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Ecological Consultants
Environmental and Rural Chartered Surveyors

Preliminary Ecological Appraisal

High House Farm, Whitehaven, CA28 9RB

Green at Heart BEN GOLD

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Tel: 015395 61894
Email: info@envtech.co.uk
Web: www.envtech.co.uk
Envirotech NW Ltd
The Stables, Back Lane, Hale, Milnthorpe, Cumbria. LA7 7BL
Directors: A. Gardner BSc (Hons), MSc, MRICS, Dip NDEA
H. Gardner BSc (Hons), MSc, CEnv, MRICS
Registered in England and Wales. Company Registration Number 5028111

ACCURACY OF REPORT

This report has been compiled based on the methodology as detailed and the professional experience of the surveyor. Whilst the report reflects the situation found as accurately as possible, all of the protected species this survey covers are wild and can move freely from site to site. Their presence or absence detailed in this report does not entirely preclude the possibility of a different past, current or future use of the site surveyed.

We would ask all clients acting upon the contents of this report to show due diligence when undertaking work on their site and/or in their interaction with protected species. If protected species are found during a work programme, and continuing the work programme could result in their disturbance, injury or death, either directly or indirectly an offence may be committed.

If in doubt, stop work and seek further professional advice.

Quality and Environmental Assurance

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1. EXECUTIVE SUMMARY

1.1.1 Envirotech NW Ltd were commissioned in October 2025 to carry out a Preliminary Ecological Appraisal of land at High House Farm, Whitehaven.

1.1.2 It is proposed four new dwellings are constructed on site. The existing farmhouse is to be retained but will be altered.

1.1.3 A data search and desk study of the site and an area within 2km of the site were undertaken to establish the presence of protected species and notable habitats.

1.1.4 The site was then visited by a licenced ecologist from Envirotech NW Ltd on 7th January 2026. A full botanical survey of the site was initially undertaken and this was followed by surveys to establish the presence or absence of notable species at the site or in proximity such that they may be affected by the proposed development.

1.1.5 The plant species assemblages recorded at the site are all common in the local area and are considered to be of low ecological value.

1.1.6 It is understood the site is to be managed sympathetically with new tree and hedgerow planting, substitution of hardstanding areas for gardens and enhancement of boundary scrub.

1.1.7 Birds are likely to utilise scrub on site for nesting between March and September. Any vegetation clearance should therefore be undertaken outside of this period.

1.1.8 The workshop and garage elevations to be removed showed no recent or historic evidence of use by roosting bats. We judge there to be no ecological constraints with respect to demolition works at this time.

1.1.9 No other notable or protected species were recorded on the site.

2. INTRODUCTION

2.1 Background

2.1.1 In October 2025 Envirotech NW Ltd were commissioned by Westwood Landscape Design to carry out a Preliminary Ecological Appraisal of land at High House Farm, Whitehaven, central grid reference NX 97372 15641 (Figure 1). A site investigation was undertaken and a report compiled which includes recommendations for any future actions and or mitigation required.

2.1.2 The survey was requested in connection with the proposed construction of four new dwellings. The existing farmhouse is to be retained but will be altered.

2.2 Objectives

2.2.1 The main objectives of the study were:

- The completion of a UKHabs Version 2 (UKHab Ltd (2023)) survey including the preparation of a vegetation and habitat map of the site and the immediate surrounding area.
- The survey and assessment of all habitats for statutorily protected species.
- An evaluation of the ecological significance of the site.
- The identification of any potential development constraints and the specification of the scope of mitigation and enhancement required in accordance with wildlife legislation, planning policy and other relevant guidance, and;
- The identification of any further surveys or precautionary assessments that may be required prior to the commencement of any development activities.

3. METHODOLOGY AND SOURCES OF INFORMATION

3.1 Data Search

3.1.1 The Envirotech dataset, National Biodiversity Network (NBN) and the Multi-Agency Geographic Information for the Countryside (MAGIC) were searched to establish the presence of any records of statutorily protected, notable or rare species, and any designated sites of international, national, regional or local importance within a 2km radius of the site boundary.

3.1.2 The Envirotech dataset is compiled from extensive field surveys from the period 2004-present, as well as records obtained from third parties during this time.

3.1.3 Google Earth and Google Street View were consulted to establish the presence of any features of ecological importance within the local area.

3.1.4 Due to the scale of development, in accordance with CIEEM guidelines, a data search of the county records centre was not required. The likely presence and impact on protected species could be adequately determined from the level of data search undertaken.

3.2 Vegetation and Habitats

3.2.1 A vegetation and habitat map was produced for the site and the immediate surrounding area. The mapping is based on the UKHabs V2 survey and reporting methodology.

3.2.2 Searches were made for uncommon, rare and statutorily protected plant species, those species listed as protected in the Wildlife and Countryside Act (1981) and indicators of important and uncommon plant communities. All plant nomenclature follows Stace (2019).

3.2.3 Searches were carried out for the presence of invasive species, including those listed on Schedule 9 of the Wildlife and Countryside Act (1981), namely Japanese knotweed (*Fallopia japonica*), Himalayan balsam (*Impatiens glandulifera*) and giant hogweed (*Heracleum mantegazzianum*) on terrestrial habitat and aquatic species such as floating pennywort (*Hydrocotyle ranunculoides*), water hyacinth (*Eichhornia crassipes*) and New Zealand pygmyweed (*Crassula helmsii*).

3.2.4 The survey was also informed by questioning the landowner/site agent to ascertain the recent history of the site.

3.2.5 Habitats of Principal Importance (HPI) were cross referenced with Natural England's inventory against the site boundary and where found ground truthed.

3.3 Timing and Personnel

3.3.1 During the visit, weather conditions were suitable for the survey types undertaken.

3.3.2 The site and surrounding land were visited on 7th January 2026 by: -

- (BF) Mr Bradley Foster MEnv (Hons)
  Natural England Bat Class Licence (Level 1)
  Natural England Barn Owl Licence (Agent)
  Natural England Great Crested Newt Licence (Level 1)

4. SPECIES SURVEY METHODOLOGY

4.1 Amphibian

4.1.1 Great crested newts (*Triturus cristatus*) are protected under Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 and Schedule 5 of the Wildlife & Countryside Act (1981).

4.1.2 Water-bodies located within or adjacent to the study area were identified and where access was possible were assessed for their potential to support great crested newts.

4.1.3 The criteria used in the assessment are based on those contained in the Herpetofauna Workers Manual and Oldham et al, 2000, and in applying these criteria a precautionary approach was adopted. Following the criteria developed by Oldham et al (2000), the HSI tool developed for use with great crested newts and forming part of Natural England's Licensing process was used to determine the suitability of ponds for great crested newts.

4.1.4 The pond assessment was undertaken in order to determine which water-bodies, based on their potential to support great crested newts, should be subject to presence/absence surveys.

4.1.5 From a review of Ordnance Survey maps, modern satellite imagery and having ground-truthed the site, there are three known bodies of water within a 250m radius of the site boundary. These waterbodies constitute a series of artificial balancing ponds and are located between 30 and 125m south-east of the site boundary.

4.1.6 Resultingly, the site was considered sufficiently low risk for use by GCN such that no further assessments were deemed necessary.

4.2 Badger

4.2.1 Badgers (*Meles meles*) and their setts are protected under the Protection of Badgers Act (1992). This legislation arises from animal welfare issues (rather than on the basis of nature conservation grounds) and protects badgers from being killed, injured or disturbed whilst occupying a sett.

4.2.2 A disturbance to badgers in their setts may occur as a result of construction operations. Natural England recommends that the use of heavy machinery in proximity of a sett entrance should be avoided, with a 'disturbance free-zone' being established.

4.2.3 The degree of disturbance attributed to construction activity is a function of the background level of activity badgers are accustomed to and that which will be attributed to a proposed activity. The "disturbance free zone" is therefore site specific.

4.2.4 The survey for badgers comprised an assessment of all suitable habitat within and outside the study area boundary (where this was possible) to a distance of 30m for indications of use by badgers.

4.2.5 Signs of badgers which were searched for included:

- Setts - ‘D’ shaped entrances at least 25cms wide and wider than they are high with large spoil mounds
- Discarded bedding at sett entrances (this includes grass and leaves)
- Scratching posts on shrubs and trees close to a sett entrance
- The presence of badger hairs which are coarse, up to 100mm long with a long black section and a white tip
- Dung pit latrines and footprints
- Habitual runs through vegetation and beneath fences
- Hedgehog carcases

4.3 Bats

4.3.1 All British bat species are fully protected under Schedule 5 of the Wildlife and Countryside Act (1981), and are included on Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019, as a Protected Species. Taken together, these pieces of legislation make it an offence to:

- Intentionally or recklessly kill, injure or capture bats;
- Deliberately or recklessly disturb bats (whether in a roost or not);
- Damage, destroy or obstruct access to bat roosts.

4.3.2 The Bat Conservation Trust Collins, J. (ed) (2023) issued guidelines on bat survey methodology, a key feature of their recommendation is for the undertaking of a pre-survey assessment – an initial desk-study and a walkover assessment of the survey area and its surrounding area to identify the relative value of the habitats present for bats and likely commuting routes. This is to be followed by a survey program that is appropriate to the likely level of bat activity within the survey area to be determined by and based on the experience of the surveyor.

4.3.3 The potential value of the survey area for foraging bats was assessed through consideration of two main factors: professional knowledge of bat ecology and foraging behaviour in combination with the geographical location, topography and habitats present within the survey area and surrounds.

4.3.4 All trees and structures on and within the survey area boundary were assessed for their potential to support roosting or hibernating bats. This comprised a close inspection of all trees and buildings on the site to allow an assessment of their potential to be used by bats to be made by a licensed surveyor.

4.3.5 Trees were all assessed in accordance with Collins, J. (ed) (2023) and categorised as No potential, PRF-I or PRF-M. PRF I is only suitable for individual bats or very small numbers of bats either due to size or lack of suitable surrounding habitats. PRF M is suitable for multiple bats and may therefore be used by a maternity colony.

4.3.6 The site contains an existing farmhouse adjoined to the south-west by a series of garages/workshops. It is understood the existing farmhouse is to be retained, with all other elements demolished in order to facilitate development.

4.3.7 As a precautionary approach, both the farmhouse and adjoining garages/workshops were inspected for any recent or historic evidence of use by roosting bats. Survey methods included a visual assessment of the building from the ground and ladders, using binoculars, a torch and endoscope by a licensed bat surveyor.

4.3.8 An assessment of these buildings for use by roosting bats concluded that the reasonable probable absence of bats could be determined from the level of survey undertaken. We do not consider there to be a need for additional emergence activity surveys at this time.

4.4 Birds

4.4.1 All breeding birds, other than pest species, are protected under the Wildlife and Countryside Act of 1981 when building a nest, rearing young or sitting on eggs. Some bird species, such as barn owl (*Tyto alba*), are protected when near an active nest site. Several birds are listed as Species of Principal Importance (SPI).

4.4.2 Bird species and behaviour were noted during the field survey. All areas were covered equally, in order to avoid the subjective survey of better quality 'bird habitat'.

4.5 Brown Hare

4.5.1 The brown hare (*Lepus europaeus*) is a SPI.

4.5.2 The survey method involved walking boundaries and surveying with binoculars. The survey was conducted at a suitable distance to ensure that the hares were not disturbed. Generally, surveys were undertaken throughout the early afternoon and evening when hares are thought to be most active and feeding.

4.5.3 Where present the number of brown hares in each field or hedgerow was recorded, together with the nature and use of the field, climatic conditions and time of day. The presence of forms and faeces where present were also recorded.

4.6 Invertebrates

4.6.1 A general assessment was made of the study area's suitability for supporting invertebrates during the survey. The study area's lack of habitat diversity, species-poor composition and uniformity of vegetation structure (i.e., lack of variation in height and microtopography) resulted in our belief that a low diversity of invertebrates would be likely to occur across the site.

4.6.2 The extent of sampling was limited in that it could be confirmed that no SPI would be likely to be affected by the proposal.

4.7 Otter

4.7.1 Otters (*Lutra lutra*) are given protection by the Wildlife and Countryside Act (1981) as amended and Schedule 2 of the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019.

This protection means that it is an offence to deliberately or recklessly:

- Kill or injure otters;
- Destroy, damage or obstruct their dens, and
- Disturb them whilst in the den.

4.7.2 Watercourses were assessed for their suitability and for the presence of otters within 10m of the banks. The banks and scrub vegetation were carefully searched for spraints, feeding remains, runs, prints and couches/holts.

4.7.3 An unnamed stream sits in the base of the wooded gully to the west of the site boundary.

4.8 Reptiles

4.8.1 All native reptiles are protected in Britain under the Wildlife and Countryside Act of 1981. It is an offence to intentionally kill, injure, sell or advertise to sell any of the six native species.

4.8.2 The survey for these species was based on assessing the habitat type and suitability of the site. This comprised an assessment of satellite imagery for the site and surrounding area as well as comparison of the results from the records searches with habitat types. The general habitat at the site was evaluated in terms of its suitability to reptiles for foraging or breeding.

4.8.3 Reptile surveys comprising visual encounter surveys were undertaken. Habitat at the site was not considered sufficiently suitable for a full presence/absence survey to be warranted.

4.9 Survey limitations

4.9.1 The survey was undertaken in winter. At this time of year plant species are less easily identified and the activity of some species is reduced.

4.9.2 Due to the habitats present on site there were no significant constraints in respect of identifying the botanical interest of the site.

4.9.3 The duration, extent and scope of the surveys were considered sufficient to plan appropriate mitigation and recommend additional precautionary survey work required prior to the commencement of work.

4.9.4 No significant survey limitations were encountered.

5. RESULTS

5.1 Data Search

5.1.1 Envirotech hold no records of protected or notable species for the site. There are however records of protected or notable species within 2km (Figure 2). These are discussed in the relevant sections below.

5.1.2 There are no known non-statutory protected sites within a 2km radius of the site boundary. Mapped priority woodland is however located 125m east of the site (Figure 3).

5.1.3 The nearest statutory protected site is St. Bees Head SSSI, located ~1200m west of the site boundary. The Solway Firth SPA and Cumbria Coast Marine Conservation Zone is also located within 2km (Figure 4).

Figure 2

Protected and
Notable Species

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Figure 3

Mapped Habitats of Principal Importance and Non-statutory Protected Sites

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Red Line Boundary

SSSI

SPA

Marine Conservation Zones

Figure 4

Protected Sites
and Habitats

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6. UKHabs V2 SURVEY RESULTS

6.1 Habitat Results

6.1.1 Figure 5 shows an aerial view of the core development area.

6.1.2 The site comprises an occupied farmhouse, garage/workshop and garden surrounded by hardstanding, modified grassland and scrub. The site is screened by a gully of woodland and scrub to the west, with residential housing to the north, south and west. Non-intensively managed grassland borders the site to the east, some of which has undergone recent tree planting.

6.1.3 See Figure 6 for the UK Habs V2 Plan and Table 1 for the descriptive Target Notes.

Figure 5- *Aerial view of the site (looking west)*

Target Note	Description	Comment
TN1	Farmhouse	An occupied farmhouse is located to the north-west half of the site, comprising a detached, two-storey dwelling constructed of rendered brick. The building sits beneath a pitched slate roof. It is understood the farmhouse is to be retained post-development. To the frontage of the farmhouse is a small garden area with amenity grass/lawn and ornamental shrubs comprising Lonicera sp., Euonymus sp., Jerusalem Sage *(Phlomis fruticosa)* and others.
TN2	Garage/Workshop	The farmhouse is adjoined at its south-west gable by a series of rendered block-built garages/workshops with flat corrugated metal roofs. It is understood these elevations are to be demolished in order to facilitate development.
TN3	Introduced Shrub	A hardstanding yard sits to the rear of the farmhouse, being bound by a retaining wall topped by Leylandii *(Leylandii x Cupressocyparis leylandii)* and Barberry sp., with Bramble *(Rubus fruticosus agg)* and occasional Privet *(Ligustrum vulgare)*.
TN4	Access	The site is accessed via a private road to the north-east. The road is fringed by a bank of maintained modified grassland with a species assemblage similar to TN5.
TN5	Modified Grassland	The southern half of the site comprises an open area of modified grassland and ephemeral/ruderal vegetation with Perennial Ryegrass (*Lolium perenne),* Meadow fescue *(Lolium pratense),* Red Fescue *(Festuca rubra),* Cocksfoot *(Dactylis glomerata),* Creeping Bent *(Agrostis stolonifera),* Annual Meadow Grass *(Poa annua),* Hairy Bittercress *(Cardamine hirsuta),* Square-stalked Willowherb *(Epilobium tetragonum),* Daisy *(Bellis perennis),* Chickweed *(Stellaria media),* Creeping Buttercup *(Ranunculus repens),* White Clover *(Trifolium repens),* Plantain *(Plantago major),* Ribwort Plantain *(Plantago lanceolata),* Ragwort *(Senecio jacobaea),* Slender Borage *(Borago pygmaea)* and Spiny Sowthistle *(Sonchus asper)*.
TN6	Mixed Scrub	The south-east edge of the site is screened by an informal bank of mixed scrub comprising Hawthorn *(Crataegus monogyna),* Elderberry (*Sambucus nigra),* Willow *(Salix sp.),* Privet and Bramble. Scrub is fringed by thickets of Nettle *(Urtica dioica),* False oat grass *(Arrhenatherum elatius),* Rough-stalked Meadow Grass *(Poa trivialis),* Hoary willowherb *(Epilobium parviflorum)* and Cleavers *(Galium aparine)*.
TN7	Stream	A vegetated gully separates the site from the housing to the west. In the base of the gully is a shallow stream <0.5m wide. The stream is bordered by occasional Bulrush *(Typha latifolia)* and Soft Rush (*Juncus effusus)* and is concealed along much of its length by

		overhanging scrub/woodland. The stream falls within ~12m of the site at its closest measured point.
TN8	Bramble Scrub	To the western edge of the site is a platform of dense Bramble scrub interlaced with occasional Nettle and Bracken (*Pteridium aquilinum).* Beyond the site boundary to the west is an area of mixed deciduous woodland with Ash *(Fraxinus excelsior),* Sycamore *(Acer pseudoplatanus),* Sessile Oak (*Quercus petraea),* Elder, Hawthorn, Hazel (*Corylus avellana),* Gorse *(Ulex europaeus)* and Blackthorn *(Prunus spinosa).* The woodland will not be impacted by development.
Table 1 *Details of Target Notes*		

Figure 6

UK Habs V2 Map
Pre- Development

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<table>
<tr><td>  </td><td>The site is reached via a private access road to the east</td></tr>
<tr><td>  </td><td rowspan="2">The site contains a detached farmhouse with pitched slate roof

The farmhouse is to be retained post-development

It is understood the farmhouse roof was recovered 10-15 years ago</td></tr>
<tr><td>  </td></tr>
</table>

	Slates are interlocking and flush with the roof
	North-east gable end of the cottage
	The western half of the farmhouse comprises the original part of the building

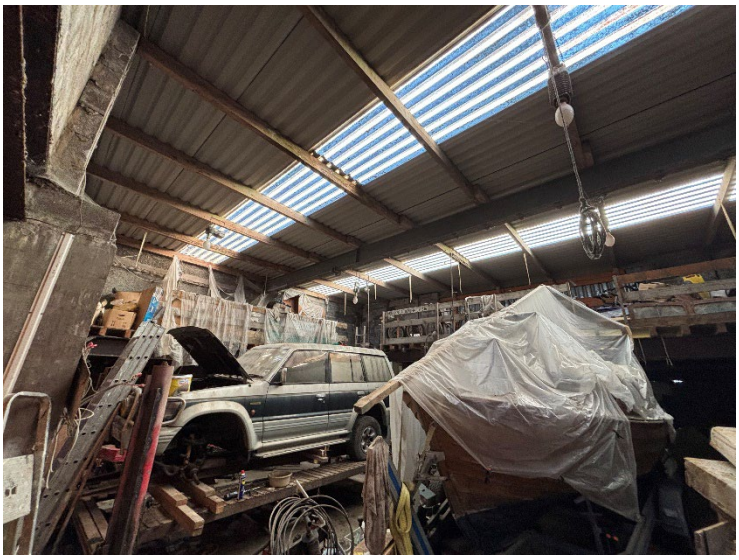
The south-west gable of the farmhouse is adjoined by a series of workshop and garage elevations

A precautionary check of the farmhouse roof void was undertaken during the survey

The roof is of a rafter construction with modern timbers and breathable membrane

Roof voids were found to be clean, with no recent or historic evidence of use by roosting bats

Looking west down the roof void of the original element of the farmhouse



The workshop and garage elevations comprise vaulted roof structures formed from corrugated metal sheeting

It is understood these buildings are to be demolished

<table>
<tr><td>  </td><td rowspan="2">A yard is located to the rear of the farmhouse and is fringed by thickets of ornamental shrub</td></tr>
<tr><td>  </td></tr>
<tr><td>  </td><td>A platform of bramble scrub is located to the west of the site and is to be enhanced as part of works</td></tr>
</table>

	The rear walls of the workshop and garage back onto the bramble scrub and gully below
	Small garden area and shrubs
	Looking south over the core development area

<table>
<tr>
<td>  </td>
<td>Looking north over the core development area

The grassland is short, uniform and dominated by common and injurious weeds</td>
</tr>
<tr>
<td>  </td>
<td rowspan="2">A bank of mixed scrub fringes the south-east margin of the site and is to be enhanced as part of works</td>
</tr>
<tr>
<td>  </td>
</tr>
</table>

<table>
<tr><td>  </td><td rowspan="2">A vegetated gully bounds the site to the west</td></tr>
<tr><td>  </td></tr>
<tr><td>  </td><td>A small shallow stream <0.5m wide occupies the base of the gully

The stream is located ~12m from the site boundary</td></tr>
</table>

	Three artificial balancing ponds are located between 30m and 125m south-east of the site boundary

Table 2 *Photographs*

6.2 Vegetation

6.2.1 Details of the plant species found on site are included in the target notes. Species recorded are all commonly occurring and undoubtedly occur elsewhere in similar habitats in the local area.

6.2.2 The core development area comprises a combination of hardstanding, vegetated garden, poor-quality modified grassland and ornamental shrub. Such habitats possess a low species diversity and ecological value, containing non-native specimens and common and injurious weeds. These species assemblages are indicative of regular disturbance and management and do not constitute Habitats of Principal Importance (HPI).

6.2.3 The site is bordered by a platform of bramble scrub to the west and a bank of mixed scrub to the south-east. A small area of mixed scrub to the south-east of the site will be lost to facilitate the new garden areas, but the remaining areas of scrub are to be enhanced.

6.2.4 There are no hedgerows on site.

6.2.5 There is no tree stock within the site boundary.

6.2.6 There is no evidence of Japanese knotweed, giant hogweed or Himalayan balsam on the site. No other invasive or notable weed species listed on Schedule 9 (Section 14) of the Wildlife and Countryside Act (1981) (as amended) was identified within the site or adjacent land.

6.3 Amphibian

6.3.1 There are 16 records of two species of amphibian within a 2km radius of the site on the Envirotech dataset. Records relate to Common Toad *(Bufo bufo)* and Common Frog *(Rana temporaria),* the nearest record located 500m west of the site.

6.3.2 From a review of Ordnance Survey maps, modern satellite imagery and having ground-truthed the site, there are three known bodies of water within a 250m radius of the site boundary. These waterbodies constitute a series of artificial balancing ponds located between 30 and 125m south-east of the site boundary. These are shown on Figure 7 below.

Red Line Boundary
100m Buffer
250m Buffer
Pond
Amphibians

Figure 7

Ponds, Buffer Zones and Amphibian Records

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6.3.3 The balancing ponds are rounded by ruderal vegetation, containing minimal amounts of marginal and aquatic vegetation. The balancing ponds are considered suboptimal for use by GCN given the presence of flowing water and variable water levels.

6.3.4 GCN surveys were undertaken of Pond 3 as part of the planning application for development to the West. This was negative.

6.3.5 The core development area has a low value to amphibians being open and exposed. Boundary vegetation could be utilised as refuges and/or hibernacula but there are no suitable breeding ponds in proximity to the site.

6.3.6 Structural diversity at ground level across the core development area is poor. There are no areas with log, rubble piles or compost heaps which would be particularly favourable to amphibians.

6.3.7 Amphibians would be unlikely to attempt to cross the site as it comprises an area that is mostly open with uniform length grass. Whilst not a physical barrier to the dispersal of amphibians, the site is regarded as being a potentially hostile environment to them.

6.4 Badger

6.4.1 There is a single record of badgers within 2km of the site on the Envirotech dataset, located ~1km east of the site boundary.

6.4.2 Badger setts do not occur on site and a lack of feeding signs or runs across the site would suggest that they do not occur within 30m of site boundaries.

6.4.3 The proposed development will not impact on any existing badger runs or setts. The porosity of the surrounding fields to the passage of badgers will not be affected.

6.5 Bats

6.5.1 There are 10 records of three species of bat within 2km of the site on the Envirotech dataset. Records relate to Common Pipistrelle *(Pipistrellus pipistrellus),* Soprano Pipistrelle *(Pipistrellus pygmaeus)* and Brown Long-Eared *(Plecotus auritus).*

6.5.2 The foraging habitat within the core development area is poor for bat species, comprising an open area of grassland within an exposed location. Such a habitat offers negligible foraging opportunities for bats. The bordering ornamental shrubbery and scrub are of a poor structure and diversity but remain connected to the vegetated gully to the west.

6.5.3 Despite being poor, the boundary vegetation offers the best foraging habitat for bats on the site. Whilst these areas of the site are the most structurally diverse, they are not considered exceptional in the local area. More extensive areas of medium and high-quality habitat occur locally, including the gardens and woodland bordering Whitehaven Cemetery ~750m to the north-east, in addition to the woodland and open water at Mirehouse Ponds ~750m to the south-east.

6.5.4 It is not considered there would be significant degradation of foraging habitat as a result of the proposal so long as all boundary vegetation is retained and or their loss is compensated for in any landscaping scheme.

6.5.1 All trees around the site perimeter were also assessed in accordance with Collins, J. (ed) (2023) and assigned a risk category. All of the trees on site were assessed as Negligible Risk. There is no defined tree stock within the site boundary, with all trees restricted to shrubs/small specimens within the surrounding areas of scrub.

6.5.2 No indications of roosting or highly suitable roost sites were located within the trees. All of the trees could be adequately inspected using a ground-based assessment and no additional aerial or emergence surveys were considered necessary to confirm risk. Risk categories from and the requirement for mitigation for each tree category are shown on Figure 8.

6.5.3 The farmhouse comprises a detached, two-storey, brick-built property with pitched slate roof and rendered walls. It is understood the roof was recovered approximately 10-15 years ago. The farmhouse is to be retained. As a precautionary approach however, the roof voids of the farmhouse were inspected. No recent or historic evidence of roosting bats was identified.

6.5.4 Adjoining the south-west gable end of the farmhouse is a block-built workshop and garage with flat corrugated metal roofs. It is understood these elevations are to be demolished to facilitate development. These elevations are of a simple construction with vaulted roof structures, single skin walls and translucent roof panels. Given the absence of any roof voids, wall cavities, degree of light ingress and poor thermal mass, these elevations are considered to possess negligible potential for use by roosting bats. No recent or historic evidence of roosting bats was identified on site. No potential roost features were identified to the internal/external walls, eaves or roof.

6.5.5 We consider bat species are highly unlikely to rely on the site for feeding, but undoubtedly occur within the wider local area- using the site's boundary habitat for opportunistic feeding and as thoroughfares. Roosting by bats is unlikely to occur on site and is highly unlikely to occur within the elevations to be demolished.

Table 6.3. Showing types of survey approaches that are relevant to tree surveys following steps taken in Figure 6.1.

Scenario	Types of approaches after considering impact avoidance as first step in mitigation hierarchy.
Known bat roosts	Roost characterisation surveys (see Section 7.3) followed by EPS licensing (for loss) or PWMS (for e.g. disturbance impacts where buffers are required).
INCREASING: numbers of trees number of PRF-Ms likelihood of maternity/hibernation roosts likelihood of nationally or locally rare tree-roosting species	**ALBST** Consider trapping, tagging and radio-tracking to find roosts of high conservation significance (see Chapter 9). This method is likely to be appropriate on (a) nationally significant infrastructure projects, (b) projects that impact sites designated for tree roosting bats, and/or (c) areas of woodland with high suitability for bats or ancient woodlands. See Box 6.1. CONSULTATION WITH RELEVANT SNCB IS ESSENTIAL, A BESPOKE APPROACH MAY BE REQUIRED[79]. **FURTHER SURVEYS APPROACH (but consider cost-effectiveness when compared to ALBST)** PRF inspection surveys for PRF-M features in summer (see Table 6.4. and Section 6.8). Where features inaccessible or too extensive for PRF inspection, carry out emergence surveys in summer with NVAs (see Table 6.4. and Section 7.2). Consider winter roosting potential. MAY NEED TO CONSULT WITH RELEVANT SNCB. **ROOST RESOURCE APPROACH (if only PRF-Is[a])** No further surveys. Provide appropriate compensation for all PRF-Is in advance of impacts and a PWMS for works (see Reason & Wray, 2023).

a If there are larger numbers of trees with features categorised as PRF-I then this increases the likelihood of a roost being present. Conversely, if there are very few trees in the landscape then PRF-I features may have increased importance. Context should always be understood and considered.

Figure 8 *Tree risk categories from Collins, J. (ed) (2023)*

6.6 Birds

6.6.1 There are 17 records of five species of birds within 2km of the site on the Envirotech dataset.

6.6.2 The site is undoubtedly frequented by garden birds and those indicative of urban and farmland fringes such as Blue tit (*Cyanistes caeruleus*), Chaffinch (*Fringilla Coelebs*), Starling *(Sturnus vulgaris),* Robin *(Erithacus rubecula)* and Carrion Crow *(Corvus corone)*.

6.6.3 There are records of birds indicative of open farmland such as Kestrel *(Falco tinnunculus)* and Buzzard *(Buteo buteo)* on the Envirotech dataset.

6.6.4 Ground foraging birds and those likely to utilise closed cover such as Blackbird *(Turdus merula)* and Pied wagtail (*Motacilla alba*) are likely to frequent the site and utilise the rougher margins of grass and scrub.

6.6.5 There are no hedgerows within the site boundary, although the non-native shrubbery to the north and informal mixed scrub to the south-east offer shade and cover for use by opportunistic passerine birds such as Dunnock *(Prunella modularis)* and Wren *(Troglodytes troglodytes)*.

6.6.6 The woodland beyond the site boundary to the west is likely to provide feeding and roosting opportunities for birds such as Woodpigeon *(Columba palumbus),* Song Thrush *(Turdus philomelos)* and Sparrowhawk *(Accipiter nisus)*.

6.6.7 There are no trees within the redline boundary available for cavity nesting species such as Tawny Owl *(Strix aluco)* or Woodpeckers.

6.6.8 It is understood the workshop and garage have previously been used by nesting Swallow *(Hirundo rustica)*.

6.6.9 A risk assessment of the site in respect of its future potential for and value to nesting birds could be adequately made.

6.6.10 The habitat on site is not considered to be of anything more than of local significance, habitats present are well represented in the local area. The impact on nesting birds is therefore considered likely to be minor.

6.7 Brown Hare

6.7.1 Brown hare are a SPI. There are no records of brown hares within 2km of the site on the Envirotech dataset.

6.7.2 No indication of brown hares was recorded on site.

6.7.3 Use of the site is likely to be limited due to its open and exposed nature and regular human presence.

6.7.4 A risk assessment of the site in respect of its future potential for and value to brown hares could be adequately made. We consider the risk to brown hares is very low.

6.8 Invertebrates

6.8.1 There are 559 records of notable invertebrates within 2km of the site on the Envirotech dataset.

6.8.2 No deadwood or vegetation on site was recorded which would provide an important resource for invertebrates in the local area.

6.8.3 There is no tree stock within the site boundary containing rotten wood to their stems or canopy.

6.8.4 Flowering vegetation such as Willow sp., Blackthorn and Hawthorn are likely to provide a nectar source for foraging moths, butterflies, aphids and other winged insects.

6.8.5 Impacts on invertebrates are however considered to be negligible. Post development domestic gardens are likely to create greater habitat diversity in the area than already exists.

6.8.6 The significance of the site to invertebrates is likely to be limited in the local context although the habitat on site will undoubtedly support common invertebrate species. Mitigation can be incorporated into the design and landscaping scheme with the careful selection of plant species and substrates for the garden areas.

6.9 Otter

6.9.1 There are two records of otters within 2km of the site on the Envirotech dataset. Records are located ~1km south-east of the site towards Mirehouse Ponds.

6.9.2 No indication of the presence or past use of the site by otter was found. The stream to the west is highly unlikely to support fish. There are no waterbodies in proximity to the site which would be attractive to amphibians. This species is considered as being absent from the site.

6.9.3 Whilst areas near the site may provide foraging and refuge opportunities and commuting/dispersal routes through the local landscape, this species is considered as being absent from the site and is unlikely to be significantly impacted by site development.

6.9.4 Precautionary mitigation would be appropriate in respect of construction activities which will need to be restricted at night. Boundary vegetation and scrub is to be enhanced.

6.10 Reptiles

6.10.1 There are six records of two species of reptiles within 2km of the site on the Envirotech dataset. Records relate to Common Lizard (*Zootoca vivipara)* and Slow Worms *(Anguis fragilis),* being predominantly confined to St. Bees Head ~1.1km to the west.

6.10.2 The majority of the site has a very low value to reptiles being devoid of significant ground cover and absence of microhabitats at ground level. There are no areas of the core development area which would be particularly favourable to reptiles.

6.10.3 As a consequence, precautionary mitigation would be appropriate in respect of construction activities so as to ensure reasonable avoidance measures are taken to avoid the killing or injury of these species.

6.11 Other

6.11.1 The site may be crossed by species such as fox (*Vulpes vulpes*) and rabbit (*Oryctolagus cuniculus*) are known to occur locally.

6.11.2 The boundary vegetation may provide suitable habitat for small mammals such as field vole (*Microtus agrestis*) and hedgehog *(Erinaceus Europaeus)*, but these areas are small and the sites value to small mammals is limited.

6.12 Statutory and Non-Statutory Sites

Direct Impacts:

6.12.1 There are no statutory or non-statutory sites which are connected to the site such that site development would directly affect the dispersal of species between them or directly impact upon their integrity.

6.12.2 The habitats on site do not represent or are linked to those found in any of the statutory or non-statutory sites locally.

Indirect Impacts:

6.12.3 There are no statutory or non-statutory sites which are connected to the site such that site development would indirectly affect the dispersal of species between them or indirectly impact upon their integrity.

7. MITIGATION/RECOMMENDATIONS

7.1 Compensatory planting and habitat enhancement

7.1.1 The roots of trees on the site and its boundaries should be adequately protected during work in accordance with industry standards. All trees should as far as possible be retained in the scheme.

7.1.2 The landscaping scheme should utilise plants which are native and wildlife friendly. In particular night flowering species would be beneficial to bats.

7.1.3 It is understood the site is to be developed sympathetically, with creation of additional garden areas/green space, tree planting and enhancement of existing scrub.

7.1.4 Provision of native fruit and nut bearing trees throughout the site would help link and layer retained habitats, provide valuable feeding opportunities for birds and complement the site's landscaping. Trees could provide valuable screening and enhance structural diversity of the site edges. Species could consist of Wild Cherry *(Prunus avium),* Field maple *(Acer campestre),* Aspen *(Populus tremula),* Silver Birch *(Betula pendula)* and Rowan *(Sorbus aucuparia).*

7.1.5 Wildflower seed could be used to plant up verges, sewn beneath new trees and between enhanced areas of scrub planting. Grass mixes selected should contain native species only (being sourced from within the UK) and should contain at least 20% nectar and pollen rich herbaceous flowering plants. Grass could be cut at the end of April (to invigorate wildflower growth and cut back dominate grasses) and again at the end of summer (late-August). Cut risings should be removed from the site in order to limit soil fertility.

7.2 Amphibians

7.2.1 There is no requirement for specific mitigation for these species. There are currently no suitable breeding sites on or near the site. However, as a precautionary measure, in the unlikely event that any signs of any amphibian activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.2.2 The following precautionary points should also be followed.

- All work must take place during daylight hours as amphibians are more likely to be commuting over night and this will ensure the risk to any amphibians commuting through the site will be minimised.

- During the development, measures should be put in place to discourage amphibians from using the development area, the creation of any piles of earth, materials and rubble which could form potential artificial hibernacula and refuge should be avoided at all times. It is recommended that any spoil or rubble will be removed immediately to skips, or on hard standing or short grass. This will ensure that no potential amphibian hibernation or resting sites are created.

- The storage of all loose materials must be palletised or similar so they are off the ground whenever possible.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure amphibians are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

7.3 Badger

7.3.1 Badger setts are known to occur within 2km of the site. These setts will be undisturbed by work but in order to minimise impacts on badgers passing over the site the following points should also be followed.

- All work must take place during daylight hours as badgers are more likely to be commuting over the site at night and this will ensure the risk to any badgers passing through the site will be minimised.

- Should any trenches and excavations be required, an escape route for animals that enter the trench must be provided, especially if left open overnight. Ramps should be no greater than of 45 degrees in angle. Ideally, any holes should be securely covered. This will ensure badgers are not trapped during work.

- All excavations left open overnight or longer should be checked for animals prior to the continuation of works or infilling. Back filling should be completed immediately after any excavations, ideally back filling as an on-going process to the work in hand.

- Boundary fences/walls should incorporate gaps at their base to facilitate the passage of badgers across the site.

7.4 Bats

7.4.1 Work at night should be restricted, new planting within the site should enhance structural diversity and light spill onto the boundary should be minimised.

7.4.2 New roost features could be integrated into the proposed dwellings via the addition of bat bricks, bat access slates, bat tubes and/or bat boxes.

7.4.3 A sensitive lighting scheme should be adopted on site, as the long-term impact of unnecessarily bright or recurrent artificial lighting on both bats and their prey is rarely ever positive. We recommend the following: -

- All artificial lighting should be downward facing and of a low intensity.

- Passive infrared sensors could be used on security lighting, which can then be activated for safety purposes only.

- Consider the use of LED luminaires, which shine with a lower intensity and higher dimming capability.

- Utilise shades of warm white, which appear more yellow/orange in appearance, over cold white light. Cold white light contains a greater degree of blue light, which attracts insects that cannot be preyed upon by bats, which are hypersensitive to these wavelengths of light

7.4.4 Overall, it is considered there is more than sufficient scope for mitigation and compensation at the site such that there will be no adverse impact on the favourable conservation status of bats affected by the proposal.

7.5 Birds

7.5.1 Nesting by birds within the development area is considered unlikely to occur. Birds may nest within hedges on the periphery of the site.

7.5.2 Any vegetation to be trimmed or cleared should be checked for nesting birds before it is removed. Ideally this should occur outside the bird nesting period March- September. If vegetation clearance is to occur in the March-September period a check for nesting birds should be conducted first by a suitably qualified individual.

7.5.3 New planting within the site and the retention of trees and shrubs on the site boundary will maintain the ecological functionality of the site for breeding birds.

7.5.4 Artificial bird nesting sites for swallow and house martin could be incorporated into the new buildings under the eaves in suitable locations.

7.5.5 If nesting birds are found at the site all site works shall cease and further ecological advice shall be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6 Brown Hares

7.6.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any brown hare activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.6.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for badgers are also applicable to this species.

7.7 Invertebrates

7.7.1 Landscaping should include native or wildlife friendly species including night flowering plants.

7.7.2 At least 20% of the species composing any hedgerow/meadow seed mix should consist of herbaceous flowering plants.

7.7.3 Landscaping of the site should include use of semi-evergreen perennials such as lavender.

7.7.4 Contaminants should not be allowed to enter the stream ~12m west of the site boundary. To this effect, spill kits should be provided on site. Re-fuelling of all plant and machinery should be undertaken away from open drains and water courses. Drip trays should be used under static machinery.

7.8 Otter

7.8.1 There is no requirement for specific mitigation for this species. However, as a precautionary measure, in the unlikely event that any signs of any otter activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.8.2 The points in respect of not working at night and leaving open trenches with means of escape detailed for amphibians are also applicable to this species which is only likely to pass through the site at night.

7.9 Reptiles

7.9.1 There is no requirement for specific mitigation for these species. However, as a precautionary measure, in the unlikely event that any signs of any reptile activity is subsequently found, all site works should cease and further ecological advice should be sought with a view to a detailed method statement and programme of mitigation measures being prepared and implemented.

7.9.2 Dense scrub and woodland to the south and west of the development site should be retained such that it is in proximity to open areas of ground which will also be suitable for basking.

7.9.3 The points in respect of not leaving open trenches without means of escape detailed for badgers are also applicable to these species.

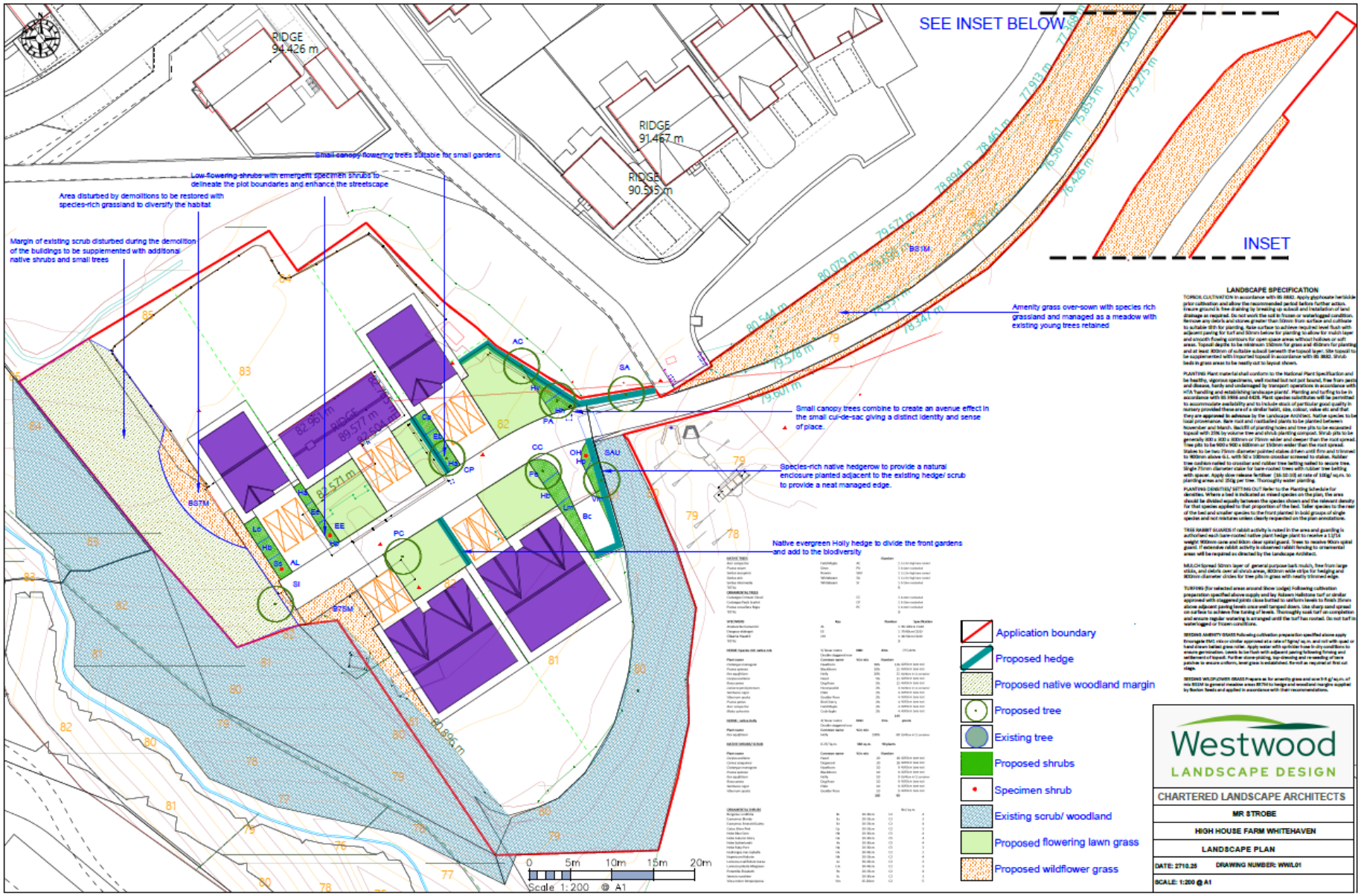

Figure 9 *Proposed site plan*

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