



David Wilson Homes East Midlands

Barlestone Road, Newbold Verdon

ECOLOGICAL APPRAISAL

September 2024

FPCR Environment and Design Ltd

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Rev	Issue Status	Prepared / Date	Reviewed Date	Approved/Date
-	Final	MPG/VF / 29/11/2023		LFR / 30.11.2023
A	Final	MPG / 19/02/2024		RG / 19.02.2024
B	Final	MPG / 12/03/2024	VJF / 12/03/2024	
C	Final	MPG / 14/03/2024		
D	Final	MPG / 22/03/2024		
E	Final	MPG / 05.06.2024		VF / 06.06.2024
F	Final	MPG / 18.07.2024		
G	Final	MPG / 19.09.2024		

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EXECUTIVE SUMMARY

- FPCR Environment and Design Ltd. (FPCR) were commissioned by David Wilson Homes East Midlands to complete an ecological assessment of land at Barlestone Road, Newbold Verdon.
- The site largely comprises improved grassland and is divided into parcels by a network of fence lines, hedgerows and two tracks. Other habitats present within and/or bounding the site include a building, hardstanding, ruderal vegetation, a single pond, equestrian training area, scattered scrub, broadleaved trees and coniferous trees.
- The site is not covered by any statutory designations, nor does it lie within a potential ZoI for any international or national statutory sites designated for nature conservation. Development will have no impacts on the nature conservation status of all non-statutory designated sites identified within a 1km radius of the site.
- Habitat identified as meeting the criteria for classification as Habitat of Principal Importance under the Natural Environment & Rural Communities (NERC) Act include the hedgerows and ponds, with hedgerows H15 and H17 also identified as 'important hedgerows' under the Hedgerow Regulations 1997.
- No active badger setts have been identified within a 30m radius of the site (where accessible), however a number of inactive setts were located within and bounding the Site, and within a 30m radius. No impacts on badger are anticipated as a result of development at the Site.
- There are no records of GCN or GCN EPSLs located within a 1km radius of the site. A GCN eDNA survey undertaken on pond P1 identified the likely absence of GCN. As such, it is highly unlikely that GCN would be present within the site. GCN have not been identified as a statutory constraint to development.
- Four trees were identified to provide potentially suitable features to support roosting bats. All of these trees are to be retained and buffered within GI and should be unaffected. As such, roosting bats have not been identified as a statutory constraint to development. Automated static bat detector and bat activity transect surveys undertaken to date have identified the site as being utilised by common and widespread species of bats. No annex II species of bats have been identified. Suitable commuting and foraging habitat for bats is proposed within the site's extensive GI. Development is unlikely to significantly impact on commuting and foraging bats and proposals have the potential to provide an enhanced resource for commuting and foraging bats.
- The presence of reptiles has not been identified within the site from reptile presence/absence surveys undertaken at the site. Reptiles have not been identified as a statutory constraint to development.
- It is considered that the proposed development is unlikely to have a significant negative impact on breeding birds and has the potential to have a beneficial impact. To avoid disturbance to nesting birds it is recommended that any woody vegetation removal works are undertaken outside of the breeding bird season (i.e. avoiding March to September inclusive). If this is not possible a nesting bird check must be undertaken by a suitably qualified ecologist prior to removal, with vegetation/ suitable nest sites removed within 48 hours if this check confirms no active nests are present.

1.0 INTRODUCTION

- 1.1 The following report has been prepared on behalf of David Wilson Homes East Midlands and provides details the results of an Ecological Appraisal undertaken at land at Barlestone Road, Newbold Verdon (hereafter referred to as the 'Site' ((central OS grid reference: SK448042)).

Site Context

- 1.2 The Site extends across circa 17 hectares and is located to the north of Barlestone Road, Newbold Verdon, Leicestershire. It largely comprises improved grassland and is divided into parcels by a network of fence lines, hedgerows and two tracks. Other habitats present within and/or bounding the site include a building, hardstanding, ruderal vegetation, a single pond, an equestrian training area, scattered scrub, broadleaved trees and coniferous trees.

Development Proposals

- 1.3 The site is located within the LPA boundary of Hinckley and Bosworth Borough Council.
- 1.4 The proposals are for an Outline planning application (all matters reserved except vehicular access) for the erection of up to 240 residential dwellings (Use Class C3), retention of the existing access off Barlestone Road and the creation of a new access off Barlestone Road, land safeguarded for a cemetery (Use Class F2(c)) and a community facility (Use Classes E(e), E(f), F2(b) and F2(c)), public open space and associated infrastructure, as shown in **Appendix A**.

Scope of Report

- 1.5 This Ecological Appraisal describes the current ecological interest within and around the Site, which has been identified through standard desk-based and field-based investigations.
- 1.6 It then considers the potential ecological impacts and opportunities for ecological enhancement based on the Illustrative Framework Masterplan (Appendix A) in the context of relevant legislation and planning policy, including Site Allocations and Development Management Policies (SADMP) DPD (2016) policy DM6 – Enhancement of Biodiversity and Geological Interest.
- 1.7 Finally, it identifies the necessary additional measures to avoid, mitigate or provide compensation for potential impacts, and the mechanisms for securing such measures.

2.0 METHODOLOGY

Desk Study

- 2.1 In order to compile existing baseline information, relevant ecological information was requested from both statutory and non-statutory nature conservation organisations including:
- Multi Agency Geographic Information for the Countryside website (www.magic.gov.uk); and
 - Leicestershire & Rutland Environmental Records Centre (LRERC).
- 2.2 Further inspection, using colour 1:25,000 base maps (www.ordnancesurvey.co.uk) and aerial photographs (maps.google.co.uk), was also undertaken to provide additional context and identify any features of potential importance for nature conservation in the wider countryside.
- 2.3 The search area for biodiversity information was related to the significance of sites and species and the potential zones of influence (Zol)¹, as follows:
- 10km around the Site for sites of International importance (e.g. Special Area of Conservation [SAC], Special Protection Area [SPA] and Ramsar);
 - 2km around the Site for sites of National or Regional Importance (e.g. Sites of Special Scientific Interest [SSSI] and National Nature Reserves [NNRs]; and
 - 1km around the Site for sites of County Importance (e.g. Local Wildlife Sites [LWS] and species records (e.g.: protected, UK priority or notable species).
- 2.4 All Desk Study results are shown in **Figure 1** and will be discussed within the relevant sections of this report.

Field Survey

Extended Phase 1 Survey Habitats

- 2.5 The Site (outlined in **Figure 2**) was surveyed by a suitably experienced ecologist with a level three Field Identification Skills Certificate (FISC) certificate on the 09/11/22, with an update survey undertaken on 24/08/23.
- 2.6 Survey methods followed the extended Phase 1 Survey technique as recommended by Natural England². This involved a systematic walk over of the Site to classify the broad habitat types and to particularly identify any habitats of principal importance for the conservation of biodiversity as listed within Section 41 (S41) of Natural Environment and Rural Communities (NERC) Act 2006³.
- 2.7 In accordance with best practice, the survey was 'extended' to include the recording of observation, signs or suitable habitat for any species protected under Part I of the Wildlife and Countryside Act 1981 (as amended), The Conservation of Habitats and Species Regulations 2017 (as amended) and the Protection of Badgers Act 1992. In addition, species lists were compiled for each habitat type present and their relative abundances recorded using the DAFOR scale (**Appendix B**).

¹ Zone of Influence - the areas and resources that may be affected by the proposed development.

² JNCC. 1990. *Handbook for Phase 1 habitat survey – a technique for environmental audit*. Peterborough: JNCC

³ *The Natural Environment and Rural Communities Act 2006*. [Online]. London: HMSO Available at: <http://www.legislation.gov.uk/ukpga/2006/16/contents>

Hedgerows

- 2.8 All hedgerows within the Site were assessed in accordance with the Wildlife and Landscape criteria contained within Statutory Instrument No: 1160 – The Hedgerow Regulations 1997 to determine whether they qualified as ‘Important Hedgerows’ under the Regulations. This was achieved using a methodology in accordance with both the Regulations and DEFRA guidance⁴. An assessment of archaeological importance as defined under the Act is outside the scope of the current assessment.

Biodiversity Net Gain (BNG) Assessment

- 2.9 The current habitat classification and condition assessments and the site development proposals (Indicative Masterplan drawing: P22-3085_DE_13_M_ INDICATIVE MASTERPLAN have been used to complete a BNG assessment in accordance with the Statutory Biodiversity Metric Calculation Tool.
- 2.10 The development site was mapped and divided into existing habitat criteria. Habitats were defined using the UK Habitat (UKHab) Classification, with further information regarding habitat area, distinctiveness and condition, which are used to calculate the biodiversity value of each habitat.
- 2.11 The condition assessments were undertaken using the relevant Condition Assessment Criteria within the Statutory biodiversity metric condition assessments (**Appendix B**).
- 2.12 Full details of the calculation methodology are provided in The Statutory Biodiversity Metric: User Guide⁵.

Protected Species Surveys

- 2.13 Throughout the Phase 1 Habitat Survey, consideration was given to the actual or potential presence of protected species, such as (although not limited to) those protected under the Wildlife and Countryside Act 1981 (as amended), the Protection of Badgers Act 1992, and Conservation of Habitats and Species Regulations 2017 (as amended). Consideration was also given to the existence and use of the Site by other notable fauna such as species of principal importance for the conservation of biodiversity under S41 of the NERC Act 2006, or Birds of Conservation Concern (BoCC)⁶ Red listed species.

Badger

- 2.14 All suitable habitats within the site and accessible land within 30m were searched for evidence of badger *Meles meles* activity. The methodology employed followed that outlined by Harris, Creswell and Jefferies⁷. The results of this survey are included in a separate badger report as outlined in paragraph 1.3.
- 2.15 Evidence of badger occupation and activity sought included:
- Setts: including earth mounds, evidence of bedding and runways between setts;

⁴ Clements, D.K., & Tofts, R.J. 1992. *Hedgerow Evaluation and Grading System (HEGS): A methodology for the ecological survey, evaluation and grading of hedgerows*. Countryside Planning and Management.

⁵ The Statutory Biodiversity Metric: User Guide. DEFRA, 2024.

⁶ Eaton, M.A., Brown, A.F., Noble, D.G., Musgrove, A.J., Hearn, R.D., Aebischer, N.J., Gibbons, D.W., Evans, A. And Gregory, R.D. 2015 “Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and Isle of Man” *British Birds* 108:708-746.

⁷ Harris, S., Creswell, P. & Jefferies, D. 1989. *Surveying for Badgers*. Occasional Publication of the Mammal Society No. 9.

- Latrines: often located close to setts, at territory boundaries or adjacent to favoured feeding areas;
- Prints and paths or trackways;
- Hairs caught on rough wood or fencing; and
- Other evidence: including snuffle holes, feeding and playing areas and scratching posts.

2.16 Where setts are found, their status and level of activity is noted. Sett status is broadly categorised as follows:

- *Main sett* – usually continuously used with many signs of activity around, a large number of holes and conspicuous spoil mounds;
- *Annexe sett* – usually located close to a main sett and connected to it by well used paths. Annexe's may not be continuously occupied;
- *Subsidiary sett* – lesser used setts comprising a few holes and without associated well-used paths. Subsidiary setts are not continuously occupied; or
- *Outlier sett* – one or two holes without obvious paths. These are used sporadically.

2.17 Level of activity is described as:

- *Well used* – clear of debris, trampled soil mounds and obviously active, with signs of activity such as presence of prints, dislodged guard hairs around the entrances;
- *Partially used* – some associated debris or plants at the entrance. Could be used with minimal excavation and usually with signs of activity within the vicinity, for example, badger pathways; or
- *Disused* – partially or completely blocked entrances.

Bats

Ground Level Tree Roost Assessment

2.18 Tree assessments were undertaken from ground level, with the aid of binoculars (where appropriate). These surveys were undertaken during the Extended Phase 1 Survey by a suitably experienced ecologist. During the survey Potential Roosting Features (PRFs) for bats such as the following were sought:

- Natural holes (e.g. knot holes) arising from naturally shed branches or cavities created by branches tearing out from parent stems).
- Man-made holes (e.g. cavities that have developed from flush cuts or branches previously pruned back to a branch collar).
- Woodpecker holes.
- Cracks/splits in stems or branches (horizontal and vertical).
- Partially detached, loose or bark plates.
- Cankers (caused by localised bark death) in which cavities have developed.
- Other hollows or cavities, including butt rots.
- Compression of forks with occluded bark, forming potential cavities.

- Crossing stems or branches with suitable roosting space between.
- Ivy stems with diameters in excess of 50mm with suitable roosting space behind (or where roosting space can be seen where a mat of thinner stems has left a gap between the mat and the trunk).
- Bat or bird boxes.

2.19 Trees were classified into general bat roost potential groups based upon the presence of these features. **Table 1** describes how trees are assigned a relevant category using recognised best practice guidance⁸ and the latest guidance at the time of field assessment.

Table 1: Classification and Survey Requirements for Bats in Trees

Classification of Tree	Description of Category and Associated Features (based on Potential Roosting Features listed above)	Likely Further Survey Work / Actions (If a tree will likely be impacted by proposals)
High Potential	A tree with one or more Potential Roosting Features that are obviously suitable for larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat. Examples include (but are not limited to); woodpecker holes, larger cavities, hollow trunks, hazard beams, etc.	Aerial assessment by roped access bat workers (if appropriate) and / or nocturnal survey during appropriate period (May to August). Following additional assessments a tree may be upgraded or downgraded based on findings. If roost sites are confirmed and the tree or roost is to be affected by proposals a licence from Natural England will be required. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate.
Moderate Potential	A tree with Potential Roosting Features which could support one or more potential roost sites due to their size, shelter protection, conditions (height above ground level, light levels, etc) and surrounding habitat but unlikely to support a roost of high conservation status (i.e. larger roost, irrespective of wider conservation status). Examples include (but are not limited to); woodpecker holes, rot cavities, branch socket cavities, etc.	A combination of aerial assessment by roped access bat workers and / or nocturnal survey during appropriate period (May to August). Following additional assessments a tree may be upgraded or downgraded based on findings. After completion of survey work (and the presence of a bat roost is discounted), a precautionary working method statement may still be appropriate. If a roost site/s is confirmed a licence from Natural England will be required.
Low Potential	A tree of sufficient size and age to contain Potential Roosting Features but with none seen from ground or features seen only very limited potential. Examples include (but are not limited to); loose/lifted bark, shallow splits exposed to elements or upward facing holes.	No further survey required but a precautionary working method statement may be appropriate.
Negligible/No potential	Negligible/no habitat features likely to be used by roosting bats	None.

* The Conservation of Habitats & Species Regulations 2017 (as amended) affords protection to “breeding sites” and “resting places” of bats. The EU Commission’s Guidance document on the strict protection of animal species of Community interest under the Habitats Directive 92/43/EEC, February 2007 states that these are places “where there is a reasonably high probability that the species concerned will return”.

⁸ Collins, J. (ed) 2016. *Bat Surveys for Professional Ecologists: Good Practice Guidelines*. (3rd edn) Bat Conservation Trust.

Building Assessment

- 2.20 FPCR conducted an external preliminary roost inspection of building B1. This involved examination of the exterior of the structure to determine its potential to support roosting bats. From this, any areas of likely / potential value for bats were assessed, and a decision made over the selection of locations for more detailed work if required. Any potential bat access points observed together with any suitable features were noted.

Manual Walked Transect Survey

- 2.21 Transect surveys were undertaken seasonally at dusk in Summer (August 2023) (**Figure 4**), Autumn (September 2023) (**Figure 5**) and Spring (May 2024) (**Figure 6**). The transect route was predetermined prior to the survey in order to comprehensively cover all areas of the Site and wider survey area and included point count stops to identify activity levels around the features of potential value to bats likely to be affected by proposals (i.e. hedgerows and woodland edge). Each point count was approximately 5 minutes long, during which time all bat activity within sight/detector range was recorded.
- 2.22 The transect commenced at sunset and continued until approximately two hours after. The transect was walked at a steady pace and when a bat passed by, the species, time and behaviour was recorded to help to form a general view of the bat activity on site and highlight any habitats features particularly associated with bat activity.
- 2.23 Surveyors used ultrasonic bat detectors (Wildlife Acoustics Inc. Echo Meter Touch® bat detectors in conjunction with Echo Meter Touch® app and Apple Inc. iPad® during the transect surveys.
- 2.24 Post-survey, calls were analysed using Kaleidoscope Pro 4.5 (Wildlife Acoustics 2017), by taking measurements of the peak frequency, inter-pulse interval, call duration and end frequency. From this, the level of bat activity across the Site in relation to the abundance of individual species foraging and commuting was assessed.
- 2.25 The transects were undertaken when conditions were suitable (i.e. when the ambient air temperature exceeded 10°C and there was little wind and no rain) see **Table 2**.

Table 2: Transect & Static Survey Conditions

Date	Sunset/ Sunrise	Temperature at start of survey °C	Rain (0-5)	Wind (0-5)	Cloud %
21.08.23	20:19	20	0	1	100
18.09.23	19:13	14	0	1-3	60
14.05.24	20:55	14	0	1	65

Automated Static Bat Detector Survey

- 2.26 A passive static recording broadband detector (Song Meter® SM4BAT+ bat detectors), with outputs saved to an internal storage device, was deployed to supplement the manual transect survey, in line with industry guidance.
- 2.27 Monitoring took place in August and September 2023 and May 2024 with the device staying in place between for a minimum of 5 nights. The recorded data was analysed using Kaleidoscope Pro 4.5 and Bat Sound software to assess the species assemblage and relative level of bat activity on site. The recording units were deployed during periods of suitable weather conditions (little no

rain/wind and temperatures above 10°C at sunset). The location of the devices is shown in **Figures 4, 5 and 6**.

Birds

- 2.28 In order to assess the site's level of use by breeding birds, a single breeding bird survey was considered sufficient based on the scale of the Site, the habitats present and its high level of management. The objectives of the survey was to:
- Identify the presence, species, and distribution of breeding birds within the Site;
 - Evaluate the conservation importance of breeding bird populations present;
 - Evaluate the importance of breeding bird populations and the anticipated residual impacts of the development; and
 - To identify areas of ornithological interest and make recommendations to minimise the potential impact of the scheme.
- 2.29 The survey methodology employed was broadly based on that of territory mapping as developed by the BTO⁹. All birds encountered (seen or heard) were recorded on a field survey plan using standard BTO species codes and symbols for bird activities to denote activity, sex and age where appropriate. Birds were considered to be holding territory and therefore likely to be utilising the Site for breeding activities if they were displaying breeding behaviours, such as: singing, nest building, food carrying or territorial defence. If birds did not display such behaviours, e.g. they were only recorded flying over the Site, they were considered non-breeders.
- 2.30 A route was mapped out prior to the survey being undertaken, with particular attention to linear features, such as hedgerows and scrub. The survey visits were undertaken between sunrise and 11.00 hrs, avoiding unfavourable conditions such as heavy rain and strong wind, which may negatively affect the results. The conditions during the survey visit are summarised in **Table 3**.

Table 3: Conditions during the Breeding Bird Surveys

Date	Cloud (%)	Rain	Wind	Visibility
11.04.24	80	None	Slight breeze	Good

Great Crested Newt

- 2.31 As part of the Phase 1 habitat survey any waterbodies within a 500m radius were identified using OS maps and aerial satellite imagery and are mapped on **Figure 3**.

Habitat Suitability Index

- 2.32 A habitat suitability index (HSI) assessment was undertaken on Pond P1. This assessment¹⁰ provides a measure of the likely suitability that a waterbody has for supporting great crested newts (GCN) *Triturus cristatus*. Whilst not a direct indication of whether or not a pond will support GCN generally, those with a higher score are more likely to support the species than those with a lower score and there is a positive correlation between HSI scores and ponds in

⁹ Bibby, C.J., N.D. Burgess & D.A. Hill. 2000. *Bird Census Techniques*: 2nd Edition. London: Academic Press.

¹⁰ Oldham et al. 2000. *Herpetological Journal* 10(4); Evaluating the Suitability for the Great Crested Newt.

which GCN are recorded. Ten separate attributes are assessed for each pond to calculate the suitability of the ponds to support GCN:

Geographic location	Presence of water-fowl
Pond area	Presence of fish
Pond drying	Number of linked ponds
Water quality	Terrestrial habitat
Shade	Macrophytic coverage

- 2.33 A score is assigned according to the most appropriate criteria level set within each attribute and a total score calculated of between 0 and 1. Pond suitability is then determined according to the scale set out in **Table 3** below. Using the index score the predicted presence of GCN being found within a pond can be made, based on the proportion of ponds typically occupied at that suitability level.

Table 3: HSI Score and Suitability for Supporting Great Crested Newts

HSI score	Pond Suitability
<0.5	Poor
0.5 - 0.59	Below average
0.6 – 0.69	Average
0.7 – 0.79	Good
>0.8	Excellent

- 2.34 An assessment of the suitability of terrestrial habitats to support GCN was also completed within the Site. Suitable terrestrial habitat includes shelter habitat such as scrub and rank vegetation and habitat that could provide suitable hibernation sites such as rubble piles or tussock grassland.

Presence / Absence eDNA Survey

- 2.35 Accessible ponds within 500m of the Site and sharing connectivity to it were sampled on the 16th April 2024 by a GCN licenced ecologist using the Environmental DNA (eDNA) technique, which determines the presence/absence of GCN DNA within pond water samples. Methods employed were in accordance with the guidance set out in *Analytical and Methodological Development for Improved Surveillance of the Great Crested Newt, WC1067, Appendix 5. Technical advice note for field and laboratory sampling of GCN environmental DNA*. This methodology has been approved by Natural England for the determination of GCN presence/ absence.
- 2.36 These methods state that sampling is to be undertaken by appropriately licenced ecologists who collect a sample of water from each pond. This comprises taking samples of agitated water from 20 locations around each pond and mixing thoroughly. 15 ml of this water is then placed into each of the 6 sterile sample tubes containing preservative, precipitates and a DNA sequence that is used for degradation control. All samples are stored in accordance with the protocols provided by the laboratory. The samples are then transported under suitable conditions to the laboratory for analysis. Following analysis, results provided by the laboratory could have one of three outcomes which are described in **Table 4**.

Table 4: Description of Possible Results of eDNA Analysis

Result	Description
Positive	A positive result means that eDNA from GCN was detected and they have been present within the water in the 20 days preceding sampling. An eDNA score would be provided indicating the number of positive replicates from a series of twelve.
Negative	DNA from GCN was not detected; in the case of negative samples the DNA extract is further tested for PCR inhibitors and degradation of the sample.
Inconclusive	Controls indicate degradation or inhibition of the sample, therefore the lack of detection of GCN DNA is not conclusive evidence for determining the absence of the species in the sample provided. Degradation can occur through poor storage of the samples or kits and inhibition can occur through unexpected chemicals in the sample.

Reptiles

- 2.37 Habitats present within the Site were considered for their potential suitability to support reptile populations, including the presence of features which provide opportunities for reptiles to bask, forage and/or hibernate, and areas of varied vegetation structure in sheltered locations with sunny aspects and connectivity to other suitable reptile habitats. This assessment was based on the methodology detailed in the *Herpetofauna Workers Manual*¹¹ and the *Froglife Advice Sheet*¹².
- 2.38 A reptile presence/likely absence survey was undertaken within areas of suitable habitat within the study area. The survey was undertaken based on the methodology detailed in published guidance^{8,9}. Methods involved a search for basking reptiles on or under naturally occurring and strategically positioned artificial refugia, comprising approximately 1 x 0.5m pieces of bitumen roofing felt. These were placed in locations that offered the most suitable habitat for common reptiles.
- 2.39 The number of refugia used was equivalent or more than to c.10 per hectare of suitable habitat. After a two week 'bedding-down' period they were checked on seven subsequent occasions during suitable weather conditions when the ambient air temperature was between 9°C and 18°C and avoiding periods of heavy rain (see **Table 5**). All of the surveys were undertaken during optimal survey periods by suitably experienced ecologists. The indicative location of artificial refugia is shown in **Figure 7**.

Table 5: Date and Weather Conditions during Reptile Survey

Survey	Date	Time	Weather
1	10.04.24	09:30	Cloud % 20-30, Beaufort – 1/2, clear, bright, 9°C
2	16.04.24	10:00	Cloud % 0-10, Beaufort – 1/2, bright, sunny, 13°C
3	19.04.24	16:45	Cloud % 50-60, Beaufort – 1/2, bright, 12°C
4	29.04.24	09:30	Cloud % 10-20, Beaufort – 1/2, clear, bright, sunny 10°C
5	02.05.24	09:30	Cloud% 80-90, Beaufort – 1/2, 11°C
6	07.05.24	08:50	Cloud% 70-80, Beaufort – 1/2, bright, 10°C
7	10.05.24	08:20	Cloud% 0-10, Beaufort – 1/2, bright, clear, sunny, 14°C

¹¹ Gent, A.H. & Gibson, S.D., eds., 1998. *Herpetofauna Workers' Manual*. Peterborough, Joint Nature Conservation Committee.

¹² Froglife, 1999. Reptile survey: an introduction to planning, conducting and interpreting surveys for snake and lizard conservation. *Froglife Advice Sheet 10*. Froglife, Halesworth.

3.0 RESULTS

Statutory Designations

- 3.1 The Site itself is not covered by any statutory designations, nor does it lie within a potential ZOI for any international or national statutory sites designated for nature conservation.

Non-Statutory Designations

- 3.2 Non-statutory designations in Leicestershire and Rutland comprise LWSs and potential Local Wildlife Sites (pLWS).
- 3.3 Seven pLWSs lie within 1km of the Site as shown in **Figure 1** and summarised in **Table 6**. In addition, eight Potential Historic Local Wildlife Sites (pHLWSs) lie within 1km of the site. These were each last surveyed c.1980-1990 therefore the current ecological value of each is unknown.

Table 6. pLWSs within the Site's Potential Zone of Influence

Site name	Approx. distance from Site	Interest feature(s)
Newbold Verdon Desford Rd (north) Wrask Farm	310m SE	Hedgerow
Newbold Verdon hedge, nr School House Farm	420m SE	Hedgerow
Newbold Verdon, pavilion green lane hedge (east)	470m S	Hedgerow
Newbold Verdon, stream hedge	760m S	Hedgerow
Newbold Verdon hedge	780m S	Hedgerow
Newbold Verdon, Kirby lane hedge (north)	820m SE	Hedgerow
Newbold Verdon, Kirby lane hedge (south)	845m SE	Hedgerow

Habitats

- 3.4 The habitats recorded during the Extended Phase 1 Survey are discussed in detail below and are shown on **Figure 2**. The species lists are given in **Appendix B**.

Improved Grassland

- 3.5 The majority of the site area was formed by improved grassland. At the time of survey, all field parcels except F5, F6 and F7 were horse grazed, comprising a short, grazed and fine sward 1-3cm in height. Field F5 was utilised as an equestrian cross-country facility and comprised a frequently mown sward c.5-10cm in height, whereas fields F6 and F7 were set aside as hay/silage leys. Species composition, diversity and abundance were homogenous between all field parcels, with all dominated by perennial ryegrass *Lolium perenne* and occasional creeping bent *Agrostis stolonifera*.

Tall Ruderal Vegetation

- 3.6 Two small areas of tall ruderal vegetation were present surrounding building B1 and within the north of the site and was dominated by common nettle *Urtica dioica*.

Standing Water

- 3.7 A single pond (P1) was present within the site, located within field parcel F5. This comprised a shallow hollow surrounded by grassland. No other marginal vegetation, emergent or aquatic vegetation was present within the pond.

Buildings and Hardstanding

- 3.8 A single building (B1) comprising a dilapidated outbuilding was present within the site.
- 3.9 Two hardstanding tracks were present running through the site, both in a N-S direction. The western of these was unsealed, and the eastern track tarmacked. A small, unsealed track additionally facilitated access to field F3.

Scrub

- 3.10 Small extents of scrub were associated along the east of field F4 and surrounding building B1. The scrub was semi-mature to mature in age and structure, with scrub species including wych elm *Ulmus glabra*, bramble *Rubus fruticosus*, dog-rose *Rosa canina*, hazel *Corylus avellana*, holly *Ilex aquifolium* and hawthorn *Crataegus monogyna*.

Broadleaved and Coniferous Trees

- 3.11 The vast majority of broadleaved trees were associated with hedgerows and were semi-mature to mature in age and structure. Species included common ash *Fraxinus excelsior*, common lime *Tilia × europaea*, English elm *Ulmus procera*, wych elm and English Oak *Quercus robur*.
- 3.12 A small number of immature Leyland cypress *Cupressus × leylandii* were planted within field F5 to provide obstacles for equestrian cross-country training.

Hedgerows

- 3.13 There are 20 individual native hedgerows within or bounding the site. Results of the hedgerow survey are summarised in **Table 7**.

Table 7: Summary of the Extent of the Hedgerows and their Ecological Value

Ref.	Canopy Sp.	Height / Width (m)	Length (m)	Sp. per Av. 30m	Hedgerow Category	Associated Features	Import. HR
H1	<i>Ia, Cm, Ms, Rc, Sn</i>	2-4 / 2-3	87	3.5	Intact hedge – species poor	-	No
H2	<i>Cm, Ps, Ia, Fe</i>	1.5-2 / 1.5-2	82	2	Intact hedge – species poor	Adj PRoW, <10% gaps	No
H3	<i>Cm, Qr, Ia, Ps, Ca, Sn</i>	2-4 / 1.5-2	117	4.5	Hedge with trees – species poor	>1 std/50m	No
H4	<i>Cm, Fe, Ia, Ps</i>	1.5-2 / 1.5-2	135	2.33	Intact hedge – species poor	Adj PRoW, <10% gaps	No
H5	<i>Sn, Cm, Fe, Ps, Ia</i>	2-4 / 1.5-2	131	4	Hedge with trees – species poor	<10% gaps	No
H6	<i>Cm, Sn, Ps, Ac</i>	1.5-2 / 1.5-2	17	4	Intact hedge – species poor	<10% gaps	No
H7	<i>Cm, Ps, Fe, Ia, Ac, Qr</i>	1.5-2 / 1.5-2	116	4	Intact hedge – species poor	Adj PRoW, <10% gaps	No
H8	<i>Cm, Fe, Qr, Sn, Lsp</i>	2-4 / 1.5-2	99	2.5	Intact hedge – species poor	<10% gaps	No
H9	<i>Cm, Ia, Fe, Rc, Sn, Ac, Qr</i>	1.5-2 / 1.5-2	142	3.33	Hedge with trees – species poor	>1 std/50m, <10% gaps	No
H10	<i>Ps, Cm, Ac, Ia, Fe, Ug, Rc</i>	2-4 / 2-3	107	3	Hedge with trees – species poor	Adj PRoW, <10% gaps, 4 or > connections	No

Ref.	Canopy Sp.	Height / Width (m)	Length (m)	Sp. per Av. 30m	Hedgerow Category	Associated Features	Import. HR
H11	<i>Lsp, Sn</i>	>4 / >3	62	2	Intact hedge – species poor	<10% gaps, 4 or > connections	No
H12	<i>Cm, Fe</i>	1.5-2 / 1.5-2	29	2	Intact hedge – species poor	-	No
H13	<i>Ug, Up, Cm, Fe, Ia, Rc</i>	2-4 / 1.5-2	138	3.33	Intact hedge – species poor	Adj PRow, <10% gaps, 4 or > connections	No
H14	<i>Cm, Rc, Ug, Qr, Ps</i>	2-4 / 1.5-2	111	3.33	Intact hedge – species poor	Adj PRow, <10% gaps, 4 or > connections, parallel hedgerow	No
H15	<i>Cm, Qr, Rc, Ug, Ac, Up</i>	2-4 / 1.5-2	78	4	Hedge with trees – species poor	Adj PRow, >1 std/50m, <10% gaps, 4 or > connections	Yes
H16	<i>Up, Rc, Ug, Cm, Fe, Ia, Sn</i>	>4 / >3	196	3.67	Hedge with trees – species poor	Adj PRow, >1 std/50m, <10% gaps, 4 or > connections, parallel hedgerow	No
H17	<i>Up, Ug, Cm, Ia, Rc, Fe</i>	>4 / >3	146	4.33	Hedge with trees – species poor	Adj PRow, >1 std/50m, bank, 4 or > connections, parallel hedgerow	Yes
H20	<i>Ia, Cm, Sn, Rc</i>	>4 / 1.5-2	207	2.33	Intact hedge – species poor	<10% gaps, 4 or > connections	No
H21	<i>Cm, Ia, Sn, Rc, Qr, Ps, Txe</i>	1.5-2 / 1.5-2	189	3	Intact hedge – species poor	<10% gaps	No
H22	<i>Rc, Cm, Qr, Ps, Ia, Ca, Fe, Sn</i>	1.5-2 / 1.5-2	204	4	Hedge with trees – species poor	<10% gaps	No
H23	<i>Sn, Ca, Ia, Cm</i>	>4 / 2-3	67	4	Intact hedge – species poor	Ditch	No

3.14 All hedgerows consisted of 80% or more native woody species and therefore were classified as Habitats of Principal Importance. Two hedgerows (H15 and H17) qualified as important under the wildlife and landscape criteria of the Hedgerows Regulations 1997 due the number of associated features identified adjacent to or as part of the hedgerow.

3.15 All hedgerows were identified as species poor.

Fence Lines

3.16 Field parcels were both separated from each other and further subdivided by a network of post and rail/wire fencing and electric wire fencing.

Target Notes

3.17 Target note TN1 indicates an actively used equestrian practice facility. The remainder of the target notes relate to badger and are addressed below.

Fauna

3.18 A summary of the protected and notable species records returned during the desk study is provided in **Figure 1**.

Badger

- 3.19 Badger records were returned during the desk study from the local area, and the Site provides suitable foraging and sett building habitat for the species. No active setts were identified within or bounding the site or within a 30m radius of the site (where accessible for survey). Ten inactive setts were however identified within or bounding the site or within a 30m radius of the site. All were classified as disused outlier setts (TN2-TN9). Target note TN10 denotes the location of an active badger run located through hedgerow H16 in a north-south direction which originates from the green lane located directly north of the site boundary. Target note TN11 located within the green lane denote the locations of small active snuffle holes. Target Notes TN12 denotes the location of active small latrines.
- 3.20 A small number of rabbit warrens (TN13-TN23) were additionally identified within / bounding the site.

BatsRoosting

- 3.21 Records of Daubenton's bat *Myotis Daubentonii*, brown long-eared bat *Plecotus auritus* and unidentified bat species roosts were returned during the desk study.
- 3.22 The site contained a single building (B1). This was a dilapidated outbuilding with no potential to support roosting bats.
- 3.23 A single tree (T1) was identified on site with features considered to have low potential to support roosting bats. Three trees (T2-T4) were identified on site with features considered to have a moderate potential to support roosting bats. Locations of these trees are identified at **Figure 2**.

Foraging and Commuting

- 3.24 Records of the following bat species/families were returned during the desk study: brown long-eared bat, common pipistrelle *Pipistrellus pipistrellus*, Daubenton's bat, noctule *Nyctalus noctula*, unidentified *Myotis* species, soprano pipistrelle *Pipistrellus pygmaeus*, barbastelle *Barbastella barbastellus*, serotine *Eptesicus serotinus*, Natterer's bat *Myotis nattereri*, Leisler's bat *Nyctalus leisleri* and Nathusius' pipistrelle *Pipistrellus nathusii*.
- 3.25 The Site was deemed to have moderate to good suitability to support commuting and foraging bats due to the presence of the hedgerow network around and across the Site, linking to the surrounding hedgerow network.

Statics

- 3.26 The automated bat static detector surveys identified a small assemblage of at least five species as using the Site; common pipistrelle, soprano pipistrelle, brown long eared bat, noctule and *Myotis* species. Unidentified *Nyctalus* species were also recorded.
- 3.27 The summer (August) detector was placed along hedgerow H9 in the location of the indicative hedgerow loss to facilitate site access. A total of 510 bat registrations were recorded across the five-night survey period. Common pipistrelle was identified as the dominant species, accounting for 245 registrations (48.04% of total bat activity). Soprano pipistrelle accounted for 172 registrations (33.76% of total bat activity), unidentified *Myotis* species 49 registrations (9.61% of total bat activity), noctule 21 registrations (4.12% of total bat activity), brown long eared bat 19

registrations (3.76% of total bat activity) and unidentified *Nyctalus* species 4 registrations (0.78% of total bat activity).

- 3.28 The autumn (September) static detector was placed on the southern boundary along the B582 (Barlestone Road) near the location of proposed hedgerow removal for site access and visibility splays. Activity recorded on this survey was very low, recording only 36 registrations over the five night survey. Common pipistrelle was identified as the dominant species, accounting for 26 registrations (72.22% of total bat activity). Soprano pipistrelle accounted for 4 registrations (11.11% of total bat activity), brown long eared bat 3 registrations (8.33% of total bat activity) noctule 2 registrations (5.56% of total bat activity), and unidentified *Myotis* species 1 registration (2.78% of total bat activity).
- 3.29 The first spring (May) static detector was placed on the southern boundary along the B582 (Barlestone Road) near the location of proposed hedgerow removal for site access and visibility splays. Activity recorded on this survey was low, recording 375 registrations over the five night survey. Common pipistrelle was identified as the dominant species, accounting for 308 registrations (82.13% of total bat activity), soprano pipistrelle accounted for 27 registrations (7.2% of total bat activity), unidentified *Myotis* species 21 registrations (5.6% of total bat activity), noctule 12 registrations (3.2% of total bat activity), and brown long eared bat 7 registrations (1.87% of total bat activity).
- 3.30 The second spring (May) static detector was placed along hedgerow H20, in close proximity to pond P1 and the junction of hedgerows H16, H17 and H20. A total of 4072 registrations over the five night survey were recorded. Common pipistrelle was identified as the dominant species, accounting for 3245 registrations (79.69% of total bat activity), soprano pipistrelle accounted for 758 registrations (18.62% of total bat activity), unidentified *Myotis* species 43 registrations (1.06% of total bat activity), noctule 20 registrations (0.49% of total bat activity), and brown long eared bat 6 registrations (0.15% of total bat activity).

Transects

- 3.31 Activity recorded on the August transect was predominantly from common pipistrelle Soprano pipistrelle and with some noctule activity recorded. There were two registrations from an unidentified *Nyctalus* species.
- 3.32 The bat activity recorded was predominantly commuting with some foraging behaviour noted. Activity was highest in the north of the Site at the junction of H16, H17 and H20 and along H2 in the southwest. These are outgrown hedgerows with trees and provide the highest quality commuting habitat for bats on the Site.
- 3.33 Activity recorded on the September transect was predominantly from common pipistrelle. Soprano pipistrelle and noctule were also recorded. There was a single registration of an unidentified *Nyctalus* species. Activity was generally very low but concentrated along hedgerow H13, H14 and H15 in the Site. This is a double hedgerow along a small hardstanding lane and is clearly utilised by bats as a suitable commuting route.
- 3.34 Activity recorded on the May transect was dominated by common pipistrelle. Soprano pipistrelle was also recorded. Most activity was associated with commuting and foraging along hedgerow H20 and junction of hedgerows H16, H17 and H20.

Breeding Birds

- 3.35 Several bird species records were returned during the desk study (**Figure 1**).
- 3.36 During the breeding bird survey, a total of 25 species were recorded within the site and wider survey area. Of these, 10 were considered notable species as they appear on one or more of the following:
- Schedule 1 of WCA;
 - Species listed as SPI in NERC S.41; and
 - Birds of Conservation Concern (BoCC) Red or Amber lists¹³.
- 3.37 Of the 20 bird species recorded, five were considered probable breeders, including notable species linnet *Linaria cannabina*, greenfinch *Chloris chloris* and house sparrow *Passer domesticus*. The pasture fields provided suitable habitat for a relatively small number of species, with only starling *Sturna vulgaris* and woodpigeon *Columba palumbus* recorded utilising these habitats. Hedgerows and field boundaries provided suitable breeding and foraging habitat for several notable species, including greenfinch, woodpigeon, house sparrow, wren *Troglodytes troglodytes*, song thrush *Turdus philomelos*, linnet and dunnock *Prunella modularis*.
- 3.38 A single singing skylark *Alauda arvensis* was recorded flying over the western field, however due to the shortness of the grassland sward and the high level of disturbance from livestock, it was considered highly unlikely that this species was breeding on-Site, and most likely in adjacent, off-Site habitats.

GCN

- 3.39 No records for GCN were returned during the desk study located within a 1km radius of the Site. There are records from licence returns approximately 1.8km southwest of the Site available on www.magic.defra.gov.uk, but none located within a 1km radius of the site.
- 3.40 A habitat suitability index (HSI) assessment of pond P1 indicated this provided a 'below average' quality potential breeding feature for GCN (HSI 0.53). The results of the GCN eDNA survey undertaken on this pond concluded the likely absence of GCN utilising this pond.
- 3.41 Ordnance Survey mapping identified a further six ponds located within a 500m radius of the site. Ponds are shown on **Figure 3**. Of these, pond P2 was a SuDS basin which was currently under construction, pond P4 was no longer present (as identified during the walkover survey from a PRow), pond P5 was a dry vegetated hollow (as identified during the walkover survey from a PRow), and pond P6 was located to the other side of the village of Newbold Verdon, considered to present a significant barrier to dispersal for GCN due to the extent of unsuitable terrestrial habitats. As such, ponds P2, P4, P5 and P6 were scoped out of further assessment. Access to undertake a HSI assessment on P3 was not available at the time of walkover surveys but presence is unlikely in this pond due to its isolation from other populations and location within an unsuitable arable landscape.
- 3.42 GCN are therefore considered very unlikely to be present within the Site.

¹³ 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.

Other Notable Mammals

- 3.43 Records for brown hare *Lepus europaeus* and hedgehog *Erinaceous europaeus* were returned during the desk study. The Site provides suitable habitat for both species and the presence of each is assumed. Existing local notable mammal records are shown in **Figure 1**.

Reptiles

- 3.44 Records of grass snake *Natrix helvetica* were returned during the desk study within 1km of the Site (**Figure 1**).
- 3.45 Hedgerows and scrub lines provided suitable habitat for grass snake and common lizard *Zootoca vivipara*. The Site is therefore has the potential to support small numbers of reptiles within these habitats. The intensively managed short sward grassland offered negligible suitability for this group.
- 3.46 The reptile presence/absence surveys undertaken at the site did not identify the presence of any reptiles. They are not considered to be on the Site.

Invertebrates

- 3.47 A small number of notable invertebrate species were returned during the desk study, including dot moth *Melanchra persicariae*, rustic *Mesapamea secalis*, grey dagger *Acrionicta psi* and buff ermine *Spilarctia luteum*, as shown on **Figure 1**. The Site largely comprised managed and short sward improved grassland and thus is unlikely to support a significant invertebrate assemblage.

4.0 DISCUSSION, RECOMMENDATIONS AND CONCLUSIONS

Statutory Designations

- 4.1 The Site is not located within any international statutory nor national statutory site, or within the Impact Risk Zone¹⁴ of Influence of such as site. There is therefore no requirement to consult Natural England regarding potential impacts from residential development statutory designated sites.

Non-Statutory Designations

- 4.2 All potential LWSs located within 1km of the Site are designated as hedgerows.
- 4.3 Development will not facilitate the need for any direct loss or land-take of these hedgerows. Furthermore, any increase in traffic during construction of operational phases of the development is unlikely to impact on these hedgerows. There is a public right of way adjacent to Newbold Verdon, pavilion green lane hedge (east) but at nearly 450m from the Site, any increase in recreational use is unlikely to be significant.
- 4.4 No impacts to the status of non-statutory sites are therefore anticipated as a result of the development.

Habitats

- 4.5 The degree to which habitats receive consideration within the planning system relies on a number of mechanisms, including:
- Inclusion within a specific policy, for example veteran trees, ancient woodland and linear habitats within the National Planning Policy Framework (NPPF);
 - A non-statutory site designation;
 - Habitats considered as habitats of principal importance for the conservation of biodiversity as listed within Section 41 (S41) of the NERC Act 2006; or
 - Habitats identified as being a Priority Habitat within the local Biodiversity Action Plan (LBAP).
- 4.6 Onsite habitats identified during the survey which fall within the above listed categories include the ponds, hedgerows and associated trees. Furthermore, two hedgerows (H15 and H17) were identified as qualifying as important under the wildlife and landscape criteria of the Hedgerows Regulations 1997 (Regs).
- 4.7 **Appendix A** shows that a majority of the hedgerows, including all of those Important under Regs, are retained within the development, with the new proposed pedestrian access point located between H14 and H15 utilising the existing field gate access gap. Hedgerows will be retained within green corridors to strengthen their function as wildlife corridors allowing movement for protected and notable species through the Site. The small amounts of hedgerow to be removed for access will be replaced with new species rich hedgerow planting throughout the Site. The pond is to be retained within the proposed scheme and will be located within an extensive area of green infrastructure (GI). All broadleaved trees are likely to be retained unless requiring removal due to health and safety or structure safety.

¹⁴ The Impact Risk Zones (IRZs) are a GIS tool developed by Natural England to make a rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts

- 4.8 To avoid damage/disturbance of these retained features during construction it is recommended that an Ecological Protection Zone (EPZ) around the retained trees should be established during the construction phase. EPZs can often be achieved through co-ordination with tree protection measures required as good arboricultural practice including BS5837 Trees in Relation to Construction – Recommendations: 2012 for trees and hedgerows, where all retained trees are protected from damage and soil compaction during works by maintaining protected Root Protection Areas (RPAs). This zone is demarcated with temporary protective fencing determined in accordance with BS 5837 (2012) and signage. It is recommended that details of such measures and their implementation are delivered through a Construction Ecological Management Plan (CEMP) prepared for the Site.
- 4.9 The dominant improved grassland habitat was of limited botanical value being under active grazing management and comprised common and widespread botanical species. The removal of this habitat is not considered likely to significantly impact local wildlife populations and its loss does not represent a constraint to development. There is significant scope for enhancement within the open space of the development with the following recommended for incorporation into the detailed landscape design:
- Retention of the majority of the existing hedgerows and incorporation into green corridors comprising species rich grassland, tree and scrub habitats;
 - Attenuation areas comprising ponds and wetlands designed, planted and managed for wildlife;
 - Creation of neutral species rich grassland where possible;
 - Planting of additional scattered native scrub or woodland throughout the open space, including fruit and seed-bearing species to provide foraging for a wide range of species;
 - Orchard establishment, ideally using local heritage species;
 - Planting of additional native species rich hedgerows throughout the development; and
 - Planting of trees throughout the development to add structural and species diversity to the Site.
- 4.10 Specifications for new planting and other habitat creation as well as the measures to maintain existing habitats, to ensure successful establishment of new habitats, and to maintain the value of all ecological features in the long-term should be detailed within a Landscape Ecology Management Plan (LEMP) secured by planning condition.

Biodiversity Net Gain (Appendix B)

- 4.11 The BNG assessment was undertaken with reference to the site proposals as summarised in the Indicative Masterplan (**Appendix A**) to assess and indicate the likelihood, feasibility and potential of the site development proposals/layout, at an outline application stage.
- 4.12 Consideration was given to the likely habitat loss, retention, enhancement and habitat proposals, in order for the site to achieve a 10%+ net biodiversity gain in terms of habitats and hedgerows. In England, BNG is mandatory from 12 February 2024 under Schedule 7A of the Town and Country Planning Act 1990 (as inserted by Schedule 14 of the Environment Act 2021). Developers must deliver a BNG of 10%. This means a development will result in more or better quality natural habitat than there was before development.

Existing Habitats and Habitat Retention (Appendix B: Figures 1 and 3)

- 4.13 Existing habitats are displayed on Figure 1. It has been assumed that the vast majority of existing grassland is to be lost, with the exception of the north-western corner of the site which is likely to be retained and enhanced to orchard and other neutral grassland. The single pond will be retained, along with the vast majority of existing hedgerow habitat.

Proposed Habitats (Appendix B: Figure 2)

- 4.14 Proposed habitats include the residential development itself (the sealed surface of roads, driveways and dwellings and vegetated gardens) and habitats within the extensive GI. The GI includes LEAPs, footpaths and SUDs areas as well as higher quality habitats that will provide opportunities for wildlife as well as habitats units within the metric. These higher quality habitats include other neutral grassland which will buffer the retained and new hedgerows and provide extensive areas of species rich meadow grassland. Areas of mixed scrub are proposed within the GI and an orchard is proposed within the north-western corner of the site. Modified grassland is proposed as a more formal grassland in areas surrounding LEAPs and within the streetscape on road verges and as a buffer between the roads and the other neutral grassland and mixed scrub. 129 urban trees have been indicated on the proposed masterplan within the GI and other non-dwelling habitat.

Assessment Results

- 4.15 Based on the above BNG assessment, the site has the potential to provide a net gain to biodiversity in excess of 10%. The current assessment of the proposed scheme would provide a 15.37% net gain to biodiversity for habitats and a 12.61% net gain to biodiversity for hedgerows.
- 4.16 Habitat trading rules have been satisfied.
- 4.17 The above BNG assessment and results has been based on an indicative masterplan with no detailed soft landscaping proposals and only limited dwelling layout proposals. As such, as this project progresses through the planning process and site layouts evolve with more detail, the BNG result will change, and the above quoted calculations should not be considered as the final score.

Fauna

- 4.18 Principal pieces of legislation protecting wild species are Part 1 of the Wildlife and Countryside Act 1981 (*as amended*) (WCA) and the Conservation of Habitats and Species Regulations 2017 (*as amended*). Some species, for example badgers, also have their own protective legislation (Protection of Badger Act 1992). The impact that this legislation has on the Planning system is outlined in ODPM 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory Obligations and their Impact within the Planning System.
- 4.19 The presence of protected species is a material consideration in any planning decision, it is essential that the presence or otherwise of protected species, and the extent to which they are impacted by proposals is established prior to planning permission being granted. Furthermore, where protected species are present and proposals may result in harm to the species or its habitat, steps should be taken to ensure the long-term protection of the species, such as through attaching appropriate planning conditions.

4.20 In addition to protected species, there are those that are otherwise of conservation merit, such as Species of Principal Importance for the purpose of conserving biodiversity under the NERC Act 2006. These are recognised in the NPPF, which advises that when determining planning applications, local planning authorities should aim to conserve and enhance biodiversity by applying a set of principles including:

- If significant harm to biodiversity resulting from a development cannot be avoided, adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;
- Development whose primary objective is to conserve or enhance biodiversity should be supported; while opportunities to incorporate biodiversity improvements in and around developments should be encouraged, especially where this can secure measurable net gains for biodiversity.

4.21 Potential implications for development at the Site are outlined below.

Badger

4.22 Badgers are a widespread species that are protected from harm and cruelty by the Protection of Badgers Act 1992.

4.23 No active setts were identified within the Site, though a number of inactive setts were located within and bounding the Site, and also within a 30m radius.

4.24 The habitat creation recommendations in paragraph 4.9 will retain commuting and foraging links across the Site for this species and the use of native fruit and seed bearing plant species within open space will provide new foraging opportunities for them.

4.25 As badgers are known in the local area and there is evidence of foraging within the Site, precautionary methods of working are recommended during construction to ensure no harm to badgers occurs.

- An update badger survey should be undertaken within six months prior to commencement or ground works and/or vegetation clearance.
- In order to prevent any badger becoming trapped within any footings / trenches will be profiled to allow an escape route from any such trench within the development site or otherwise will each be furnished with ramps comprising sturdy timber planks or similar at the end of each working day, to provide a means by which trapped animals may escape.
- All waste materials are to be appropriately stored; in particular domestic waste from construction site welfare units that may attract badgers must be stored in heavy duty bins with lids.
- Any earth mounds created are to be gently sloped and compacted and ideally located away from retained habitat, located away from hedgerows and suitable habitat utilised by badgers.
- The site manager will ensure the above methods are carried out at the end of each works day until the completion of all ground works are complete.

4.26 Subject to the above measures, no impacts on badger are anticipated as a result of development at the Site.

Bats

- 4.27 All UK species of bats and their roosts are listed on the Conservation of Habitats and Species Regulations 2017 (*as amended*), making it illegal to deliberately disturb any such animal or damage / destroy a breeding site or roosting place of any such animal. Bats are also afforded full legal protection under Schedule 5 of the Wildlife and Countryside Act 1981 (*as amended*). Under this legislation it is illegal to recklessly or intentionally kill, injure or take a species of bat or recklessly or intentionally damage or obstruct access to or destroy any place of shelter or protection or disturb any animal whilst they are occupying such a place of shelter or protection. Some bat species, including soprano pipistrelle, noctule and brown long-eared bat are also Species of Principal Importance under the NERC Act.

Roosting

- 4.28 All trees which currently provide potential roosting features suitable to support roosting bats are to be retained and unaffected within open space in the Site. As such, the presence of a bat roost has not been identified as a statutory constraint to development.
- 4.29 In addition, a range of bat boxes could be installed on selected dwellings and retained trees across the Site to provide roosting opportunities where there are none.

Foraging and Commuting

- 4.30 Surveys undertaken have identified that the Site currently utilised by common and widespread bat species predominantly using the hedgerow network and around pond P1. The vast majority of the hedgerows are to be retained and the adjoining habitat enhanced within the GI on the Site. The area surrounding pond P1, hedgerow H16 and H17 albeit from a small substation is to be retained and located within an area of extensive GI. No Annex II species of bats were identified utilising the Site. The habitat creation measures recommended in paragraph 4.9 would maintain the commuting value for bats and maintain links to the wider area as well as create a range of habitats suitable for foraging such as species rich grassland, scrub, orchard and wetlands.
- 4.31 It is recommended that an appropriate sensitive lighting scheme is implemented to maintain dark corridors along retained and created habitat of the development. Where artificial lighting cannot be avoided the lighting scheme will be designed with reference to the Bat Conservation Trust and Institute of Lighting Professionals guidance¹⁵. Lighting considerations suitable for implementation during construction and/or for incorporation into the development to ensure minimal light spill from the site include:
- During the construction period no artificial lighting should be used at night in the vicinity of the perimeter, offsite and retained habitats;
 - The lighting scheme should ensure lighting is directed to where it is needed, avoiding light spillage, particularly the retained hedgerows, trees, scrub and pond, and new habitats including trees, hedgerows, SuDS habitat, scrub and grassland.
 - The lighting scheme should incorporate LED luminaires as these have a sharp cut-off, lower intensity, good colour rendition and dimming capability. All luminaires should lack UV elements when manufactured. Metal halide, fluorescent sources should not be used;

¹⁵ Bat Conservation Trust & Institute of Lighting Professionals 2023. *Guidance Note 8: Bats and Artificial Lighting at Night*. Bats and the Built Environment Series.

- A warm white light source (2700Kelvin or lower) should be adopted to reduce blue light component;
- Luminaires should feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats;
- Column heights should be carefully considered to minimise light spill and glare visibility. This should be balanced with the potential for increased numbers of columns and upward light reflectance as with bollards;
- Only luminaires with a negligible or zero Upward Light Ratio, and with good optical control, should be considered;
- Luminaires should always be mounted horizontally, with no light output above 90° and/or no upward tilt;
- Security lighting on properties backing on to sensitive habitats such as hedgerows, trees or waterbodies will be low wattage (<70W)¹⁶ motion censored lights on short (1min) timers; and
- The use of bollard or low-level downward-directional luminaires is strongly discouraged. This is due to a considerable range of issues, such as unacceptable glare, poor illumination efficiency, unacceptable upward light output, increased upward light scatter from surfaces and poor facial recognition which makes them unsuitable for most sites.

4.32 As such, development is unlikely to significantly impact on commuting and foraging bats and proposals have the potential to provide an enhanced resource for commuting and foraging bats.

Breeding Birds

- 4.33 All wild bird species are protected while nesting by the Wildlife and Countryside Act 1981 (as amended). This legislation protects wild birds and their eggs from intentional harm, and makes it illegal to intentionally take, damage, or destroy a wild bird nest while it is in use or being built.
- 4.34 An assemblage of common and widespread breeding birds is likely to be present in the boundary hedgerows and trees. The short sward grassland, heavily grazed and disturbed by horses, that forms a majority of the Site is considered unlikely to support an assemblage of breeding birds, including ground nesting species. The suitable hedgerow and tree habitats are recommended for retention and enhancement as described above.
- 4.35 The breeding survey carried out indicates that the site offers breeding potential for a range of widespread species, including several declining species such as song thrush, house sparrow, dunnoek, greenfinch and linnet. While the majority of these species will continue to breed within a residential/urban setting, particularly as vegetated gardens mature, the numbers of the majority of species will likely decline somewhat post-development. The presence of vegetated gardens within the scheme will provide potential breeding and foraging opportunities within the site, particularly as gardens mature. Overall, proposals are not expected to have a significant impact on the local breeding bird assemblage within the long-term.
- 4.36 To avoid disturbance to nesting birds, any vegetation clearance necessary should be undertaken prior to the bird-breeding season (i.e. avoiding March to August inclusive) to minimise the risk of disturbance to nesting birds. If this is not possible, habitats will be checked prior to removal by an experienced ecologist and if no nesting birds are identified, the vegetation removed and

¹⁶ Stone, E.L. 2013. *Bats and lighting: Overview of current evidence and mitigation*.

building demolished within 48 hours. If active nests are identified, the nest site(s) will be left untouched and suitably buffered from works until all birds have fledged. Specific advice will be provided by the ecologist prior to undertaking the clearance.

- 4.37 The recommended habitat creation opportunities will provide enhanced nesting opportunities for a range of bird species in the form of any additional trees and scrub habitats. SuDS creation and the recommended planting of a variety of fruit and seed-bearing trees and shrubs will enhance food sources and provide greater diversity throughout the year.
- 4.38 Further enhancements in the form of the provision of a variety of bird nest boxes on retained trees and/or new dwellings/structures would provide additional opportunities for a variety of bird species.
- 4.39 It is considered that the proposed development is unlikely to have a significant negative impact on breeding birds and has the potential to have a beneficial impact.

GCN

- 4.40 Great crested newts are afforded full protection under the Wildlife & Countryside Act 1981 (*as amended*) and the Conservation of Habitats and Species Regulations 2017.
- 4.41 Under Regulation 43 of the Conservation of Habitats and Species Regulations 2017 it is illegal to:
- Deliberately capture, injure or kill any wild animal of a European Protected Species (EPS),
 - Deliberately disturb wild animals of an EPS (affecting ability to survive, breed or rear young) – disturbance of animals includes in particular any disturbance which is likely to impair their ability to survive, to breed or reproduce, or to rear or nurture their young,
 - Deliberately disturb wild animals of an EPS (impairing ability to migrate or hibernate) – disturbance of animals includes in particular any disturbance which is likely to impair their ability in the case of hibernating or migratory species to hibernate or migrate,
 - Deliberately disturb wild animals of an EPS (affecting local distribution and abundance) – disturbance of animals includes in particular any disturbance which is likely to affect significantly the local distribution or abundance of the species to which they belong,
 - Deliberately disturb wild animals of an EPS (whilst occupying a structure or place used for shelter or protection) – intentionally or recklessly disturb any wild animal while it is occupying a structure or place which it uses for shelter or protection,
 - Damage or destroy a breeding site or resting place of a wild animal an EPS.
- 4.42 Under the Wildlife and Countryside Act 1981 (*as amended*) it is legal to:
- Recklessly or intentionally kill, injures or take any wild animals included in Schedule 5,
 - Recklessly or intentionally damage or destroy, or obstruct access to any structure or place which any wild animal included in Schedule 5 uses for shelter or protection,
 - Recklessly or intentionally disturb any such animal while it is occupying a structure or place which it uses for shelter or protection.
- 4.43 GCN have not been identified as a statutory constraint to development.
- 4.44 The habitat creation measures recommended in paragraph 4.9 would enhance the value of the site for amphibians in general, including species rich grassland, tussock forming grassland, scrub and suitably designed SuDS.

Reptiles

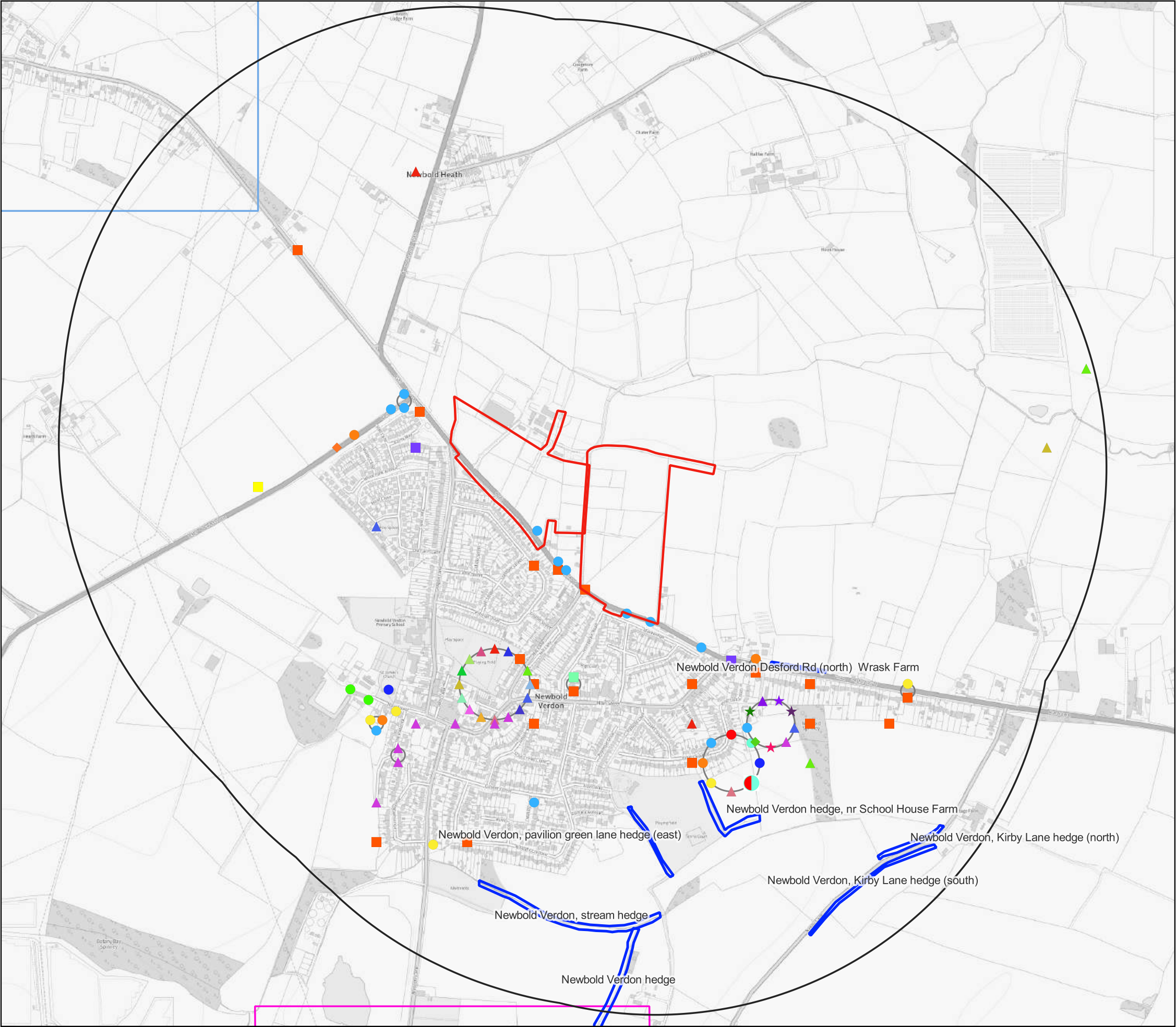
- 4.45 All British reptiles and common and widespread amphibians are protected from killing and injury under the Wildlife and Countryside Act 1981 (as amended) and are listed as Species of Principal Importance for the conservation of biodiversity under Section 41 of the NERC Act, indicating that public bodies, such as the Local Planning Authority, have a duty to have regard to the conservation of these species.
- 4.46 Reptiles have not been identified as a statutory constraint to development.
- 4.47 The habitat creation measures recommended in paragraph 4.9 would enhance the value of the site for reptiles in general, including species rich grassland, tussock forming grassland, scrub and suitably designed SuDS. The provision of log piles will provide further sheltering habitat.

Other Notable Taxa

- 4.48 Hedgehogs are protected by law (Schedule 6 of the Wildlife and Countryside Act 1981) and listed as a Species of Principle Importance in England under the Natural Environment and Rural Communities (NERC) Act 2006 Section 41.
- 4.49 It is considered that the potential for habitat creation at the Site as discussed above will also provide additional opportunities for hedgehog. Further enhancement such as provision of log piles or hedgehog houses and hedgehog holes in fencing (150mm x 150mm) could easily be incorporated into retained and created habitats and on plot fencing.
- 4.50 This will ensure the Site remains permeable to this species as well as other protected mammal species.
- 4.51 Some habitats for brown hare will remain on site but the majority will be lost. This is not considered to be significant to any local population however given to the amount of similar habitat and habitat of higher suitability present within the surrounding area.
- 4.52 Whilst the site isn't likely to support a notable assemblage of invertebrates, habitat provisions as outlined in paragraph 4.9 will provide enhanced habitat.

CONCLUSIONS

- 4.53 The initial desk and field-based baseline investigations have demonstrated that the habitats and species present within and around the Site should not pose an 'in principle' constraint to the proposed development. However, there are a number of habitat features and protected species that should be considered within the scheme, with relevant mitigation embedded into any future applications.
- 4.54 Measures to avoid impacts on the protected/notable habitats and species likely to be on the Site can be accommodated within on-site green space through careful and sensitive site design.
- 4.55 Potential proposals for the avoidance, mitigation and compensation of any predicted impacts are briefly considered in this report and it is considered that with the flexibility in design that a Site of this size offers, the scheme is likely to be capable of compliance with relevant planning policy for the conservation of the natural environment at all levels.



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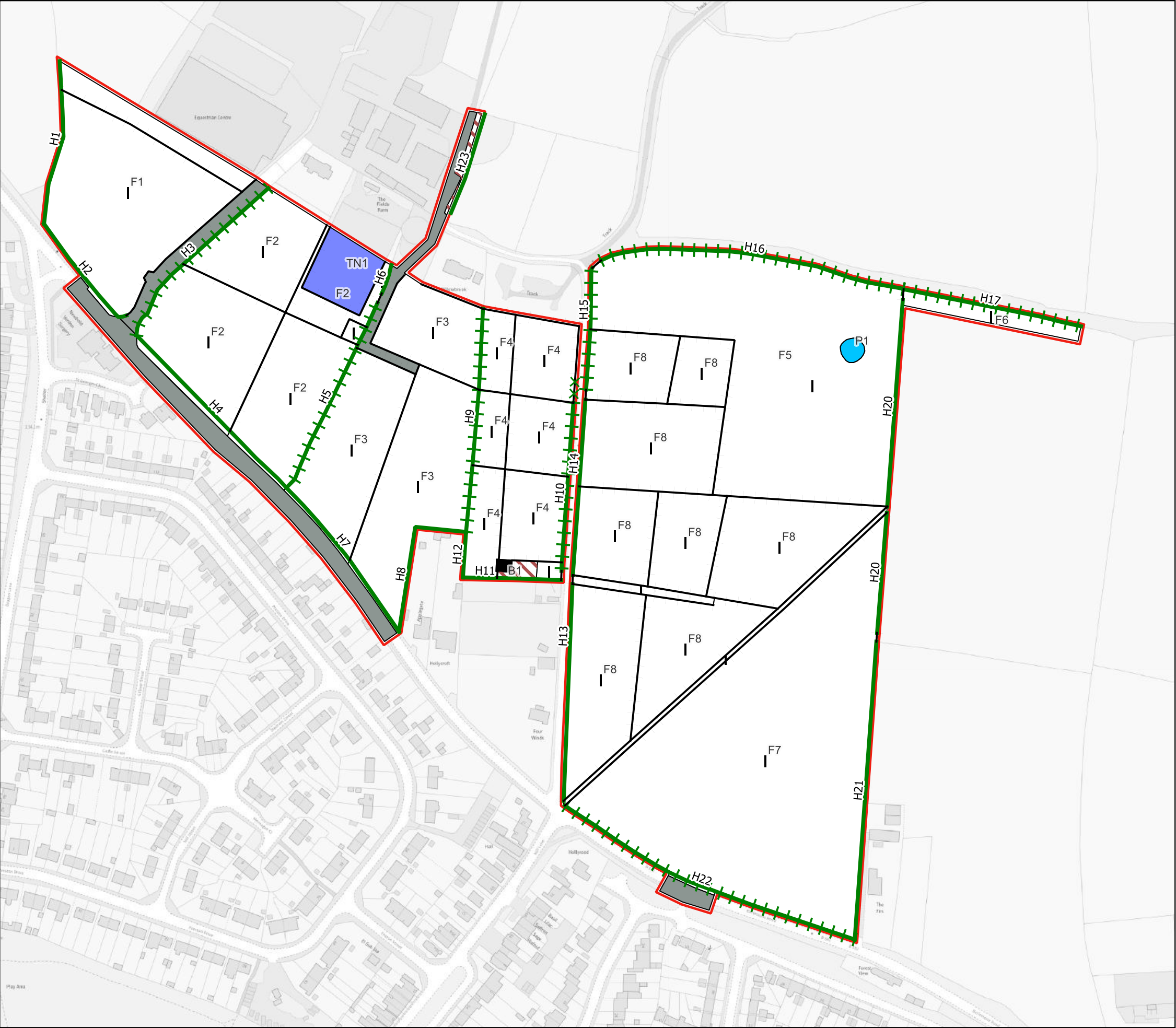
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Key:

- | | |
|--------------------------------------|---------------------------|
| Site Boundary | Buff Ermine |
| Potential Local Wildlife Site (pLWS) | Black Redstart |
| Chinese Muntjac | Bullfinch |
| Hare | Cuckoo |
| Hedgehog | Dunnock |
| Polecat | Fieldfare |
| Bat | Grey Partridge |
| Brown Long-eared Bat | House Martin |
| Common Pipistrelle | House Sparrow |
| Daubenton's Bat | Lesser Spotted Woodpecker |
| Lesser Noctule | Linnet |
| Myotis Bat species | Redstart |
| Noctule Bat | Redwing |
| Soprano Pipistrelle | Skylark |
| Common Frog | Swift |
| Grass Snake | Wren |
| Dot Moth | Yellowhammer |
| Rustic | |
| Grey Dagger | |

Species within SK4305; Columbine, House-martin, Wren, Barbastelle, Serotine, Myotis, Daubentons, Natterers, Leislars, Noctule, Nathusius Pip, Common Pip, Soprano Pip. Brown Long-eared Bat.

Species within SK4402; Skylark, Swift, House-martin, Herring Gull, House Sparrow, Dunnock, Bullfinch, Wren, Song Thrush.

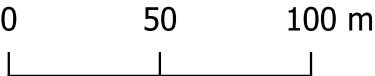


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Key:

- Buildings
- Built Environment: Buildings/hardstanding
- Improved grassland
- TN1
- Other tall herb and fern - ruderal
- Standing water
- Intact hedge - species-poor
- Hedge with trees - species-poor
- Fence
- Scrub - scattered line



client
David Wilson Homes
project
Barlestone Road,
Newbold Verdon
drawing title
PHASE 1 HABITAT PLAN

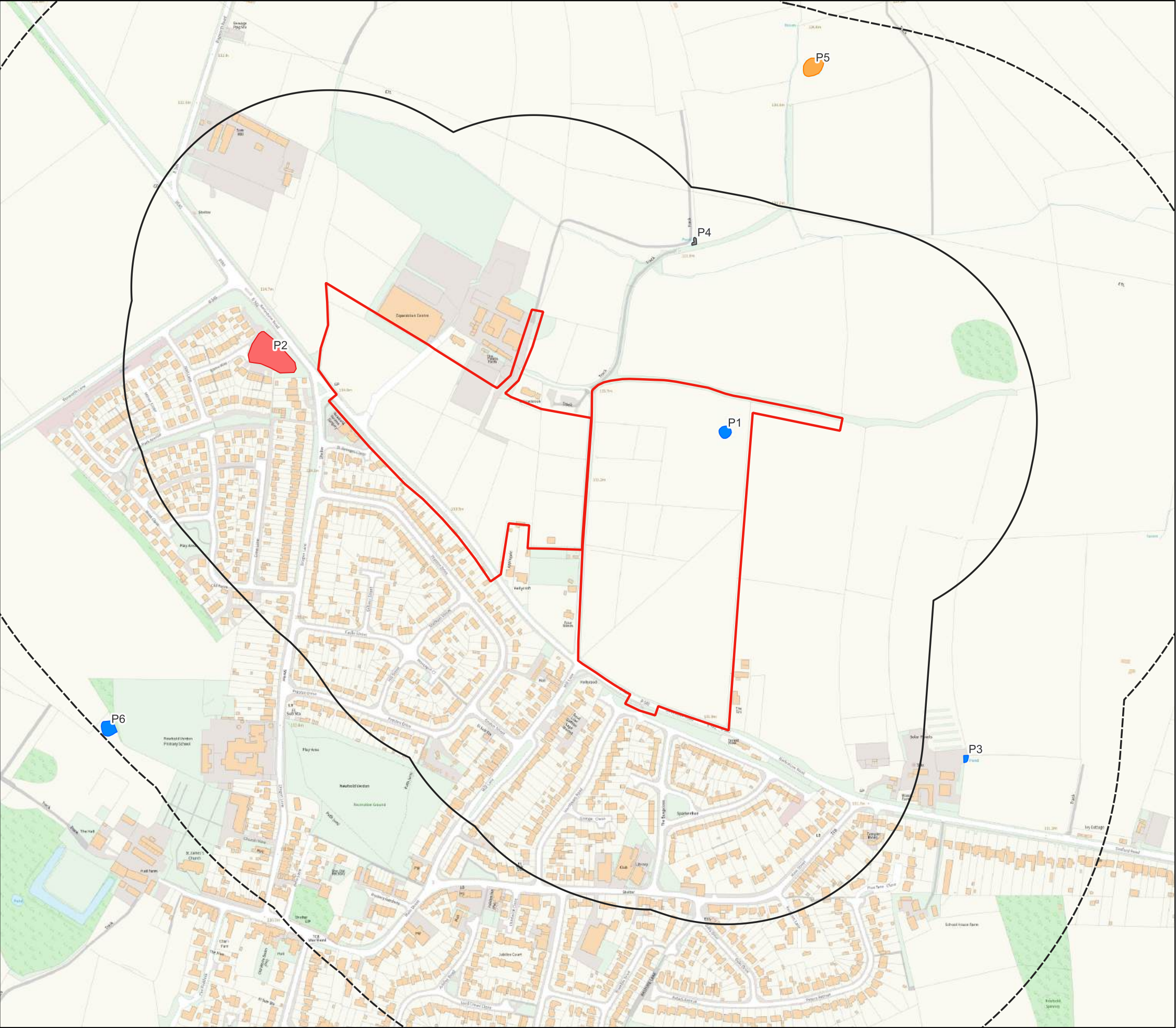
scale @ A3
1:2,500

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19/9/2024

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Figure 2

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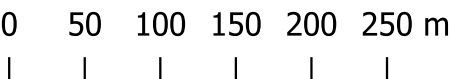


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Key:

- Site Boundary
- Pond
- Pond Dry
- Pond No Longer Present
- SuDS Currently Under Construction

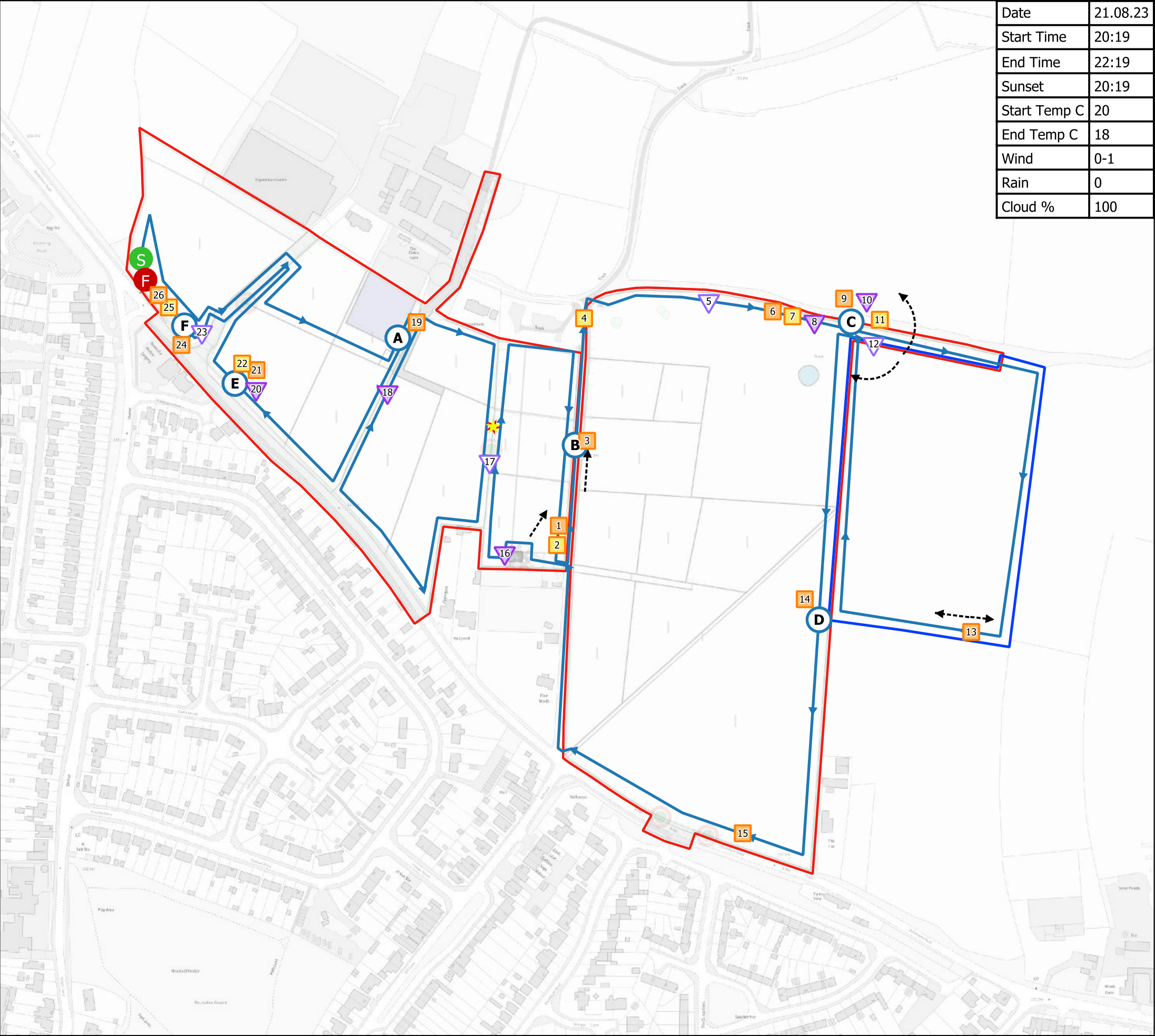


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POND LOCATION PLAN

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Figure 3

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-



Date	21.08.23
Start Time	20:19
End Time	22:19
Sunset	20:19
Start Temp C	20
End Temp C	18
Wind	0-1
Rain	0
Cloud %	100

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Key

Site Boundary

Wider Survey Area

S

Start point

F

Finish point

Point Count Locations

Transect Route

Flight Arrow

Static Location

Common Pipistrelle

Soprano Pipistrelle

Nyctalus Species

Noctule

Ref.	Time	Species Name	Passes	Behaviour
PC A	20:28 - 20:32	No Bats		
1	20:41:38	Common Pipistrelle	Multiple	Commuting
2	20:42:31	Soprano Pipistrelle	1	Commuting
PC B	20:45 - 20:50	Ref. 3		
3	20:48:45	Common Pipistrelle	3	Commuting
4	20:51:20	Soprano Pipistrelle	1	Commuting
5	20:53:36	Nyctalus species	1	Commuting
6	20:55:03	Common Pipistrelle	Multiple	Foraging
7	20:55:09	Soprano Pipistrelle	4	Commuting
8	20:55:20	Noctule	2	Foraging
PC C	20:57 - 21:02	Ref. 9, 10, 11, 12		
9	20:58:55	Common Pipistrelle	Continuous	Foraging
10	20:59:08	Noctule	Continuous	Foraging
11	20:59:31	Soprano Pipistrelle	2	Commuting
12	21:00:05	Nyctalus species	2	Commuting
13	21:06:50	Common Pipistrelle	Continuous	Foraging
PC D	21:19 - 21:24	Ref. 14		
14	21:19:49	Common Pipistrelle	Continuous	Foraging
15	21:27:13	Common Pipistrelle	Continuous	Foraging
16	21:34:23	Noctule	1	Commuting
17	21:36:38	Nyctalus species	1	Commuting
18	21:46:47	Noctule	2	Commuting
19	21:51:07	Common Pipistrelle	Multiple	Commuting
PC E	21:57 - 22:02	Ref. 20, 21, 22		
20	21:58:23	Noctule	2	Commuting
21	21:58:40	Common Pipistrelle	Multiple	Commuting
22	22:01:29	Soprano Pipistrelle	Continuous	Foraging
PC F	22:09 - 22:14	Ref. 23, 24		
23	22:11:10	Nyctalus species	2	Commuting
24	22:11:56	Common Pipistrelle	3	Commuting
25	22:17:34	Soprano Pipistrelle	1	Commuting

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masterplanning ■ environmental assessment ■ landscape design ■ urban design ■ ecology ■ architecture ■ arboriculture

client

David Wilson Homes

project

Barlastone Road,
Newbold Verdon

drawing title

BAT TRANSECT PLAN (21.08.23)

scale @ A3
1:3000

drawn
KB / VF

issue date
19/9/2024

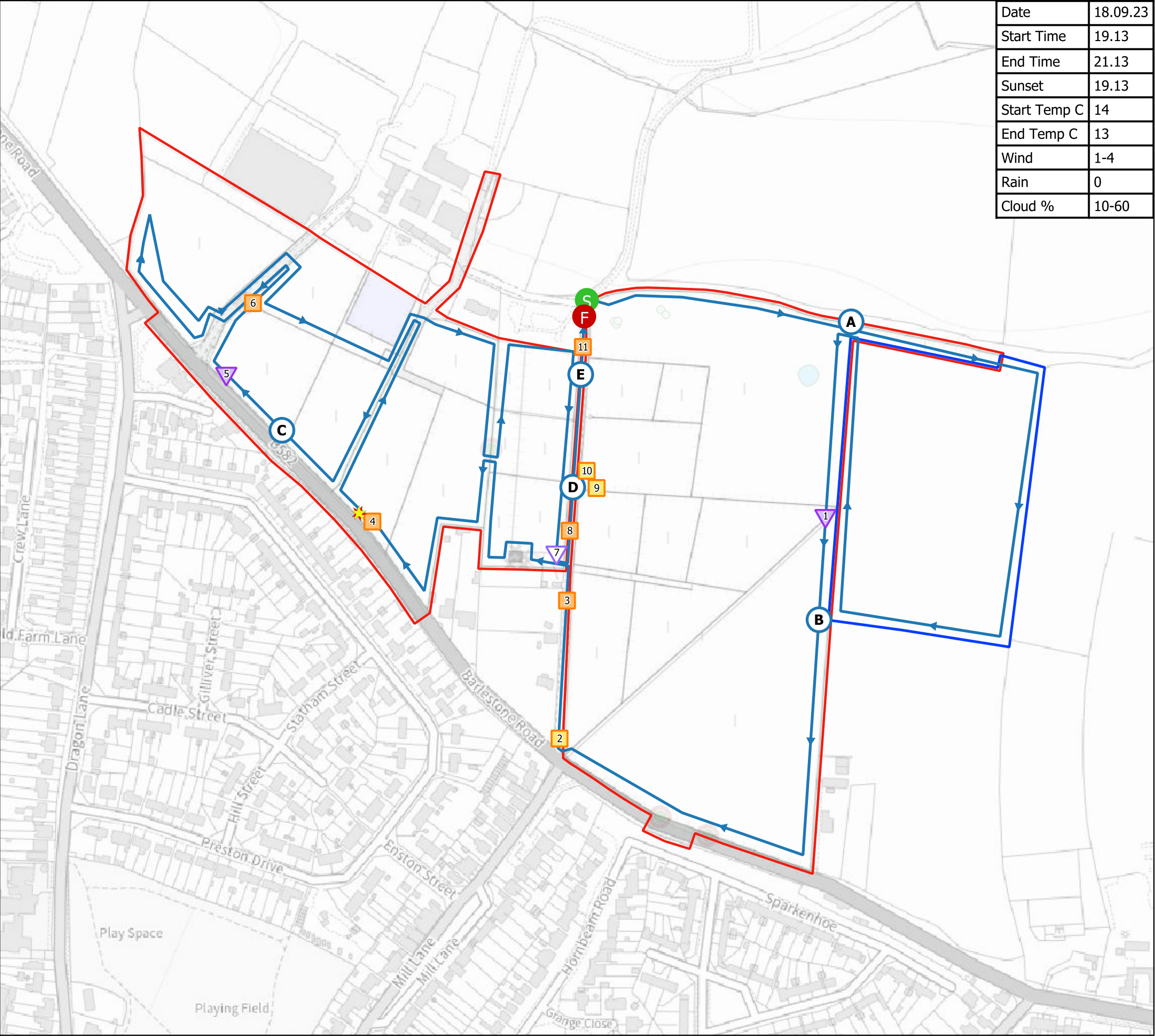
drawing / figure number

Figure 4

rev

-

L:\11300\11314\ECO\QGIS\QGIS 2.14\Plans\Bat Figures\11314-E-XX Transect Plan (21.08.23).qgs



Date	18.09.23
Start Time	19.13
End Time	21.13
Sunset	19.13
Start Temp C	14
End Temp C	13
Wind	1-4
Rain	0
Cloud %	10-60

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Key

- Site Boundary

Wider Survey Area

Start point

Finish point

Point Count Locations

Transect Route
- Static Location

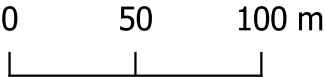
Common Pipistrelle

Soprano Pipistrelle

Nyctalus Species

Noctule

Ref.	Time	Species Name	Passes	Behaviour
PC A	19:17 - 19:22	No Bats		
1	19:37:39	Noctule		Commuting
PC B	19:38 - 19:43	No Bats		
2	19:49:39	Soprano Pipistrelle	2	Commuting
3	19:51:17	Common Pipistrelle	2	Commuting
4	20:03:05	Common Pipistrelle	2	Commuting
PC C	20:10 - 20:15	No Bats		
5	20:18:04	Noctule	3	Commuting
6	20:27:52	Common Pipistrelle	1	Commuting
7	20:51:31	Nyctalus species	1	Commuting
8	20:51:49	Common Pipistrelle	2	Foraging
PC D	20:53 - 20:58	Ref. 9, 10		
9	20:52:47	Soprano Pipistrelle	1	Commuting
10	20:52:47	Soprano Pipistrelle	1	Commuting
PC E	21:02 - 21:07	No Bats		
11	21:07:07	Common Pipistrelle	1	Commuting



client

David Wilson Homes

project

Barlastone Road,
Newbold Verdon

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BAT TRANSECT PLAN (18.09.23)

scale @ A3
1:3000

drawn
KB / VF

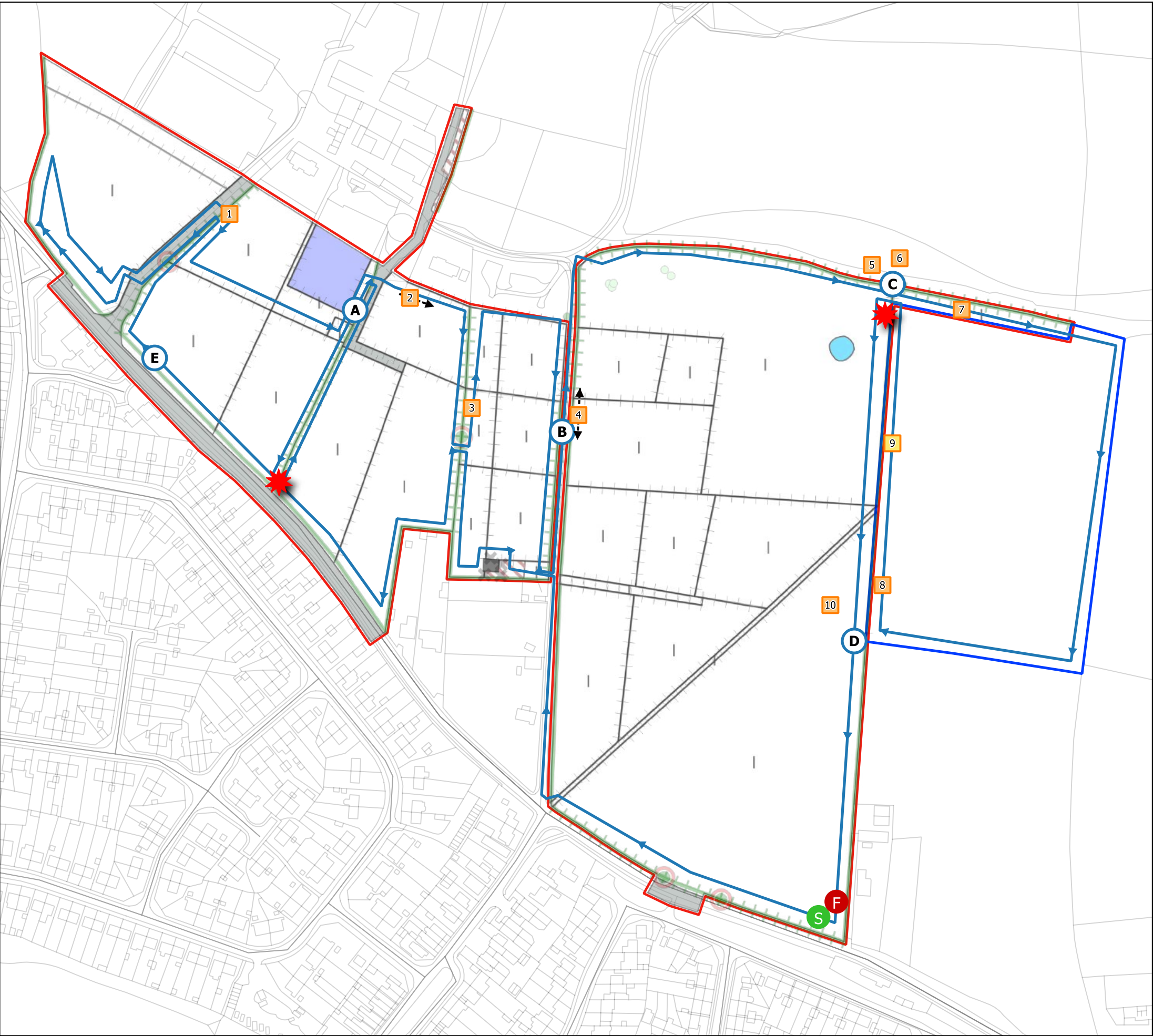
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Figure 5

rev

-



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Key

- Red Line Boundary
- Wider Survey Area
- S Start point
- F Finish point
- A Point Count Locations
- Transect Route
- Flight Arrow
- ★ Static Locations
- Bat Contacts**
- Common Pipistrelle
- Soprano Pipistrelle

Ref.	Time	Species Name	Passes	Behaviour
PC A	21:15 - 21:20	No Bats		
PC E	21:27 - 21:32	No Bats		
1	21:43	Common Pipistrelle	1	Commuting
2	21:47	Common Pipistrelle	4	Commuting
3	21:52	Common Pipistrelle	1	Commuting
PC B	21:59 - 22:04	Ref. 4		
4	22:01:46	Common Pipistrelle	2	Commuting
PC C	22:14 - 22:19	Ref. 5, 6		
5	22:15	Common Pipistrelle	1	Commuting
6	22:18	Common Pipistrelle	Continuous	Foraging
7	22:24	Common Pipistrelle	1	Commuting
8	22:33	Common Pipistrelle	Continuous	Foraging
9	22:35	Soprano Pipistrelle	Continuous	Foraging
PC D	22:43 - 22:48	Ref. 10		
10	22:43	Common Pipistrelle	Continuous	Foraging



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Key:

- Red Line Boundary
- Artificial Reptile Refugia



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**Barlestone Road,
Newbold Verdon**

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REPTILE SURVEY PLAN

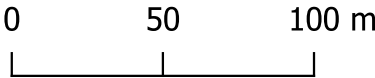
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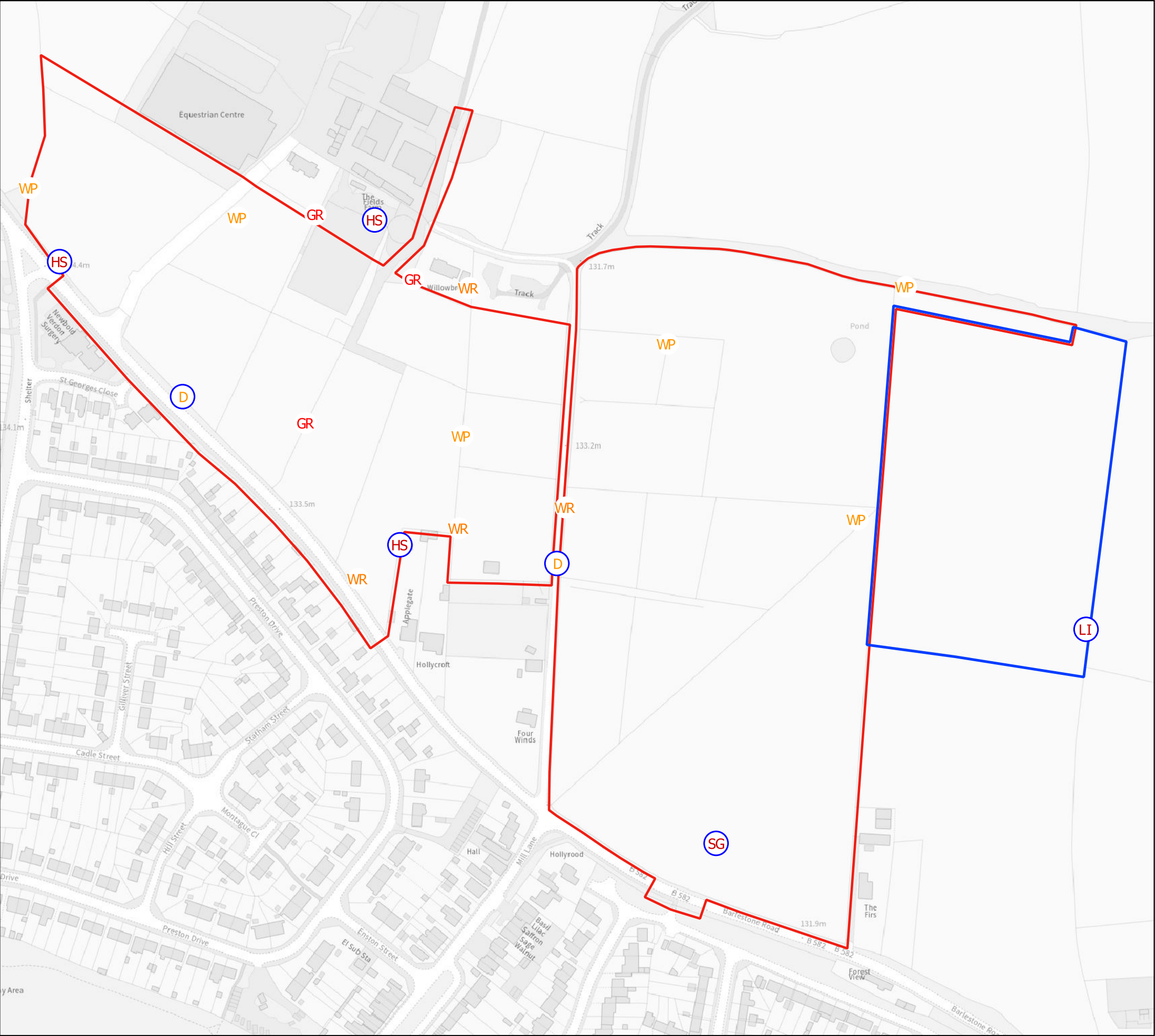
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Figure 7

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Key

- Red Line Boundary
- Wider Survey Area

BoCC Red List Species

- HS House Sparrow
- LI Linnet
- SG Starling
- GR Greenfinch

BoCC Amber List Species

- D Dunnock
- WP Woodpigeon
- WR Wren

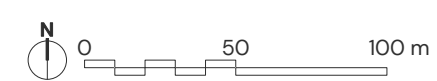
Additional Protections

- NERC Species of Principal Importance

**APPENDIX A: INDICATIVE MASTERPLAN (P22-3085_DE_13_M_ INDICATIVE
MASTERPLAN)**



- KEY**
- SITE BOUNDARY
 - INDICATIVE PUBLIC OPEN SPACE
 - RETAINED EXISTING VEGETATION
 - INDICATIVE PROPOSED TREES AND PLANTING
 - INDICATIVE BUILT FORM
 - CORRECTED VIEWPOINT 5 (DRAFT REGULATION 16 NEIGHBOURHOOD PLAN)
 - INDICATIVE SWALES
 - EXISTING BYWAY OPEN TO ALL TRAFFIC
 - UNCLASSIFIED ADOPTED ROAD
 - EXISTING FOOTPATH
 - POTENTIAL PEDESTRIAN CYCLE CONNECTION
 - RETAINED VEHICULAR ACCESS ROUTE TO EQUESTRIAN CENTRE/ PROPOSED ACCESS TO CEMETERY
 - PROPOSED PEDESTRIAN ACCESS POINT
 - RETAINED PROW ACCESS POINTS
 - PRIMARY VEHICULAR ACCESS POINT
 - EXISTING BARLESTONE ROAD CROSSING POINTS
 - NEW BARLESTONE ROAD CROSSING POINTS
 - INDICATIVE FOUL PUMPING STATION
 - AGRICULTURAL ACCESS
 - PRIVATE DRIVE ACCESS TO (EXISTING) WILLOWBROOK COTTAGE
 - DRAINAGE OUTFALL



BARLESTONE ROAD, NEWBOLD VERDON – INDICATIVE MASTERPLAN



Appendix B: Species Lists and BNG Condition Assessments and Results

Abundance is described on the DAFOR scale.

D = Dominant, A = Abundant, F = Frequent, O = Occasional, R = Rare, LD = Locally Dominant, LA = Locally Abundant, LF = Locally Frequent, LO = Locally Occasional, LR = Locally Rare

Improved Grassland

Species list

Common Name	Scientific Name	DAFOR
Annual meadow-grass	<i>Poa annua</i>	R
Autumn hawkbit	<i>Scorzonoides autumnalis</i>	R
Chickweed	<i>Stellaria media</i>	R
Cleavers	<i>Galium aparine</i>	R
Cock's-foot	<i>Dactylis glomerata</i>	R
Common mouse-ear	<i>Cerastium fontanum</i>	R
Common nettle	<i>Urtica dioica</i>	R
Common ragwort	<i>Jacobaea vulgaris</i>	R
Common sorrel	<i>Rumex acetosa</i>	R
Cow parsley	<i>Anthriscus sylvestris</i>	R
Crane's-bill species	<i>Geranium</i> sp.	R
Creeping bent	<i>Agrostis stolonifera</i>	O/R
Creeping buttercup	<i>Ranunculus repens</i>	R
Creeping thistle	<i>Cirsium arvense</i>	R
Dandelion	<i>Taraxacum officinale</i>	R/O
Dock species	<i>Rumex</i> sp.	R
Dove's-foot crane's-bill	<i>Geranium molle</i>	R
False oat-grass	<i>Arrhenatherum elatius</i>	R
Fat-hen	<i>Chenopodium album</i>	R
Field bindweed	<i>Convolvulus arvensis</i>	R
Greater plantain	<i>Plantago major</i>	R/LF
Ground-ivy	<i>Glechoma hederacea</i>	R
Groundsel	<i>Senecio vulgaris</i>	R
Knotgrass	<i>Polygonum aviculare</i>	R/LD
Perennial ryegrass	<i>Lolium perenne</i>	D
Shepherd's purse	<i>Capsella bursa-pastoris</i>	R
Sow thistle species	<i>Sonchus</i> sp.	R
Spear thistle	<i>Echinops sphaerocephalus</i>	R
Wall lettuce	<i>Lactuca muralis</i>	R
White clover	<i>Trifolium repens</i>	R/F
Yarrow	<i>Achillea millefolium</i>	R
Yorkshire-fog	<i>Holcus lanatus</i>	R

Condition Assessment

Condition Assessment Result	Condition Assessment Score
Passes 6 or 7 criteria including passing essential criterion A	Good (3)
Passes 4 or 5 criteria including passing essential criterion A	Moderate (2)
Passes 3 or fewer criteria; OR Passes 4 - 6 criteria (excluding criterion A)	Poor (1)

[illegible]

Tall Ruderal Vegetation

Species list

Common Name	Scientific Name	DAFOR
Cleavers	<i>Galium aparine</i>	R
Common nettle	<i>Urtica dioica</i>	D
Creeping thistle	<i>Cirsium arvense</i>	R
Dock species	<i>Rumex</i> sp.	R
False oat-grass	<i>Arrhenatherum elatius</i>	R

Condition Assessment

Condition Assessment Result: Urban	Condition Assessment Score
"Passes all 3 core criteria; AND Meets the requirements for Good condition within criterion C.	Good (3)
Passes 2 of 3 core criteria; OR Passes 3 of 3 core criteria but does not meet the requirements for Good condition within criterion C.	Moderate (2)
Passes 0 or 1 of 3 core criteria.	Poor (1)

Condition Criteria	Pass or Fail
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.	F
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.	F
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. Note - to achieve Good condition, this criterion must be satisfied by a complete absence of invasive non-native species (rather than <5% cover).	P
Condition	Poor

Pond

Condition Assessment

Condition Assessment Result	Condition Assessment Score
Passes 9 criteria	Good (3)
Passes 6 to 8 criteria	Moderate (2)
Passes 5 or fewer criteria	Poor (1)

Condition Criteria	Pass or Fail
A The pond is of good water quality, with clear water (low turbidity) indicating no obvious signs of pollution. Turbidity is acceptable if the pond is grazed by livestock.	P
B There is semi-natural habitat (moderate distinctiveness or above) completely surrounding the pond, for at least 10 m from the pond edge for its entire perimeter.	F
C Less than 10% of the water surface is covered with duckweed <i>Lemna</i> spp. or filamentous algae.	P
D The pond is not artificially connected to other waterbodies, such as agricultural ditches or artificial pipework.	P
E Pond water levels can fluctuate naturally throughout the year. No obvious artificial dams, pumps or pipework.	P
F There is an absence of listed non-native plant and animal species.	P
G The pond is not artificially stocked with fish. If the pond naturally contains fish, it is a native fish assemblage at low densities.	P
H Emergent, submerged or floating plants (excluding duckweed) cover at least 50% of the pond area which is less than 3 m deep.	F
H The pond surface is no more than 50% shaded by adjacent trees and scrub.	P
Condition	Moderate

Hedgerows

Species list

Common Name	Scientific Name
Ash	<i>Fraxinus excelsior</i> (Fe)
Blackthorn	<i>Prunus spinosa</i> (Ps)
Common Hawthorn	<i>Crataegus monogyna</i> (Cm)
Common lime	<i>Tilia × europaea</i> (Txe)
Crab apple	<i>Malus sylvestris</i> (Ms)
Dog rose	<i>Rosa canina</i> (Rc)
Elder	<i>Sambucus nigra</i> (Sn)
English Elm	<i>Ulmus procera</i> (Up)
English oak	<i>Quercus robur</i> (Qr)
Field maple	<i>Acer campestre</i> (Ac)
Hazel	<i>Corylus avellana</i> (Ca)
Holly	<i>Ilex aquifolium</i> (Ia)
Privet species	<i>Ligustrum</i> sp. (Lsp)
Wych elm	<i>Ulmus glabra</i> (Ug)

Condition Assessment

Condition Assessment Criteria		
A1. Height >1.5 m average along length		
A2. Width >1.5 m average along length		
B1. Gap Hedge base gap between ground and base of canopy 90% of length (unless 'line of trees')		
B2. Gap – Hedge canopy continuity. Gaps make up 5 m		
C1. Undisturbed ground and perennial vegetation >1 m 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 hedge (at least)		
C2. Undesirable perennial vegetation Plant species indicative of nutrient enrichment of soils dominate		
D1. Invasive and neophyte species >90% of the hedgerow and undisturbed ground is free of invasive non-native and neophyte species		
D2. Current damage >90% of the hedgerow or undisturbed ground is free of damage caused by human activities		
Additional criteria for hedge with trees		
E1. Tree Age At least one mature tree per 30m stretch of hedgerow. A mature tree is one that is at least 2/3 expected fully mature height for the species.		
E2. Tree Health At least 95% of hedgerow trees are in a healthy condition (excluding veteran features valuable for wildlife). 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.		
Hedgerow No more than 2 failures in total; AND No more than 1 in any functional group.		Good
No more than 4 failures in total; AND Does not fail both attributes in more than one functional group		Moderate
Fails a total of more than 4 attributes; OR Fails both attributes in more than one functional group		Poor
Hedgerow with trees		
No more than 2 failures in total; AND No more than 1 failure in any functional group		Good
No more than 5 failures in total; AND Does not fail both attributes in more than one functional group		Moderate
Fails a total of more than 5 attributes; OR Fails both attributes in more than one functional group		Poor

Hedgerow Number	Criteria										Condition
	A1	A2	B1	B2	C1	C2	D1	D2	E1	E2	
1	P	P	F	F	F	F	P	F	-	-	Poor
2	P	P	P	P	P	F	P	F	-	-	Good
3	P	P	F	F	F	F	P	F	F	P	Poor
4	P	P	P	P	F	F	P	F	-	-	Moderate
5	P	P	P	P	F	F	P	P	F	P	Moderate
6	P	P	P	P	F	F	P	P	-	-	Moderate
7	P	P	P	P	F	F	P	P	-	-	Moderate
8	P	P	P	P	P	F	F	F	-	-	Moderate
9	P	P	P	P	F	F	P	F	F	P	Moderate
10	P	P	P	P	F	F	P	P	F	P	Moderate
11	P	P	F	P	F	F	P	F	-	-	Moderate
12	P	P	F	F	F	F	P	F	-	-	Poor
13	P	P	P	P	F	F	F	F	-	-	Poor
14	P	P	P	P	F	F	F	P	-	-	Moderate
15	P	P	P	P	F	F	P	P	F	P	Moderate
16	P	P	F	F	F	F	P	P	F	P	Poor
17	P	P	F	F	F	F	P	P	P	P	Poor
20	P	P	F	P	F	F	P	P	-	-	Moderate
21	P	P	P	P	F	F	P	P	-	-	Good
22	P	P	P	P	F	F	P	F	F	P	Moderate
23	P	P	F	P	F	F	P	F	-	-	Moderate



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Key

 **Red Line Boundary**

Baseline Habitats

 **Developed land; sealed surface**

 **Modified grassland**

 **Ponds (priority habitat)**

 **Tall forbs**

Baseline Hedgerows

 **Native hedgerow**

 **Native hedgerow - associated with bank or ditch**

 **Native hedgerow with trees**

 **Native hedgerow with trees - associated with bank or ditch**



client
David Wilson Homes East Midlands

project
Batlestone Road, Newbold Verdon

drawing title
BASELINE HABITATS

scale @ A3
1:2,500

drawn
MPG/VJF

issue date
19/9/2024

drawing / figure number
Figure 1



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Key

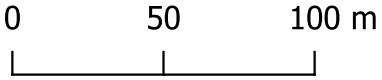
 **Red Line Boundary**

Proposed Habitats

-  **Bioswale**
-  **Cemeteries and churchyards**
-  **Developed land; sealed surface**
-  **Mixed scrub**
-  **Modified grassland**
-  **Other neutral grassland**
-  **Ponds (non-priority habitat)**
-  **Sustainable drainage system**
-  **Traditional orchards**
-  **Vegetated garden**

Proposed Hedgerows

-  **Native hedgerow**
-  **Native hedgerow - associated with bank or ditch**
-  **Native hedgerow with trees**
-  **Native hedgerow with trees - associated with bank or ditch**
-  **Species-rich native hedgerow**





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project
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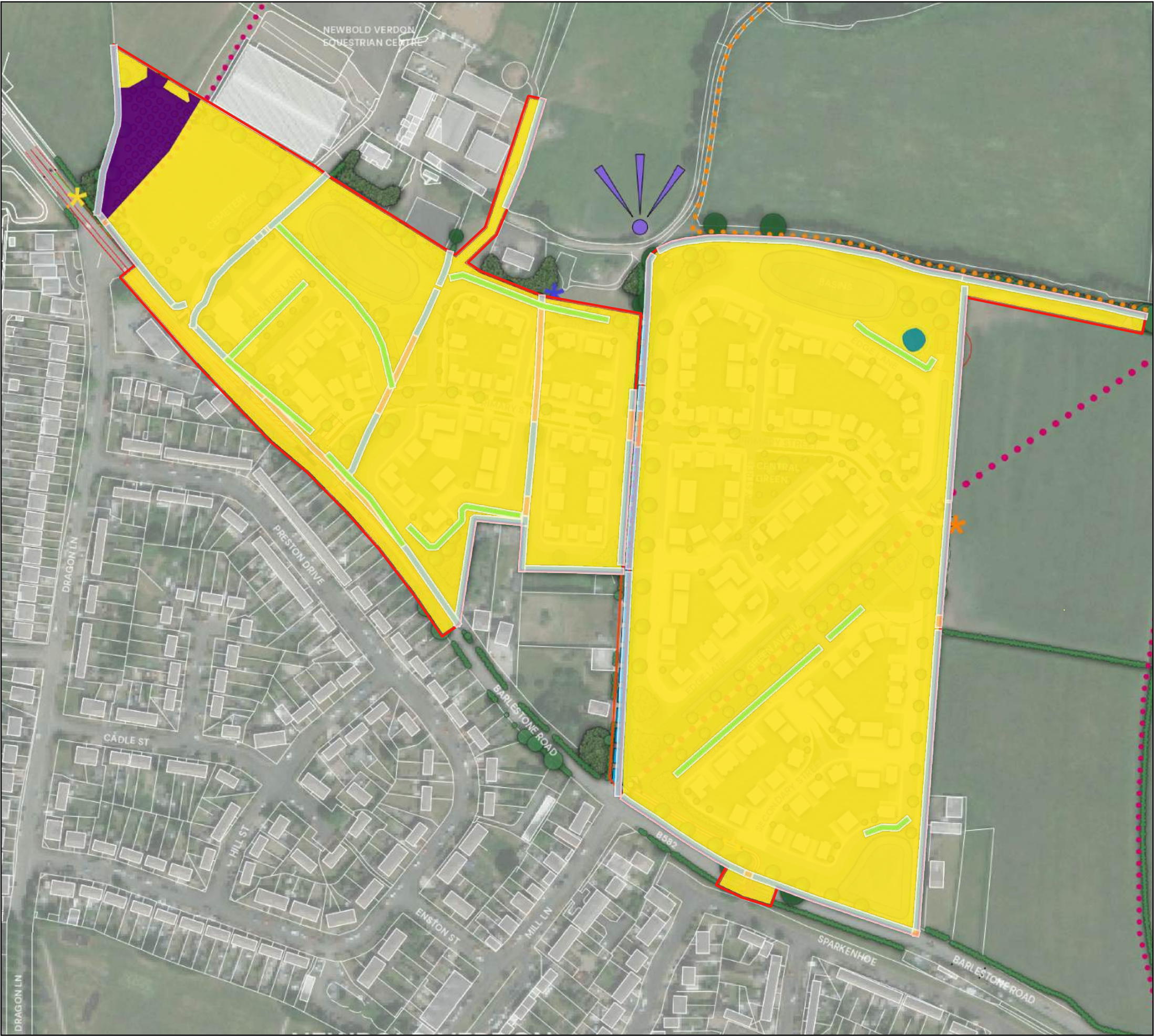
drawing title
PROPOSED HABITATS

scale @ A3
1:2,500

drawn
MPG/VJF

issue date
19/9/2024

drawing / figure number
Figure 2



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Key

 **Red Line Boundary**

Retained Habitats

 **Enhanced**

 **Retained**

 **Lost**

Retained Hedgerows

 **Created**

 **Retained**

 **Lost**



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Barlestone Road, Newbold Verdon

drawing title
HABITAT RETENTION

scale @ A3
1:2,500

drawn
???MPG/VJF

issue date
19/9/2024

drawing / figure number
Figure 3



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Key

 **Red Line Boundary**

Baseline Habitat Condition

 **Moderate**

 **Poor**

 **N/A - Other**

Baseline Habitat Distinctiveness

 **High**

 **Low**

 **V.Low**

Baseline Hedgerow Condition

 **Good**

 **Moderate**

 **Poor**

Baseline Hedgerow Distinctiveness

 **High**

 **Medium**

 **Low**





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Key

 Red Line Boundary

Proposed Habitat Condition

 Moderate

 Poor

 N/A - Other

 Condition Assessment N/A

Proposed Habitat Distinctiveness

 High

 Medium

 Low

 V.Low

Proposed Hedgerow Condition

 Good

 Moderate

 Poor

Proposed Hedgerow Distinctiveness

 High

 Medium

 Low

Barlestone Road, Newbold Verdon
Headline Results
Scroll down for final results ⚠

Return to results menu

On-site baseline	Habitat units	26.14	
	Hedgerow units	14.23	
	Watercourse units	0.00	
On-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	30.16	
	Hedgerow units	16.03	
	Watercourse units	0.00	
On-site net change (units & percentage)	Habitat units	4.02	15.37%
	Hedgerow units	1.79	12.61%
	Watercourse units	0.00	0.00%

Off-site baseline	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site post-intervention (Including habitat retention, creation & enhancement)	Habitat units	0.00	
	Hedgerow units	0.00	
	Watercourse units	0.00	
Off-site net change (units & percentage)	Habitat units	0.00	0.00%
	Hedgerow units	0.00	0.00%
	Watercourse units	0.00	0.00%

Combined net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	4.02
	Hedgerow units	1.79
	Watercourse units	0.00
Spatial risk multiplier (SRM) deductions	Habitat units	0.00
	Hedgerow units	0.00
	Watercourse units	0.00

FINAL RESULTS

Total net unit change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	4.02
	Hedgerow units	1.79
	Watercourse units	0.00
Total net % change (Including all on-site & off-site habitat retention, creation & enhancement)	Habitat units	15.37%
	Hedgerow units	12.61%
	Watercourse units	0.00%
Trading rules satisfied?	Yes ✓	

Unit Type	Target	Baseline Units	Units Required	Unit Deficit
Habitat units	10.00%	26.14	28.75	0.00
Hedgerow units	10.00%	14.23	15.66	0.00
Watercourse units	10.00%	0.00	0.00	0.00

No additional area habitat units required to meet target ✓
No additional hedgerow units required to meet target ✓
No additional watercourse units required to meet target ✓

Project Name: Barlestone Road, Newbold Verdon Map Reference:

A-1 On-Site Habitat Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Area habitat summary	
Total Net Unit Change	4.02
Total Net % Change	18.37%
Trading Rules Satisfied	Yes ✓

Existing area habitats					Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline	
Ref	Broad Habitat	Habitat Type	Irreplaceable habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance		Total habitat units	
1	Grassland	Modified grassland	No	12.6433	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	25.29	
2	Grassland	Modified grassland	No	0.0242	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.05	
3	Grassland	Modified grassland	No	0.2478	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.50	
4	Lakes	Ponds (priority habitat)	No	0.018	High	Moderate	Area/compensation not in local strategy/ no local strategy	Same habitat required =	0.22	
5	Sparsely vegetated land	Tall forbs	No	0.0465	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness or better habitat required ≥	0.09	
6	Urban	Developed land: sealed surface	No	0.7524	V Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Compensation Not Required	0.00	
7										
8										
9										
10										
11										
				Total habitat area	13.73					26.14
				Site Area (Excluding area of individual trees, green walls, intertidal hard structures)	13.73					

Area retained	Area enhanced	Baseline units retained	Baseline units enhanced	Area habitat lost	Units lost	bespoke compensation agreed for losses of VHDH or irreplaceable habitat	Comments		
							User comments	Planning authority comments	Habitat reference number
0	0	0.00	0.00	12.64	25.29				
0	0.0242	0.00	0.05	0.00	0.00				
0	0.2478	0.00	0.50	0.00	0.00				
0.018	0	0.22	0.00	0.00	0.00				
0	0	0.00	0.00	0.05	0.09				
0	0	0.00	0.00	0.75	0.00				
0.02	0.27	0.22	0.54	13.44	25.38				
Total area lost (excluding area of individual trees, green walls and intertidal hard structures)					13.44				

M² to hectares conversion tool:	Select a unit	Hectares	M²

Project Name: Barlestone Road, Newbold Verdon Map Reference:

A-2 On-Site Habitat Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Area habitat summary	
Total Net Unit Change	4.02
Total Net % Change	15.37%
Trading Rules Satisfied	Yes ✓
Area Check	Area Aceptable ✓

	Post intervention habitats													
Ref	Broad Habitat	Proposed habitat	Area (hectares)	Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty		Habitat units delivered	Comments		
				Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition		Final time to target condition (years)	Final difficulty of creation		User comments	Planning authority comments	Habitat reference number
1	Grassland	Modified grassland	1.0295	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		4	Low	3.57	Modified grassland located between modified grassland (poor condition) and other neutral grassland and mixed scrub. Considered likely to pass criteria A, C, E, F and G		
2	Grassland	Modified grassland	1.0946	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		1	Low	2.11	Midified grassland areas located within streetscape, surrounding LEAPs and directly next to roads where 6-8 species per square meter is unlikely and will have damage. Fails criteria A		
3	Grassland	Other neutral grassland	1.4966	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		5	Low	10.02	Grassland buffering retained hedgerows and grassland within extensive POS/GI areas. Considered likely to pass criteria A, C, D and E.		
4	Heathland and shrub	Mixed scrub	0.4311	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		5	Low	2.89	Smaller areas of mixed scrub where glades, rides and clearings are unlikely to form. Likely to pass all criteria except E.		
5	Urban	Bioswale	0.1367	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		1	Medium	0.35	Narrow swales. Planting and design unknown at this time. Allocated as poor condition.		
6	Urban	Cemeteries and churchyards	0.4589	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		15	Medium	1.44	Proposed cemetery within north-west of the site. Allotcated as poor as management cannot be guarenteed at this time. Allocated as poor condition.		
7	Urban	Developed land; sealed surface	5.5315	V.Low	N/A - Other	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		0	Low	0.00			
8	Urban	Sustainable drainage system	0.6876	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		3	Medium	1.66	Three SuDS basins. At this time, limited detail of proposed design and planting. Allocated as poor condition.		
9	Urban	Vegetated garden	2.5757	Low	Condition Assessment N/A	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		1	Low	4.97			
10	Individual trees	Urban tree	0.5252	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied		10	Low	1.47	indicative 129 proposed trees located outside of private dwellings. Small size.		
11														
12														
13														
14														
15														
Total habitat area			13.97											
Site Area (Excluding area of individual trees, green walls, intertidal hard structures)			13.44											
M² to hectares conversion tool:			Select a unit	Hectares	M²									

Project Name: Barlestone Road, Newbold Verdon

Map Reference:

B-1 On-Site Hedge Baseline

Condense / Show Columns

Condense / Show Rows

Main Menu

Hedge row summary		
Total Net Unit Change	1.78	
Total Net % Change	18.81%	
Trading Rules Satisfied	Yes ✓	

Existing hedgerow habitats				Distinctiveness	Condition	Strategic significance	Required Action to Meet Trading Rules	Ecological baseline	Comments								
Ref	Hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance		Total hedgerow units	Length retained	Length enhanced	Units retained	Units enhanced	Length lost	Units lost	User comments	Planning authority comments	Habitat reference number
1		Native hedgerow	0.008	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.05	0.008	0	0.05	0.00	0.00	0.00			
2		Native hedgerow	0.031	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.12	0.031	0	0.12	0.00	0.00	0.00			
3		Native hedgerow	0.099	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.40	0.099	0	0.40	0.00	0.00	0.00			
4		Native hedgerow	0.062	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.25	0.062	0	0.25	0.00	0.00	0.00			
5		Native hedgerow	0.029	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.06	0.029	0	0.06	0.00	0.00	0.00			
6		Native hedgerow	0.138	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.55	0.138	0	0.55	0.00	0.00	0.00			
7		Native hedgerow with trees	0.196	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.78	0.196	0	0.78	0.00	0.00	0.00			
8		Native hedgerow with trees - associated with bank or ditch	0.115	High	Moderate	Area/compensation not in local strategy/ no local strategy	Like for like or better	1.38	0.115	0	1.38	0.00	0.00	0.00			
9		Native hedgerow	0.008	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.03	0	0	0.00	0.00	0.01	0.03			
10		Native hedgerow	0.189	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	1.13	0.189	0	1.13	0.00	0.00	0.00			
11		Native hedgerow with trees	0.005	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.04	0	0	0.00	0.00	0.01	0.04			
12		Native hedgerow	0.009	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.05	0.009	0	0.05	0.00	0.00	0.00			
13		Native hedgerow	0.001	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.00	0.001	0	0.00	0.00	0.00	0.00			
14		Native hedgerow with trees	0.07	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.28	0.07	0	0.28	0.00	0.00	0.00			
15		Native hedgerow	0.019	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.11	0.019	0	0.11	0.00	0.00	0.00			
16		Native hedgerow	0.055	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.33	0	0	0.00	0.00	0.06	0.33			
17		Native hedgerow with trees	0.006	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.05	0.006	0	0.05	0.00	0.00	0.00			
18		Native hedgerow with trees	0.013	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.10	0.013	0	0.10	0.00	0.00	0.00			
19		Native hedgerow	0.077	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.31	0.077	0	0.31	0.00	0.00	0.00			
20		Native hedgerow with trees	0.078	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.62	0.078	0	0.62	0.00	0.00	0.00			
21		Native hedgerow	0.131	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.52	0.131	0	0.52	0.00	0.00	0.00			
22		Native hedgerow	0.004	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.02	0	0	0.00	0.00	0.00	0.02			
23		Native hedgerow	0.061	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.37	0.061	0	0.37	0.00	0.00	0.00			
24		Native hedgerow	0.105	Low	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.21	0.105	0	0.21	0.00	0.00	0.00			
25		Native hedgerow with trees	0.003	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.02	0	0	0.00	0.00	0.00	0.02			
26		Native hedgerow	0.067	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.27	0	0	0.00	0.00	0.07	0.27			
27		Native hedgerow	0.006	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.02	0	0	0.00	0.00	0.01	0.02			
28		Native hedgerow with trees	0.058	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.46	0	0	0.00	0.00	0.06	0.46			
29		Native hedgerow with trees	0.028	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.22	0.028	0	0.22	0.00	0.00	0.00			
30		Native hedgerow with trees	0.007	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.06	0.007	0	0.06	0.00	0.00	0.00			
31		Native hedgerow with trees	0.073	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.58	0	0	0.00	0.00	0.07	0.58			
32		Native hedgerow with trees	0.047	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.38	0.047	0	0.38	0.00	0.00	0.00			
33		Native hedgerow with trees	0.008	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.06	0	0	0.00	0.00	0.01	0.06			
34		Native hedgerow with trees	0.019	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.15	0	0	0.00	0.00	0.02	0.15			
35		Native hedgerow	0.016	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.06	0.016	0	0.06	0.00	0.00	0.00			
36		Native hedgerow	0.019	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.08	0	0	0.00	0.00	0.02	0.08			
37		Native hedgerow with trees	0.075	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.60	0.075	0	0.60	0.00	0.00	0.00			
38		Native hedgerow with trees	0.091	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.73	0.091	0	0.73	0.00	0.00	0.00			
39		Native hedgerow with trees	0.005	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.04	0	0	0.00	0.00	0.01	0.04			
40		Native hedgerow with trees	0.103	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.82	0.103	0	0.82	0.00	0.00	0.00			
41		Native hedgerow	0.067	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.27	0.067	0	0.27	0.00	0.00	0.00			
42		Native hedgerow	0.012	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.05	0	0	0.00	0.00	0.01	0.05			
43		Native hedgerow	0.061	Low	Good	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.37	0.061	0	0.37	0.00	0.00	0.00			
44		Native hedgerow with trees	0.042	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.34	0.042	0	0.34	0.00	0.00	0.00			
45		Native hedgerow with trees	0.006	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.02	0.006	0	0.02	0.00	0.00	0.00			
46		Native hedgerow with trees	0.004	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.02	0.004	0	0.02	0.00	0.00	0.00			
47		Native hedgerow with trees	0.002	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.01	0	0	0.00	0.00	0.00	0.01			
48		Native hedgerow with trees	0.046	Medium	Poor	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.18	0.046	0	0.18	0.00	0.00	0.00			
49		Native hedgerow	0.019	Low	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.08	0	0	0.00	0.00	0.02	0.08			
50		Native hedgerow - associated with bank or ditch	0.069	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Same distinctiveness band or better	0.55	0.069	0	0.55	0.00	0.00	0.00			
51																	
52																	
53																	
54																	
55																	
			2.46					14.53	2.10	0.00	11.58	0.00	0.36	2.39			

Project Name: Barlestone Road, Newbold Verdon Map Reference:

B-2 On-Site Hedge Creation

Condense / Show Columns

Condense / Show Rows

Main Menu

Hedgerow summary	
Total Net Unit Change	1.79
Total Net % Change	12.61%
Trading Rules Satisfied	Yes ✓

		Proposed habitats		Distinctiveness	Condition	Strategic significance	Temporal multiplier		Difficulty risk multipliers	Hedge units delivered	Comments		
Ref	New hedge number	Habitat type	Length (km)	Distinctiveness	Condition	Strategic significance	Standard or adjusted time to target condition	Final time to target condition (years)	Final difficulty of creation		User comments	Planning authority comments	Habitat reference number
1		Native hedgerow	0.067	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	0.13			
2		Species-rich native hedgerow	0.129	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.86			
3		Species-rich native hedgerow	0.101	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.68			
4		Species-rich native hedgerow	0.088	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.59			
5		Species-rich native hedgerow	0.118	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.79			
6		Species-rich native hedgerow	0.027	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.18			
7		Native hedgerow	0.068	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	0.13			
8		Native hedgerow	0.072	Low	Poor	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	1	Low	0.14			
9		Species-rich native hedgerow	0.025	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.17			
10		Species-rich native hedgerow	0.057	Medium	Moderate	Area/compensation not in local strategy/ no local strategy	Standard time to target condition applied	5	Low	0.38			
11													
12													
13													
			0.75								4.05		

Appendix C: Static Bat Detector Results

Recording Period	Unit No.	Start Date	End Date	Survey Hours	Total Av. per hour	Total Registrations	Common Pipistrelle			Soprano Pipistrelle			Myotis Species			Noctule			Brown Long-eared			Nyctalus Species		
							Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour	Period Total	Peak Count	Av. Per Hour
Spring	2	09/05/2024	14/05/2024	46:38:51	8.039	375	308	143	6.603	27	15	0.579	21	7	0.450	12	7	0.257	7	3	0.150	0	0	0.000
Spring	13	09/05/2024	14/05/2024	46:38:51	87.293	4072	3245	809	69.564	758	374	16.250	43	15	0.922	20	8	0.429	6	4	0.129	0	0	0.000
Summer	11	16/08/2023	21/08/2023	52:39:57	9.684	510	245	101	4.652	172	72	3.266	49	23	0.930	21	10	0.399	19	7	0.361	4	3	0.076
Autumn	5	18/09/2023	23/09/2023	63:38:01	0.566	36	26	12	0.409	4	2	0.063	1	1	0.016	2	1	0.031	3	2	0.047	0	0	0.000
			Totals:	209:35:42	23.822	4993	3824	809	18.245	961	374	4.585	114	23	0.544	55	10	0.262	35	7	0.167	4	3	0.019

APPENDIX D GCN EDNA SURVEY RESULTS

Client: Beth Sydenham,
FPCR Environment and Design Ltd



ADAS
Spring Lodge
172 Chester Road
Helsby
WA6 0AR

Tel: 01159 229249
Email: Helen.Rees@adas.co.uk

www.adas.uk

Sample ID: ADAS-3628 Condition on Receipt: White Precipitate Volume: Passed
Client Identifier: P1-11314 Description: pond water samples in preservative
Date of Receipt: 19/04/2024 Material Tested: eDNA from pond water samples

Determinant	Result	Method	Date of Analysis
Inhibition Control [†]	2 of 2	Real Time PCR	23/04/2024
Degradation Control [§]	Within Limits	Real Time PCR	23/04/2024
Great Crested Newt*	0 of 12 (GCN negative)	Real Time PCR	23/04/2024
Negative PCR Control (Nuclease Free Water)	0 of 4	Real Time PCR	As above for GCN
Positive PCR Control (GCN DNA 10 ⁻⁴ ng/μL) [#]	4 of 4	Real Time PCR	As above for GCN
Report Prepared by:	Dr Helen Rees	Report Issued by:	Dr Ben Maddison
Signed:		Signed:	
Position:	Director: Biotechnology	Position:	MD: Biotechnology
Date of preparation:	23/04/2024	Date of issue:	23/04/2024

eDNA analysis was carried out in accordance with the stipulated methodology found in the Technical Advice Note (WC1067 Appendix 5 Technical Advice Note) published by DEFRA and adopted by Natural England.

** If all PCR controls and extraction blanks give the expected results a sample is considered: negative for great crested newt if all of the replicates are negative; positive for great crested newt if one or more of the replicates are positive.*

[†] Recorded as the number of positive replicate reactions at expected C_t value. If the expected C_t value is not achieved, the sample is considered inhibited and is diluted as per the technical advice note prior to amplification with great crested newt primer and probes.

[§] No degradation is expected within time frame of kit preparation, sample collection and analysis.

[#] Additional positive controls (10⁻¹, 10⁻², 10⁻³ ng/μL) are also routinely run, results not shown here.

Appendix 1: Interpretation of results

Sample Condition

Upon sample receipt we score your samples according to quality: good, low sediment, medium sediment, high sediment, white precipitate, and presence of algae.

There are three reasons as to why sediment should be avoided:

1. It is possible for DNA to persist within the sediment for longer than it would if it was floating in the water which could lead to a false positive result i.e. in this case GCN not recently present but present a long time ago
2. In some cases sediment can cause inhibition of the PCR analysis used to detect GCN eDNA within samples which could lead to an indeterminate result.
3. In some cases sediment can interfere with the DNA extraction procedure resulting in poor recovery of the eDNA which in turn can lead to an indeterminate result.

Algae can make the DNA extraction more difficult to perform so if it can be avoided then this is helpful.

Sometimes samples contain a white precipitate which we have found makes the recovery of eDNA very difficult. This precipitate can be present in such high amounts that it interferes with the eDNA extraction process meaning that we cannot recover the degradation control (nor most likely the eDNA itself) at sufficient levels for the control to be within the acceptable limits for the assay, therefore we have to classify these type of samples as indeterminate.

What do my results mean?

A positive result means that great crested newts are present in the water or have been present in the water in the recent past (eDNA degrades over around 7-21 days).

A negative result means that DNA from the great crested newt has not been detected in your sample.

On occasion an inconclusive result will be issued. This occurs where the DNA from the great crested newt has not been detected but the controls have indicated that either: the sample has been degraded and/or the eDNA was not fully extracted (poor recovery); or the PCR inhibited in some way. This may be due to the water chemistry or may be due to the presence of high levels of sediment in samples which can interfere with the DNA extraction process. A re-test could be performed but a fresh sample would need to be obtained. We have successfully performed re-tests on samples which have had high sediment content on the first collection and low sediment content (through improved sample collection) on the re-test. If water chemistry was the cause of the indeterminate then a re-test would most likely also return an inconclusive result.

The results will be recorded as indeterminate if the GCN result is negative and the degradation result is recorded as:

1. evidence of decay - meaning that the degradation control was outside of accepted limits
2. evidence of degradation or residual inhibition - meaning that the degradation control was outside of accepted limits but that this could have been due to inhibitors not being removed sufficiently by the dilution of inhibited samples (according to the technical advice note)