important countryside hedgerows; their removal only being approved by the relevant local authority via a Hedgerow Removal Notice or as part of a planning permission.
- A4.2 The aims of the hedgerow assessment were to:
- Identify hedgerows that are classified as important under the ecological criteria of the Hedgerows Regulations (1997); and
 - Identify hedgerows that, although not deemed important under the ecological criteria of the Hedgerows Regulations (1997), have ecological value in terms of species diversity or as potential wildlife corridors.
- A4.3 One hedgerow located along the northern Site boundary was surveyed against the Hedgerows Regulations 1997 criteria. Hedgerows qualify for assessment by exceeding 20m in length or by being connected at both ends to another hedgerow of any length. The middle 30m of all hedgerows up to 100m in length were surveyed, whilst the central 30m of each half of hedgerows up to 200m in length were surveyed. For hedgerows exceeding 200m in length, the central 30m section from each third of the hedgerow was surveyed. Hedgerows surveyed were assigned points dependent upon the number of qualifying 'features' as defined by the Hedgerows Regulations, with total scores per hedgerow determining their status.
- A4.4 Qualifying as important under the ecological criteria requires the hedgerow to be greater than 30 years of age.
- A4.5 Further to this a Hedgerow should be considered important should if it satisfies any of the following criteria:
- Must either contain (or have a record of having contained) species listed in Schedule 5 (animals) or 8 (plants) of the Wildlife and Countryside Act 1981 (as amended), birds categorised as declining breeders (Category 3) within the 'Red Data Birds in Britain' (Batten 1990), or any species categorised as 'endangered', 'extinct', 'rare' or 'vulnerable' by any of the British Red Data Books; or
 - Contains one of the following criteria per average 30m section surveyed:
 - Seven Schedule 3 (woody) species;
 - Six Schedule 3 species and three listed features (see below);

- Six Schedule 3 species, including one of the following – black poplar (*Populus nigra* subsp. *betulifolia*), large-leaved lime (*Tilia platyphyllos*), small-leaved lime (*Tilia cordata*) or wild service-tree (*Sorbus torminalis*);
- Five Schedule 3 species and four listed features;
- Four Schedule 3 species, two listed features and lying adjacent to a bridleway or footpath; with
- Listed features are:
 - a) A bank or wall which supports the hedgerow along at least one half of its length;
 - b) Gaps which in aggregate do not exceed 10% of the length of the hedgerow;
 - c) Where the length of the hedgerow does not exceed 50 metres, at least one standard tree;
 - d) Where the length of the hedgerow exceeds 50 metres but does not exceed 100 metres, at least two standard trees;
 - e) Where the length of the hedgerow exceeds 100 metres, such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50 metres;
 - f) At least three woodland species within one metre, in any direction, of the outermost edges of the hedgerow;
 - g) A ditch along at least one half of the length of the hedgerow;
 - h) Connections scoring four points or more; and
 - i) A parallel hedge within 15 metres of the hedgerow.

A4.6 It is recognised that, with reference to the Hedgerow Regulations (1997), certain animal species listed in the Wildlife and Countryside Act or by the Joint Nature Conservation Committee (JNCC) that could result in a hedgerow being recognised as important, may have gone unrecorded due to the timing and nature of the survey. Indeed, the use of the hedgerow by such species may be seasonal or at particular periods during the day. Whilst the full survey of such species falls outside the scope of the hedgerow survey, incidental sightings recorded during the hedgerow survey and records retrieved during the desk study were re-assessed for these species. In addition, data gained through relevant protected species surveys has also been considered.

Limitations

A4.7 No survey limitations were recorded.

RESULTS

- A4.8 The detailed results of the hedgerow surveys undertaken are provided in **Table EDP A3.1**. The location of hedgerows assessed within the Site is shown in **Plan EDP 1**.
- A4.9 In summary, Hedgerow **H1** qualified as 'important' under the Hedgerows Regulations (1997) criteria.
- A4.10 The hedgerow on-site has inherent ecological value and is a priority habitat in its own right. It has value in terms of the protected species it supports, or is likely to support. However, hedgerow are common within the District, so are only considered to have Local level importance.

Table EDP A4.1: Hedgerow survey results

Hedgerow number	Schedule 3 species recorded	Mean Count of Schedule 3 Species	Number of Schedule 2 Woodland Plants	Bank/Wall Present	Any Gaps are less than 10%	Standard Trees (min. 1/50m)	Ditch	Connections (4 or >4)	Parallel Hedge	Adjacent footpath, Bridleway, Road Used as Path, or BOAT	Contains rare or notable species	Important Hedgerow
H1	Blackthorn Elm Hazel Dog rose Hawthorn Field maple Oak (semi-mature trees)	7	0	No	No	Yes	No	2	No	No footpath/bridleway. South of Road B037	No	Yes

Appendix EDP 5

Breeding Bird Survey

METHODOLOGY

A5.1 Survey visits were spread evenly between late March and early July to cover the main bird breeding season. Visits were started within half an hour from dawn and timed to ensure they were completed prior to 11 a.m. to cover the peak activity period. The dates and timings of the three breeding bird survey visits, and the weather conditions encountered, are summarised in **Table EDP A4.1**.

Table EDP A5.1: Breeding Bird Survey Visit Details

Visit Number	Date	Timing of Survey	Wind Speed (Beaufort Scale)	Cloud Cover (%)	Precipitation
1	19/04/23	06:00-07:30	1-2	25-50	Nil
2	04/05/23	05:30-07:00	1-2	25-50	Nil
3	07/06/23	04:50-06:20	1-2	0-25	Nil

A5.2 During each visit the Site was walked at a slow pace to enable all birds detected to be identified and located. Frequent stops were made to scan suitable habitats and to listen for singing and calling birds. All areas of suitable breeding habitat within the Site boundary and immediately adjacent areas were approached to within 50m.

A5.3 During the survey the location and activity of each bird detected (including those seen or heard) was recorded and mapped using standard two-letter British Trust for Ornithology (BTO) species codes. The breeding status of each bird species identified at the Site was determined according to the nature and frequency of the behavioural elements recorded, as set out in **Table EDP A4.2**.

Table EDP A5.2: Field evidence used to determine bird breeding status

Breeding Status	Examples of Behaviour Exhibited
Confirmed	• Distraction display; • Nest building; • Nest with eggs; • Nest with young; • Used nest; • Recently fledged young; and • Adult carrying faecal sac/food.

Breeding Status	Examples of Behaviour Exhibited
Probable	• Pair observed in suitable nesting habitat in breeding season; • Permanent territory presumed through registration of territorial behaviour (song, etc.) on at least two different occasions, a week or more apart at the same place; • Courtship and display; • Visiting a probable nest site; • Agitated behaviour or anxiety calls from adults; • Brood patch on adult examined in the hand; and • Nest building or excavating nest-hole.
Possible	• Species observed in breeding season in possible nesting habitat; • Male in song; and • Adult giving alarm call.
Non-breeder	• Feeding birds only; • Birds flying over only; and • Lack of suitable breeding habitat.

A5.4 To inform the assessment in this report, the numbers of potential territories identified, the abundance of species at the County and National level, the quality of the habitat present and the geographical range of the birds concerned have been considered, based on national and regional accounts.

A5.5 The conservation status of each species of bird was also taken into account and the following lists were considered:

- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) – affords greater protection to certain breeding species that are considered appropriately at risk nationally and are listed additional legal protection accordingly;
- Priority species;
- Birds of Conservation Concern²² - under this approach UK bird populations are assessed, using quantitative criteria, to determine the population status of each species and then placed on one of three lists; Red, Amber or Green; and
- Local conservation status as listed in the Hampshire Bird Report²³.

Limitations

A5.6 As with all breeding bird surveys following this technique, the process is open to some subjectivity in interpretation except where active nests are located. Therefore, recorded locations indicate the 'centre' of a territory and not necessarily the breeding location.

A5.7 Following best practice, the survey visits were timed to start around first light, to coincide with the period of peak activity for birds, most particularly passerine songbird species. They were

²² Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.

also undertaken during suitable weather conditions, i.e. days/periods with strong winds and heavy or persistent rain were generally avoided. The results are therefore not significantly limited by seasonal or climatic factors.

RESULTS

- A5.8 A total of 22 bird species were recorded during the surveys, the species of important nature conservation status were then analysed in terms of their breeding status, of which none were confirmed as breeding on or immediately adjacent to the Site, three were recorded as probably breeding and two were recorded as possibly breeding. Full details of each species recorded, including their breeding status on-site and their conservation status, are provided in **Table EDP A4.3**. The distribution of these species recorded within the Site is shown on **Plan EDP 5**.
- A5.9 Of the probable/possible breeding species, none are of particular note due to their common regional status.
- A5.10 The Site offers some foraging opportunities for herring gull and greylag goose (which were recorded flying over the Site) but not in notable numbers. These species are considered to be non-breeders due to lack of suitable breeding habitat on-site.
- A5.11 The abundance and diversity of bird species recorded on-site was consistent with the extent and diversity of nesting habitats present. The majority of species recorded were associated with the hedgerows and trees. The limited extent, or absence, of other suitable habitats such as wetland, limits the ability of the Site to support large breeding populations of habitat specialist species. For this reason, the breeding bird assemblage is judged to be of no greater than Local ecological importance.

Table EDP A5.3: Breeding Bird Survey Results 2023 – Notable Species Only

Common Name	Scientific Name	UK Status	Regional Status ²³	On-site Status	Estimated No. Breeding Pairs	Survey Observations
Dunnock	<i>Prunella modularis</i>	S.41 Amber List	Abundant resident.	Possible breeder	1-3	Scattered individuals recorded within hedgerows on two surveys.
Greylag goose	<i>Anser anser</i>	Sch 1 Amber List	Moderately common and increasing feral resident.	Non-breeder	N/A	A pair recorded foraging during one survey.
Herring gull	<i>Larus argentatus</i>	S.41 Red List	Common winter visitor and passage migrant; moderately common and increasing breeder.	Non-breeder	N/A	A small group recorded foraging on two surveys.
House sparrow	<i>Passer domesticus</i>	S.41 Red List	Abundant but declining resident.	Probable breeder	3-6	Pairs and individuals recorded on all three surveys within the western hedgerows.
Kestrel	<i>Falco tinnunculus</i>	Amber List	Common but declining resident, passage migrant and winter visitor.	Non-breeder	N/A	An individual recorded within a tree on the first survey but not recorded since. Some trees have the potential to support this species but no possible breeding behaviour observed.
Song thrush	<i>Turdus philomelos</i>	S.41 Amber List	Numerous resident, passage migrant and winter visitor.	Possible breeder	0-1	An individual recorded adjacent to the southern Site boundary on the first survey.
Woodpigeon	<i>Columba palumbus</i>	Amber List	Abundant resident, passage migrant and winter visitor.	Probable breeder	2-5	Individuals recorded throughout the Site within hedgerows and trees.

²³ Hampshire Bird Report 2022. Hampshire Ornithological Society.

Common Name	Scientific Name	UK Status	Regional Status ²³	On-site Status	Estimated No. Breeding Pairs	Survey Observations
Wren	<i>Troglodytes troglodytes</i>	Amber List	Abundant resident.	Probable breeder	2-4	Individuals recorded throughout the Sites hedgerows.

Table EDP A5.4: Breeding Bird Survey Results - Green Listed Species

Common Name	Scientific Name
Barn swallow	<i>Hirundo rustica</i>
Blackbird	<i>Turdus merula</i>
Blackcap	<i>Sylvia atricapilla</i>
Blue tit	<i>Cyanistes caeruleus</i>
Buzzard	<i>Buteo buteo</i>
Carrion crow	<i>Corvus corone</i>
Chaffinch	<i>Fringilla coelebs</i>
Chiffchaff	<i>Phylloscopus collybita</i>
Collard dove	<i>Streptopelia decaocto</i>
Eurasian Nuthatch	<i>Sitta europaea</i>
Goldfinch	<i>Carduelis carduelis</i>
Great tit	<i>Parus major</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>

Appendix EDP 6

Winter Bird Survey

METHODOLOGY

- A6.1 The species targeted were those of nature conservation importance (i.e. WCA Schedule 1, priority species and Red and Amber listed species of conservation concern), including the species whose main habitat is farmland, but also those species that use farmland in large numbers in winter but for which it is not necessarily their main habitat.
- A6.2 The survey was conducted by an experienced surveyor and involved the completion of a single visit to the Site. The survey was conducted over a pre-defined transect route designed to take surveyors to within 75m of the suitable habitats for the target species. However, there was some variation to these, at the discretion of the surveyor, according to the nature of the habitat present and the influence this had on bird detectability (e.g., height of crop/grassland). The surveyor used binoculars and telescopes. The surveyor recorded any Amber and Red list species encountered, along with any notable behaviour.
- A6.3 The survey was undertaken on 31 January 2023 and began at 07:30 and ended 08:45, during which the visibility was clear with cloud cover of 20% and Beaufort Scale wind speed of 5.
- A6.4 The first and last hours of daylight were not surveyed to avoid counting when birds are moving between foraging and roosting habitats. Registrations of target bird species were recorded and assigned to the location where they were first detected (if flushed). Flying birds were only recorded if they were clearly associated with the Site (e.g. just flushed or about to land).
- A6.5 Following completion of all survey visits, an average (mean) count and maximum count of each species of conservation concern was calculated for the Site.
- A6.6 To inform the assessment in this report, the abundance of species on-site, the abundance of species at the County and National level, the quality of the habitat present and the geographical range of the birds concerned have been considered, based on national and regional accounts.
- A6.7 The conservation status of each species of bird was also taken into account and the following lists were considered:
- Schedule 1 of the Wildlife and Countryside Act 1981 (as amended) – affords greater protection to certain breeding species that are considered appropriately at risk nationally and are listed additional legal protection accordingly;
 - Priority species;
 - Birds of Conservation Concern²⁴ - under this approach UK bird populations are assessed, using quantitative criteria, to determine the population status of each species and then

²⁴ Stanbury, A., Eaton, M., Aebischer, N., Balmer, D., Brown, A., Douse, A., Lindley, P., McCulloch, N., Noble, D., and Win I. 2021. *The status of our bird populations: the fifth Birds of Conservation Concern in the United Kingdom, Channel Islands and Isle of Man and second IUCN Red List assessment of extinction risk for Great Britain*. British Birds 114: 723-747.

placed on one of three lists; Red, Amber or Green; and

- Local conservation status as listed in the Hampshire Bird Report²³.

Limitations

- A6.8 Survey visits were completed on calm days with good visibility, and avoiding periods of heavy rain where possible, although some days of higher wind speed are expected due to the time of year. It is therefore considered that the results provide a representative overview of the wintering bird interest at the Site and have not been limited by seasonal or climatic factors.
- A6.9 A limitation with surveying birds on arable land in winter is that birds vary in detectability. This is typically a function of the species size, species behaviour (including 'flushing' distance, flocking behaviour, crypticity), foraging ecology and field characteristics (including vegetation density and height, area of the field)²⁵. As such, a simple 'field perimeter' based count can miss significant numbers of birds, particularly where the field vegetation is tall or dense. This is particularly true for certain bird species, including the Red-listed skylark, and the Amber-listed meadow pipit.
- A6.10 It should be noted that for a large number of species, including thrushes, sparrows, finches and buntings in most field types, the overall majority (i.e. >90%) can be recorded using a 'perimeter count'. However, where detectability may be an issue, comparisons of bird densities or total numbers between fields will not be possible purely from using perimeter counts as the field characteristics, and hence detectability, vary between field parcels.
- A6.11 The survey methodology therefore involved, where access allowed, walking to within a maximum distance of 75m of all suitable habitats for the target wintering bird species. However, with regard to the effect of vegetation density and height on the ability to record birds, the survey method relies on the judgement of an experienced surveyor to assess when a count is complete. As such, in fields with more ground cover, a greater frequency of transects across open areas (and hence reduced maximum distance) is required.
- A6.12 'Double counting' could also affect results, particularly with the whole-area search approach where birds could be flushed from one field to another. With reference to Wilson *et al.* (1996)²⁶, although this source of error cannot be eliminated, it can be minimised by taking account of birds flushed to fields yet to be counted (namely through the detailed recording of bird movements on-site plans).

²⁵ Atkinson, P.W., Fuller, R.A., Gillings, S. & Vickery, J.A. (2006). Counting birds on farmland habitats in winter. *Bird Study*, 53:3, 303-309

²⁶ Wilson, J.D., Taylor, R. & Muirhead, L.B. (1996) Field use by farmland birds in winter: an analysis of field type preferences using re-sampling methods. *Bird Study*, 43, 320–332

RESULTS

- A6.13 A total of seven bird species of nature conservation importance were recorded during the course of the winter bird survey (see **Table EDP A5.1**), with a further seven species not of conservation importance recorded incidentally (see **Table EDP A5.2**).
- A6.14 The diversity and abundance of species recorded is considered to be fairly typical for a site of this size and type, although the surveys did record relatively small flocks of Red-and Amber list species including starling, redwing, fieldfare and house sparrow. Species were mainly recorded using the mature trees and hedgerow bordering the periphery of the Site.
- A6.15 It is concluded that that the diversity and abundance of over-wintering birds within the Site reflects the diversity of habitats present but is not exceptional. The wintering bird assemblage present within the Site is judged to be of no greater than Local ecological importance.

Table EDP A6.1: Winter Bird Survey Results 2023, Notable Species Only

Common Name	Scientific Name	UK Status	Regional Status ²³	Distribution On-site	Abundance On-site
					Max. Count
Common starling	<i>Sturnus vulgaris</i>	S.41 Red List	Numerous but declining resident, passage migrant and winter visitor.	Eleven recorded within the grassland field south of Tree Line 1.	11
Dunnock	<i>Prunella modularis</i>	S.41 Amber List	Abundant resident.	Individuals recorded along the southern and eastern boundaries, associated with mature trees.	2
Fieldfare	<i>Turdus pilaris</i>	Schedule 1 Red List	Numerous to abundant winter visitor and passage migrant.	Two recorded along the northeast boundary of the Site, associated with mature trees.	2
Herring gull	<i>Larus argentatus</i>	S.41 Red List	Common winter visitor and passage migrant; moderately common and increasing breeder.	Recorded within the northern grassland field.	3
House sparrow	<i>Passer domesticus</i>	S.41 Red List	Abundant but declining resident.	Recorded along the western boundary, delineating residential settlements.	23
Redwing	<i>Turdus iliacus</i>	Schedule 1 Amber List	Numerous to abundant winter visitor and passage migrant.	Five recorded along the northeast boundary of the Site.	5
Woodpigeon	<i>Columba palumbus</i>	Amber List	Abundant resident, passage migrant and winter visitor.	Recorded along the northern and southern boundaries, associated with hedgerow and woodland.	21

Table EDP A6.2: Winter Bird Survey Results 2023, Unlisted Species

Common Name	Scientific Name
Blackbird	<i>Turdus merula</i>
Blue tit	<i>Cyanistes caeruleus</i>
Carrion crow	<i>Corvus corone</i>
Collared dove	<i>Streptopelia decaocto</i>
Jackdaw	<i>Coloeus monedula</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>

Appendix EDP 7 Bat Surveys

METHODOLOGY

- A7.1 The scope of bat surveys undertaken at the Site was determined following completion of the Extended Phase 1 Habitat survey and review of relevant desk study findings and with reference to best practice guidelines published by the Bat Conservation Trust²⁷.

Bat Roost Surveys

Preliminary Roost Assessment of Trees

- A7.2 Owing to the presence of suitably mature trees within or adjacent to the Site, a preliminary ground level roost assessment of these trees was undertaken to record any external evidence of roosting bats or any features capable of supporting roosting bats.
- A7.3 The survey was completed on 04 May 2023 by a bat licensed ecologist in accordance with the best practice guidelines referred to above. The trees were searched as thoroughly as possible from ground level with all elevations covered where these could be accessed.
- A7.4 Suitable features for roosting bats recorded (where present) include the following:
- Loss/peeling/fissured bark;
 - Natural holes e.g., rot holes, cavities and wounds from fallen limbs;
 - Woodpecker holes;
 - Cracks/splits or hollow tree trunks/limbs;
 - Bat, bird or dormouse boxes; and
 - Crevices formed by thick-stemmed ivy.
- A7.5 Signs of roosting bat presence recorded (where present) include the following:
- Bat/s roosting *in situ*;
 - Bat droppings within, around or beneath a potential roost feature;
 - Staining around or beneath a feature;
 - Audible squeaking from the roost at dusk or during warm weather; and

²⁷ Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London. Since the bat surveys have been undertaken, these guidelines have subsequently been superseded by: Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

- Large/regularly used roosts or may produce a distinctive odour.

A7.6 Based upon the evidence/features identified, each tree was assigned to one of the following categories:

- **Known or confirmed roost** - European Protected Species (EPS) licence likely to be required for works to tree to be completed lawfully;
- **High suitability** – One or more potential roost features present that are obviously suitable for use by larger numbers of bats on a more regular basis, and potentially for longer periods of time;
- **Moderate suitability** - One or more potential roost features present that could be used by bats but are unlikely to support a roost type of high conservation status (with respect to roost type only);
- **Low suitability** - A tree of sufficient size and age to contain potential roost features but with none seen from the ground, or features seen but with only very limited roosting potential; and
- **Negligible suitability** - No potential to support roosting bats.

A7.7 Due to the guidelines being superseded after the survey, these have been subsequently assessed against the new guidelines:

- **None – Either no PRFs in the tree or highly unlikely to be any;**
- **Further Assessment Required (FAR)** – Tree is of a size, age or condition that is likely to have PRFs, further assessment is therefore required to establish if PRFs are present in the tree;
- **PRF** – Tree supports at least one PRF which is visible from the ground; and
- **Confirmed roost** – Signs of roosting bat presence were found within or around a PRF.

A7.8 For those trees categorised as having a ‘PRF’, an estimate was made as to whether each PRF visible from the ground was likely to be suitable for individual bats (PRF-I) or multiple bats (PRF-M). It should be noted that this categorisation from ground level is an estimate only, as it is often not possible to establish the internal extent of a tree feature from ground level.

Limitations

A7.9 As with any ground level assessments of trees, certain features may not be visible or fully visible from the ground. While this survey is best undertaken during the late autumn/winter when leaves have been shed and the view from ground level into the crown is best, this survey was undertaken in May. However, this is not considered a significant constraint for this survey given the densities of the canopies surveyed. Some ivy coverage limited the visibility of some of the stems, however, this is not considered to be a significant limitation.

- A7.10 Bats are mobile animals and will move between a series of different tree roost sites, frequently establishing and occupying different potential roost features, depending on seasonal requirements and resources available locally. Furthermore, existing potential roost features on trees can be transient and new features formed regularly. This survey, therefore, only provides a snapshot of the conditions present at the Site at the time of survey.
- A7.11 It should be noted that this type of assessment is based on features visible from ground level and is not considered to be a definitive bat roosting survey.

Bat Activity Surveys

- A7.12 During the Extended Phase 1 Habitat survey, an initial assessment was undertaken of suitability of the habitats within and immediately adjacent to the Site for foraging and commuting bats. In accordance with the best practice guidelines referred to above, the Site was assigned to one of the following categories:

- **High suitability** – Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, treelined watercourses and grazed parkland. Site is close to and connected to known roosts;
- **Moderate suitability** - Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water;
- **Low suitability** - Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub; and
- **Negligible suitability** - Negligible habitat features on Site likely to be used by commuting or foraging bats.

- A7.13 Having determined that the overall suitability of the Site as Moderate, a proportionate level of survey effort was expended in terms of the number and frequency of manual transect surveys and automated detector surveys. These are described in further detail below.

Transect Surveys

- A7.14 Manual transect surveys were undertaken across the Site with the objective of identifying important foraging areas and/or commuting routes used by bats. A total of seven dusk surveys and one dawn survey were undertaken over the course of the active bat season in 2023.
- A7.15 Details of the survey type, date, timing, and weather conditions during each of the transect surveys are given in **Table EDP A6.1**. All visits were completed in weather conditions that were generally suitable for such surveys.

Table EDP A7.1: Date, Timing and Weather Conditions during Transect Surveys

Survey Date	Sunset/ Sunrise Time	Start - Finish Time	Weather Conditions			
			Temp (°C)	Cloud Cover (%)	Wind (Beaufort Scale)	Precipitation
13.04.23	19:57	19:42 – 21:57	14-6	10-20	1	Nil
16.05.23	20:49	20:49 – 22:49	14-11	0-50	0-1	Nil
17.05.23	05:12	03:12 – 05:12	9	0	0-1	Nil
19.06.23	21:23	21:23 – 23:23	17-19	40-80	0	Nil
18.07.23	21:11	21:11 – 23:11	18	90-100	0-1	Nil
15.08.23	20:26	20:26 – 22:26	19-15	20-50	0-1	Nil
27.09.23	18:53	18:53 – 20:53	20-17	90-95	5-4	Rain first 10 minutes only
11.10.23	18:22	18.22 – 20:22	19-17	100	3-0	Two small rain showers lasting 5-10 minutes each.

A7.16 During each survey a single transect routes was walked by a pair of surveyors, with the route designed to provide coverage of the most suitable foraging or commuting habitats on the Site; namely hedgerow, tree-lines and offsite woodland edge. The transect routes are illustrated on **Plan EDP 6**. The transect routes were walked by experienced bat surveyors and an assistant at a slow and steady pace for two hours after sunset or two hours before sunrise. All bats were recorded, and their behaviour marked on survey maps, in order to characterise the value of the Site and its component habitats for foraging and commuting bats.

A7.17 The transect surveys were conducted using Elekon Batlogger M bat detectors. Observations of the time, location, and activity of all bats seen or heard were noted. Bats were identified on the basis of their characteristic echolocation calls, which were recorded and analysed using computer sonogram analysis (BatExplorer) to confirm species identification. Species of *Myotis* and *Plecotus* bats are difficult to tell apart solely from their echolocation calls and were therefore grouped as such.

Limitations

A7.18 The first transect survey in April started with temperatures above the recommended '10°C at sunset'. However, during the survey, temperatures dropped to 6°C. Bat activity is known to reduce below 10°C and stop at 6°C²⁸. Very few bats were recorded during this survey. This is not considered a limitation due starting the survey within temperatures outlined in the guidelines, and temperatures are considered likely to drop below this starting level during the survey. Poorer weather conditions are often associated with the start and end of the activity season.

²⁸ Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London. Footnote 16.

A7.19 During the September and October transect surveys, small rain showers were recorded during the surveys. These were all short in duration and did not affect overall survey results, and therefore not considered to be a significant limitation to the surveys.

Automated Detector Surveys

A7.20 To supplement the bat transect survey data, bat activity within the Site was also sampled using Anabat Express detectors (hereafter referred to as ‘automated detectors’), which are deployed in fixed locations to automatically trigger and record bat echolocation calls over multiple nights at a time. In this case, automated detectors were deployed at two locations within the Site during each survey, as shown on **Plan EDP 6**, which were judged to be representative of the habitats within the Site. The automated detectors were fixed in secure locations, with an external microphone attached c.1-2m above ground, where possible, and directed away from the tree/branch to maximise detection sensitivity. In total seven surveys were completed over the course of the active bat season in 2023, each comprising sampling by automated detectors for at least five consecutive nights. Details of dates, sampling locations and weather conditions during each of the surveys are given in **Table EDP A6.2**.

Table EDP A7.2: Automated Detector Survey Details

Sampling Period Dates	Location (Reference number and OS grid reference)		Microphone		Adjacent habitat
			Height (m)	Direction	
13.04.23 – 20.04.23	L1	SU 50600 18833	2.0	SW	Improved grassland
	L2	SU 50773 18437	2.0	N	Improved grassland. Woodland with pond to south.
16.05.23 – 23.06.23	L1	SU 50600 18833	1.5	SE	Improved grassland
	L2	SU 50773 18437	1.0	NW	Improved grassland. Woodland with pond to south.
19.06.23 – 30.06.23	L1	SU 50600 18833	2.0	SE	Improved grassland
	L2	SU 50773 18437	1.8	N	Improved grassland. Woodland with pond to south.
18.07.23 – 24.07.23	L1	SU 50600 18833	1.5	S	Improved grassland
	L2	SU 50773 18437	1.5	N	Improved grassland. Woodland with pond to south.
15.08.23 – 21.08.23	L1	SU 50600 18833	1.5	S	Improved grassland
	L2	SU 50773 18437	1.75	N	Improved grassland. Woodland with pond to south.
21.09.23 – 26.09.23	L1	SU 50600 18833	1.8	S	Improved grassland
	L2	SU 50773 18437	1.8	N	Improved grassland. Woodland with pond to south.
03.10.23 – 10.10.23	L1	SU 50600 18833	2.0	S	Improved grassland
	L2	SU 50773 18437	2.0	N	Improved grassland. Woodland with pond to south.

A7.21 The sound files recorded by the automated detectors were filtered for each of the UK's bat species/species groups using AnalookW software's filter function. The parameters for the species filters are based on those proposed by Chris Corben and Kim Livengood²⁹ and have been fine-tuned using known call parameters for each of the species. All files were checked manually using sonogram analysis in accordance with published guides to confirm the species identification of each bat call.

Limitations

A7.22 The identification of calls and species using AnalookW software is dependent upon the quality of the recording made which can be influenced by the following factors, which may limit levels of activity and species recorded:

- Weather conditions - rainfall and wind;
- Distance of bat from the detector's microphone;
- Presence of obstructions through which the noise must pass i.e., trees/leaves; and
- Proximity of other noise sources such as roads.

A7.23 One of the Anabat Expresses failed after the first night in September.

RESULTS

Bat Roost Surveys

Preliminary Roost Assessment of Trees

A7.24 The preliminary ground level roost assessment of trees identified a total of seven trees with suitable features for bat roosting. Of this total, six were found to be of High suitability, with one Moderate. Further details on each of these trees are provided in **Table EDP A6.3** and their locations are shown on **Plan EDP 1**.

A7.25 All other trees were found to be of negligible suitability for roosting bats and have not been mapped/described.

²⁹ Taken from Analook W training course and workshop, September 2013

Table EDP A7.3: Details of Trees with Bat Roost Suitability

Tree/Group Ref. No.	Tree Species	Potential Roost Features	Roosting Suitability of Tree (Colins 2016)* ¹	Roosting Suitability of Tree (Colins 2023)* ²
T1	Ash	Multi-stemmed tree with multiple woodpecker holes and welds and compression forks between adjacent limbs. Limited ivy coverage on stems.	High	PRF (likely PRF-M)
T2	Oak	Terminal deadwood with internal cavity.	High	PRF (likely PRF-M)
T3	Oak	Lifting bark plate. Some limited ivy coverage.	High	PRF (likely PRF-M)
T4	Oak	A number of features, including split wood which may lead to cavity.	High	PRF (likely PRF-M)
T5	Oak	Dense ivy over mature main stem. Damage to bark visible at base indicating basal rot and general poor health, with potential significant cavity	High	PRF (likely PRF-M)
T6	Oak		Moderate	PRF (likely PRF-I)
T7	Ash	Multiple woodpecker holes on twin stems.	High	PRF (likely PRF-M)
T8	Ash	Dying tree with a number of woodpecker holes	High	PRF (likely PRF-M)
T9	Oak	Minor splits/cracks, considered likely superficial.	Low	PRF (likely PRF-I)
T10	Field Maple	Rot holes on main stem	Low	PRF (likely PRF-I)
T11	Goat Willow	Some minor rot features, however, these appear potentially too exposed.	Low	PRF (likely PRF-I)

*1 The survey was undertaken in line with the latest guidelines available: Collins, J. (ed.) (2016). *Bat Surveys: for Professional Ecologists: Good Practice Guidelines (3rd edition)*. The Bat Conservation Trust, London

*2 The assessment has been regraded following the new guidelines: Collins, J. (ed.) (2023). *Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition)*. The Bat Conservation Trust, London

Bat Activity Surveys

- A7.26 As noted above in relation to the scope/design of the bat activity surveys, the initial habitat assessment of the Site found the Site to be of Moderate suitability for foraging and commuting bats. This is due to the hedgerow and mature tree lines bounding the Site, with wider connectivity to nearby woodland and hedgerows.
- A7.27 The results of the transect surveys are illustrated on **Plans EDP 7 - 13** and results of the automated detector surveys are provided, in detailed and summary form, within **Tables EDP A6.4 to A6.11**. These results are also described below for the assemblage as whole and on a species-by-species basis. The species accounts also draw upon information collated during the desk study and published data on national conservation status³⁰.

Overall Diversity, Abundance and Distribution

- A7.28 A total of eight bat species/species groups (*Myotis* and *Plecotus* bat species were not identified to species level), were confirmed to be present foraging and/or commuting within the Site during the transect and/or automated detector surveys.
- A7.29 Levels of bat activity recorded during the transect surveys were generally low to moderate, with relatively higher levels recorded in summer months and relatively lower levels recorded in spring and autumn. The distribution of this activity was concentrated along tree lines and woodland edges. Common pipistrelle comprised the majority of recordings, and the sole species recorded in April and October. Soprano pipistrelle, serotine and *Myotis* spp. were recorded infrequently, and a single registration of Nathusius' pipistrelle were recorded in July.
- A7.30 With reference to the automated detector data tables, the vast majority of recorded bat passes were of common pipistrelle (73.3% of all passes) with soprano pipistrelle, *Myotis* spp. the next most abundant (13.9% and 9.3% respectively). Serotine comprised 2% of all recorded activity, with a small proportion of *Plecotus* spp., noctule, barbastelle and Nathusius' pipistrelle (all accounting for less than 1%).
- A7.31 Levels of bat activity recorded during the automated detector surveys were generally low to moderate, with activity fairly stable across the survey period with the exception of lower levels recorded in April. The number of calls recorded was higher at Location 1 from April to June, and higher in Location 2 from July to October, reflecting a change of use in the latter half of the active period.

Species/Species Groups Recorded

Pipistrellus spp.

- A7.32 Several records of licences for common and soprano pipistrelles within 2km of the Site were returned by MAGIC, and a number of records were returned during the desk study within 5km, including a mixed soprano and common pipistrelle roost from 2015 c.0.1km west of the Site.

³⁰ CIEEM (2023) Bat Mitigation Guidelines. and <https://www.bats.org.uk/our-work/national-bat-monitoring-programme/reports/nbmp-annual-report>

A7.33 Common pipistrelle were the most active species recorded on the Site each month and comprising 73.3% of all bat passes recorded.

A7.34 Common pipistrelle and soprano pipistrelle populations in England are considered to be increasing and stable, and widespread within the south of England. Nathusius' pipistrelle is considered to be rare (with information on population trends data deficient).

A7.35 Based on the relative abundance of common, soprano and Nathusius' pipistrelles onsite, they are considered to be of Local level importance.

Myotis spp.

A7.36 A number of *Myotis* spp. records were returned in the desk study within 5km, including Brandt's bat, Daubenton's bat, Natterer's bat and whiskered bat.

A7.37 *Myotis* spp. comprised approximately 9% of all species recorded during the static detector survey and were only recorded during the May, August and September transect surveys. It is considered likely that these records are unlikely to pertain to the rare (Annex II) Bechstein's bat due to the lack of ancient woodland bordering the Site.

A7.38 The more common *Myotis* spp. bat populations in England are considered stable and are widespread in southern England.

A7.39 Based on the relative abundance of *Myotis* spp. onsite, they are considered to be of Site level importance.

Serotine

A7.40 A large number of serotine records were returned within the desk study within 5km.

A7.41 Serotine comprised 2% of all species recorded during the static detector survey, and were recorded in low numbers during the transect surveys between May and August inclusive.

A7.42 Serotine populations in England are considered stable, and are rare in southern England.

A7.43 Based on the relative abundance of serotine onsite, they are considered to be of Local level importance.

Noctule

A7.44 A large number of noctule records were returned within the desk study within 5km.

A7.45 Noctule comprised less than 1% of all species recorded during the static detector survey, and were not recorded during the transect surveys.

A7.46 Noctule populations in England are considered stable, and are widespread in southern England.

A7.47 Based on the relative abundance of noctule onsite, they are considered to be of Site level importance.

Plecotus spp.

- A7.48 A large number of brown long-eared records were returned within the desk study within 5km, including a maternity roost approximately 0.1km to the west of the Site recorded in 2021.
- A7.49 *Plecotus spp.* comprised less than 1% of all species recorded during the static detector survey and were not recorded during the transect surveys. It is considered likely that these records pertain to the more common brown long-eared bat rather than the rarer grey long-eared bat due to the geographical location of the Site and results of the desk study.
- A7.50 Brown long-eared bat populations in England are considered stable and are widespread in southern England.
- A7.51 Based on the relative abundance of long-eared bats onsite, they are considered to be of Site level importance.

Barbastelle

- A7.52 No barbastelle records were returned within 5km from the desk study.
- A7.53 Barbastelle. comprised less than 1% of all species recorded during the static detector survey and using both Locations and in all months surveyed except May and June. They were not recorded during the transect surveys.
- A7.54 Barbastelle are an Annex II species whose populations in England are considered data deficient to assess overall trends and are rare in southern England.
- A7.55 Based on the relative abundance of barbastelle onsite, they are considered to be of Site level importance.

Automated Detector Data Tables

Table EDP A7.4: Automated Detector Survey Results April 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		13/04	14/04	15/04	16/04	17/04	18/04	19/04	20/04	
1	Barbastelle	1								1 (0.29)
	Common pipistrelle	1		80	114	64	15	28	4	306 (90.27)
	<i>Plecotus</i> spp.				1					1 (0.29)
	<i>Myotis</i> spp.				3	1				4 (1.18)
	Noctule			3	2	2				7 (2.06)
	Soprano pipistrelle			4	1	2		1		8 (2.36)
	Serotine	2	1	4	1	3		1		12 (3.54)
	Total	4	1	91	122	72	15	30	4	339
2	Barbastelle			1	1					2 (1.03)
	Common pipistrelle	2		40	43	37	3	36		161 (82.99)
	<i>Plecotus</i> spp.		1	1	2	1				5 (2.58)
	<i>Myotis</i> spp.			2						2 (1.03)
	Nathusius' pipistrelle					1				1 (0.52)
	Noctule			1	2	2				5 (2.58)
	Soprano pipistrelle			2	2	3		5		12 (6.19)
	Serotine			3	1	1		1		6 (3.09)
	Total	2	1	50	51	45	3	42		194

Table EDP A7.5: Automated Detector Survey Results May 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		16/05	17/05	18/05	19/05	20/05	21/05	22/05	23/05	
1	Common pipistrelle	585	701	489	522	75	88	57	32	2549 (91.13)
	<i>Plecotus</i> spp.	9								9 (0.32)
	<i>Myotis</i> spp.	12	7	11	11	4	11	5	5	66 (2.36)
	Nathusius' pipistrelle		1							1 (0.04)
	Noctule	2		1	1					4 (0.14)
	Pipistrellus spp. social call					1				1 (0.04)
	Soprano pipistrelle	5	13	38	13	5	11	16	5	106 (3.79)
	Serotine	31	8	4	2	3	2	7	4	61 (2.18)
	Total	644	730	543	549	88	112	85	46	2797
2	Common pipistrelle	90	59	82	132	89	31	29	15	527 (80.70)
	<i>Plecotus</i> spp.			1						1 (0.15)
	<i>Myotis</i> spp.	1		1				1		3 (0.46)
	Nathusius' pipistrelle		1							1 (0.15)
	Noctule			3	2	3	2	2		12 (1.84)
	Soprano pipistrelle	33	5	12	11	12	3	3	1	80 (12.25)
	Serotine	1	3	4	5	4	2	9	1	29 (4.44)
	Total	125	68	103	150	108	38	44	17	653

Table EDP A7.6: Automated Detector Survey Results June 2023

Location	Bat Species	Number of Bat Passes Recorded per Night												Total (and %)
		19/06	20/06	21/06	22/06	23/06	24/06	25/06	26/06	27/06	28/06	29/06	30/06	
1	Common pipistrelle	48	242	247	214	147	344	175	157	125	280	281	39	2299 (96.03)
	<i>Plecotus spp.</i>			1	1	1		1			2	1	1	8 (0.33)
	<i>Myotis spp.</i>		4		4	1	1			2	1	1		14 (0.58)
	Noctule									1		1		2 (0.08)
	Soprano pipistrelle	2	3	4	12	11	2	4	7	5	1	5	3	59 (2.46)
	Serotine		2	1	2	1		3	2		1			12 (0.50)
	Total	50	251	253	233	161	347	183	166	133	285	289	43	2394
2	Common pipistrelle	19	50	48	39	32	45	48	63	56	133	128	3	664 (73.21)
	<i>Myotis spp.</i>	1		2		2	1		1	1	1	2		11 (1.21)
	Noctule	3				4	2	1			4			14 (1.54)
	Soprano pipistrelle	1	16	46	2	22	23	18	22	20	16	13		199 (21.94)
	Serotine	1	4			1	2	2	1		8			19 (2.09)
	Total	25	70	96	41	61	73	69	87	77	162	143	3	907

Table EDP A7.7: Automated Detector Survey Results July 2023

Location	Bat Species	Number of Bat Passes Recorded per Night							Total (and %)
		18/07	19/07	20/07	21/07	22/07	23/07	24/07	
1	Barbastelle				5	1			6 (1.08)
	Common pipistrelle	31	111	88	43	6	36	38	353 (63.72)
	<i>Myotis spp.</i>	1	51	10	6	1	1	2	72 (13)
	Noctule					1			1 (0.18)
	Serotine	5	8	9	12	1	20	2	57 (10.29)
	Soprano pipistrelle	3	18	22	18	3		1	65 (11.73)
	Total	40	188	129	84	13	57	43	554
2	Barbastelle		1						1 (0.04)
	Common pipistrelle	187	119	55	71	282	1080	53	1847 (69.59)
	<i>Plecotus spp.</i>		1		5	3	2		11 (0.41)
	<i>Myotis spp.</i>	2	5	1	4	47	320	4	383 (14.43)
	Nathusius' pipistrelle					1	1		2 (0.08)
	Serotine	5	7	9	7		62	1	91 (3.43)
	Soprano pipistrelle	41	35	4	4	72	141	22	319 (12.02)
	Total	235	168	69	91	405	1606	80	2654

Table EDP A7.8: Automated Detector Survey Results August 2023

Location	Bat Species	Number of Bat Passes Recorded per Night							Total (and %)
		15/08	16/08	17/08	18/08	19/08	20/08	21/08	
1	Barbastelle		1				1		2 (0.11)
	Common pipistrelle	63	375	423	127	96	121	78	1283 (71.72)
	<i>Plecotus spp.</i>	1	4	1	1		6	4	17 (0.95)
	<i>Myotis spp.</i>	5	26	20	16	14	19	10	110 (6.15)
	Nathusius' pipistrelle			1					1 (0.06)
	Noctule							1	1 (0.06)
	<i>Pipistrellus spp.</i> social call							1	1 (0.06)
	Soprano pipistrelle	26	117	108	33	10	19	16	329 (18.39)
	Serotine	10	3	13	2	6	10	1	45 (2.52)
	Total	105	526	566	179	126	176	111	1789
2	Barbastelle		1	1	1			1	4 (0.28)
	Common pipistrelle	50	50	64	90	532	78	36	900 (62.72)
	<i>Plecotus spp.</i>	2	4	2	17	11	4	2	42 (2.93)
	<i>Myotis spp.</i>	5	8	6	5	111	18	18	171 (11.92)
	Nathusius' pipistrelle			1			1		2 (0.14)
	Noctule		1					2	3 (0.21)
	<i>Pipistrellus spp.</i> social call					5	3	1	9 (0.63)
	Soprano pipistrelle	5	3	10	12	204	14	19	267 (18.61)
	Serotine	8	7	5	10	4	2	1	37 (2.58)
	Total	70	74	89	135	867	120	80	1435

Table EDP A7.9: Automated Detector Survey Results September 2023

Location	Bat Species	Number of Bat Passes Recorded per Night						Total (and %)
		21/09	22/09	23/09	24/09	25/09	26/09	
1	Barbastelle	3	No data					3 (0.39)
	Common pipistrelle	403						403 (52.34)
	<i>Plecotus spp.</i>	2						2 (0.26)
	<i>Myotis spp.</i>	309						309 (40.13)
	Soprano pipistrelle	50						50 (6.49)
	Serotine	3						3 (0.39)
	Total	770						770
2	Barbastelle			5	4	3	1	13 (1.02)
	Common pipistrelle	19	24	365	470	73	31	982 (79.96)
	<i>Plecotus spp.</i>		1		2	1	1	5 (0.39)
	<i>Myotis spp.</i>	3	3	4	13	1	1	25 (1.96)
	Pipistrellus sp. social call			3	10			13 (1.02)
	Soprano pipistrelle	7	11	84	123	10	1	236 (18.50)
	Serotine	1	1					2 (0.16)
	Total	30	40	461	622	88	35	1276

Table EDP A7.10: Automated Detector Survey Results October 2023

Location	Bat Species	Number of Bat Passes Recorded per Night								Total (and %)
		03/10	04/10	05/10	06/10	07/10	08/10	09/10	10/10	
1	Barbastelle		8				7		1	16 (0.62)
	Common pipistrelle	41	86	221	325	241	71	68		1053 (60.69)
	<i>Plecotus spp.</i>	6	6	4	3	2	4	4		29 (1.67)
	<i>Myotis spp.</i>	91	5	36	25	121	241	27	26	572 (32.97)
	Pipistrellus sp. social call	3	3	2	2	2	2	1		15 (0.86)
	Soprano pipistrelle	6	3	3	2	1	3	5	1	24 (1.38)
	Serotine	4	5	2	4	2	4	3	2	26 (1.50)
	Total	151	116	268	361	369	332	108	30	1735
2	Common pipistrelle	16	148	89	687	125	6	5		1076 (49.86)
	<i>Plecotus spp.</i>				1					1 (0.05)
	<i>Myotis spp.</i>	2	13	3	67	6	2	2		95 (4.40)
	Soprano pipistrelle	11	161	240	521	51				984 (45.60)
	Serotine		1		1					2 (0.09)
	Total	29	323	332	1277	182	8	7		2158

Table EDP A7.11: Monthly Summary of Automated Detector Surveys

Survey Month	Species	Total Number of Passes	Adjusted Passes (5 nights)	% of Month Total
April (8 nights)	Barbastelle	3	1.9	0.56
	Common pipistrelle	467	291.9	87.95
	<i>Plecotus spp.</i>	6	3.8	1.13
	<i>Myotis spp.</i>	6	3.8	1.13
	Nathusius' pipistrelle	1	0.6	0.19
	Noctule	12	7.5	2.26
	Soprano pipistrelle	18	11.3	3.39
	Serotine	18	11.3	3.39
	Total	531	331.9	100%
May (8 nights)	Common pipistrelle	3076	1922.5	89.16
	<i>Plecotus spp.</i>	10	6.3	0.29
	<i>Myotis spp.</i>	69	43.1	2.00
	Nathusius' pipistrelle	2	1.3	0.06
	Noctule	16	10.0	0.46
	<i>Pipistrellus</i> spp. social call	1	0.6	0.03
	Soprano pipistrelle	186	116.3	5.39
	Serotine	90	56.3	2.61
	Total	3450	2156.3	100%
June (12 nights)	Common pipistrelle	2963	1234.6	89.76
	<i>Plecotus spp.</i>	8	3.3	0.24
	<i>Myotis spp.</i>	25	10.4	0.76
	Noctule	16	6.7	0.48
	Soprano pipistrelle	258	107.5	7.82
	Serotine	31	12.9	0.94
	Total	3301	1375.4	100%
July (7 nights)	Barbastelle	7	5.0	0.22
	Common pipistrelle	2200	1571.4	68.58
	<i>Plecotus spp.</i>	11	7.9	0.34
	<i>Myotis spp.</i>	455	325.0	14.18
	Nathusius' pipistrelle	2	1.4	0.06
	Noctule	1	0.7	0.03
	Soprano pipistrelle	384	274.3	11.97
	Serotine	148	105.7	4.61
	Total	3208	2291.4	100%
August (6 nights)	Barbastelle	6	4.3	0.19
	Common pipistrelle	2183	1559.3	67.71

Survey Month	Species	Total Number of Passes	Adjusted Passes (5 nights)	% of Month Total
	<i>Plecotus spp.</i>	59	42.1	1.83
	<i>Myotis spp.</i>	281	200.7	8.72
	Nathusius' pipistrelle	3	2.1	0.09
	Noctule	4	2.9	0.12
	<i>Pipistrellus spp.</i> social call	10	7.1	0.31
	Soprano pipistrelle	596	425.7	18.49
	Serotine	82	58.6	2.54
	Total	3224	2302.9	100%
September (8 nights)	Barbastelle	16	13.3	0.78
	Common pipistrelle	1385	1154.2	67.69
	<i>Plecotus spp.</i>	7	5.8	0.34
	<i>Myotis spp.</i>	334	278.3	16.32
	<i>Pipistrellus spp.</i> social call	13	10.8	0.64
	Soprano pipistrelle	286	238.3	13.98
	Serotine	5	4.2	0.24
	Total	2046	1705.0	100%
October	Barbastelle	16	10.0	0.41
	Common pipistrelle	2129	1330.6	54.69
	<i>Plecotus spp.</i>	30	18.8	0.77
	<i>Myotis spp.</i>	667	416.9	17.13
	Pipistrellus sp. social call	15	9.4	0.39
	Soprano pipistrelle	1008	630.0	25.89
	Serotine	28	17.5	0.72
	Total	3893	2433.1	100%

Evaluation of Overall Bat Assemblage

- A7.56 There are several opportunities for bats to be roosting onsite within trees. Bats have been recorded to use the site throughout the active period, with activity levels highest at Location 1 for the first half of the survey period, and becoming greater at Location 2 for the second half of the survey period. The mature lines of trees and hedgerow, and the offsite woodlands which are adjacent to the Site are being utilised by foraging and commuting bats.
- A7.57 Taking into account the diversity of bat species utilising the Site and the extent of their roosting, foraging and commuting activity, the overall bat assemblage using the Site is judged to be of Local importance.

Appendix EDP 8

Biodiversity Net Gain Assessment

METHODOLOGY

- A8.1 The Biodiversity Net Gain (BNG) assessment has been undertaken to objectively measure the net biodiversity impacts of the proposed development and to assess the scheme's ability to deliver net biodiversity gain. The BNG assessment has been undertaken using the Statutory Biodiversity Metric published by the Department for the Environment Farming and Rural Affairs (DEFRA) on 29 November 2023 (last updated 12 February 2024). The assessment has been undertaken by an ecological consultant suitably experienced in these types of assessment, and with reference to the Statutory Biodiversity Metric User Guide³¹ and current best practice guidance³².
- A8.2 The biodiversity metric tool uses habitat as a proxy for wider biodiversity with different habitat types scored according to their relative biodiversity potential. There are three different types of biodiversity unit which can be measured in the biodiversity metric tool, namely habitat units; hedgerow units and watercourse units.
- A8.3 Factors such as distinctiveness, size, condition, and strategic significance, affect the unit score, and in the case of newly created or enhanced habitats the risk (time and difficulty) to reach target habitat condition affects the resulting score. The council has not yet published a Local Nature Recovery Strategy, therefore we have used the following documentation to assign strategic significance for biodiversity enhancements within the biodiversity metric:
- Local Plans and Neighbourhood Plans;
 - Priority Biodiversity Areas and Links Maps; and
 - Biodiversity Action Plan.
- A8.4 The total number of 'biodiversity units' pre- and post-development are calculated in the biodiversity metric tool and used to calculate the total net change as a result of the proposed development.
- A8.5 The biodiversity metric tool only considers direct impacts on biodiversity through impacts on their supporting habitats. Indirect impacts are not included. The metric does take account of habitat creation or enhancement delivered as part of a development for other schemes, such as:
- To comply with statutory obligations or policies (such as green infrastructure, sustainable drainage, or nutrient mitigation);

³¹ DEFRA. The Statutory Biodiversity Metric User Guide. February 2024

³² Biodiversity Net Gain: Good practice principles for development © CIEEM, CIRIA, IEMA, 2016. <https://cieem.net/wp-content/uploads/2019/02/Biodiversity-Net-Gain-Principles.pdf>

- As mitigation or compensation for protected sites and species (for example EPS mitigation licensing or suitable alternative natural green space (SANG)); or
- River basin management plan (RBMP) mitigation and enhancement.

A8.6 However, rules apply as to how much of this habitat creation or enhancement can be counted towards a development's BNG contribution³³.

A8.7 The provision of specific habitat features such as nesting and roosting sites (e.g. bird and bat boxes), basking sites (e.g. log piles) and hibernation sites (e.g. hibernaculum) are not counted in the biodiversity metric tool.

A8.8 The application to be made is for outline planning permission, with full details of landscaping and layout reserved for later approval. Therefore, at the outline planning stage, the proposed design is illustrative and subject to change following receipt of detailed technical information at the Reserved Matters stage. The draft BNG calculations provided alongside this report are therefore also indicative and will need to be updated once detailed design information is available. A final biodiversity metric calculation will be prepared alongside the Biodiversity Gain Plan and submitted to the LPA to discharge the general biodiversity gain condition applied to the planning permission if granted.

A8.9 The following sections break down the various components of the BNG Assessment to provide further clarity on how individual elements have been entered into the Metric. The following should be read in conjunction with the Statutory Biodiversity Metric (Report ref: edp7852_r012), a copy of which has been submitted to the LPA alongside the planning application and is available on request.

On-site Baseline

A8.10 The pre-development (baseline) biodiversity value of the Site was calculated using the information derived from the baseline habitat survey completed on 07 June 2023 as described within **Appendix EDP 3**.

A8.11 In this case all three unit types (Habitat Units, Hedgerow Units and Watercourse Units) were measured. QGIS software (using Natural England's QGIS Template) was used to accurately measure the area/length of existing habitats. The measured habitat areas/lengths were entered into the Metric as illustrated on **Plan EDP 14**. The detailed condition assessments of the baseline habitats are set out within **Table EDP A7.2** at the rear of this Appendix.

On-site Post-Intervention

A8.12 The anticipated post-development biodiversity value of the Site has been calculated based on the Illustrative Masterplan (as provided within **Appendix EDP 2**) and Landscape Strategy.

A8.13 Given the proposals are currently at the outline planning stage, and the development layout and landscape design are therefore illustrative, reasonable assumptions have been made using professional judgement on the type, extent and condition of habitats to be retained, enhanced, and newly created. A final version of the Metric will be undertaken and submitted with the

³³ <https://www.gov.uk/guidance/what-you-can-count-towards-a-developments-biodiversity-net-gain-bng>

Biodiversity Gain Plan (pre-commencement). The predicted post-development habitats were entered into the indicative Biodiversity Metric as illustrated on **Plan EDP 15**. The detail shown on **Plan EDP 15** is based on the Illustrative Masterplan and is an interpretation of what the Site can achieve in terms of post-development habitat and demonstrates the Sites ability to deliver net gains. Further details regarding the predicted habitats are set out below.

RESULTS

On-site Baseline

A8.14 The habitats present on-site are summarised in **Table EDP 3.3** within the main report. A full description of the baseline habitats is included in **Appendix EDP 3**. Justification for their conditions is shown in **Table EDP A7.2** at the rear of this Appendix.

Irreplaceable Habitats

A8.15 There are no irreplaceable habitats present within the Site.

Habitat Degradation

A8.16 No unauthorised activities have been carried out on-site prior to the baseline habitat survey completed on 07 June 2023, which have resulted in the deliberate loss or degradation of on-site biodiversity value. The relevant date used to calculate the on-site pre-development value is therefore taken as 07 June 2023.

On Site Post-Intervention

A8.17 Full details of the newly created and enhanced habitats will be provided as part of the Biodiversity Gain Plan (and accompanying HMMP) that will be produced as part of the standard pre-commencement condition. However, to provide an indicative BNG score the following assumptions have been made:

- The ratio of 'developed land sealed surface' to 'vegetated garden' within the residential development area has been input as 70:30, as recommended within the metric user guide;
- Modified grassland in 'poor' condition within formal green space. Although some of this may reach moderate condition if seeded with a flowering lawn mix, at this outline stage a precautionary condition of 'poor' has been selected;
- Creation of areas of neutral wildflower rich grassland (denoted as 'other neutral grassland') of moderate condition to be created at the Site boundaries, including areas surrounding attenuation basins and along retained hedgerows and tree lines;
- Sustainable urban drainage features designed to maximise biodiversity benefits, and achieve at least 'moderate' condition, through sensitive design and planting with diverse mix of native aquatic and semi-aquatic flora;
- Street trees to be planted throughout the road network and within the POS. Details regarding the number, locations and/or specification of street trees is unknown at the outline planning stage. For the purpose of the Biodiversity Metric calculations, estimations

have been made based on the Illustrative Masterplan to include 96 small trees of poor condition planted along streets, and 133 small trees of moderate condition planted within POS;

- Native scrub planting at the eastern, southern and western Site boundaries to bolster existing vegetation. Scrub to achieve at least 'moderate' condition through planting a mix of native species will be planted and a scalloped edge created with adjacent wildflower grassland in many areas;
- Existing hedgerow retained except for access;
- Existing tree lines retained, except for access, and enhanced through maintaining a naturally vegetated strip of at least 6m on both sides; and
- Ditch as the south of the Site enhanced by removal of riparian encroachment through creation of semi-natural habitat within 5m of the bank top.

A8.18 The target condition for newly created or enhanced habitats is provided within **Tables EDP A7.3 – A7.10** at the rear of this Appendix, along with justification for the target condition.

NET BIODIVERSITY IMPACT

A8.19 The predicted overall net change in biodiversity units, taking into account all proposed habitat retention, enhancement and creation, is summarised in **Table EDP A7.1**.

Table EDP A8.1: Biodiversity Metric Headline Results

	Habitat Units	Hedgerow Units	Watercourse Units
On-Site Baseline	22.13	2.19	1.09
On-Site Post-Intervention	24.65	3.68	1.26
On-Site Net Unit Change	+2.51	+1.49	+0.16
On-Site Net % Change	+11.36%	+67.79%	+15%

A8.20 The Metric has demonstrated that the proposed development, albeit in outline, is capable of delivering a net gain to biodiversity (in accordance with the Environment Act 2021. To ensure this is achieved full details will be set out within the Biodiversity Gain Plan and accompanying HMMP which will be submitted to and approved by the LPA pre-commencement as per the general biodiversity gain condition under the granted Planning Permission.

HABITAT CONDITION ASSESSMENT TABLES

Baseline Habitats

Table EDP A8.2: Summary of Condition Assessment for On-site Baseline Habitats

Baseline Habitat	Field/ Parcel ID	Assessment Criteria Passed	Condition Assessment Result	Condition Assessment Score
Area Habitats				
Modified grassland	All field	C (scrub cover), D (physical damage), F (cover of bracken), G (absence of invasive species)	Passes 4 criteria and fails criterion A	Poor
Hedgerows				
Native species-rich hedgerow	H1	A1 (height), A2 (width), B1 (gap hedge base), B2 (gap hedge canopy), C1 (undisturbed ground), D1 (invasive species)	Fails two criteria	Good
Line of trees associated with ditch	TL1	A (native species), C (veteran features/natural ecological niches)	Passes two of five criteria	Poor
Line of trees	Eastern site boundary features (partly off-site)	A (native species), B (continuous canopy), C (veteran features/natural ecological niches),	Passes three of five criteria	Moderate
Watercourses				
Ditch	Along southern boundary	A (water quality), B (range of plants), C (<10% filamentous algae/duckweed), H (absence non-natives)	Passes four of eight criteria	Poor

Habitat Creation

Table EDP A8.3: Condition Assessment for Created Modified Grassland (Poor Condition)

Condition Assessment Criteria		Criterion Passed
A	There are six-eight vascular plant species per m ² present, including at least two forbs. Note - this criterion is essential for achieving Moderate or Good condition.	No – assumed to fail due to trampling. Within detailed design some areas seeded with flowering lawn mix may pass this criterion.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for vertebrates and invertebrates to live and breed.	No
C	Any scrub present accounts for less than 20% of the total grassland area. (Some scattered scrub such as bramble may be present).	Yes - all scrub will be removed.
D	Physical damage is evident in less than 5% of total grassland area. Examples of physical damage include excessive poaching, damage from machinery use or storage, erosion caused by high levels of access, or any other damaging management activities.	No – assumed to fail due to trampling. Within detailed design some areas may pass this criterion.
E	Cover of bare ground is between 1% and 10%, including localised areas (for example, a concentration of rabbit warrens)/	No
F	Cover of bracken <i>Pteridium aquilinum</i> is less than 20%.	Yes - all bracken will be removed.
G	There is an absence of invasive non-native plant species (as listed on Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended)).	Yes - all non-native species will be removed.
Number of Criteria Passed		3 (not criteria A)
Condition Assessment Result		Poor

Table EDP A8.4: Condition Assessment for Newly Created SuDS

Condition Assessment Criteria		Criterion Passed
A	Vegetation structure is varied, providing opportunities for vertebrates and invertebrates to live, eat and breed. A single structural habitat component or vegetation type does not account for more than 80% of the total habitat area.	No – Although some will likely pass this condition through seeding and taller marginal vegetation, a precautionary approach is taken at this outline stage.

Condition Assessment Criteria		Criterion Passed
B	The habitat parcel contains different plant species that are beneficial for wildlife, for example flowering species providing nectar sources for a range of invertebrates at different times of year.	Yes – wetland grassland seeding and marginal planting.
C	Invasive non-native plant species (listed on Schedule 9 of WCA1) and others which are to the detriment of native wildlife (using professional judgement) cover less than 5% of the total vegetated area.	Yes - all non-native species will be removed.
E1	Plant species are mostly native. If non-native species are present, they should not be detrimental to the habitat or native wildlife.	Yes – only native species
E2	The vegetation is comprised of plant species suited to wetland or riparian situations.	Yes – wetland species seeded/planted
Number of Criteria Passed		Four
Condition Assessment Result		Moderate

Table EDP A8.5: Condition Assessment for Newly Created Mixed Scrub

Condition Assessment Criteria		Criterion Passed
A	The parcel represents a good example of its habitat type - the appearance and composition of the vegetation closely matches its UKHab description (where in its natural range). - At least 80% of scrub is native, - There are at least three native woody species, - No single species comprises more than 75% of the cover (except hazel <i>Corylus avellana</i> , common juniper <i>Juniperus communis</i> , sea buckthorn <i>Hippophae rhamnoides</i> or box <i>Buxus sempervirens</i> , which can be up to 100% cover).	Yes - >3 native woody species planted, with no one species dominating.
B	Seedlings, saplings, young shrubs and mature (or ancient or veteran) shrubs are all present.	No – all planting at same time
C	There is an absence of invasive non-native plant species (as listed on Schedule 9 of WCA5) and species indicative of suboptimal condition make up less than 5% of ground cover.	Yes - all non-native species will be removed.
D	The scrub has a well-developed edge with scattered scrub and tall grassland and or forbs present between the scrub and adjacent habitat.	Yes – adjacent tall grassland
E	There are clearings, glades or rides present within the scrub, providing sheltered edges.	No – Areas are generally too small to achieve this effectively
Number of Criteria Passed		Three
Condition Assessment Result		Moderate

Table EDP A8.6: Condition Assessment for Newly Created Grassland (Other Neutral Grassland)

Condition Assessment Criteria		Criterion Passed
A	The parcel represents a good example of its habitat type, with a consistently high proportion of characteristic indicator species present relevant to the specific habitat type. Note - this criterion is essential for achieving Moderate or Good condition for non-acid grassland types only.	Yes – area to be sown with species rich grassland mix.
B	Sward height is varied (at least 20% of the sward is less than 7cm and at least 20% is more than 7cm) creating microclimates which provide opportunities for insects, birds and small mammals to live and breed.	No – not targeted through management
C	Cover of bare ground is between 1% and 5%, including localised areas, for example, rabbit warrens.	No – criterion not targeted.
D	Cover of bracken <i>Pteridium aquilinum</i> is less than 20% and cover of scrub (including bramble) is less than 5%.	Yes - all bracken and scrub will be removed.
E	Combined cover of species indicative of suboptimal condition and physical damage (such as excessive poaching, damage from machinery use or storage, damaging levels of access, or any other damaging management activities) accounts for less than 5% of total area. If any invasive non-native plant species ⁴ (as listed on Schedule 9 of the <i>Wildlife and Countryside Act 1981</i> (as amended)) are present, this criterion is automatically failed.	Yes - non desirable species to be removed and any physical damage to be restored.
F	There are 10 or more vascular plant species per m ² present, including forbs that are characteristic of the habitat type (species referenced in Footnote 3 and 5 cannot contribute towards this count). Note - this criterion is essential for achieving Good condition for non-acid grassland types only. Yes – area to be sown with species rich grassland mix.	No – area to be sown with species-rich grassland mix, but may not reach this highest species diversity.
Number of Criteria Passed		3 , including essential criterion A but not additional criterion F.
Condition Assessment Result		Moderate

Table EDP A8.7: Condition Assessment for Newly Planted Urban Trees – Street Trees

Condition Assessment Criteria		Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).	No – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.

Condition Assessment Criteria		Criterion Passed
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	No – assumed to fail due to pruning in more formal amenity areas.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	No – Some may pass this criterion but assumed to fail
Number of Criteria Passed		1
Condition Assessment Result		Poor

Table EDP A8.8: Condition Assessment for Newly Planted Urban Trees – POS

Condition Assessment Criteria		Criterion Passed
A	The tree is a native species (or at least 70% within the block are native species).	Yes – mix of species planted
B	The tree canopy is predominantly continuous, with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide (individual trees automatically pass this criterion).	Yes – individual trees
C	The tree is mature (or more than 50% within the block are mature).	No – trees will not reach maturity in 30 years.
D	There is little or no evidence of an adverse impact on tree health by human activities (such as vandalism, herbicide or detrimental agricultural activity). And there is no current regular pruning regime, so the trees retain >75% of expected canopy for their age range and height.	Yes – low intensity pruning in POS.
E	Natural ecological niches for vertebrates and invertebrates are present, such as presence of deadwood, cavities, ivy or loose bark.	No – Assumed these will not have developed in 30 years
F	More than 20% of the tree canopy area is oversailing vegetation beneath.	Yes – planted within grassland
Number of Criteria Passed		4
Condition Assessment Result		Moderate

Table EDP A8.9: Condition Assessment for Newly Created Hedgerows

Condition Assessment Criteria			Criterion Passed
A1	Height	>1.5m average along length	Yes - hedge to be managed at a height of greater than 1.5m.
A2	Width	>1.5m average along length	Yes - hedge to be managed at a width of greater than 1.5m.
B1	Gap - hedge base	Gap between ground and base of canopy <0.5m for >90% of length	Yes - any gaps to be gapped up.
B2	Gap - hedge canopy continuity	Gaps make up <10% of total length; and No canopy gaps >5m	Yes - any gaps to be gapped up.
C1	Undisturbed ground and perennial vegetation	>1m width of undisturbed ground with perennial herbaceous vegetation for >90% of length; Measured from outer edge of hedgerow; and Is present on one side of the hedgerow (at least).	No - May be located adjacent to roads/footpaths
C2	Nutrient-enriched perennial vegetation	Plant species indicative of nutrient enrichment of soils dominate <20% cover of the area of undisturbed ground.	No – due to potential nutrient enrichment from dog walking.
D1	Invasive and neophyte species	>90% of the hedgerow and undisturbed ground is free of invasive non-native plant species (including those listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended)) and recently introduced species.	Yes – non-desirable species to be removed.
D2	Current damage	>90% of the hedgerow or undisturbed ground is free of damage caused by human activities.	Yes - any physical damage to be restored. Buffer strips to protect from future damage.
Number of Criteria Passed			6
Condition Assessment Result			Moderate

Table EDP A8.10: Condition Assessment for Enhanced Lines of Trees

Condition Assessment Criteria		Criterion Passed
A	At least 70% of trees are native species.	Yes – Currently passes and species retained.
B	Tree canopy is predominantly continuous with gaps in canopy cover making up <10% of total area and no individual gap being >5 m wide.	Yes – gap planting where necessary.

Condition Assessment Criteria		Criterion Passed
C	One or more trees has veteran features and or natural ecological niches for vertebrates and invertebrates, such as presence of standing and attached deadwood, cavities, ivy or loose bark.	Yes – Currently passes and no trees lost.
D	There is an undisturbed naturally-vegetated strip of at least 6 m on both sides to protect the line of trees from farming and other human activities (excluding grazing). Where veteran trees are present, root protection areas should follow standing advice.	Yes – At least 6m of semi-natural habitat created
E	At least 95% of the trees are in a healthy condition (deadwood or veteran features valuable for wildlife are excluded from this). There is little or no evidence of an adverse impact on tree health by damage from livestock or wild animals, pests or diseases, or human activity.	No - chance of failure due to ash dieback or other disease.
Number of Criteria Passed		4
Condition Assessment Result		Moderate

Appendix EDP 9
Nutrient Neutrality Budget Calculator (.xlsx)

Plans

Plan EDP 1: Extended Phase 1 Habitat Survey
(edp7852_d011g 08 November 2024 VMS/MNe)

Plan EDP 2: Dormouse Survey Plan
(edp7852_d026b 08 November 2024 VMS/KJa)

Plan EDP 3: Statutory Designated Sites
(edp7852_d012b 08 November 2024 DJo/MNe)

Plan EDP 4: Non-Statutory Designated Sites
(edp7852_d013b 08 November 2024 DJo/MNe)

Plan EDP 5: Breeding Bird Survey Map 2023
(edp7852_d036b 08 November 2024 GYo/KJa)

Plan EDP 6: Bat Transect and Static Locations 2023
(edp7852_d025b 08 November 2024 VMS/KJa)

Plan EDP 7: Bat Activity Survey April 2023
(edp7852_d029b 08 November 2024 GYo/KJa)

Plan EDP 8: Bat Activity Survey (TDD) May 2023
(edp7852_d030b 08 November 2024 GYo/KJa)

Plan EDP 9: Bat Activity Survey June 2023
(edp7852_d031b 08 November 2024 GYo/KJa)

Plan EDP 10: Bat Activity Survey July 2023
(edp7852_d032b 08 November 2024 GYo/KJa)

Plan EDP 11: Bat Activity Survey August 2023
(edp7852_d033b 08 November 2024 GYo/KJa)

Plan EDP 12: Bat Activity Survey September 2023
(edp7852_d034b 08 November 2024 GYo/KJa)

Plan EDP 13: Bat Activity Survey October 2023
(edp7852_d035b 08 November 2024 GYo/KJa)

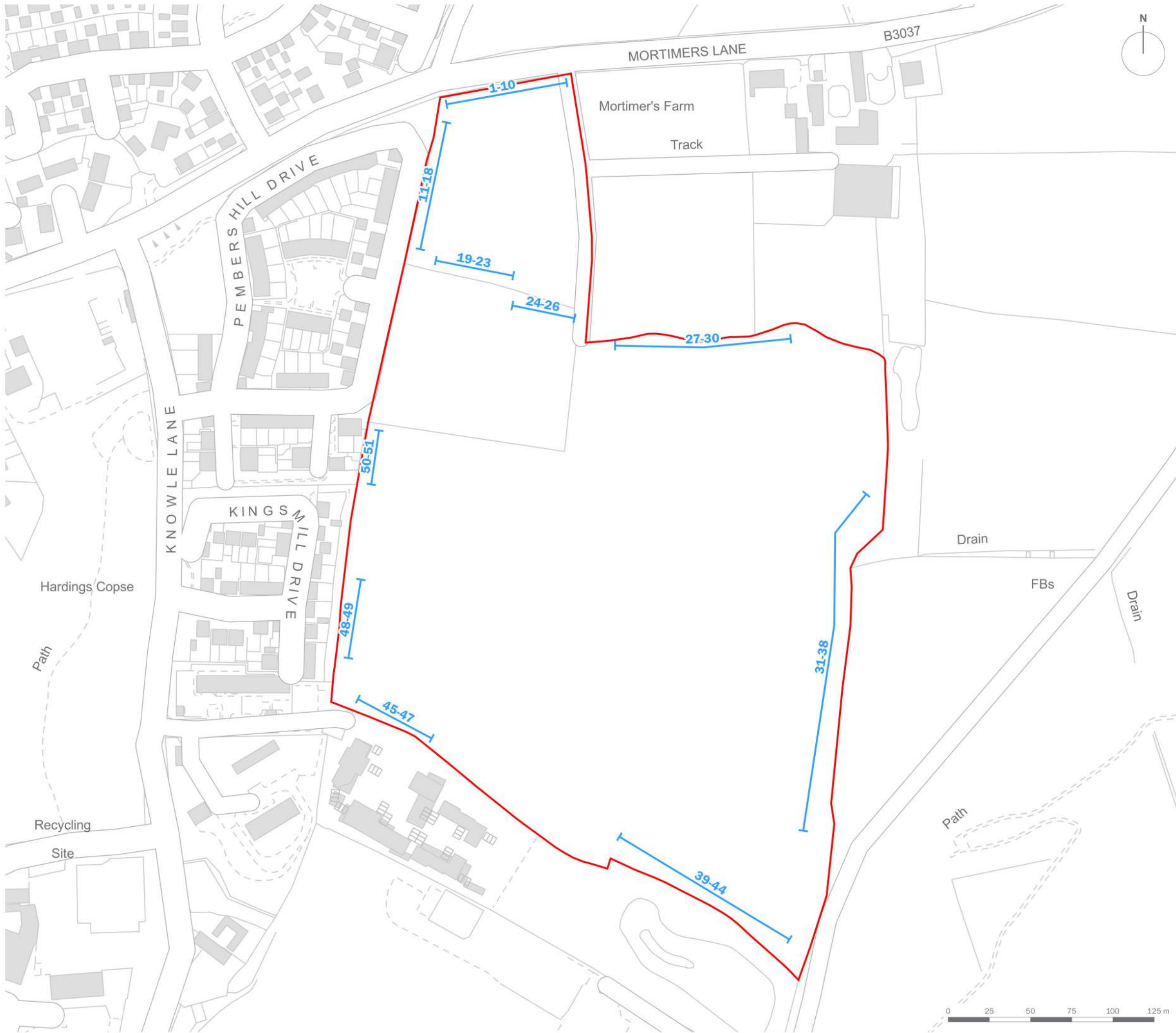
Plan EDP 14: Pre-development Habitat Plan
(edp7852_d039a 08 November 2024 GYo/LNe)

Plan EDP 15: Post-development Habitat Plan
(edp7852_d040a 08 November 2024 GYo/LNe)



- Site Boundary
- Broadleaved Semi-natural Woodland
- I Improved Grassland
- Standing Water
- Intact Species-rich Hedgerow and Trees
- Line of Trees
- Wet Ditch
- Dry Ditch
- Fence
- Scattered Trees (Broadleaved)
- High Bat Roost Suitability
- Moderate Bat Roost Suitability
- Low Roost Suitability
- P1 Pond Number
- H1 Hedgerow Number
- T1 Bat Suitable Tree Number
- TL1 Line of Trees Number
- W1 Ditch Number

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Extended Phase 1 Habitat Plan		
date	08 NOVEMBER 2024	drawn by	VMS
drawing number	edp7852_d011g	checked	MNe
scale	1:2,500 @ A3	QA	DJo

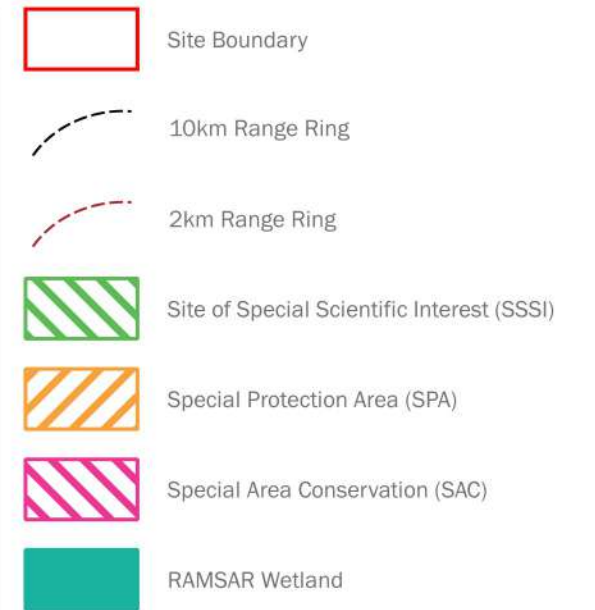
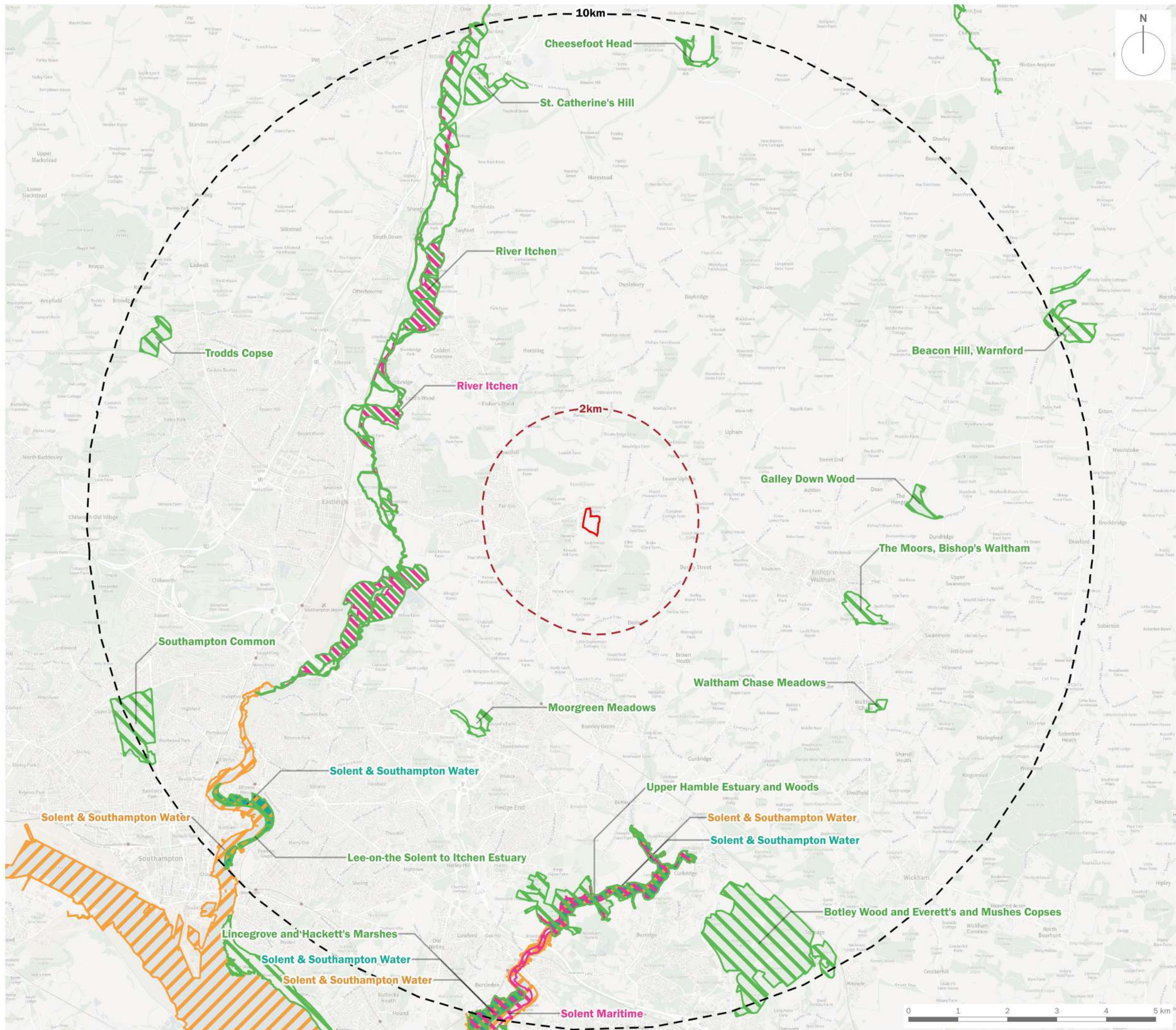


-  Site Boundary
-  1-10 Dormouse Tube Location

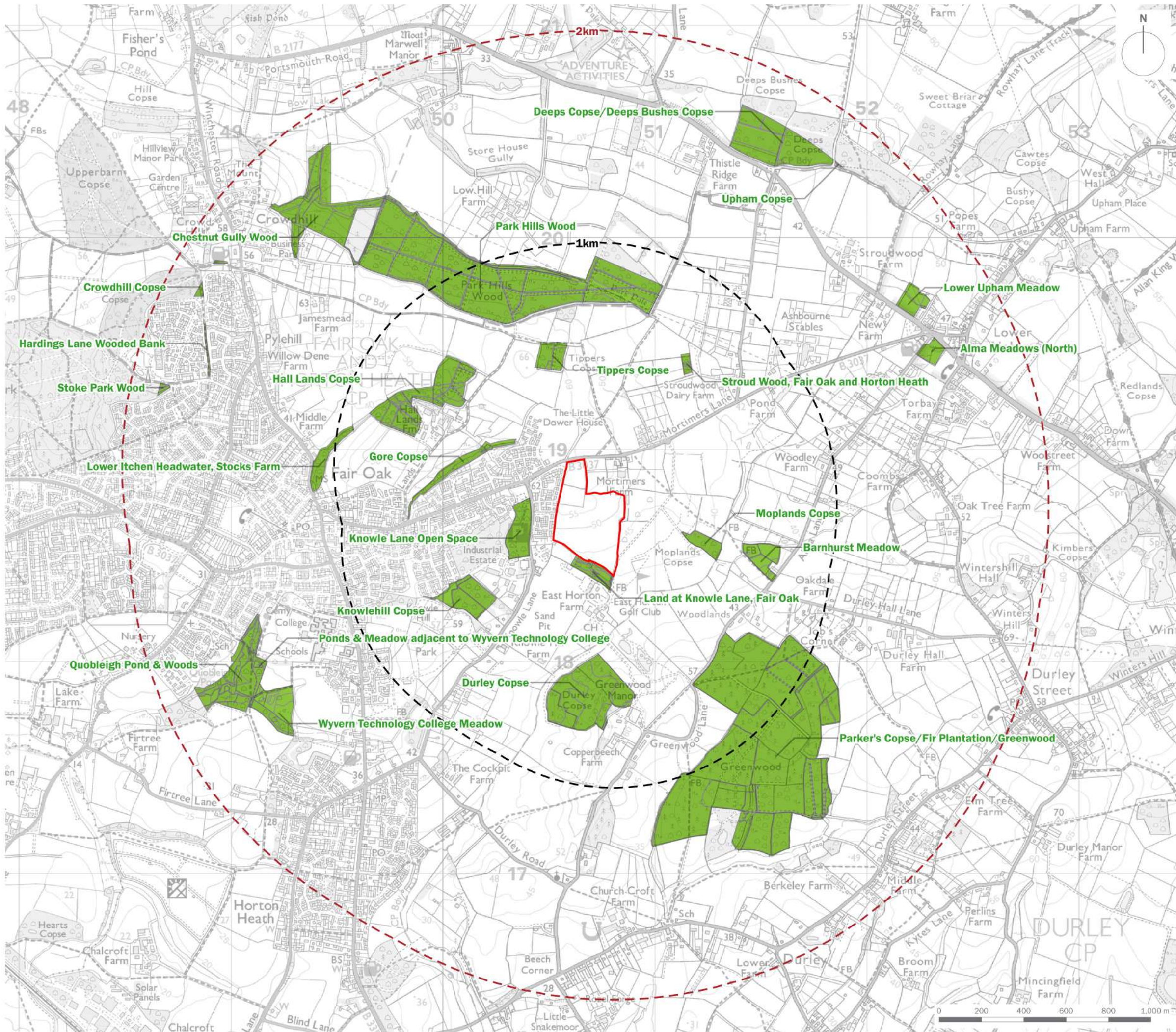
client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Dormouse Survey Plan		
date	08 NOVEMBER 2024	drawn by	VMS
drawing number	edp7852_d026b	checked	KJa
scale	1:2,250 @ A3	QA	JFr

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client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Statutory Designated Sites		
date	08 NOVEMBER 2024	drawn by	DJo
drawing number	edp7852_d012b	checked	MNe
scale	1:75,000 @ A3	QA	RBa



- Site Boundary
- 1km Range Ring
- 2km Range Ring
- Local Wildlife Sites

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Non-statutory Designated Sites		
date	08 NOVEMBER 2024	drawn by	DJo
drawing number	edp7852_d013b	checked	MNe
scale	1:17,500 @ A3	QA	RBa



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Site Boundary

Conservation Status

△

Species of Principal Importance

○

Not Listed as Schedule 1 or SPI

Birds of Conservation Concern

Red List

Amber List

BTO Code

Common Name

D.

Dunnock

HS

House Sparrow

K.

Common Kestrel

ST

Song Thrush

WP

Woodpigeon

WR

Wren

NB. Points shown are an indicative point within a bird's territory and not necessarily the exact breeding location.

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Breeding Bird Survey Map 2023

date

08 NOVEMBER 2024

drawn by

GYo

drawing number

edp7852_d036b

checked

KJa

scale

1:2,500 @ A3

QA

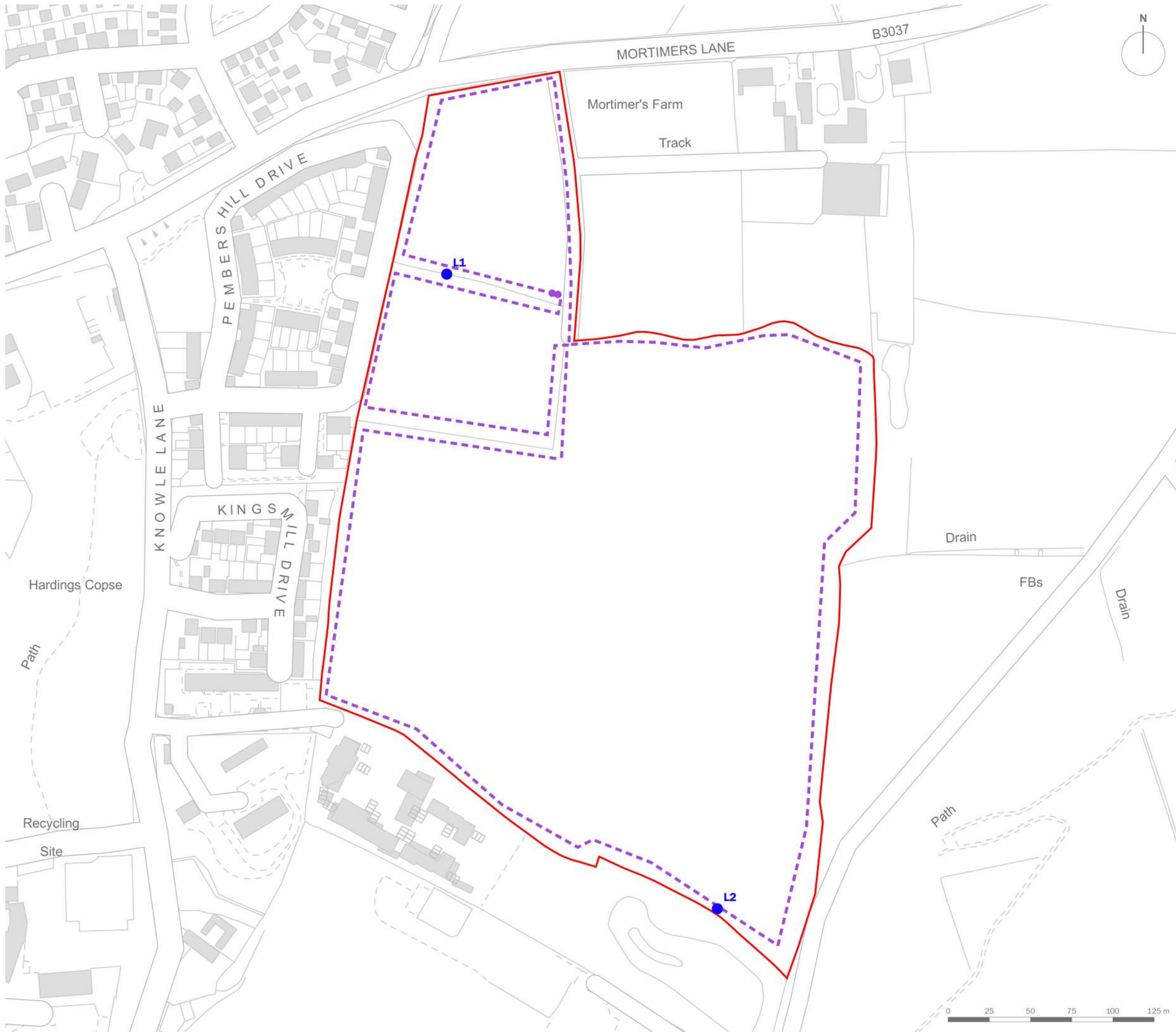
JFr

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Site Boundary

Transect Route

L1

Static Bat Detector Location

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Bat Transect and Static Detector Locations 2023

date

08 NOVEMBER 2024

drawn by

VMS

drawing number

edp7852_d025b

checked

KJa

scale

1:2,250 @ A3

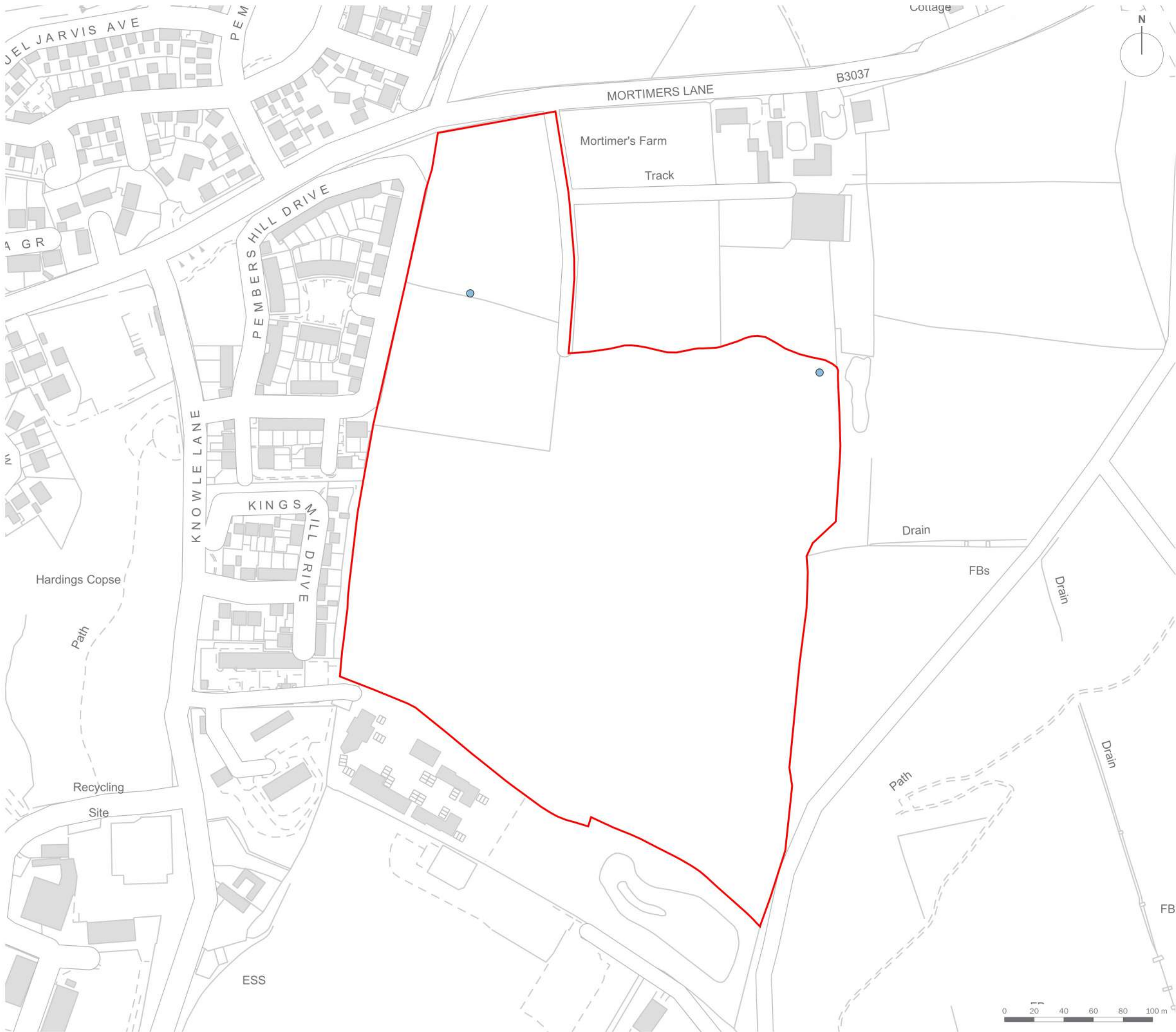
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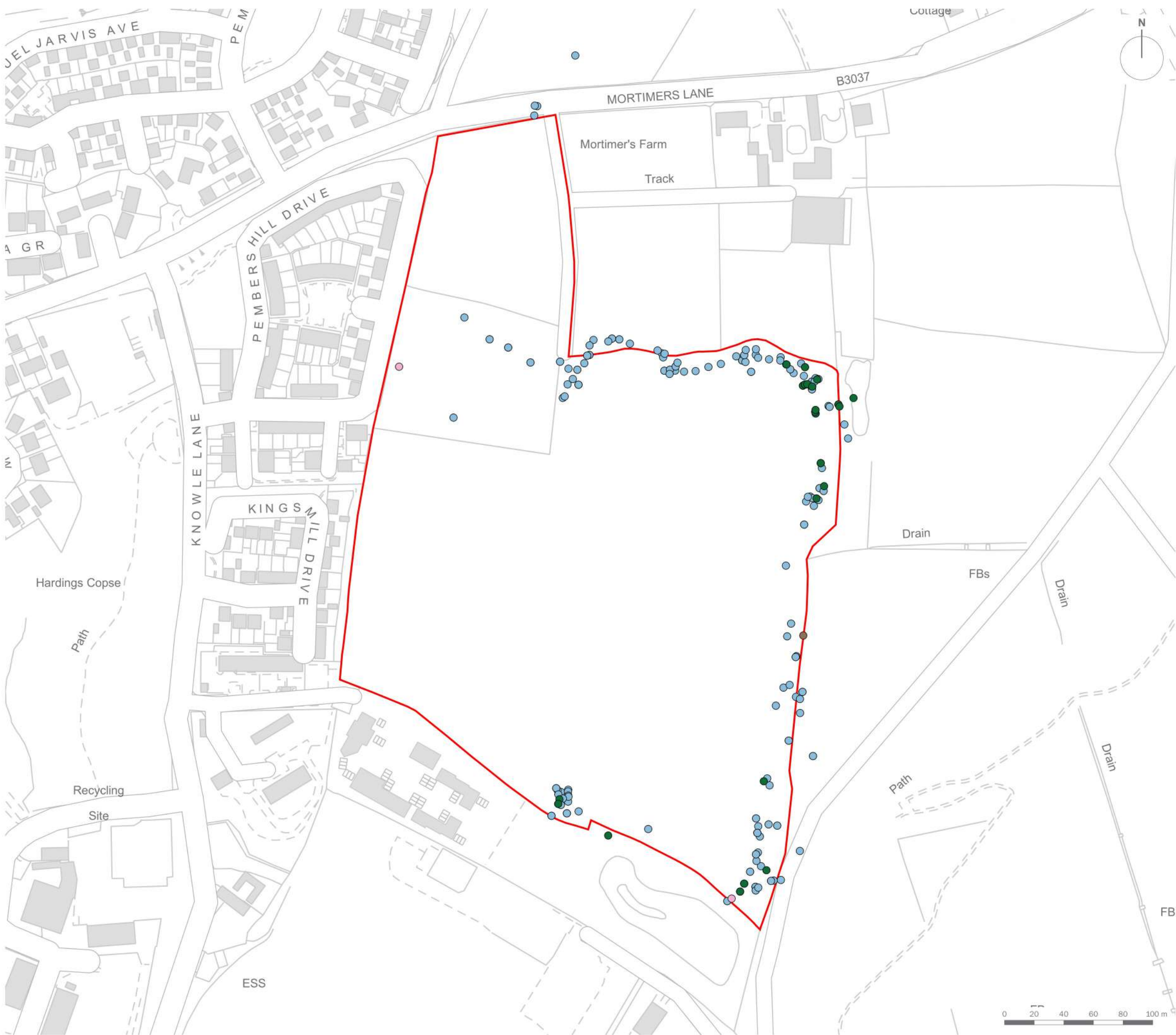


-  Site Boundary
-  Common Pipistrelle

client			
Bloor Homes Limited			
project title			
Land south of Mortimers Lane, Fair Oak			
drawing title			
Bat Activity Survey April 2023			
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d029b	checked	KJa
scale	1:2,500 @ A3	QA	JFr

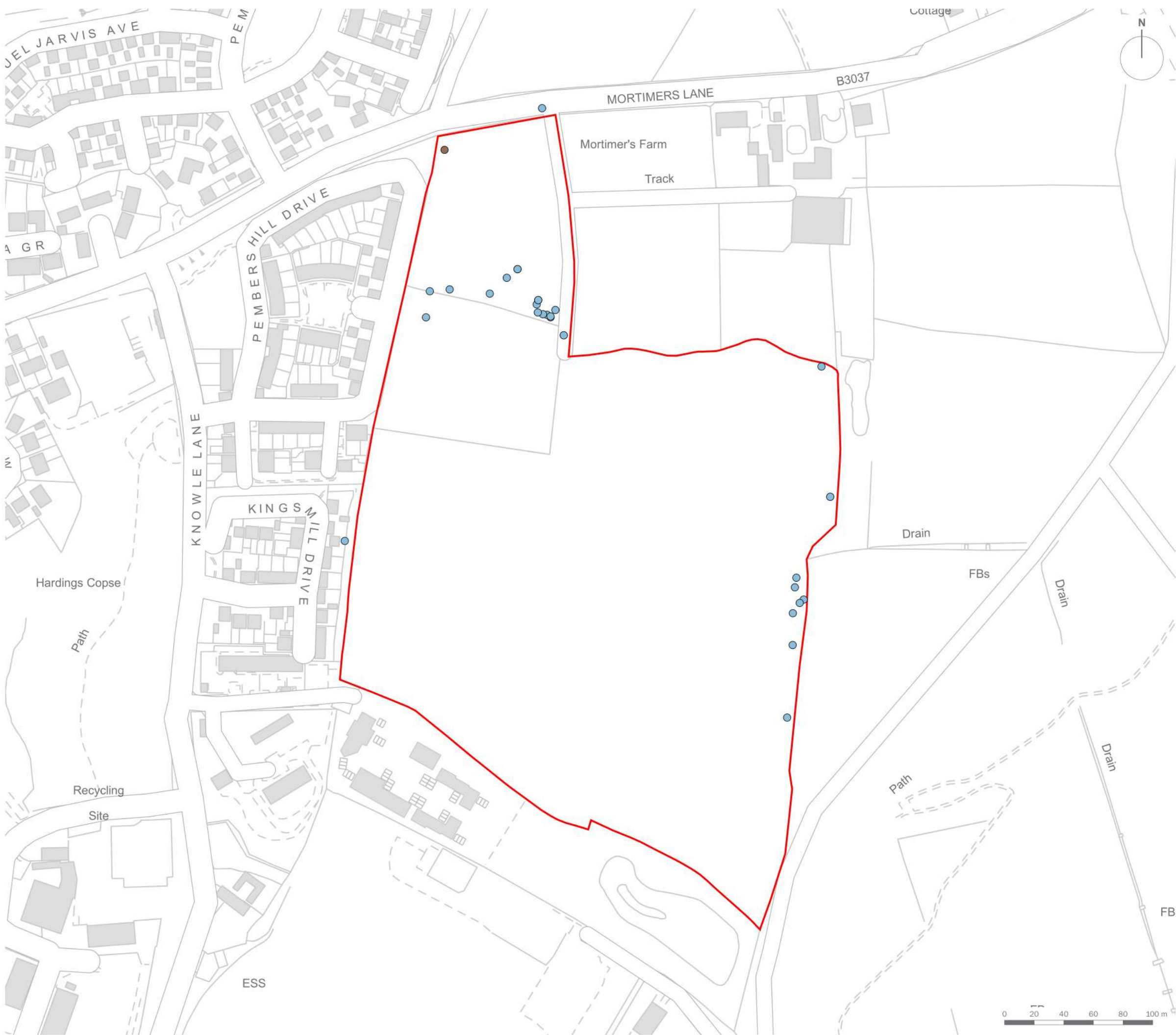


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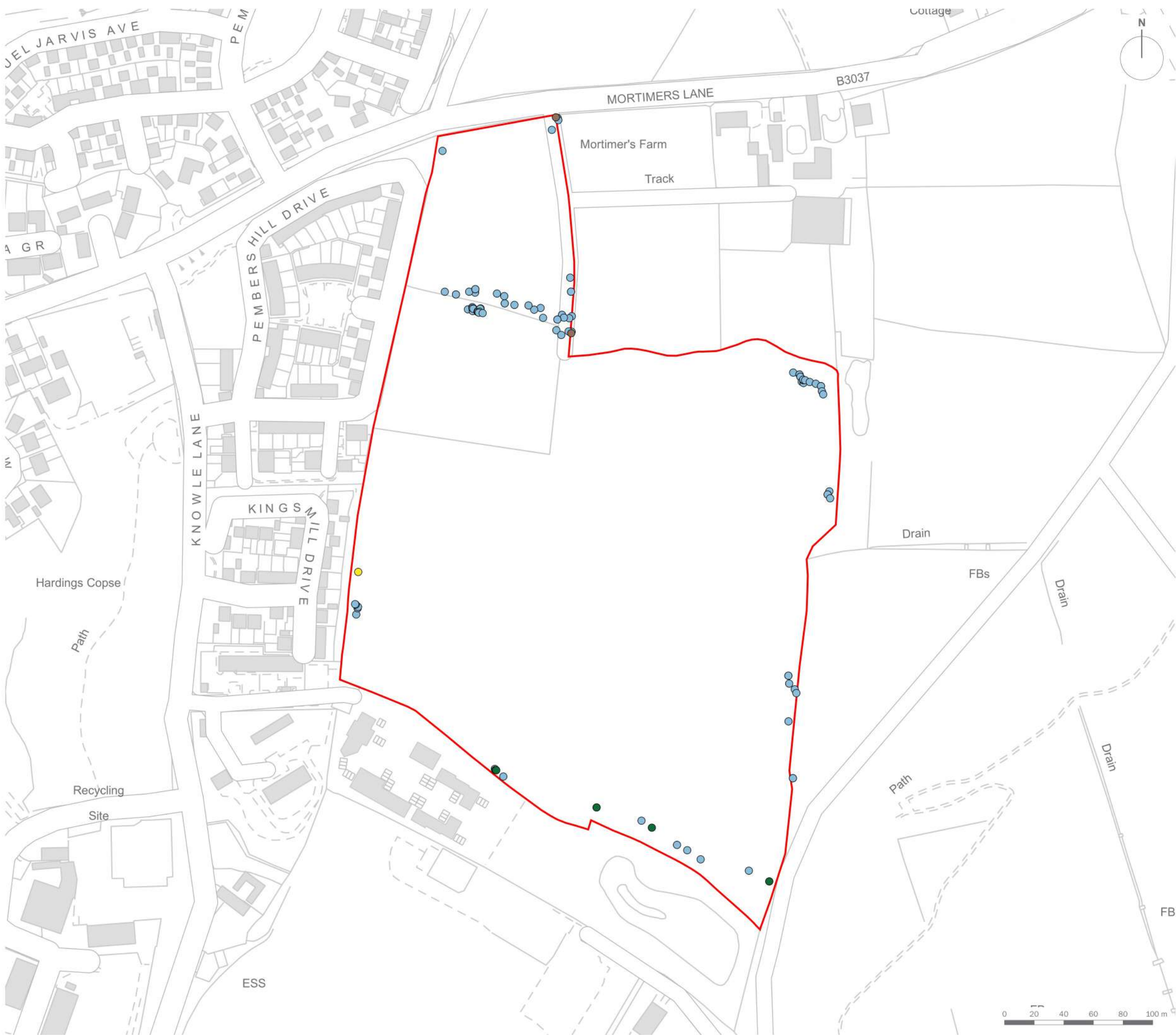
- Site Boundary
- Common Pipistrelle
- Soprano Pipistrelle
- Myotis spp.
- Serotine

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Bat Activity Survey (TDD) May 2023		
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d030b	checked	KJa
scale	1:2,500 @ A3	QA	JFr



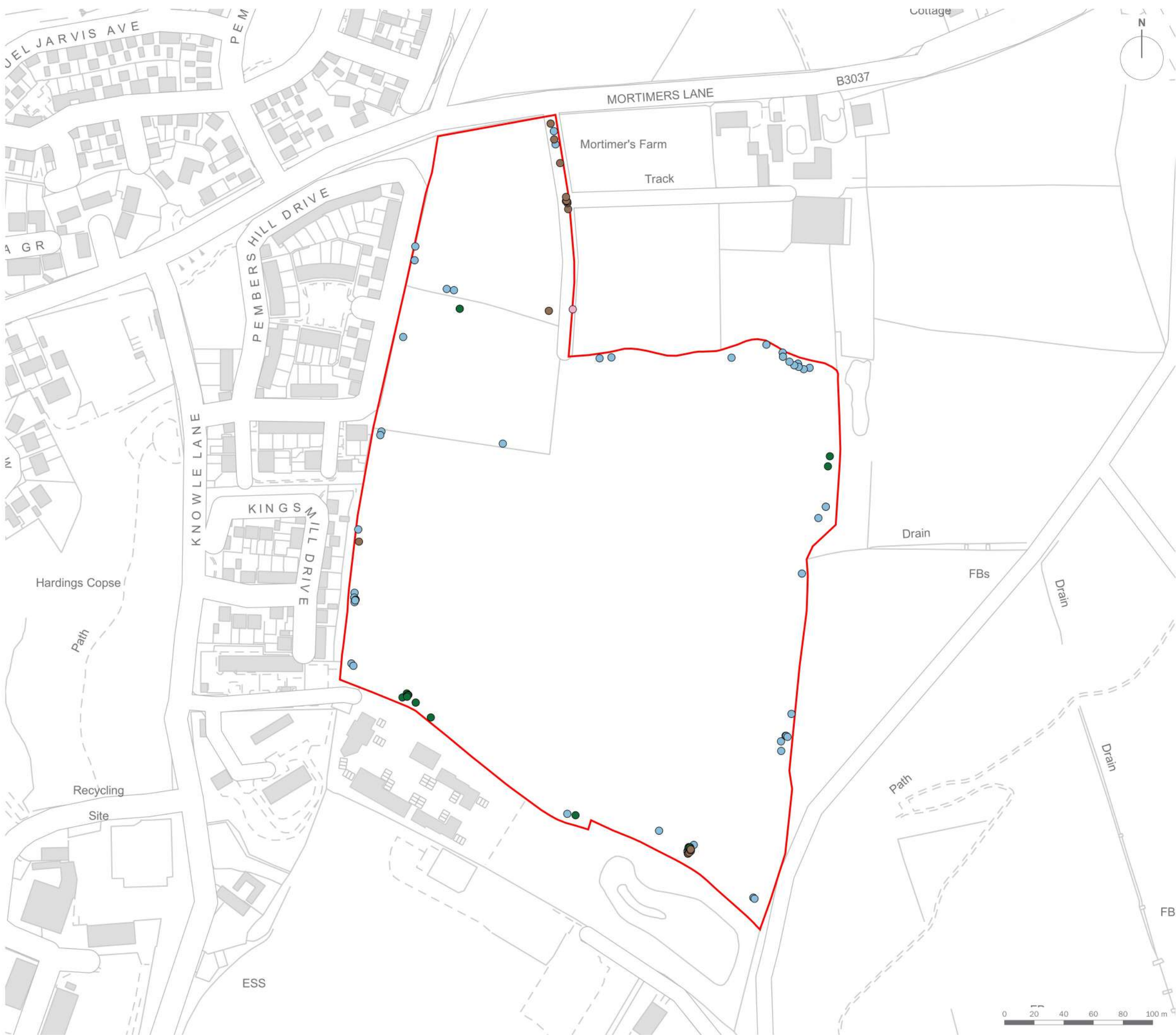
- Site Boundary
- Common Pipistrelle
- Serotine

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Bat Activity Survey June 2023		
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d031b	checked	KJa
scale	1:2,500 @ A3	QA	JFr



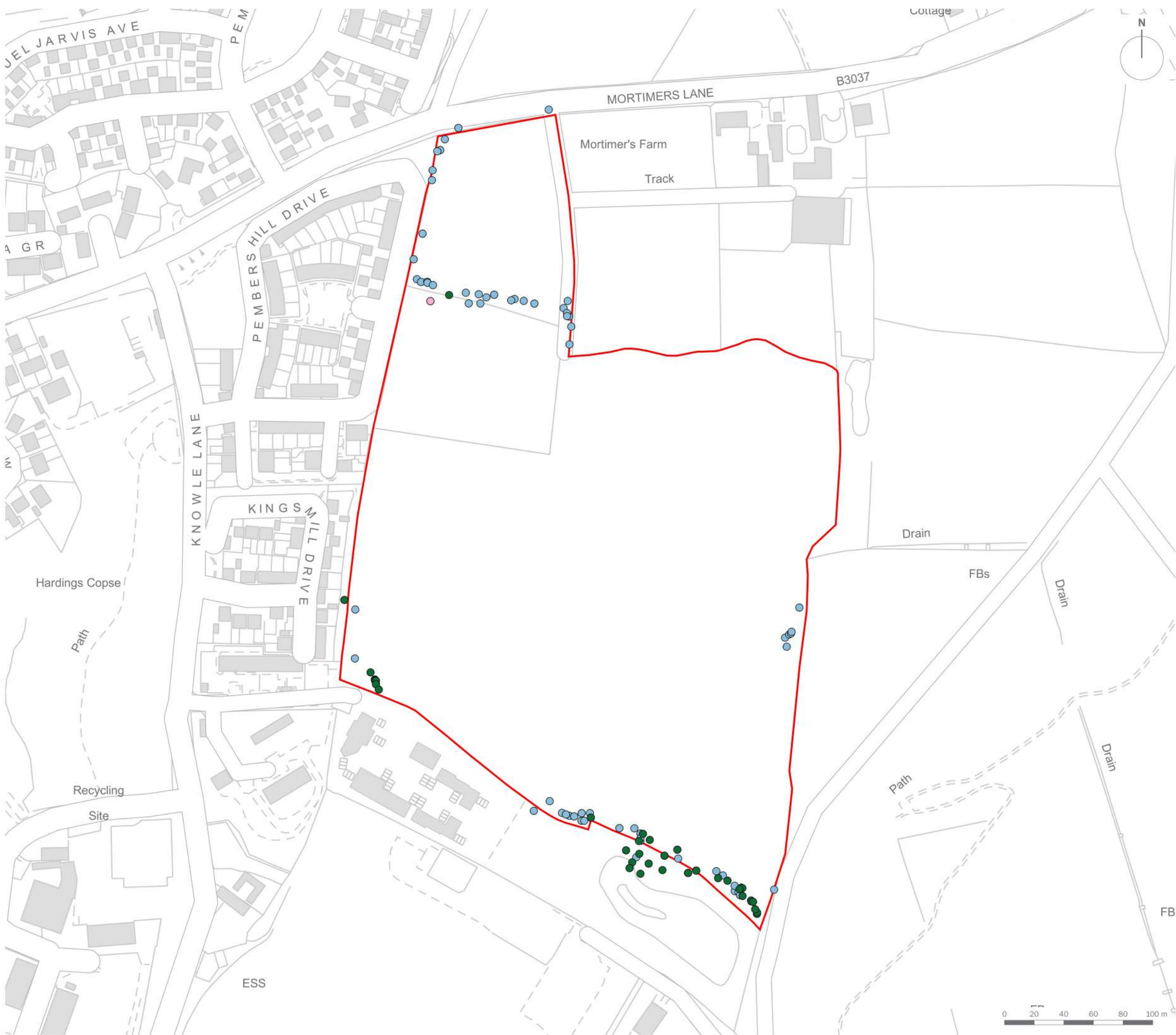
- Site Boundary
- Common Pipistrelle
- Soprano Pipistrelle
- Nathusius' Pipistrelle
- Serotine

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Bat Activity Survey July 2023		
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d032b	checked	KJa
scale	1:2,500 @ A3	QA	JFr



- Site Boundary
- Common Pipistrelle
- Soprano Pipistrelle
- Myotis spp.
- Serotine

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Bat Activity Survey August 2023		
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d033b	checked	KJa
scale	1:2,500 @ A3	QA	JFr

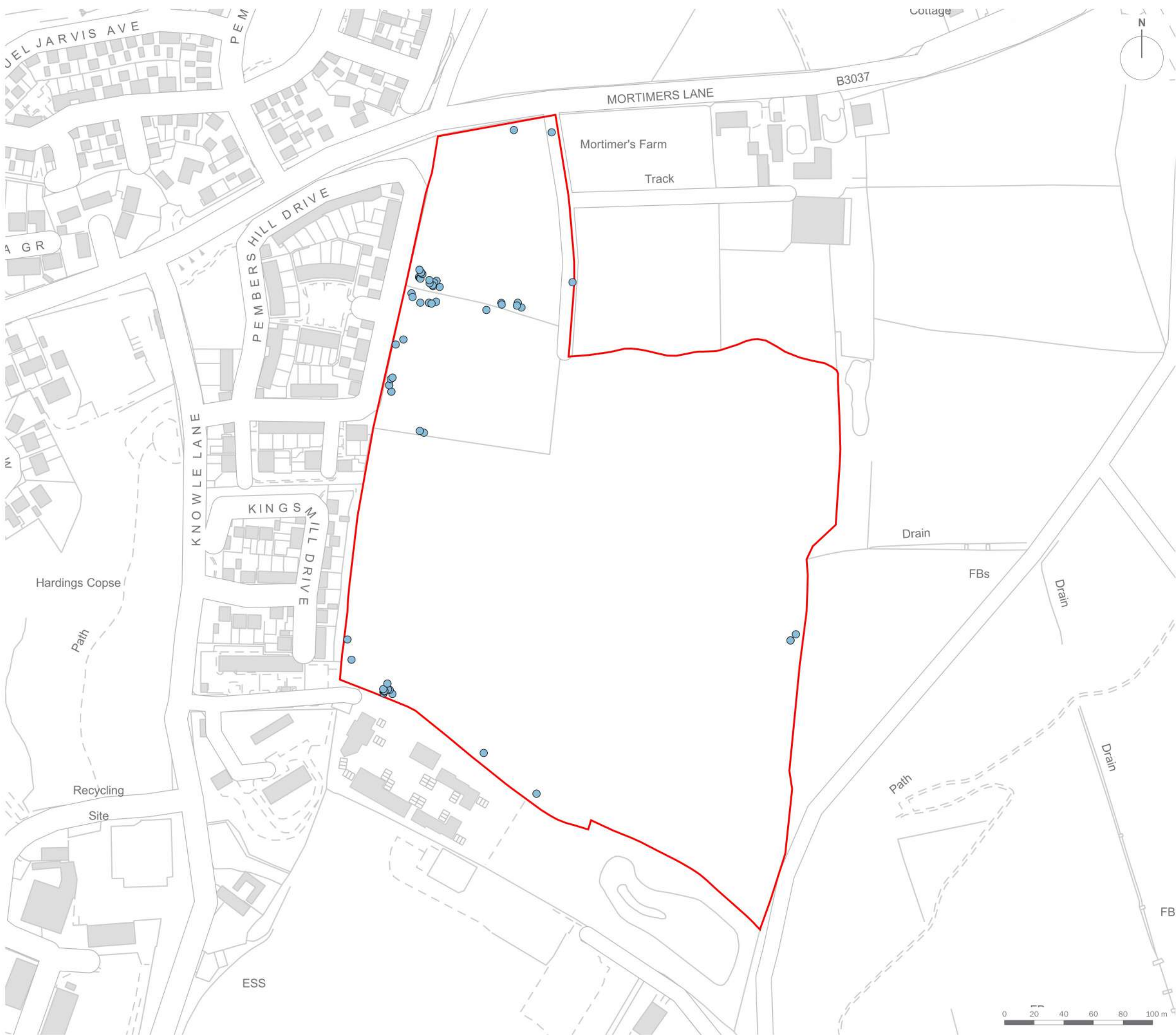


- Site Boundary
- Common Pipistrelle
- Soprano Pipistrelle
- Myotis spp.

client	Bloor Homes Limited		
project title	Land south of Mortimers Lane, Fair Oak		
drawing title	Bat Activity Survey September 2023		
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d034b	checked	KJa
scale	1:2,500 @ A3	QA	JFr



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Site Boundary

Common Pipistrelle

client

Bloor Homes Limited

project title

Land south of Mortimers Lane, Fair Oak

drawing title

Bat Activity Survey October 2023

date

08 NOVEMBER 2024

drawn by

GYo

drawing number

edp7852_d035b

checked

KJa

scale

1:2,500 @ A3

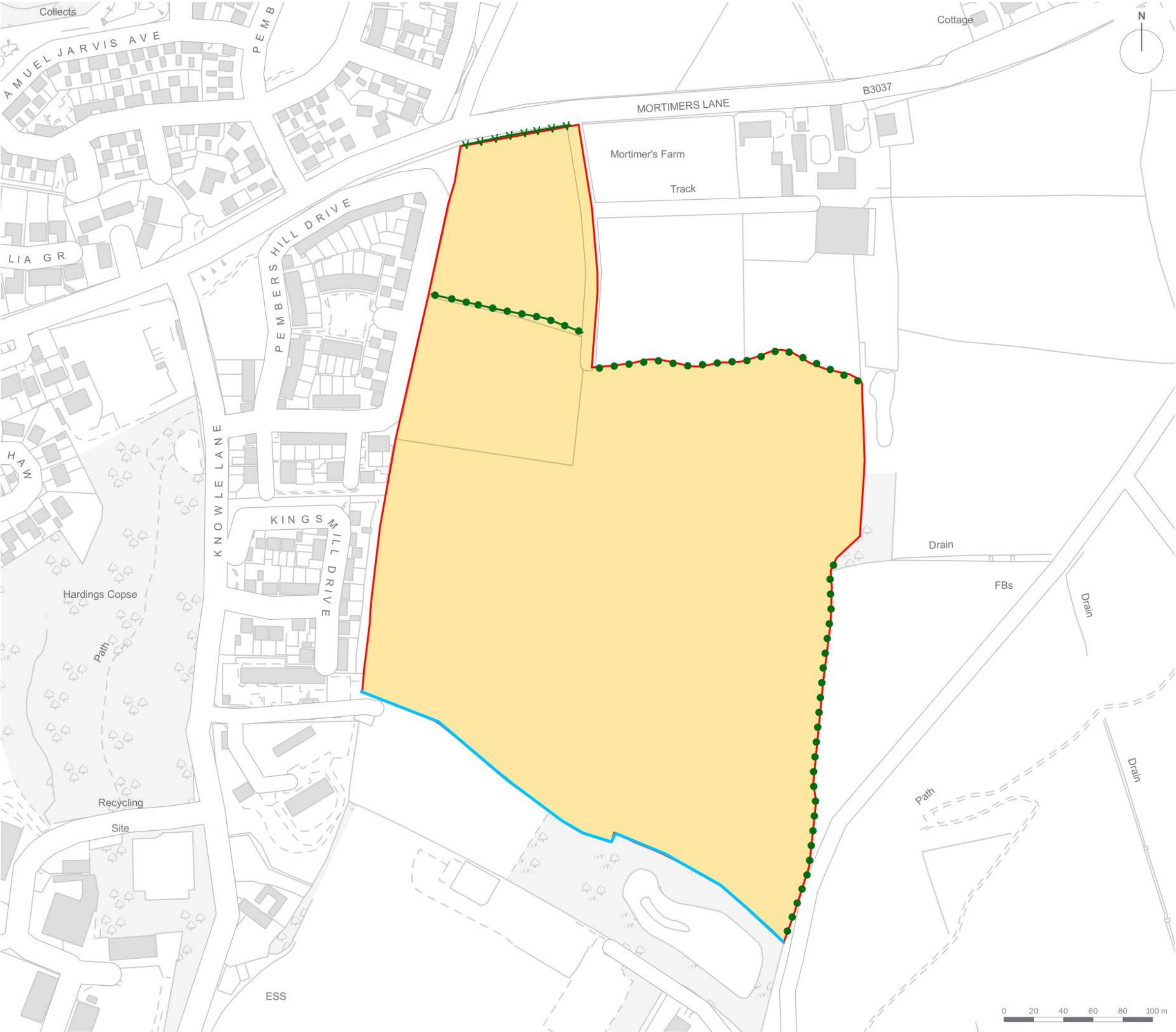
QA

JFr

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-  Site Boundary
-  Modified Grassland
-  Line of Trees
-  Line of Trees - Associated with Bank or Ditch
-  Species-rich Native Hedgerow
-  Ditch

client			
Bloor Homes Limited			
project title			
Land south of Mortimers Lane, Fair Oak			
drawing title			
Pre-development Habitat Plan			
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d039a	checked	LNe
scale	1:2,500 @ A3	QA	DJo



Site Boundary

Retained Habitats

Line of Trees - Associated with Bank or Ditch

Species-rich Native Hedgerow

Enhanced Habitats

Line of Trees

Ditch

Created Habitats

Mixed Scrub

Other Neutral Grassland

Modified Grassland

Introduced Shrub

Ponds (Non-priority Habitat)

Sustainable Drainage System

Development Parcel: 70% Developed Land, 30% Vegetated Garden

Developed Land; Sealed Surface

Built Linear Features

Native Hedgerow with Trees

Native Hedgerow

Proposed Small Urban Tree

client			
Bloor Homes Limited			
project title			
Land south of Mortimers Lane, Fair Oak			
drawing title			
Post-development Habitat Plan			
date	08 NOVEMBER 2024	drawn by	GYo
drawing number	edp7852_d040a	checked	LNe
scale	1:2,500 @ A3	QA	DJo



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