



Ecological Enhancement Plan

Land North of Summerhill, Wrexham

Presented to Site Plan UK LLP.

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1.0 Introduction

1.1 Context and Purpose

Delta-Simons Environmental Consultants Ltd was instructed by AAH Planning Consultancy on behalf of Site Plan UK LLP (the “Client”) to prepare an Ecological Enhancement Plan (EEP) for the proposed residential development at land to the north of Summerhill, Wrexham (hereafter referred to as the “Site”).

The proposed development (Planning Reference P/2016 /0738), was refused planning permission on 3rd April 2017 by Wrexham County Borough Council on a number of factors, with ecology being one them, as outlined below:

The submitted protected species report has is not to satisfactorily assess the impact that the development will have on statutorily protected species. In the absence of such information, the development will prejudice the favourable conservation status of those species and would not accord with policy EC6 of the Wrexham Unitary Development Plan; and the guiding principles set out in Technical Advice Note 5 - Nature Conservation and Planning.

The EEP addresses the potential effects of the proposed development on the ecology and nature conservation of bats, badgers, nesting birds and i hedgerows assessed as Important under the Hedgerow Regulations (1997),, having due regard to the proposed built development, and recommends avoidance, mitigation and compensation measures, where appropriate, within the scheme’s design proposals. This is in accordance with BS42020 (2013): Biodiversity - Code of practice for planning and Development.

The measures proposed will ensure that the biodiversity protection and enhancements for the Site are incorporated into both the construction and operational phases of the development, and that overall there is a net gain in the biodiversity value of the Site in accordance Planning Policy Wales Technical Advice Note (TAN 5) Following the issue of the TAN’s the provision of TAN 5 acknowledges Nature Conservation and Planning. TAN 5 specifies that all planning decisions should protect wildlife and ecological features and to seek new opportunities for the enhancement of nature conservation. On this basis, Delta-Simons also recommend the inclusion of native plant species sourced from local nurseries within any landscaped areas. (see References, Appendix A).

1.2 Site Description

The Site is centred at Ordnance Survey (OS) grid reference SJ 30973 54254 to the north of Summerhill, Wrexham. The Site covers an area of approximately three hectares and comprises a single grassland field, boundary hedgerows, scattered trees and a storage shed.

The grassland field extends to the east of Bottom Road with boundary hedgerows around all but the southern and north-eastern boundaries of it. Fencing and a section of wall form the southern boundary of the Site. Scattered trees lie on the north-eastern boundary and in the north-western extent of the Site. A storage shed is present in the north-west of the Site, with small areas of bare ground, and a small ruderal covered mound to the north of it.

The Site layout is shown in Figure 1.

1.3 Proposed Development

It is understood from the proposed development plan provided by the Client (Figure 2) that the Site is proposed for a residential development of 59 dwellings with associated hard and soft landscaping. All of the existing hedgerows are due to be retained apart from where passing places have to be created along Bottom Road.

2.0 Legislation and Policy

Birds

All wild birds are protected under Section 1 of the Wildlife and Countryside Act 1981 (as amended). Subsection 1(1) makes it an offence to intentionally kill, injure, or take any wild bird; take, damage or destroy the nest of any such bird whilst it is in use or being built; or take or destroy an egg of any such wild bird. It is, furthermore, an offence to either intentionally, or recklessly, disturb any wild bird listed on Schedule 1 while it is nest building, or at a nest containing eggs or young, or disturb the dependent young of such a bird. The law covers all species of wild birds including common, pest or opportunistic species.

Bats

All bats are protected under Section 9(4)(b) and (c) of the Wildlife and Countryside Act (WCA) 1981 (as amended) and by the Conservation of Habitats and Species Regulations 2010 (as amended).

It is an offence to destroy or damage a breeding site or resting place of a bat, to intentionally or recklessly obstruct access to any place of shelter or protection for bats, to deliberately disturb bat species, to intentionally or recklessly disturb a bat whilst in its place of shelter or protection, or deliberately capture, injure or kill a bat. It should be noted that a breeding site or resting place of a bat is protected whether or not bats are present, as long as it is likely that they will return, and any activity or works damaging or destroying such a breeding site or resting place are likely to require a Natural Resource Wales European Protected Species Licence (EPSL). All bats and their roosts are protected under Section 9 of the WCA 1981 (as amended) and Annex IV of the Habitats and Species Regulations 2010 (as amended).

Badgers

Badgers and their setts are protected under the 1992 Protection of Badgers Act. Under this Act it is an offence to wilfully kill, injure, take, possess or cruelly ill-treat badgers, or to attempt to do so. It is also an offence to intentionally or recklessly damage, destroy, or obstruct access to any part of a sett, or to disturb an occupied sett, either by intent or negligence. When interpreting the Act, Natural England defines a sett as any structure within an area used by badgers that shows signs of having been occupied by badgers within the last 12 months.

Hedgerows

The Hedgerows Regulations 1997 applies to any hedgerow which has a continuous length of, or exceeding, 20 m, or is less than 20 m but adjoins another hedgerow at each end. A hedgerow can be categorised as 'important' if it is 30 years old or older and satisfies at least one of the criteria listed in Part II of Schedule 1 of the Regulations. The removal of a hedgerow which is protected under these criteria is prohibited without appropriate measures being taken and it is an offence to intentionally or recklessly remove, or cause or permit another person to remove, a hedgerow in contravention of Regulation 5(1) or (9).

Planning

Following the issue of Technical Advice Notes (TAN's) to supplement Planning Policy Wales, the provision of TAN 5 acknowledges Nature Conservation and Planning. TAN 5 specifies that all planning decisions should protect wildlife and ecological features and to seek new opportunities for the enhancement of nature conservation. On this basis, Delta-Simons also recommend the inclusion of native plant species sourced from local nurseries within any landscaped areas..

3.0 Background Information

In 2016, Delta-Simons undertook an Extended Phase 1 Habitat Survey of the Site (report reference 16-0267.01), and found it to be characterised by poor semi-improved grasslands fields that extend to the east of Bottom Road, with boundary hedgerows around all but the southern and north-eastern boundaries of it. Fencing and a section of wall form the southern boundary of the Site. Scattered trees lie on the north-eastern boundary and in the north-western extent of the Site. A storage shed is present in the north-west of the Site with small areas of bare ground and a small ruderal covered mound to the north of it. In addition to the Extended Phase 1 Habitat Survey, Breeding Bird and Bat Activity Surveys were also undertaken in 2016 (report references 16-0267.01 and 16-0267.01).

Twenty-one species of birds were recorded on-Site during the breeding bird surveys. No Schedule 1 bird species listed on the Wildlife and Countryside Act (WCA, 1981, as amended) were identified. However, five bird species listed on the Natural Environment and Rural Communities (NERC) Act 2006: Section 42 List of Species of Principle Importance for Conservation of Biological Diversity in Wales (NERC Act Section 42 Species), and four Red List Birds of Conservation Concern (BoCC) (Eaton et al., 2015) were recorded.

The 2016 bat transect surveys found that most of the bat activity to be at the northern extent of the Site where bats were observed foraging along the hedgerow boundary. Timings from both the May and June bat transect surveys and the remote monitoring, indicate that possible noctule *Nyctalus noctula* and common pipistrelle *Pipistrellus pipistrellus* roosts are located off-Site within close range to the northern extent of the Site. The static bat detector recorded moderate levels of common pipistrelle, soprano pipistrelle and noctule bat activity during both May and June. Noctules were recorded to commute over the Site, but given the heights at which they flew, they did not use any of the linear green corridors (hedgerows) for these activities. The greatest species diversity was recorded during May, when both common and soprano pipistrelles *Pipistrellus pygmaeus*, noctule bat, *Myotis* spp. and Brown Long-Eared (BLE) *Plecotus auratus* bat were recorded.

Trees on-Site were considered to have negligible bat roosting potential as they supported no features suitable for roosting bats. The hedgerows at the Site offered good connectivity to the surrounding habitat, and provided commuting and foraging opportunities. However, the Site offered a limited range of habitat, with improved grassland offering a low floral species diversity, such that invertebrate prey diversity and density at the Site was anticipated to be low, furthermore, there are a lack of waterbodies, both on, and in proximity to, the Site. An assessment of habitats beyond the Site boundary revealed that it offers suitable habitat for roosting and foraging/ commuting bats, being largely agricultural land, which is predominantly pasture, with hedgerows and mature trees and limited areas of woodland habitat. The foraging and commuting habitats within the Site boundary, and those surrounding habitats that are considered suitable to support bats, were assessed as having a **low value** to bats.

Mammal runs were recorded in the eastern field along the eastern boundary, crossing the field Site east to west and in the north-eastern corner. A latrine was also identified at the base of the hedgerow (TN 3) indicating that the field is included within a badger clan's (groups) territory. The Site did not support any evidence to indicate that badgers were inhabiting it.

The hedgerow around the northern boundary of the Site was classed as 'Important' under the Hedgerow Regulations (1997). This classification is because it is over 30 years old and supports bluebell *Hyacinthoides non-scripta*, a Schedule 8 plant under the WCA (1981, as amended) which is a protected floral species. This hedgerow is the most diverse hedgerow at the Site and extended approximately 200 m with the occasional break for access into the Site. No more than four woody species were recorded within the hedgerow in any 30 m section, although, in patches the ground flora included occasional common dog violet *Viola riviniana*, bluebells, lords-and-ladies *Arum maculatum* and wood avens *Geum urbanum* which are all woodland indicator species associated with 'Important' hedgerows.

No other hedgerow at the Site met the Wildlife and Landscape criteria for an 'Important' hedgerow at the Site due to their lack of species diversity and inadequate numbers of features, such as trees or a ditch, to contribute towards being an 'Important' hedgerow. In addition, no hedgerows at the Site mark a Parish boundary.

4.0 Mitigation and Enhancements for Nesting Birds

4.1 Mitigation

To avoid disturbance to breeding birds and to ensure legal compliance, vegetation will be removed prior to the bird-breeding season (March to August, inclusive). If this is not possible, vegetation will be checked prior to removal by an experienced ecologist. If active nests are found, the nests and surrounding vegetation will be left in-situ and buffered from works through the use of ticker tape until all young have fledged. In addition, the Site Manager would be informed of the presence of the nest(s) and buffer zone, and that a further check would be required by the suitably qualified ecologist to confirm that the checks have fledged prior to clearance being undertaken. Specific advice will be provided by the suitably qualified ecologist prior to undertaking the clearance. This would be a statutory requirement due to the protection of all nesting birds and their nests under the WCA (1981, as amended).

4.2 Enhancements

To provide additional nesting opportunities for birds, a variety of bird boxes will be incorporated into the proposed development plan, and also placed at suitable locations around the Site. The bird boxes will be installed with the aim to accommodate a range of species known to occur in the local area. As such, the following is proposed:

- ▲ Installation of 16 bird nest boxes (six suitable for small hole nesting birds such as blue tits *Cyanistes caeruleus* and great tits *Parus major*, four open fronted boxes suitable to support robins *Erithacus rubecula* and wrens *Troglodytes troglodytes*, and six terrace nest box suitable for house sparrows). Apart from the terrace nest boxes, which should be installed under the eaves of buildings, all nest boxes should be installed in a sheltered and undisturbed position at a height of at least 3 m on trees of adequate stature, and avoiding a southerly aspect. The hole-fronted boxes will include metal plates around the entrances to deter squirrels from accessing the boxes; and
- ▲ If the buildings do not have eaves then house sparrow nesting bricks should be used instead of terraces, Detailed guidance and specifications for built in features is available in Gunnell et al. (2013).

Retention of the hedgerow and mature trees along the northern and eastern boundaries will continue to provide foraging, nesting and sheltering opportunities for a variety of small passerine birds. This will be further enhanced through appropriate management and the planting of berry and nut producing shrubs within the landscaping areas. Furthermore, planting to encourage invertebrates across the Site will in turn provide prey for birds within the local area.

Indicative locations of bird boxes to be installed within the Site, and the nesting bricks to be incorporated into the designs of the buildings (as necessary) are shown in Figure 2.

5.0 Mitigation and Enhancements for Bats

5.1 Mitigation

5.1.1 Lighting

To prevent any adverse impact upon commuting and foraging bats at the Site, the lighting plan for the Site must be functional and directional only and kept to a minimum, servicing the public areas of the proposed development (as required for safety and security). It should be achieved through the use of cowells or hoods, if necessary, to ensure no light spill onto the hedgerows and trees along the eastern, western and northern boundaries. No external lighting should be fitted as standard to the houses overlooking the garden areas.

It is recommended that lighting at the Site is to be designed using roof mounted lighting columns with 1100lm LED lanterns, resulting in no upward light spill, and the design will give an average light level of 5 lux. If no light spill can be achieved, then follow-on lighting should be installed along the proposed access road. If this is not possible then timers set to switch off at midnight should be incorporated.

5.2 Enhancements

In order to enhance the ecological value of the Site, and to provide roosting opportunities for bats following the proposed development, a variety of bat roosting features will be incorporated at suitable locations within the newly constructed buildings, in a combination of residences and garages. However, in order to provide the greatest chance of bats utilising the roosting features, and to minimise potential for future disturbance/interference from home owners, a variety of bat boxes are to be placed on suitably sized trees along the northern and eastern boundaries. The locations of the boxes will be chosen to ensure appropriate surrounding habitat and lack of disturbance through noise and light. The following is recommended:

- ▲ Installation of six bat boxes (including three Schwegler 2F bat box and three Schwegler 1FF bat box, or similar products) on appropriate trees along the northern and western hedgerow boundaries. These should be placed to avoid a northerly aspect, at a height of at least 3 m in order to avoid disturbance from humans or predators, and in an area least likely to be affected by noise and light spill; and
- ▲ Where buildings are to be of brick and tiled roof construction, six bat tiles or bat bricks should be installed. These should be placed avoiding a northerly aspect, at a height of at least 4 m order to avoid disturbance from humans or predators and in an area least likely to be affected by noise and light spill, and close to trees or vegetated corridors for sheltered dispersal. The specification of the bat tiles or bat bricks will be determined once the design of the buildings has been finalised.

Indicative locations of bat boxes to be installed within the Site and the bat bricks / tiles to be incorporated into the design of the buildings are shown in Figures 2.

6.0 Mitigation for Badgers

The 2016 survey indicated that the Site is used by badger for commuting, and contained a latrine on the eastern boundary indicating it is within a badger clan's territory. As creatures of habit, it is possible for them to attempt to keep using the Site during the construction phase of the proposed development and, therefore, precautions should be taken for their safety.

6.1 Mitigation

- ▲ All trenches or deep excavations required to be left open overnight will be left with 45 degree slopes/ ramps within them to prevent inquisitive badgers, or other mammals becoming trapped overnight;
- ▲ All trenches and deep excavations left open overnight will be inspected each morning to ensure no badgers or other mammals have become trapped. Should this occur a Delta-Simons ecologist should be contacted immediately for further advice;
- ▲ Careful consideration should be given to the storage of loose, soft materials such as topsoil on-Site, as badgers will readily dig new setts within these materials; and
- ▲ Food and litter will not be left within the working area overnight.

7.0 Mitigation and Enhancements for Important Hedgerows

7.1 Mitigation

The hedgerow within the northern section of the site was assessed as being 'Important' under the Hedgerow Regulations 1997, due to its age (over 30 years old) and the presence of ground flora associated with woodlands. The hedgerow, however, was assessed as being species-poor, since no more than four woody species were recorded within the hedgerow in any 30 m section. It is understood that the approximately 200 m of the hedgerow was classed as 'Important' and the proposed realignment will result in the loss of approximately 30 m.

It is proposed that sections of hedgerow will need to be removed to realign the road and implement passing places for public health and safety, therefore, any sections of hedgerow to be removed will be re-planted with a variety of native woody species thereby increasing the species and structural diversity of the hedgerow. Overall, the short sections of hedgerow removal will have little impact on the ground flora as the majority of the mature hedgerow will be retained. Translocation of the sections of the hedgerow to be removed has been considered to facilitate the new road layout and implementation of passing places, however, due to the age and size of the hedgerow sections this may not be a viable option.

8.0 Overall Biodiversity Assessment

A significant area of the Site will be set aside for landscaping since the proposals are for a low-density development. The goal of the landscaping should be to increase floral, and consequently, faunal species diversity across the Site. This can be achieved by:

- ▲ The use of native plant species sourced from local nurseries within the landscape proposals at the Site, especially in tree planting and hedgerow planting. A range of native bushes and shrubs or alternatively those of known value to wildlife that produce nectar and nuts or berries to encourage a range of invertebrates should be incorporated into the landscape scheme. They will in turn act as a food source for the local birds and bats. A species list of recommended trees and shrubs is given below:
 - English oak *Quercus robur*;
 - Beech *Fagus sylvatica*;
 - Elder *Sambucus nigra*;
 - Field maple *Acer campestre*;
 - Small-leaved lime *Tilia cordata*;
 - Bird cherry *Prunus padus*;
 - Blackthorn *Prunus spinosa*;
 - Hazel *Corylus avellana*;
 - Hawthorn *Crataegus monogyna*;
 - Holly *Ilex aquifolium*;
 - Honeysuckle *Lonicera periclymenum*;
 - Wild privet *Ligustrum vulgare*;
 - Walnut *Juglans regia*; and
 - Guelder-rose *Viburnum opulus*.
- ▲ Species-rich neutral grassland/ meadow habitat should be created and appropriately managed within the areas of open space within the northern and western areas of the Site. Furthermore, grassland planting, including marshy grassland planting, can be undertaken as part of the proposed Sustainable Urban Drainage system (SUDs) for the Site. The native species-rich mixes will provide nectar sources for invertebrates and act as habitat corridors through the Site, helping to link areas of green space with the wider countryside beyond. Further guidance on designing SUDs to benefit biodiversity can be found in the document prepared by Graham et al. (2013);
- ▲ Whilst no evidence of hedgehogs was found at the time of the survey visits, it is recommended that any fencing within the development should allow access and egress for this species. This requires a 13 cm² access to be left in a coordinated network to enable access and egress for hedgehogs and other small mammals between suitable areas of foraging throughout the Site and to the wider area. Hedgehogs require large territories of up to 1 km² and as such it is important large feeding areas are available. Hedgehogs do not generally damage gardens and the size of the hole is not large enough for most domestic pets to use, or rabbits; and
- ▲ In addition, the Site itself will support a greater range of supplementary wildlife features, including bird boxes and bat roosting opportunities, following the proposed development. Therefore, the proposed development will result in a biodiversity gain in accordance with the Planning Policy Wales .

9.0 Disclaimer

The recommendations contained in this Report represent Delta-Simons' professional opinions, based upon the information referred to in Section 4 of this Report, exercising the duty of care required of an experienced Ecology Consultant.

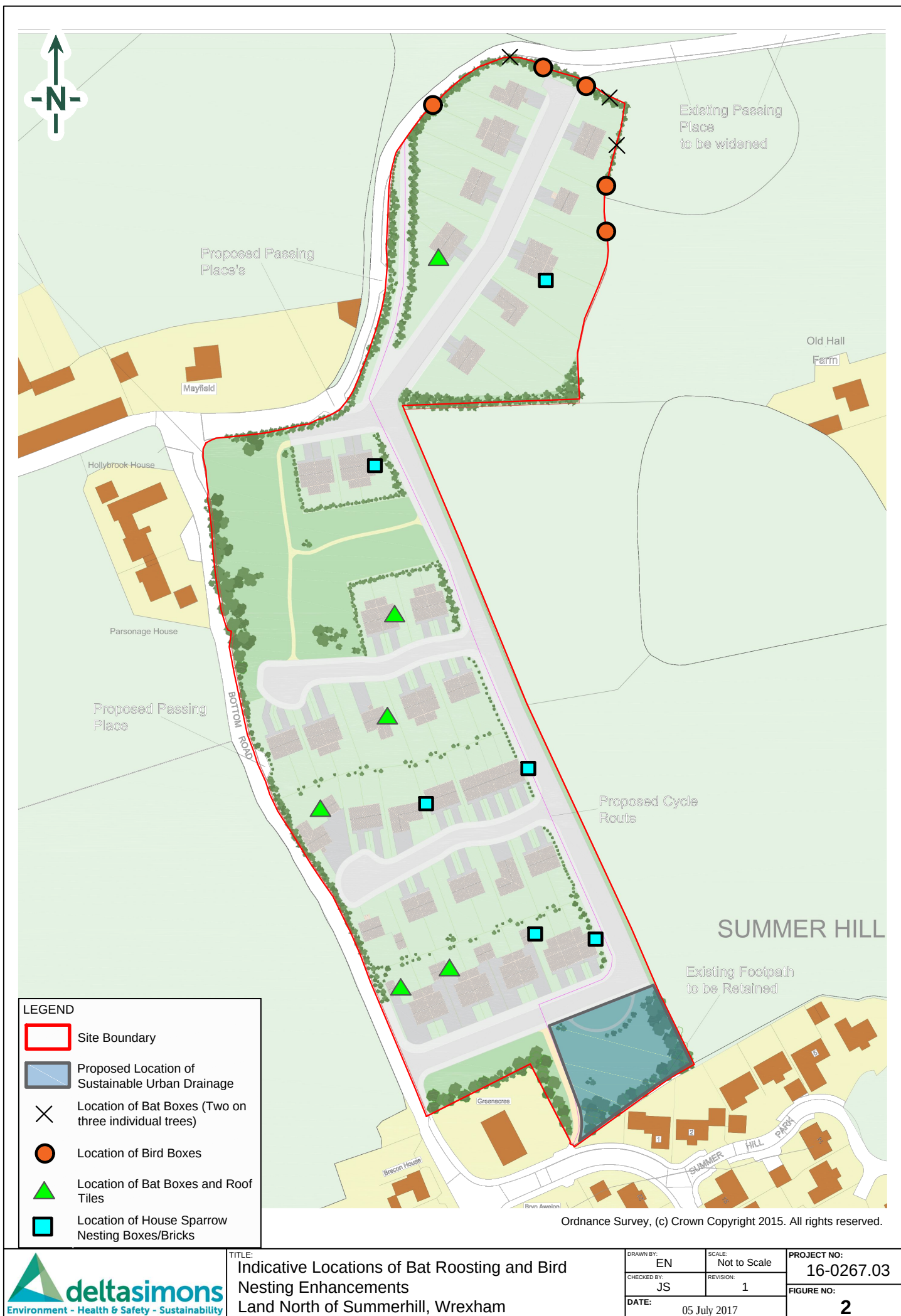
The behaviour of animals can be unpredictable and may not conform to characteristics recorded in current scientific literature. This Report, therefore, cannot predict with absolute certainty that animal species will occur in apparently suitable locations or habitats or that they will not occur in locations or habitats that appear unsuitable.

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Figure 1 – Site Layout Plan



Figure 2 – Indicative Locations of Bat Roosting and Bird Nesting Enhancements



Appendix A – References

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