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Land at Higgins Brook, East of Chipping Lane, Longridge – Revised Scheme

Ecological Assessment

Report Number: 2001_R08b_JM_SMC

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Contents

Appendices

Plan

Summary

S1. This report was originally prepared to inform an outline planning application for residential development of land at Higgins Brook, to the east of Chipping Lane, Longridge, hereafter referred to as the 'site'. The report has been reviewed and updated in light of alterations to the outline application scheme.

S2. The principal alterations comprise:

- A reduction in the number of units proposed from up to 520 dwellings to up to 363 dwellings resulting in a reduced built footprint and the reconfiguration of the internal development layout;
- The removal of development units from the eastern-most development field and the retention of the parcel as agricultural land (adjacent to Willows Farm);
- Provision of an increased landscape buffer between the existing housing at the northern edge of Longridge (Redwood Drive) and the proposed housing;
- The relocation of the proposed primary school further to the south-west and the incorporation of a larger area of associated playing fields; and
- The reconfiguration of the public open space and green infrastructure distribution within the layout, resulting in a smaller LEAP towards the south-west of the development and a new green infrastructure corridor towards the western part of the development.

S3. The site consists of pastoral fields and supports semi-improved grassland, amenity grassland, hedgerows, mature trees and ponds.

S4. The site is not covered by, or adjacent to any sites that are the subject of statutory or non-statutory protection and no such sites would be affected.

S5. Detailed fauna surveys conducted in 2014 indicate the presence of:

- Bats (dealt with separately via an ecology addendum appended to this report);
- Amphibians (namely common frog). Surveys determined that great crested newts do not occur within the site;
- Hedges and mature trees are likely to provide habitat for a range of common woodland bird species, given the improved nature of fields and short grass sward (due to intensive grazing it is unlikely that the site is of importance for bird species reliant on open farmland habitats;

S6. The most significant issue with respect to development of the site is the loss of hedges (with the associated potential for habitat loss in relation to bats and breeding birds). However, the revised scheme results in less hedgerow loss and the development has been designed to retain opportunities for these species by providing new native species hedges and associated native tree planting, together with the retention of existing ponds and creation of new ponds. The habitats created will enable the development to make a positive contribution to local biodiversity action plan targets in respect of hedges and ponds.

S7. With the implementation of the mitigation and enhancement strategy described, the proposed development would be in conformity with relevant planning policy and legislation, as set out at **Appendix 1**. The strategy could be controlled by appropriately worded planning conditions and obligations.

Section 1: Introduction

1.1. This report has been prepared by Tyler Grange LLP on behalf of Barratt Homes Manchester. It sets out the findings of an ecological assessment in relation to the proposed development of land at Higgins Brook, to the east of Chipping Lane, Longridge (hereafter referred to as the 'site'). The report has been reviewed and updated in light of alterations to the outline application scheme.

1.2. The revised development scheme comprises of a new residential development (reduced to up to 363 dwellings), including affordable housing and housing for the elderly, the relocation of Longridge Cricket Club to provide new cricket ground, pavilion, car park and associated facilities, new primary school, vehicular and pedestrian accesses, landscaping and public open space.

1.3. A copy of the revised Illustrative Masterplan is included at **Appendix 6**.

1.4. The principal alterations comprise:

- A reduction in the number of units proposed from up to 520 dwellings to up to 363 dwellings resulting in a reduced built footprint and the reconfiguration of the internal development layout;
- The removal of development units from the eastern-most development field and the retention of the parcel as agricultural land (adjacent to Willows Farm);
- Provision of an increased landscape buffer between the existing housing at the northern edge of Longridge (Redwood Drive) and the proposed housing;
- The relocation of the proposed primary school further to the south-west and the incorporation of a larger area of associated playing fields; and
- The reconfiguration of the public open space and green infrastructure distribution within the layout, resulting in a smaller LEAP towards the south-west of the development and a new green infrastructure corridor towards the western part of the development.

1.5. The site comprises land off Chipping Lane located to the immediate north of the settlement of Longridge. The site is approximately 15.4 ha and is centred on Ordnance Survey (OS) grid reference SD 6038 3811.

1.6. A detailed application for the first 106 homes / 7.07 (known as Bowland Meadows Ref: 3/2014/0227) has also been submitted by the developer and is subject to a separate Ecological Assessment (see report TG Ref: 2001_R06).

1.7. This Ecological Assessment has been prepared to cover both Phase 1 and Phase 2 'Land at Higgins Brook' which will develop the east side of the site.

1.8. The relevant planning applications boundaries are shown on **Plan 2001/P04b.**

1.9. The site currently comprises pastoral fields separated by hedgerows with occasional scattered trees. Three ponds are present within the site. Adjacent land use also primarily agricultural.

1.10. The purpose of this report is to:

- Using available background data and results of field surveys, describe and evaluate the ecological resources present within the likely 'zone of influence' (ZoI)[1] of the proposed development;
- Assess ecological issues and opportunities as a result of development; and

[1] Defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with a project (Ref. 1)

- Where appropriate, describe mitigation and enhancement proposals, together with planning controls to ensure their delivery, to ensure conformity with policy and legislation.

1.11. This assessment and the terminology used are consistent with the 'Guidelines for Ecological Impact Assessment' (IEEM 2006).

Section 2: Methodology

Definitions

2.1. The 'site' is defined by the application red-line boundary; see Habitat Features **Plan 2001/P04b**. The 'study area' extends to a 1km radius for protected and priority species records, 2km for non-statutory site designations and nationally designated statutory sites and a 5km radius for European statutory site designations.

Scoping

2.2. The scope of the ecological assessment was determined by undertaking a desk based assessment of available records and published sources, together with an initial site survey. With this information, the ZoI of the proposed development was established, together with any further detailed work - such as detailed surveys - that might be necessary to inform the assessment.

Data Search

2.3. The aim of the data search is to collate existing ecological records for the site and adjacent areas. Obtaining existing records is an important part of the assessment process as it provides information on issues that may not be apparent during a single survey, which by its nature provides only a 'snapshot' of the ecology of a given site.

2.4. The data search covered the study area using the distances defined in paragraph 2.1. It was conducted in September 2013. The following organisations and resources were contacted and consulted:

- Multi-Agency Geographical Information for the Countryside (MAGIC) Website for international nature conservation designations such as Special Areas of Conservation within 5km such as and statutory designated sites (e.g. Local Nature Reserves (LNRs)) within 2km of the site;
- Non-statutory local wildlife sites and records of protected species within 2km of the site were requested from the Lancashire Environmental Records Centre LERN;
- The Ribble Valley Borough Council District Wide Local Plan was checked to identify policies which need to be considered as part of the development of the site (see **Appendix 1**); and
- Natural England's website (www.naturalengland.org.uk) was checked to identify the Natural Area[2] in which the site is located.

2.5. Information supplied by these organisations has, where relevant, been incorporated into the following account with due acknowledgement.

[2] National Character Areas divide England in to 159 Natural Areas. Natural Area boundaries are based on the distribution of wildlife and natural features, and on the land use pattern and human history of each area. Natural Areas inform local priorities for nature conservation.

Extended Phase I Survey

2.6. An extended Phase I habitat survey of the site was undertaken on 29 November 2013 by Paul Moody (Ecologist, Tyler Grange) a full member of CIEEM[3] and Hayley Care (Ecologist, Tyler Grange) an associate member of CIEEM.

2.7. The habitat survey methodology was based on guidance set out in the 'Handbook for Phase I habitat survey' (JNCC 2010). This entailed recording the main plant species and classifying and mapping the broad habitat types present.

2.8. Note was taken of the more conspicuous fauna and any evidence of, or potential for the presence of protected/notable flora and fauna.

2.9. A basic inventory of the habitats and a representative species list was produced. Where access allowed, adjacent habitats were also considered, in order to assess the site within the wider landscape and to provide information with which to assess possible impacts within the context of the site boundary.

2.10. The weather conditions during the survey were mostly dry and cool (4^{o}C), with a light breeze and heavy cloud and fog in the morning.

Additional Surveys

2.11. The following additional surveys were also conducted during the Phase 1 habitat survey:

- Great crested newt *Triturus cristatus* (GCN) survey and Habitat Suitability Index (HSI) assessment of ponds within 250m of the site (see Appendix 2 Tyler Grange Report 2001/R07);
- An assessment of hedgerows with regard to the Hedgerows Regulations 1997 (**see Appendix 3);**
- A badger *Meles meles* survey (see **Appendix 4**); and
- Bat surveys; (see Appendix 5) an assessment of trees and buildings within the site for their suitability to support roosting bats and bat activity surveys;

Evaluation

2.12. The evaluation of habitats and species is defined in accordance with published guidance (IEEM 2006). The level of value of specific ecological receptors is assigned using a geographic frame of reference, with international value being most important, then national, regional, county, borough, local and lastly, within the site boundary only.

2.13. Value judgements are based on various characteristics that can be used to identify ecological resources or features likely to be important in terms of biodiversity. These include site designations (such as SSSIs), or for undesignated features, the size, conservation status (locally, nationally or internationally), and the quality of the ecological resource. In terms of the latter, quality can refer to habitats (for instance if they are particularly diverse, or a good example of a specific habitat type), other features (such as wildlife corridors or mosaics of habitats) or species populations or assemblages.

[3] Chartered Institute of Ecology and Environmental Management.

Impact Assessment

2.14. Prediction of the likely significant effects takes into account the different stages and activities within the development process, and the inherent mitigation built into the development.

2.15. In accordance with published guidance and terminology (IEEM 2006), a significant effect, in ecological terms, is defined as an effect (adverse or beneficial) on the integrity of a defined site or ecosystem(s) and/or the conservation status of habitats or species within a given geographical area, including cumulative effects. Insignificant effects are those that would not result in such changes.

2.16. The value of any feature that would be significantly affected is then used to identify geographical scales at which the effect is significant. This value relates directly to the consequences, in terms of legislation, policy and/or development control at the appropriate level. So, a significant negative effect on a feature of importance at one level would be likely to trigger related planning policies and, if permissible, generate the need for development control mechanisms as described in those policies.

2.17. If an effect is found not to be significant at the level at which the resource or feature has been valued, it may be significant at a more local level. For instance, an effect resulting in loss of 5% of a habitat at a county level, but 80% at a more local level is more likely to be significant locally, even if it was not considered significant at a county level.

2.18. Significant effects on features of ecological importance should be mitigated (or compensated for) in accordance with the guidance derived from policies applied at the scale relevant to the feature or resource.

2.19. The following factors are considered in determining whether ecological effects are significant:

- Extent - this is the area over which an effect occurs;
- Magnitude - the size or amount of an effect, determined on a quantitative basis where possible;
- Duration - the time for which an effect is expected to last prior to recovery or replacement of the resource or feature;
- Reversibility - an irreversible (permanent) effect is defined as one from which recovery is not possible within a reasonable timescale or for which there is no reasonable chance of action being taken to reverse it. A reversible (temporary) effect is one from which spontaneous recovery is possible or for which effective mitigation is both possible and enforceable;
- Timing and frequency - some effects are only likely if they happen to coincide with a critical life-stage or seasons. Others may occur if the frequency of an activity is sufficiently high; and
- Cumulative effects - where consideration is given to any other developments within the ZoI that, together with the proposed development, may result in significant effects.

Limitations

2.20. The Phase I survey was undertaken in November, which is sub-optimal, as most plants were not in leaf/flower and some species may have not been recorded. However, given the nature of the site and habitats present this is unlikely to have affected the evaluation of the habitats or assessment of potential development impacts.

2.21. Please note that the findings of this report are valid at the time of writing. Owing to the dynamic nature of ecological resources, if more than six months have elapsed since the report was written, advice should be sought to determine whether update work is required. The findings of this report should not be relied upon without this advice.

Quality Control

2.22. All ecologists at Tyler Grange LLP are members of CIEEM and abide by the Institute's Code of Professional Conduct.

Section 3: Ecological Resources

Site Context

3.1. The site comprises pastoral fields consisting of species poor semi-improved grassland separated by hedgerows with occasional scattered trees. The land is more or less flat and is to the north of Longridge, Ribble Valley. The site is bordered by residential development and a Sainsbury's supermarket to the south, Chipping Lane, further pastoral fields and Longridge Cricket Ground to the west, and by further pastoral land to the north and east.

Natural Area

3.2. The site is situated within Natural England Natural Area Number 12 – Forest of Bowland. The Forest of Bowland is dominated by a distinct, almost circular dome of heather moorland. The high Millstone Grit-capped summits of Bowland Fells and Pendle Hill, with their expansive areas of wild, open rolling heather moorland and blanket bog, are managed principally for grouse and sheep. Such areas provide a habitat for internationally important populations of red grouse *Lagopus lagopus*, hen harrier *Circus cyaneus*, merlin *Falco columbarius*, peregrine *Falco peregrinus* and golden plover *Pluvialis apricaria* .

3.3. This dome of moorland is incised by steep, wooded river valleys and is surrounded by a soft, undulating landscape with a mosaic of rush-filled pastures, herb-rich hay meadows and broadleaved woodland, separated by lush agricultural grassland, parkland and water bodies, such as Stocks Reservoir. The area is traversed by many fast-flowing upland streams and rivers, including the Hindburn, Roeburn, Lune, Wyre, Brock, Calder, Ribble and Holder.

3.4. Most of the site is pastoral and is not representative of habitats typifying the Forest of Bowland Natural Area.

Protected Sites

3.5. The site is not covered by, or adjacent to any site which is designated on account of its nature conservation importance.

3.6. The site does not have any statutory nature conservation designations and none are present within 2km. No internationally designated sites are present within 5km of the site.

Non-statutory sites

3.7. There are four non-statutory sites (known in the Ribble Valley as Biological Heritage Sites; BHS and Important Bird Areas (IBA)) within the study area (see Table 3.1 below). Non-statutory nature conservation designations are not afforded legal protection but do receive protection through planning policy (see **Appendix 1**). They are recognised as being of countywide importance because of their significance as wildlife habitats, value to communities or other reasons relating to their locational context.

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Site Name and Designation	Distance and Direction from Site	Description/ Summary
Bowland Fells IBA	1.30km north and north east at nearest point	An extensive upland area with major habitats comprising heather-dominated moorland and blanket mire. It is important for its upland breeding birds, especially breeding merlin and hen harrier
Spade Mill Reservoirs BHS 63NW03	800m south east	Two reservoirs with associated managed grassland. Used as an angling site. It is designated for the bird species present including wintering lapwing *Vanellus vanellus*, snipe *Gallingo gallingo,* black-headed gull *Chroicocephalus ridibundus*, common gull *Larus canus* and lesser black-backed gulls *Larus fuscus* and summer breeding birds including little ringed plover *Chardarius dubius* and oystercatcher *Haematopus ostralegus* r. Birds use these reservoirs in conjunction with Alston Reservoirs (BHS 63NW01)
Alston Reservoirs BHS 63NW01	1.2 km south	Two reservoirs surrounded by agricultural land with residential development to the west and College Wood BHS to the east. The site is of ornithological importance, supporting high diversity and numbers of wintering wildfowl (which also utilise Spade Mill Reservoirs (BHS 63NW03). The site is also of botanical importance with species-rich grassland embankments.
College Wood BHS 63NW02	1.60km south east	Predominantly semi-natural woodland which is listed in the Lancashire Inventory of Ancient Woodland (English nature, 1994). Surrounded by fields of grassland pasture, it is designated for the woodland and scrub habitat present.

Table 3.1: Non-statutory sites within the study area

Habitats and Flora

3.8. The Habitat Features Plan (**2001/P04b**) shows the habitats present within the site and on adjacent land.

Species Poor Semi-Improved Grassland (Plate 1)

3.9. The site predominantly comprises grazed pastoral fields, consisting of poor semi-improved grassland. Plant species present include perennial ryegrass *Lolium perenne*, cocksfoot *Dactylis glomerata*, Yorkshire fog *Holcus lanatus*, white clover *Trifolium repens*, red clover *Trifolium pratense*, broad-leaved dock *Rumex obtusifolius*, common sorrel *Rumex acetosa*, creeping buttercup *Ranunculus repens* and meadow buttercup *R. acris*. Occasional patches of soft rush *Juncus effusus* are present in areas which are subject to waterlogging.

Amenity Grassland

3.10. Longridge Cricket Club which consists largely of amenity grassland lies to the west of the site.

Photo 1: Species poor semi-improved grassland

Hedgerows

3.11. The fields are, for the most part bounded by hawthorn *Crataegus monogyna* dominated hedgerows which are subject to various levels of management, with some being flail cut and others receiving no management and becoming treelines and scrub.

3.12. Further details on the structure and species composition of the hedges can be found in **Appendix 4**, which also gives an assessment of their likely importance in relation to the Hedgerows Regulations 1997

Photo 2: Hedgerow 4 illustrating typical structure of hedges within the site

Mature Trees

3.13. There are mature trees present within hedges throughout the site which are associated with hedgerows and ponds. Species present include alder *Alnus glutinosa*, pedunculate oak *Quercus robur* and ash *Fraxinus excelsior*. These trees are denoted on the **Habitat Features Plan (2001/P04b)** A separate Tree Quality Survey report (Report Ref 2001/R09) has also been produced by Tyler Grange to accompany the planning application submission.

Ditches

3.14. Eight ditches are present within or adjacent to the site and are associated with hedges H1, H2, H3, H4, H10, H11, H12 and H13 which delineate field boundaries. The ditches are heavily shaded by their associated hedgerows and, at the time of survey, had little emergent vegetation, with in-channel species being limited to soft rush, willowherb *Epilobium* sp., common nettle *Urtica dioica* and bramble *Rubus fructicosus.*

Photo 3: Ditch present associated with hedgerow H3

Ponds

3.15. There are three ponds (P1, P2 and P3) shown on the **Habitat Features Plan (2001/P04b**) present within the site.

3.16. Ponds 1 and 2 are partially shaded by willow *Salix* sp. trees and emergent, aquatic vegetation includes soft rush, reed canary grass *Phalaris arundinacea*, fools water cress *Apium nodiflorum* and marsh marigold *Caltha palustris* with floating sweet-grass *Glyceria fluitans* present in margins.

3.17. Pond 3 is a small ephemeral flooded area present to the south of hedgerow H13 - it is heavily shaded by the hedgerow and trees and aquatic vegetation were limited to soft rush and floating sweet-grass at the time of survey. Further details can be found in **Appendix 2**.

Plate 4: Pond 2

Buildings

3.18. Several modern pre-fabricated buildings of a flat roof construction are present within the cricket club grounds. Further details are provided within a separate addendum to be provided in the planning determination period.

Invasive Species

3.19. No invasive species that are subject to statutory controls were recorded during the survey.

Habitats on Adjacent Land

3.20. Land adjacent to the site consists of fields supporting grassland and hedges of a similar composition to that recorded within the site.

3.21. A further pond, P4 lies adjacent to the northwest site boundary (see **Plan 2001/P04b)** and **Appendix 2** for photograph of this pond.

3.22. Examination of maps and aerial photography suggested that a further three ponds are present within 250m of the site, however during the Phase 1 survey these were found to be dry depressions with soft rush present.

3.23. One small section (approximately 35m) of dry stone wall lies adjacent to the northern site boundary.

3.24. To the south of the site lies residential development and a Sainsbury's supermarket.

Botanical Records

3.25. No notable botanical records were provided by Lancashire Biodiversity Records Centre LERN.

Protected and Priority Fauna

3.26. Details of protected and priority species[4] using the site, including a summary of the results of detailed surveys, are described below and should be read in conjunction with **Plan 2001 /P04b.**

Badgers

3.27. No records of badgers are held by LERN for within 2km of the site.

3.28. No field signs were recorded during the survey. The site offers suitable foraging habitat in the form of pastoral fields and sett digging habitat within hedgerows.

Bats

3.29. The following records were obtained for bats during the desk study.

- Common pipistrelle *Pipistrellus pipistrellus*: two records 700m south (2011 & 2009).
- One unidentified bat record 740m south (2006).

3.30. Full details of bat surveys are provided in Tyler Grange Report 2001_R011 (See Appendix 5) and are summarised below.

3.31. Bat activity surveys identified that Pond 1 and the hedgerow network, notably H3, are used by relatively low numbers of common species of bats for foraging and commuting. Trees within the site were assessed for their potential to support roosting bats. Those with higher potential were subject to climbing inspections. No evidence of use by roosting bats was identified. The cricket club building was assessed as offering low potential to support roosting bats. A dusk emergence survey was undertaken. No evidence of use by bats was recorded and therefore any works to this building, including demolition, are very unlikely to result in any impacts to bats.

Breeding Birds

3.32. The following records of birds protected and or priority bird species were obtained during the desk study:

- Barn owl *Tyto alba* one record 1.5km northeast (2013)
- Curlew *Numenius arquata*
- House sparrow *Passer domesticus*
- Starling *Sturnus vulgaris*
- Dunnock *Prunella modularis*
- Lapwing *Vanellus vanellus*

3.33. No notable or rare birds were observed during the Phase 1 habitat survey.

[4] Priority Species – listed within section 41 of the Natural environment and Rural Communities Act (NERC) 2006

3.34. The hedgerows and scattered trees are all likely to provide nesting and foraging habitats for a range of common passerines. This could include priority species such as dunnock, song thrush *Turdus philomelos* and yellowhammer *Emberiza citronella*

3.35. There are very poor nesting opportunities for ground nesting birds due to disturbance and trampling by livestock.

3.36. No buildings are present on site which could afford barn owl nesting opportunities, however the site contains suitable foraging habitat for barn owl. No evidence of previous occupation either for nesting or roosting by any owl species was evident during inspections of tree holes for bats.

Great Crested Newts and other Amphibians

3.37. The following records were obtained for amphibians during the desk study:

- GCN 19 records, 2km south (2011 & 2003).
- Common toad *Bufo bufo* (a UK priority species) two records, 2km south (2011).
- Common frog *Rana temporaria*, eight records within 2km.

3.38. Of the four ponds present within or within 250m of the site, three (Ponds 1, 2 and 4) are considered to be 'good' by the HSI (see **Appendix 2).**

3.39. Pond 3 was considered poor, predominantly due to poor water quality.

3.40. A full presence/absence survey was conducted in 2014 (see **Appendix 2**) to ascertain the status of GCN within the site. No GCN were recorded during the survey and it is concluded that GCN are absent from the site.

3.41. Only one amphibian species, common frog was recorded during the survey.

Invertebrates

3.42. The following records of priority moth species were obtained during the desk study.

- Heath rustic *Xestia agathina*
- Dark-barred twin-spot carpet *Xanthorhoe ferrugata*
- Small Phoenix *Ecliptopera silaceata*
- Small square spot *Diarsia rubi*
- Haworth's minor *Celaena haworthii*
- Green brindled crescent *Allophyes oxyacanthae*
- Rosy rustic *Hydraecia micacea*
- Sallow *Xanthia icteritia*
- Oak hook-tip *Watsonalla binaria*
- Buff ermine *Spilosoma luteum*
- White ermine *Spilosoma lubricipeda*
- Dot moth *Melanchra persicariae*
- Ghost moth *Hepialus humuli*
- Dusky brocade *Apamea remissa*
- Spinach *Eulithis mellinata*
- Dusky thorn *Ennomos fuscantaria*
- Centre-barred sallow *Atethmia centrago*
- Grey dagger *Acronicta psi*

- Shoulder-striped wainscot *Mythimna comma*
- Figure of eight *Diloba caeruleocephala*
- Garden tiger *Arctia caja*
- Broom moth *Melanchra pisi*
- Cinnabar *Tyria jacobaeae*

Lancs LBAP Provisional Long List:

- Gold spangle *Autographa bractea*
- Puss moth *Cerura vinula*

3.43. The hedgerows were the only habitat on the site identified as being likely to be of importance to invertebrates and habitats present on site are expected to support a common assemblage of invertebrates.

Reptiles

3.44. No records of reptiles were obtained during the desk study.

3.45. The site does not contain any high value habitat for reptiles such as tussocky grassland with associated scrub, south facing embankments, log piles or compost heaps. The site is also subject to high levels of disturbance by grazing livestock and as such is unlikely to support reptile populations.

Water Vole

3.46. No records of water vole *Arvicola amphibius* were returned during the desk study.

3.47. The ditches present within site are shallow, dry on a regular basis and lack suitable food species for water vole due to heavy shading. The presence of water vole can be reasonably discounted at this site.

Other Species

3.48. The following records of mammals were obtained during the desk study.

- European hedgehog *Erinaceus europaeus:* two records 1.73km south (2011 & 2009);
- The site represents potential habitat for hedgehog (hedgerows and field boundaries) and;
- No polecat habitat in the form of waterways or woodland is present within the site.

3.49. No otter habitat is present within the site in the form of rivers, brooks or streams. The ditches present within the site held little water at the time of survey and although such habitats can be used as commuting routes for otter, no ditches within the site connected to suitable water courses and as such are unlikely to be used by otter.

Section 4: Evaluation of Ecological Resources

4.1. Table 4.1 below summarises the value of ecological resources within the ZoI of the proposals and evaluation of ecological resources in accordance with the IEEM geographic scale, along with any protection offered by relevant legislation and planning policy (see **Appendix 5**).

Ecological Resource	Ecological value
Protected Sites	
Bowland Fells Important Bird Area (IBA)	Bowland Fells IBA is considered to be of **international ecological value** for breeding birds.
Spade Mill Reservoirs BHS 63NW03	BHSs are considered to be of nature conservation value within the county, and as such they are considered to be of **county ecological value**.
Alston Reservoirs BHS 63NW01	BHSs are considered to be of nature conservation value within the county, and as such they are considered to be of **county ecological value**.
College Wood BHS 63NW02	BHSs are considered to be of nature conservation value within the county, and as such they are considered to be of **county ecological value**.
Habitats	
Species poor semi-improved grassland	The species-poor semi-improved grassland is heavily grazed, contains only common and widespread species, is a common and widespread habitat locally and is not of intrinsic ecological value. As such this habitat is considered to be of **negligible ecological value**. However, it may have some supporting value to a range of bird species and foraging bats, as well as amphibians, small mammals and invertebrates, although they are not likely to be of importance in maintaining populations of these species in the wider locality.
Amenity Grassland	Cricket pitch - **Negligible ecological value** – consists of closely mown amenity grassland.

Ecological Resource	Ecological value
Hedgerows	The hedgerows present within the site are NERC Habitats of Principal Importance (HoPI) and provide some foraging habitat for bats and birds and cover and shelter for wildlife in an otherwise open landscape. The hedgerows also provide wildlife corridors and contribute to the network of similar habitat within the local area. Some of the hedges are deemed to be important or of borderline importance under the Hedgerow Regulations 1997. Overall The hedgerow network within the site is a considered to be of **local ecological value**.
Mature Trees	The mature trees within the site provide suitable habitat for breeding birds and foraging bats as well as structural diversity within the site. The mature trees are not replaceable within the short to medium term and are considered to be of **local ecological value**.
Ditches	The ditches present within the site provide potential habitat for invertebrate species and small mammals. The ditches also provide wildlife corridors and contribute to the network of similar habitat within the local area and are considered to be of **ecological value within the context of the site**.
Buildings	**Negligible ecological value** – though there may be some limited potential for cricket club buildings to support bat roosts (see separate addendum report).
Habitats on Adjacent Land	
Poor Semi-improved Grassland	The species-poor semi-improved grassland present adjacent to the site is of the same character as that occurring within the site and is therefore also evaluated as being of **negligible ecological value**.
Hedgerows	The hedgerows present adjacent to the site also of the same character as those occurring within the site and is therefore also evaluated as being of **local ecological value**.
Mature Trees	The mature trees within the hedges adjacent to the site are of the same character as those occurring within the site and are therefore also evaluated as being of **local ecological value**.
Ponds	The ponds adjacent to the site potentially provide habitat for amphibians and invertebrate species. The ponds present adjacent to the site are considered to be of **ecological value within the context of the site**.
Ditches	The ditches present adjacent to the site provide potential habitat for amphibians and invertebrate species. The ditches also provide wildlife corridors and contribute to the network of similar habitat within the local area and are considered to be of **ecological value within the context of the site**.
Dry stone wall	The dry stone wall present to the north of the site potentially provides habitat for amphibians, small birds, and invertebrates. The dry stone wall present to the north of site is therefore considered to be of **ecological value within the context of the site**.

Fauna	
Badger	No evidence of badger was recorded during the survey within or adjacent to the site. **Negligible ecological value**
Bats	The grassland, ditches, ponds, hedges and mature trees are provides a foraging resource for bats as well as commuting routes. Some of the mature trees offer potential to support roosting bats; however no evidence of use was recorded during surveys. The site is considered to support a bat assemblage of **local ecological value**.
Birds	The hedgerows, trees and ponds present within the site are potential ecological resources for birds which are most likely to consist of common woodland species, though some of these such as dunnock and yellowhammer are priority species. The site is unlikely to be a major resource for wintering birds due to disturbance from livestock. The site is considered likely to support an assemblage of birds of **local ecological value**.
GCN and other Amphibians	As stated in Section 3 GCN are **not** present within the site. Apart from small numbers of common frog no other amphibian species were recorded within the site. The amphibian assemblage is considered to be of **ecological value within the context of the site.**
Terrestrial Invertebrates	The site is considered likely to support a common assemblage of invertebrates, likely to be of **ecological value within the context of the site**. No high quality species rich grassland, woodland or other habitat features exist which would be indicative of high invertebrate diversity. They do not require further consideration in this assessment.
Other mammals	Due to a lack of suitable habitat (see Section 3) the site is of unlikely to support polecat or otter. The site represents potential habitat for hedgehog, likely to be of **ecological value within the context of the site**, if present.
Reptiles	As stated in Section 3 the site does not contain any suitable habitat for reptiles. Reptiles are not considered further in this assessment.

Table 4.2: Evaluation of ecological resources

Section 5: Potential Ecological Effects, Mitigation & Enhancement Strategy

Proposed Development and Likely Zone of Influence of Development

5.1. The proposed development layout is shown at **Appendix 6** and is a new residential development (reduced to up to 363 dwellings) including affordable housing and housing for the elderly; relocation of Longridge Cricket Club to provide new cricket ground, pavilion, car park and associated facilities; a new primary school; and vehicular and pedestrian accesses. Landscaping and public open space is proposed on the northern outskirts of Longridge and a field in the south and east of the site will also remain as pastoral agricultural land.

5.2. Development will mainly affect pastoral fields, though there may be the need to remove some sections of hedgerow to provide access into the site and for the creation of areas to be developed for housing

5.3. Once operational, the potential for ecological impacts on habitats and species is likely to be limited to the risk of increased disturbance to habitats locally due to informal recreation, such as dog walking.

Potential Impacts and Mitigation

5.4. The following paragraphs provide an analysis of the likely impacts of development at the site and potential consequences in respect of planning policy and relevant wildlife legislation (see **Appendix 1**).

5.5. Both the Countryside and Rights of Way (CRoW) Act 2000 and the Natural Environment and Rural Communities (NERC) Act 2006 give the importance of conserving biodiversity a statutory basis, requiring government departments (which includes Local Planning Authorities) to have regard for biodiversity in carrying out their obligations (which includes determination of planning applications) and to take positive steps to further the conservation of listed species and habitats. These articles of legislation require Ribble Valley Council to take measures to protect listed species or habitats from the adverse effects of development, where appropriate, by using planning conditions or obligations. Planning authorities should refuse permission where harm to the species or their habitats would result, unless the need for, and benefits of, the development clearly outweigh the harm.

Designated Sites

5.6. The site is not covered by any statutory or non-statutory nature conservation designations. Given the physical distances between the site and conservation designations in the locality (see Table 3.1) and taking into account the mainly residential nature of development proposed, it is very unlikely that future development will result in any adverse effects to the features for which these sites are designated.

5.7. Therefore development proposals are not likely to trigger planning policy related to protected sites.

Habitats

5.8. The development of the site is likely to result in the loss of approximately 8.6 ha of species poor semi-improved grassland and 1 ha of amenity grassland of negligible ecological value. This loss will not trigger any planning policies and will not require any specific mitigation.

5.9. Development would result in the losses of some sections of hedge totalling approximately 445m from the following hedges. Lengths are approximate based on measurements taken from the revised illustrative masterplan provided at **Appendix 6.** Levels of importance in accordance with the Hedgerow regulations 1997 are given in parenthesis:

- H2 – 50m (Borderline importance)
- H3 – 20m (Important);
- H8 – 195m (unimportant);
- H10 - 70m (unimportant);
- H13 – 40m (unimportant); and
- H15 - 20m (unimportant)

5.10. A ditch also associated with H8 would need to be culverted in two places, resulting in the loss of approximately 40m of ditch habitat. In the absence of mitigation this would potentially trigger planning polices both within the NPPF and local planning policy ENV 13 which seeks to protect important landscape features including hedges and their associated features.

5.11. Loss of hedge sections will be compensated by providing new species-rich hedgerow planting within the site - approximately 1,264 m in total. The proposed locations for new hedges are shown on the revised illustrative masterplan (see **Appendix 6**). Their design seeks to augment retained habitats and enhance connectivity between similar habitats present on adjacent land.

5.12. In addition to hedgerow planting, retained hedges within the site will receive management to improve their condition consisting of gapping-up of defunct sections and laying, where appropriate, to improve hedge thickness, fruiting, flowering and longevity.

5.13. Where hedgerows are associated with ditches these will also be managed to increase their wildlife value. Operations would include dredging of blocked sections and selected tree felling to encourage marginal vegetation and potentially the installation of dams with overflows to increase water depth where appropriate.

5.14. In addition to hedge planting, the masterplan seeks to increase the ecological value of the site through:

- The retention and management of existing ponds and provision of additional wildlife ponds;
- Creation of rough margins to fields;
- The establishment of low intensity grazing regimes aimed at improving the floral diversity of existing grass sward; and
- Bird and bat boxes will be erected on mature trees where appropriate.

5.15. A Sustainable Urban Drainage System (SUDS) will also be incorporated within the sites green infrastructure. As well as reducing flood and pollution risks, ecological elements will include a mixture of open water and reed margins which will have additional benefits for wildlife such as invertebrates, amphibians and birds.

5.16. The revised illustrative masterplan (**Appendix 6**) shows existing ponds resent within the site are to be included within the SUDS. However, the final proposals will include proposals to ensure that the SUDs function independently of the existing ponds and water quality will be maintained and enhanced where possible. More generally in relation to pollution risk, construction activities will adhere to the Environment Agency's Pollution Prevention Guidelines (PP5 and PPG6).

Protected and Notable Species

Badgers

5.17. No setts or other definitive evidence of badger activity are present on the site. However the site does have appropriate sett building and foraging habitat for badgers and their status can change rapidly.

5.18. It is therefore recommended that a badger survey is carried out three months prior to the commencement of any development works, to check that no badger setts have been dug on site or on adjacent land since the completion of the Phase I survey. If necessary, suitable appropriate mitigation proposals would need to be devised. It is considered that given the current absence of badger setts within / adjacent to the site the above measures could be secured via a planning condition and further survey work should not be required prior to determination of a planning application.

Bats

5.19. The hedgerows and trees are used by low numbers of foraging and commuting bats and also provide a link to other habitats in the locality likely to be used by bats such as hedgerow networks present elsewhere within the wider area. The proposed site layout seeks to protect and maintain habitats of value to bats by:

- Retaining hedges which act as foraging and commuting habitat for bats; and
- Including habitat creation consisting of new hedges and ponds will that will provide an increase in invertebrate prey for bats.

5.20. All trees with high or moderate bat roost potential that would be lost to development were subjected to a detailed climbing inspection to check potential roost features for any evidence of occupation by bats. (see **Habitat Features Plan 2001/P04b)** and the revised illustrative masterplan at **Appendix 6**). All other trees with high or moderate roost potential are retained within the site's overall green infrastructure and will be protected from disturbance both during construction and operation of the site. Appropriate planning conditions can be applied to secure this protection. It is therefore considered that further detailed dusk emergence and / or dawn re-entry surveys are not required to inform this assessment.

5.21. The proposed housing scheme would provide increased roosting opportunities for bats via the provision of bat boxes suitable for crevice dwelling species (e.g. the Ibstock 'Enclosed Bat Box B') which could be installed within some of the new buildings on south, southwest or southeast facing aspects. Integrated bat boxes have the advantage of offering a permanent space for bats with little

maintenance and potentially better thermal properties. Bat access slates (e.g. Morris BatSlate) can be included on south, southwest or southeast facing pitches of new commercial units to provide access to crevices for roosting beneath roof tiles. Bat boxes will also be provided on mature trees within the site.

5.22. Taken together the above measures are sufficient to ensure that the favourable conservation status of bats within the site will not be adversely affected by development proposals.

Breeding birds

5.23. The hedgerows and trees may support some priority species such as dunnock, song thrush and yellowhammer together with other common woodland birds. Loss sections of hedgerow within the site could displace some birds which currently use these habitats. But given the relatively short hedgerow lengths affected and taking into account the green infrastructure that will be provided within the development layout, which will include replacement hedgerow planting, it is unlikely that development would adversely affect the conservation status of priority bird species locally.

5.24. New hedgerows are proposed to north of the development (see revised illustrative masterplan at **Appendix 6).** This would provide additional nesting habitat for birds and would more than compensate for the hedgerow losses within the site. All native wild birds are protected under the Wildlife and Countryside Act (WCA) 1981 (as amended). Work to remove the sections of hedgerow or any other woody vegetation clearance should not be undertaken during the active bird nesting season, between March and August inclusive. If this is not possible then works should be preceded by a check for active nests by an ecologist. If a nest is found an appropriate buffer will need to be left undisturbed until the chicks have fledged and confirmed by an ecologist.

Amphibians

5.25. No adverse impacts are predicted. The retention and enhancement of existing ponds within the site together with the creation of new ponds will ensure that suitable habitat resources for amphibian are retained within the proposed development.

Section 6: Residual Impacts

6.1. Table 6.1 below provides an assessment of impacts on the ecological features identified, taking into account the proposed mitigation and enhancement strategy.

Ecological Feature (and value)	Impact	Mitigation / Compensation / Enhancement Measures	Predicted Residual Impact
Protected Sites			
Bowland Fells Important Bird Area (IBA) (international ecological value)	None	N/A	**Negligible**
Alston Reservoirs BHS 63NW01 (county ecological value)	None	N/A	**Negligible**
College Wood BHS 63NW02 (county ecological value)	None	N/A	**Negligible**
Spade Mill Reservoirs BHS 63NW03	None	N/A	**Negligible**
Habitats within the Site			
Species poor semi-improved grassland (negligible ecological value)	Loss of 8.6 ha	No specific mitigation required, however, land within the site boundary totalling some 5.3 ha will become low intensity grazing pasture.	**Negligible**
Amenity grassland (negligible ecological value)	Loss of 1 ha	No mitigation required	**Negligible**

Hedgerows (local ecological value)	Loss of 445m of hedge	Loss of hedge lengths will be mitigated by providing new species rich hedgerow planting within the site totalling 1,264m in length. Existing hedges retained within the site would receive management to improve their nature conservation value.	**Beneficial within the context of the site**
Mature trees (local ecological value)	Five mature hedgerow trees would be lost	Losses would be compensated through provision of the new hedgerow planting which will also include standard trees.	**Temporary (mid-term) adverse within the context of the site**. Losses would become negligible within 30 - 40 years.
Ditches (ecological value within the context of the site)	Approximately 40m of ditch would be culverted	Loss would be compensated through better management of retained ditches within the site	**Negligible**
Ponds (ecological value within the context of the site).	No ponds would be lost existing ponds to be managed to enhance wildlife value.	Creation of three new wildlife ponds	**Beneficial within the context of the site**
Buildings (negligible ecological value)	Three cricket club buildings would be lost	None required	**Negligible**
Habitats on Adjacent Land			
Consisting of species poor semi-improved grassland, hedges with mature trees and ponds and a dry stone wall (of local ecological value or of value within the context of the site)	No adverse impacts are predicted	None Proposed	**Negligible**

Protected Species			
Badger (negligible ecological value)	Reduction in available foraging habitat. No badger setts would be affected by the proposed development	Habitat improvements within the site would compensate for any habitat losses.	**Negligible**
Bats	Minor reduction in foraging habitat consisting of the loss of approximately 445 m of hedge. No potential roost sites are affected.	Creation of new hedges and ponds and management of retained hedges within the site would more than compensate for any losses. New roosting opportunities within new housing and bat boxes on mature trees would increase roosting opportunities	**Beneficial within the context of the site**
Birds (local ecological value).	Loss of breeding habitat (445 m of hedge); potential disturbance to nesting if site is cleared during the breeding season.	Retention and management of hedgerows and trees. Creation of new habitats including scattered trees, gardens, SUDS, will improve foraging opportunities. Habitat clearance will avoid the bird breeding season.	**Positive within the context of the site**
Amphibians (ecological value within the context of the site).	If present, potential loss of terrestrial habitat: approximately 1.17 ha of intermediate and 2.1 ha of distant habitat will be lost.	Creation of 2 new ponds. Creation of 0.6 ha of immediate and 2.2 ha of intermediate habitat terrestrial habitat of high quality.	**Positive within the context of the site**
Terrestrial Invertebrates (of ecological value within the context of the site)	Loss of hedgerow sections would not significantly reduce habitat resources for terrestrial invertebrates	Creation of new hedges, native structure planting, SUDS and ponds and will increase habitat resources for invertebrates.	**Positive within the context of the site**
Other mammals - hedgehog (of ecological value within the context of the site)	Loss of hedgerow sections would not significantly reduce habitat resources for hedgehog	Creation of new hedges and native structure planting will increase habitat resources for hedgehogs.	**Positive within the context of the site**

Section 7: Summary and Conclusions

7.1. For the reasons stated in the previous Section (5 - para 5.5), the revised development proposals are not likely to result in any adverse impacts to statutory or non- statutory nature conservation designations.

7.2. Some loss of habitat in connection with any proposed residential development is inevitable but could be largely confined to poor semi-improved grassland of negligible ecological value. Species-rich hedges, trees and ponds are the most valuable resources and would be largely retained within green infrastructure with protective buffers to avoid degradation. Any losses would be kept to a minimum and mitigated through replacement planting. Recommendations made in connection with tree and hedgerow planting and pond creation will contribute to local BAP targets and this is reflected in the illustrative masterplan which includes; new hedgerows, rough grassland margins and ponds.

7.3. In terms of protected species surveys have determined that:

- Ponds present on land within 250m of the site do not support GCN but do support a small population of common frogs;
- Hedges are also likely to provide habitat for nesting birds, in particular woodland passerines. These may include priority bird species such as dunnock and song thrush;
- Mature trees within the site have the potential to support bat roosts; however no evidence of roosting bats was found in any of the trees to be lost to development. Other habitat features including hedges and ponds provide feeding and commuting habitat for a common assemblage of bats and are retained within the development layout; and
- Other species such as hedgehog and a range of common terrestrial invertebrate species may also be present.

7.4. It is considered that the above species can be accommodated by the implementation of mitigation outlined in Section 5. Where necessary, detailed mitigation proposals can be controlled by suitable planning conditions.

7.5. In conclusion given the above, there can be confidence that development of the site can be in conformity with relevant planning policy that seeks to protect and enhance ecological resources.

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3) Natural England Sites of Special Scientific Interest (SSSI) website available at: http://www.sssi.naturalengland.org.uk/Special/sssi/index.cfm

4) Joint Nature Conservancy Council (JNCC) website: http://jncc.defra.gov.uk/page-4

5) UK Biodiversity Action Plan Website: http://jncc.defra.gov.uk/page-5155

6) Lancashire LBAP website, available at: http://www.lancspartners.org/lbap/X

7) South Ribble planning website, available at: http://www.southribble.gov.uk/planning-applications

8) Natural England's Natural Area Profiles, available online at: www.naturalareas.naturalengland.org.uk

9) Joint Nature Conservation Committee (2007). *Handbook for Phase 1 habitat survey - a technique for environmental audit*. JNCC, Peterborough

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Appendix 1: Legislation and Planning Policy Context

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Legislative Context

A1.1. Specific habitats and species receive legal protection in the UK under various pieces of legislation, including:

- The Wildlife and Countryside Act (WCA) 1981 (as amended);
- The Conservation of Habitats and Species Regulations 2010 (as amended);
- The Countryside and Rights of Way (CRoW) Act 2000;
- The Hedgerows Regulations 1997;
- The Protection of Badgers Act 1992; and
- The Natural Environment and Rural Communities Act (NERC) 2006.

A1.2. The European Council Directive on the Conservation of Natural Habitats and of Wild Flora and Fauna, 1992, often referred to as the 'Habitats Directive', provides for the protection of key habitats and species considered of European importance. Annexes II and IV of the Directive list all species considered of community interest. The legal framework to protect the species covered by the Habitats Directive has been enacted under UK law through The Conservation of Habitats and Species Regulations 2010 (as amended).

A1.3. In Britain, the WCA 1981 (as amended) is the primary legislation protecting habitats and species. SSSIs, representing the best examples of our natural heritage, are notified under the WCA 1981 (as amended) by reason of their flora, fauna, geology or other features. All breeding birds, their nests, eggs and young are protected under the Act, which makes it illegal to knowingly destroy or disturb the nest site during nesting season. Schedules 1, 5 and 8 afford protection to individual birds, other animals and plants.

A1.4. The CRoW Act 2000 strengthens the species enforcement provisions of the WCA 1981 (as amended) and makes it an offence to 'recklessly' disturb a protected animal whilst it is using a place of rest or shelter or breeding/nest site.

Species and Habitats of Principal Importance and the UK Biodiversity Action Plan

A1.5. The UK Post-2010 Biodiversity Framework succeeded the UK BAP partnership in 2011 and covers the period 2011 to 2020. However, the lists of Priority Species and Habitats agreed under the

UKBAP still form the basis of much biodiversity work in the UK. The current strategy for England is 'Biodiversity 2020: A Strategy for England's wildlife and ecosystem services' published under the UK Post-2010 UK Biodiversity Framework. Although the UK BAP has been succeeded, Species Action Plans (SAPs) developed for the UK BAP remain valuable resources for background information on priority species under the UK Post-2010 Biodiversity Framework.

A1.6. Priority Species and Habitats identified under the UKBAP are also referred to as Species and Habitats of Principal Importance for the conservation of biodiversity in England and Wales within Sections 41 (England) and 42 (Wales) of the Natural Environment and Rural Communities (NERC) Act 2006. The commitment to preserving, restoring or enhancing biodiversity is further emphasised for England and Wales in Section 40 of the NERC Act 2006.

National Planning Policy

National Planning Policy Framework (NPPF), March 2012

A1.7. The National Planning Policy Framework (NPPF) was published on 27th March 2012 and sets out the Government's planning policies for England and how these are expected to be applied. It replaces all the Planning Policy Statements and Guidance (PPSs and PPGs) (of relevance PPS9: Biodiversity and Geological Conservation).

A1.8. Paragraph 14 states that:

"At the heart of the National Planning Policy Framework is a presumption in favour of sustainable development, which should be seen as a golden thread running through both plan-making and decision-taking."

A1.9. Under the 12 'Core Planning Principles' within the NPPF, those of relevance to nature conservation state that planning should:

"contribute to conserving and enhancing the natural environment and reducing pollution. Allocations of land for development should prefer land of lesser environmental value, where consistent with other policies in this Framework;

encourage the effective use of land by reusing land that has been previously developed (brownfield land), provided that it is not of high environmental value; and

promote mixed use developments, and encourage multiple benefits from the use of land in urban and rural areas, recognising that some open land can perform many functions (such as for wildlife, recreation, flood risk mitigation, carbon storage, or food production)"

A1.10. Section 11 of the NPPF (paragraphs 109 to 125) considers the conservation and enhancement of the natural environment.

A1.11. Paragraph 109 states that the planning system should contribute to and enhance the natural and local environment through inter alia recognising the wider benefits of ecosystem services; minimising impacts on biodiversity; and providing net gains in biodiversity (including provision of coherent ecological networks that are more resilient to current and future pressures).

A1.12. Paragraph 113 states that Local Plans should set criteria based policies against which proposals for development on or affecting wildlife sites should be judged and that distinctions should be made between the hierarchy of international, national and local sites and the weight of their importance.

A1.13. Paragraph 114 states that Local Authorities should plan positively for creation, protection, enhancement and management of networks of biodiversity and green infrastructure.

A1.14. To minimise impacts on biodiversity and geodiversity, Paragraph 117 states that planning policies should:

"plan for biodiversity at a landscape-scale across local authority boundaries;

identify and map components of the local ecological networks, including the hierarchy of international, national and locally designated sites of importance for biodiversity, wildlife corridors and stepping stones that connect them and areas identified by local partnerships for habitat restoration or creation;

promote the preservation, restoration and re-creation of priority habitats, ecological networks and the protection and recovery of priority species populations, linked to national and local targets, and identify suitable indicators for monitoring biodiversity in the plan;

aim to prevent harm to geological conservation interests; and

where Nature Improvement Areas are identified in Local Plans, consider specifying the types of development that may be appropriate in these Areas"

A1.15. When determining planning applications, Paragraph 118 states that local planning authorities should aim to conserve and enhance biodiversity by applying the following principles:

"if significant harm resulting from a development cannot be avoided (through locating on an alternative site with less harmful impacts), adequately mitigated, or, as a last resort, compensated for, then planning permission should be refused;

proposed development on land within or outside a Site of Special Scientific Interest likely to have an adverse effect on a Site of Special Scientific Interest (either individually or in combination with other developments) should not normally be permitted. Where an adverse effect on the site's notified special interest features is likely, an exception should only be made where the benefits of the development, at this site, clearly outweigh both the impacts that it is likely to have on the

features of the site that make it of special scientific interest and any broader impacts on the national network of Sites of Special Scientific Interest;

development proposals where the primary objective is to conserve or enhance biodiversity should be permitted;

opportunities to incorporate biodiversity in and around developments should be encouraged;

planning permission should be refused for development resulting in the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss; and

the following wildlife sites should be given the same protection as European sites:

potential Special Protection Areas and possible Special Areas of Conservation;

listed or proposed Ramsar sites; and

sites identified, or required, as compensatory measures for adverse effects on European sites, potential Special Protection Areas, possible Special Areas of Conservation, and listed or proposed Ramsar sites."

A1.16. Paragraph 119 states that the presumption in favour of sustainable development in Paragraph 14 does not apply in relation development requiring appropriate assessment under the Birds or Habitats Directives.

A1.17. Paragraph 125 states that planning policies and decisions should limit the impact of light pollution from artificial light on nature conservation by encouraging good design.

Office of the Deputy Prime Minister (ODPM) Circular 06/2005: Biodiversity and Geological Conservation - Statutory Obligations and their Impact within the Planning System

A1.18. ODPM Circular 06/05 was prepared to accompany PPS9, however continues to be valid, and material in the consideration of planning applications since PPS9's replacement by the NPPF.

A1.19. ODPM Circular 06/05 provides guidance on applying legislation in relation to nature conservation and planning in England. Part I considers the legal protection and conservation of internationally designated sites (namely candidate Special Areas of Conservation (cSACs), SACs, potential Special Protection Areas (pSPAs), SPAs and Ramsar sites) and Part II considers the legal protection and conservation of nationally designated sites, namely Sites of Special Scientific Interest (SSSIs).

A1.20. Part III considers the protection of habitats and species outside of designated areas (particularly UK Biodiversity Action Plan species and habitats, which it states are capable of being a material consideration in the preparation of local development documents and the making of planning decisions.

A1.21. Part IV considers species protected by law and states that the presence of a protected species is a material consideration in the consideration of a development proposal that, if carried out, would be likely to result in harm to the species or its habitat and that it is essential that the presence or otherwise of protected species, and the extent that they may be affected by the proposed development, is established before the planning permission is granted.

Local Planning Policy – Ribble Valley Borough Council Core Strategy 2008 – 2028: A Local Plan for Ribble Valley - Adoption Version

EN4: BIODIVERSITY AND GEODIVERSITY

A1.22. The Council will seek wherever possible to conserve and enhance the area's biodiversity and geodiversity and to avoid the fragmentation and isolation of natural habitats and help develop green corridors. Where appropriate, cross-Local Authority boundary working will continue to take place to achieve this. Negative impacts on biodiversity through development proposals should be avoided. Development proposals that adversely affect a site of recognised environmental or ecological importance will only be permitted where a developer can demonstrate that the negative effects of a proposed development can be mitigated, or as a last resort, compensated for. It will be the developer's responsibility to identify and agree an acceptable scheme, accompanied by appropriate survey information, before an application is determined. There should, as a principle be a net enhancement of biodiversity.

These sites are as follows:

- Sites of Special Scientific Interest (SSSIs)
- Local Nature Reserves (LNRs)
- Local Biological Heritage sites (CBHs)
- Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)
- Local Geodiversity Heritage Sites
- Ancient Woodlands

- Lancashire Biodiversity Action Plan priority habitats and species
- European Directive on Protected Species and Habitats - Annexe 1 Habitats and Annexe II Species
- Habitats and Species of Principal Importance in England

A1.23. With respect to sites designated through European legislation the Authority will be bound by the provisions of the relevant Habitats Directives and Regulations.

A1.24. For those sites that are not statutorily designated and compensation could be managed through a mechanism such as biodiversity off-setting via conservation credits.

Ribble Valley Districtwide Local Plan

POLICY ENV3 – Open Countryside **In the open countryside outside the AONB and areas immediately adjacent to it, development will be required to be in keeping with the character of the landscape area and should reflect local vernacular, scale, style, features and building materials. Proposals to conserve, renew and enhance landscape features, will be permitted, providing regard has been given for the characteristic landscape features of the area.**
Although the Bowland area has received national recognition the adjacent area of countryside is also of high quality, in places matching that of the Area of Outstanding Natural Beauty. This policy recognises that the open countryside is all worthy of conservation and enhancement. The detailed landscape assessment included in Appendix 2 will be used in the determination of any planning application. Whilst the Borough Council has no wish to unnecessarily restrict development it is essential that only development which has benefits to the area is allowed. Even when such development is accepted it must acknowledge the special qualities of the area by virtue of its size, design, use of materials, landscaping and siting. The Council will ensure the protection and enhancement of those areas outside both the AONB and areas immediately adjacent to it with an approach to conservation which gives a high priority to the protection and conservation of natural habitats and traditional landscape features. It will protect statutory designated areas and sites of biological interest and ancient woodland sites throughout open countryside areas. It will continue to improve the extent and quality of the tree cover and associated flora/fauna throughout the open countryside. It will determine and identify landscape character in relationship to the future landscape potential and will act to enhance landscape character of the open countryside. The Borough Council is also committed to protecting key elements of the landscape character of any site affected by proposed development and would make the siting, scale and form of any landscape proposal that forms part of any planning application a priority. Open recreational uses will be assessed in terms of their impact on the site and on the wider value of the landscape, together with any social benefits arising. This policy will be implemented through the development control process
POLICY ENV7 - SPECIES PROTECTION **Development proposals which would have an adverse effect on wildlife species protected by law will not be granted planning permission, unless arrangements can be made through planning conditions or agreements to secure the protection of the species.**

The presence of a protected species is a material consideration when a local planning authority is appraising a development proposal which if carried out would be likely to result in harm to the species or its habitat. Matters likely to be of concern to the Borough Council in implementing the policy, if development is considered possible, will be to facilitate the survival of individual members of the species, to reduce disturbance to a minimum, and to provide adequate habitats to sustain at least the current levels of populations.

POLICY ENV9 - OTHER IMPORTANT WILDLIFE SITES

Development proposals within or adjacent to a County Biological Heritage Site or other site of local nature conservation importance identified on the proposals map will be permitted, provided the development would not significantly harm the features of interest which led to the identification of the site or other material factors outweigh the conservation interests of the site.

The County Biological Heritage Sites have been identified jointly by Lancashire County Council, English Nature and the Lancashire Wildlife Trust. They are shown on the proposals map and listed in Appendix 3.

Wildlife corridors and links are shown on the proposals map. They are linear areas of countryside which are usually sandwiched between built-up areas, or follow geographical features such as rivers and streams, or man-made features such as railway lines. They provide important resources for wildlife; links that allow movement of wildlife between town and country and important educational and recreational resources. The Council recognises that other linear areas of countryside such as those associated with streams and rivers shown as wildlife corridors/links in Appendix 4 provide important resources for wildlife. It also recognises the need to protect wildlife corridors/links from any development which may cause harm or damage to a species/habitat. It will also protect against a reduction in the length of, against any new obstacles and against the contamination of any wildlife corridors/links.

These designations represent an important part of the Borough's heritage, which it is necessary to protect. They are valuable both as habitats for plants and animals. There is sufficient land available for all uses without the need to damage such sites.

There may be occasions where some development associated to these sites may be justified. This may be a reflection of a clear local need which can be identified and justified.

The designation of sites protected by this policy is not comprehensive, and it is possible that other sites will be discovered and possibly created in the plan period. The Borough Council will consult with the relevant organisations on all applications. Where new sites are identified they will be protected by this policy and incorporated into the plan at the earliest opportunity. This policy will be implemented through the development control process and by negotiation with English Nature and the Lancashire Wildlife Trust.

POLICY ENV10 – NATURE CONSERVATION

Where permission is granted for development affecting the nature conservation value of sites, including those referred to in Policies ENV8 and ENV9, conditions may be imposed or agreements sought:

- **(a) to avoid damage to wildlife habitats or physical features of the nature conservation interest;**
- **(b) to secure the retention or enhancement of wildlife habitats; and**
- **(c) in appropriate cases, to require the re-creation of habitats once the development has ceased.**

Where such development is allowed, damage to nature conservation interests must be kept to a minimum. The most sensitive areas of any site must be protected in the long term, and any valuable areas of habitat must be re-created elsewhere on site wherever possible. In cases where development proposals are considered to possibly affect such sites, the Council will require a full detailed flora and fauna survey. These bodies may be particularly useful; Lancashire County Council Ecology Unit; or bona fide professional landscape/wildlife consultants. The costs of survey works will be met by the applicants. There may be occasions where development of part of the whole of these sites may be justified and in such cases the

Council will ensure that damage to the nature conservation interest of the site or feature be kept to a minimum. Where possible the Council will seek to negotiate with the developer to preserve the nature conservation interest, and will consider using conditions and/or planning agreements to provide appropriate compensatory measures.
POLICY ENV13 - LANDSCAPE PROTECTION **The Borough Council will refuse development proposals which harm important landscape features including traditional stone walls, ponds, characteristic herb rich meadows and pastures, woodlands, copses, hedgerows and individual trees other than in exceptional circumstances where satisfactory works of mitigation or enhancement would be achieved, including rebuilding, replanting and landscape management.**
It is important to protect the existing landscape features which add to the character of the Borough. The woodland coverage of the borough whether large woods, small groups, or individual trees, together with hedgerow coverage forms an important part of the landscape quality. In addition valuable ecological, recreational and economic functions arise from these features.

Table A1.1 – Ribble Valley Districtwide Local Plan

Appendix 2: Great Crested Newt Surveys

30th June 2014

Land at Bowland Meadows and Higgins Brook, Longridge, Ribble Valley

Great Crested Newt Survey

Report Number:	2001_R07a_JM_AS
Author:	John Moorcroft MCIEEM CEnv
Checked:	Simon Holden MCIEEM

Tyler Grange

Contents

Appendix

Plan

Section 1: Introduction

Background

1.1 Tyler Grange LLP has been commissioned by Barratt Homes Manchester to undertake an ecological assessment in relation to the proposed development of land north of Longridge, Ribble Valley (hereafter referred to as the 'site'). The site is approximately 15.4 ha and is centred on Ordnance Survey (OS) grid reference SD 6038 3811. An outline planning application is to be submitted for the development of the site for up to 500 dwelling units including access and associated infrastructure. The development will proceed in a phased manner with Phase 1 'Bowland Meadows' comprising the two field units to the far west of the site. This has been subject to a separate planning application informed by an Ecological Assessment Report (TG Ref: 2001_R06).

1.2 As part of the ecological assessment, surveys for great crested newt *Triturus cristatus* (GCN) have been undertaken, which cover both development phases. This report presents the findings of the GCN surveys.

Site Description

1.3 The site comprises pastoral fields consisting of species poor semi-improved grassland separated by hedgerows with occasional scattered trees. The land is more or less flat and is to the north of Longridge, Ribble Valley. The site is bordered by residential developments and a Sainsbury's supermarket to the south, Chipping Lane, further pastoral fields and Longridge Cricket Ground to the west and by further pastoral land to the north and east.

Legislation and Conservation Status

1.4 As a European Protected Species GCN receives legal protection in England under the Conservation of Habitats and Species Regulations 2010 (as amended) and the Wildlife and Countryside Act 1981 (as amended). In addition, planning policy requires planning authorities to consider GCN when determining planning applications and to ensure that development proposals do not lead to adverse effects on the conservation status of GCN.

1.5 Although GCN still maintains a widespread distribution in England, the species is in decline, notably through loss of breeding ponds. A greater decline has been noted across the European range of the GCN. The UK holds a large proportion of the world population of the species. GCN is listed as a Species of Principal Importance (SoPI) under Section 41 of the Natural Environment and Rural Communities Act 2006. It is also listed on the Lancashire Local BAP.

Section 2: Methodology

Scope of GCN Survey

2.1 The distribution of ponds within the site and on adjacent land assessed as part of the surveys is shown on Habitat Features Plan. 2001/P04a.

Habitat Suitability Index (HSI)

2.2 A Habitat Suitability Index (HSI) was calculated for each water body in accordance with the methodology outlined by NE[1]. A score is given to each water body between 0 and 1, with scores closer to 0 having lower probability of GCN occurrence. The HSI cannot be used as confirmation of GCN presence or absence, but is used as a guide to assess the habitat in terms of its potential to support great crested newts. It also provides useful information that can inform pond management and enhancement programmes.

2.3 The NE HSI classifications are provided below:

- < 0.5 Poor;
- 0.5 – 0.59 Below average;
- 0.6 – 0.69 Average;
- 0.7 – 0.79 Good; and
- 0.8 Excellent.

Great Crested Newt Survey

2.4 Surveys were undertaken using in accordance with published guidelines[2]. The guidance recommends that four survey visits should be undertaken between mid-March and mid-June, and that at least two of the visits should be undertaken between mid-April and mid-May.

2.5 Ponds found to contain GCN during the first four visits receive two additional visits, i.e. are visited a total of six times, in order assess the 'Population Size Class', as defined by NE.

2.6 The following methods were employed on each visit in order to detect the presence of GCN:

- Egg searching: Although the data cannot be used to estimate population size it can indicate the presence of breeding adults. All suitable submerged vegetation was searched for GCN eggs. Newt eggs are characteristically wrapped individually in the submerged leaves of aquatic vegetation;

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[1] Natural England Licensing Advice great crested newts: http://www.naturalengland.org.uk/conservation/wildlife-management-licencing/docs/WML-A14-2.xls

[2] English Nature (2001) *Great Crested Newt Mitigation Guidelines*. English Nature, Peterborough

- Bottle trapping: Setting of bottle traps (where conditions allow). This involved the use of funnel traps (made from 2L clear plastic bottles) that were secured in the water at 2m intervals around the pond margin. Traps were set in the evening before dark and left overnight to be checked the following morning; and

- Torch survey: The accessible margins of the water body were slowly walked once, searching the margins by torchlight (Cluson CB2 one million candlepower) for GCN.

2.7 If present, all GCN observed were counted and, where possible identified as males, females and juveniles. Survey dates and conditions are shown in Table 2.1 below.

Visit Number	Date	Weather Conditions	Air Temp	Water Temp	Lead surveyor
1	19th March 2014	Light breeze, 70 % cloud, dry	9^{0}C	9.5^{0}C	Paul Moody
2	7th April 2014	Light breeze, 80 % cloud, dry	9^{0}C	10^{0}C	Paul Moody
3	24th April 2014	Light breeze, 80 % cloud	12^{0}C	11^{0}C	Paul Moody
4	1th May 2014	Moderate breeze. 100% cloud and dry	12^{0}C	9.5^{0}C	Simon Holden

Table 2.1: Dates and weather conditions for newt surveys

Limitations

Habitat Suitability Index

2.8 January is not the ideal time to conduct HSI assessments as macrophyte cover may not be readily evident. It is therefore possible that these ponds would receive a higher score if surveyed at a more optimal time of year. However Ponds 1, 2 and 4 were assessed as 'good' by the HSI and were surveyed for GCN. The factor which is limiting Pond 3 for its suitability to support GCN is water quality; it had a high level of apparent hydrocarbon pollution, and low water levels which suggested that it dries on an annual basis. As the assessment of these factors is not dependant on the time of year, the timing of the HSI survey is not considered a major limitation.

Great crested Newt Survey

2.9 Surveys were conducted in accordance with the methods stated above, during appropriate weather conditions and there is a high degree of confidence in the survey results.

Quality Control

2.10 All ecologists at Tyler Grange LLP are members of CIEEM[3] and abide by the Institute's Code of Professional Conduct.

[3] The Chartered Institute of Ecology and Environmental Management

Section 3: Survey Results

Habitat Suitability Index

3.1. The HSI results for the four ponds are as follows:

- Pond 1 - 0.75 – good
- Pond 2 – 0.71 - good
- Pond 3 – 0.42 - poor; and
- Pond 4 - 0.7 – good

3.2. Further details and a breakdown of calculations are provided in **Appendix 1.**

GCN Survey Results

3.3. No GCN were found to be present during the surveys. No smooth or palmate newts were recorded. Common frog *Rana temporaria* was recorded.

Section 4: Conclusion and Recommendations

Survey Conclusion

4.1. The surveys undertaken in 2014 found **no evidence of GCN in the ponds** and it is therefore highly unlikely that they occur within the site.

4.2. **No impacts to GCN are likely** and no mitigation is required in respect of the proposed development. The ponds will be retained and will therefore continue to support populations of common frog.

4.3. Legislation and planning polices relating to GCN and ponds would therefore not be triggered due to the development.

Recommendations

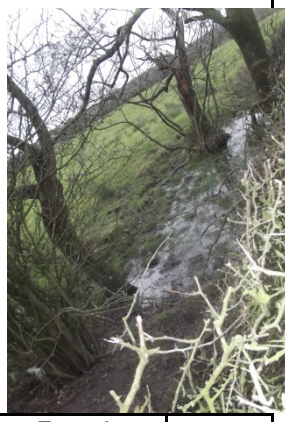
4.4. Development proposals provide an opportunity to enhance the ecological value of ponds. It is recommended that existing ponds are retained wherever possible and managed to restore and maintain their value as breeding habitat for amphibians and other pond life.

4.5. New ponds wildlife ponds should also be created (in addition to any SUDS ponds), preferably in close proximity to existing ponds retained within the development so that habitat resources for existing amphibians (namely common frog) and other aquatic fauna can be increased as a result of the proposed development.

Appendix 1 Habitat Suitability Index Results

Pond 1		
Indices		
Grid Reference	SD 6039 3818	
Distance to Site	On site	
Description	Field pond/marl pit, partially shaded by willows and alder, fringed with soft rush *Juncus effusus*, some floating sweet grass *Glyceria fluitans* and fools water cress. *Apium nodosum*	
Photograph		
SI_1- Location	Zone A, optimal	1
SI_2- Pond area	350 m^2	0.7
SI_3 - Pond drying	Sometimes	0.5
SI_4 - Water quality	Moderate	0.67
SI_5 - Shade	5%	1
SI_6 - Fowl	Absent	1
SI_7 - Fish	Absent	1
SI_8 - Ponds	9	0.95
SI_9 – Terrestrial habitat	Moderate	0.67
SI_{10} - Macrophytes	10%	0.4
HSI Scores	**Good**	**0.75**

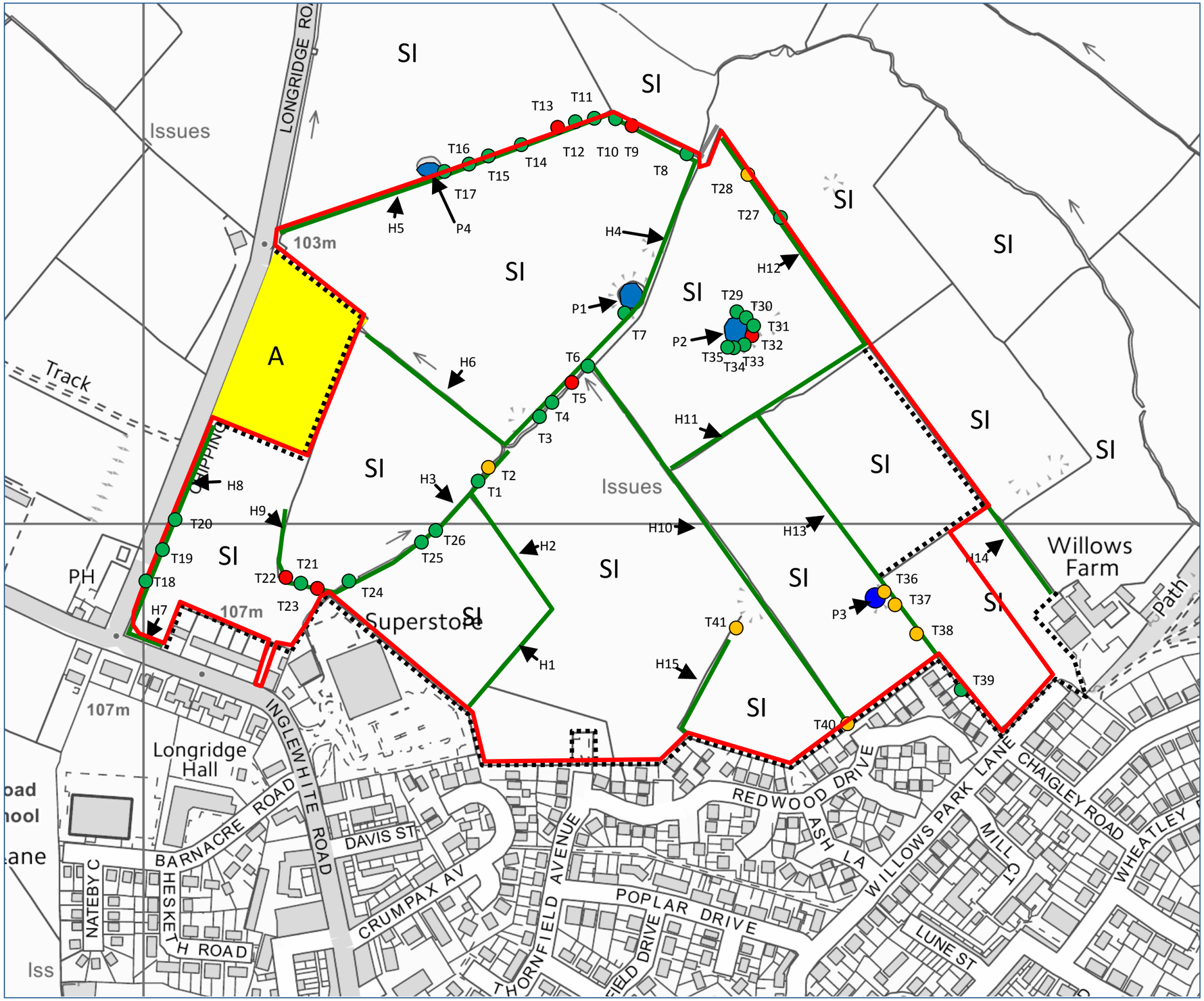
Pond 2		
Indices		
Grid Reference	SD 6048 3815	
Distance to Site	On site	
Description	Field Pond/marl pit. Partially shaded by willows. Soft rush, reed canary grass *Phalaris arundinacea*, fools water cress, marsh marigold *Caltha palustris* and floating sweet grass present in margins.	
Photograph		
SI_1- Location	Zone A, optimal	1
SI_2- Pond area	100 m^2	0.2
SI_3 - Pond drying	Sometimes	0.5
SI_4 - Water quality	Moderate	0.67
SI_5 - Shade	50%	1
SI_6 - Fowl	Absent	1
SI_7 - Fish	Absent	1
SI_8 - Ponds	9	0.95
SI_9 – Terrestrial habitat	Moderate	0.67
SI_{10} - Macrophytes	50%	0.8
HSI Scores	**Good**	**0.71**

Pond 3		
Indices		
Grid Reference	SD 6059 3794	
Distance to Site	on site	
Description	Flooded area along hedgerow, large amount of hydrocarbon pollution evident.	
Photograph		
SI_1- Location	Zone A, optimal	1
SI_2- Pond area	14m^2	0.05
SI_3 - Pond drying	Annually	0.1
SI_4 - Water quality	Poor	0.33
SI_5 - Shade	80%	0.6
SI_6 - Fowl	Absent	1
SI_7 - Fish	Absent	1
SI_8 - Ponds	9	0.95
SI_9 – Terrestrial habitat	Moderate	0.67
SI_{10} - Macrophytes	0%	0.3
HSI Scores	**Poor**	**0.42**

Pond 4		
Indices		
Grid Reference	SD 6022 3828	
Distance to Site	0m	
Description	Shallow pond at edge of field, partially shaded by trees, some reed canary grass, soft rush and floating sweet grass present in margins.	
Photograph		
SI_1- Location	Zone A, optimal	1
SI_2- Pond area	150m^2	0.3
SI_3 - Pond drying	Sometimes	0.5
SI_4 - Water quality	Moderate	0.67
SI_5 - Shade	15%	1
SI_6 - Fowl	Absent	1
SI_7 - Fish	Absent	1
SI_8 - Ponds	9	0.95
SI_9 – Terrestrial habitat	Moderate	0.67
SI_{10} - Macrophytes	15%	0.45
HSI Scores	**Good**	**0.7**

Plan

2001/ P04a Habitat Features Plan – JM/JE June 2014



SI Species Poor Semi-improved Grassland

A Amenity Grassland

Pond

Category 1 tree

Category 2 Tree

Category 3 Tree

Hedgerow

Dry stone wall

Fence

Site boundary

T1 Tree number

H1 Hedge number

P1 Pond number

N

0 100m

Project	Bowland Meadows and Higgins Brook, Land East of Chipping Lane, Longridge
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	2001/P04a
Date	June 2014
Checked	JM/JE

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Appendix 3: Hedgerows Regulations Assessment Estimate

Appendix 3: Hedgerows Regulations Assessment Estimate

A3.1. Hedgerow surveys were conducted on all hedgerows on 29th November 2013 by Paul Moody (Ecologist, Tyler Grange) an experienced field ecologist and Hayley Care (Graduate Ecologist Tyler Grange) a graduate member of the Chartered Institute of Ecology and Environmental Management (CIEEM). The methodology employed followed the requirements of the Hedgerows Regulations 1997 as outlined below:

1) Each hedgerow was surveyed as follows:

   a. If it did not exceed 30 metres, the whole hedgerow was surveyed; or

   b. If it exceeded 30 metres, but did not exceed 100 metres, the central stretch of 30 metres was surveyed; or

   c. If it exceeded 100 metres, but did not exceed 200 metres, the central stretch of 30 metres within each half of the hedgerow (the aggregate of woody species recorded was later divided by two) was surveyed; or

   d. If it exceeded 200 metres, the central stretch of 30 metres within each third of the hedgerow was surveyed (the aggregate of woody species recorded was later divided by three).

2) For each hedgerow, the number of woody species was recorded;

3) For each hedgerow the number of 'additional features' present was recorded namely:

   a. a bank or wall which supports the hedgerow along at least one half of its length;

   b. gaps which in aggregate do not exceed 10% of the length of the hedgerow;

   c. where the length of the hedgerow does not exceed 50 metres, at least one standard tree;

   d. where the length of the hedgerow exceeds 50 metres but does not exceed 100 metres, at least 2 standard trees;

   e. where the length of the hedgerow exceeds 100 metres, such number of standard trees (within any part of its length) as would when averaged over its total length amount to at least one for each 50 metres;

   f. at least 3 woodland species within one metre, in any direction, of the outermost edges of the hedgerow;

   g. a ditch along at least one half of the length of the hedgerow;

   h. connections to other hedgerows (1 point) and pond or broadleaved woodland (2 points) with a summed score of 4 points or more; and

   i. a parallel hedge within 15 metres of the hedgerow.

A3.2. Each hedgerow was then classified as ‘important’, ‘borderline’ or not important based on the following criteria:

1) An Important hedgerow:

   a. includes at least 7 woody species; or

   b. includes at least 6 woody species, and has associated with it at least 3 of the additional features; or

   c. includes at least 6 woody species, including one of the following—black-poplar tree; large-leaved lime; small-leaved lime; wild service-tree; or

   d. includes at least 5 woody species, and has associated with it at least 4 additional features; or

   e. includes at least 4 woody species and at least 2 additional features and is adjacent to a bridleway or footpath, a road used as a public path, or a byway open to all traffic.

2) Borderline hedgerows:

   a. have one less woody species and/or additional feature than required to meet the qualifying criteria as ‘important’.

3) Not important hedgerows:

   a. Do not meet the qualifying criteria as important or borderline hedgerows.

Limitations

A3.3. January is not the ideal time to conduct a Hedgerows Regulations assessment as it is not possible to assess to fully assess plant species due to seasonal dieback, especially, woodland herbs present within the hedgerow. As such the following results represent an approximation of hedgerow importance.

Results

Hedgerow Number	Length (m) *	Height and width (m)	Woody Species Present**	Woodland and Understory Species Present**	Additional Features	Management	Approximation of Importance of Hedge under Hedgerow Regs. 1997
H1	100m	3m x 2 m	• Hawthorn • Blackthorn • Dog rose • Elder	• Common nettle • Bramble • Holly	• Dry ditch (D1) on eastern length	• Unmanaged • Grazed at base • Gappy	Unimportant
H2	100m	3.5m x 3.5m	• Hawthorn • Blackthorn • Hazel • Holly • Crab apple • Elder	• Male fern • Common nettle • Bramble • Cleavers • Soft rush • Bitter sweet • Creeping buttercup	• Damp ditch (D2) along base • Connects with H1 and H3	• Unmanaged • Laid >10yrs past • Untrimmed with outgrowth • Grazed at base • Gappy	Borderline importance
H3	316m	4m x 4m	• Hawthorn • Beech • Ash • Blackthorn • Hazel • Holly • Alder	• Common nettle • Bramble • Thistle • Fern • Soft rush • Reed canary grass	• 6 standard trees present • Wet ditch (D3) running along whole length • Connects with H2, H4, H6, H9 & H10	• Unmanaged • Untrimmed with outgrowth	Important
H4	180m	4m x 2m	• Alder • Hawthorn • Holly • Rose Spp.	• Bramble • Soft rush	• Hedge on bank • Dry ditch (D4) along base • Connect to H3 & H10 • Connects to pond P1	• Unmanaged • Tall and leggy • Laid >10yrs past	Unimportant

Hedgerow Number	Length (m) *	Height and width (m)	Woody Species Present**	Woodland and Understory Species Present**	Additional Features	Management	Approximation of Importance of Hedge under Hedgerow Regs. 1997
H5	367m	3m x 3m	• Hawthorn • Beech • Ash	• Grassland understory (as field)	• Defunct • Connects to pond P4 • Connects with H4 • At least 7 standard trees present	• Tall and leggy • Unmanaged • Grazing of hedge base	Unimportant
H6	150m	3m x 3m	• Alder • Hazel • Hawthorn • Blackthorn • Elder	• Ferns • Bramble • Nettle • Common sorrel • Hogweed • Red campion • Creeping buttercup • Cocksfoot • Perennial rye grass	• No gaps in aggregate >10% of hedgerow length • Ditch present along half of length • Connects to H3	• Untrimmed with outgrowth • Unmanaged • Hedge bottoms grazed	Unimportant
H7	10m	1.5m x 1m	• Hawthorn •	• Ivy • Cleavers		• Trimmed and dense • Flail cut	Unimportant
H8	170m	1m x 1m	• Hawthorn • Ash • Holly • Sycamore	• Bramble • Ivy • Common nettle • Cleavers • Cocksfoot	• No gaps in aggregate >10% of hedgerow length • Parallel hedge present within 15m • Adjacent to public road	• Flail cut • Laid >10 yrs ago • Trimmed and dense	Borderline importance
H9	132m	3m x 2m	• Alder • Hawthorn • Ash	• Common nettle • Thistle • Bramble	• No gaps in aggregate >10% of hedgerow	• Untrimmed with outgrowth • Laid >10 yrs ago	Important

Hedgerow Number	Length (m) *	Height and width (m)	Woody Species Present**	Woodland and Understory Species Present**	Additional Features	Management	Approximation of Importance of Hedge under Hedgerow Regs. 1997
			• Holly • Blackthorn • Elder	• Cocksfoot	length • At least 1 standard tree per 50m of hedgerow • Wet ditch present • Connects to H3 • Inundation area present	• Hedge bottoms grazed 2 – 10 yrs ago •	
H10	350m	1.5m x 1m	• Hazel • Hawthorn • Ash • Holly • Blackthorn	• Soft rush • Common nettle • Thistle • Bramble • Cocksfoot •	• Wet ditch present • Connects to H4 and H11	• ?	Borderline importance)
H11	150m	1m x 1m	• Hawthorn • Ash • Holly • Hazel	• Common nettle • Cocksfoot • Bramble	• Drainage ditch on west side • Connects to H10 and H12	• Grazed base • Defunct • Gappy • Trimmed and laid in the past •	Unimportant
H12	200m	2m x 1m	• Hawthorn • Holly • Hazel • Dog rose • Pedunculate oak • Ash	• Common nettle • Bramble • Great willowherb • Soft rush	• Drainage ditch on south side • Connects to H11 • Standard trees present	• Managed • Flail trimmed • Defunct •	Borderline importance
H13	300m	1.5m x 1m	• Hawthorn • Ash • Holly • Pedunculate oak	• Bramble • Soft rush	• No gaps in aggregate >10% of hedgerow length • Wet ditch present	• Intensively managed • Flail trimmed • Laid in past 2 to 10 yrs • Hedge bottom grazed	Unimportant

Hedgerow Number	Length (m) *	Height and width (m)	Woody Species Present**	Woodland and Understory Species Present**	Additional Features	Management	Approximation of Importance of Hedge under Hedgerow Regs. 1997
			• Blackthorn		• Connects to H11 • Inundation area present •		
H14	25m	1.5m x 1m	• Hawthorn	• Common nettle • Bramble •	•	• Intensively managed • Flail cut	Unimportant
H15	100m	1.5m x 1m	• Hawthorn	• Common nettle • Bramble	•	• Defunct	Unimportant
• ***** Measured using Google earth • ** Due to time of year (Nov) all species may not be picked up due to seasonal dieback (esp. woodland species)							

Appendix 4: Badger Survey

Appendix 4: Badger Survey

A4.1. A badger survey was conducted during the Phase 1 Habitat Survey. The survey followed standard methodology (Harris *et al* 1989). A thorough search for badger activity was carried out. The survey area covered the site and extended to the accessible land within a radius of 100 metres from the site boundary. Particular attention was given to Harper Woods situated immediately to the south of the site. Private gardens were excluded from the survey.

A4.2. The following signs of badger activity were searched for: -

- 'D' shaped sett entrances at least 0.25 metre 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 0.1 metre long with a long black section and a white tip;
- Dung pit latrines and footprints;
- Trampled pathways through vegetation and beneath fences; and
- Feeding signs.

Results

A4.3. No evidence of badger was recorded during the survey.

Appendix 5: Bat Survey Report

2nd September 2014

Land at Higgins Brook, Longridge, Ribble Valley

Bat Survey Report

Report Number: 2001_R11a_JM_SH_AS

Author: John Moorcroft MCIEEM CEnv

Checked: Simon Holden MCIEEM

Tyler Grange

Contents

Appendix

Plans

Section 1: Introduction

1.1 Tyler Grange LLP (TG) has been appointed by Barratt Homes Manchester to provide ecological surveys in connection with two planning applications for residential development schemes located on land off Chipping Lane, Longridge.

1.2 The site comprises land off Chipping Lane located to the immediate north of the settlement of Longridge. The site is approximately 24.8 ha and is centred on Ordnance Survey (OS) grid reference SD 6038 3811.

1.3 A detailed application for the first 106 homes / 7.07 ha (known as Bowland Meadows Ref: 3/2014/0227) has already been submitted by the developer and is subject to a separate Ecological Assessment (see report TG Ref: 2001_R06).

1.4 A further outline planning application for new residential development (up to 520 dwellings) has also been submitted and includes: affordable housing and housing for the elderly; relocation of Longridge Cricket Club to provide a new cricket ground, pavilion, car park and associated facilities; a new primary school; and vehicular and pedestrian accesses. Landscaping and public open space is proposed on the northern outskirts of Longridge. An ecological Assessment (see report TG Ref: 2001/R08) has been submitted to inform this planning application

1.5 Due to seasonal constraints, neither of the ecological assessments (submitted in connection with the detailed or outline applications) provides information in connection with relation to bats or great crested newts (GCN). These species are dealt with in separate reports

1.6 The A GCN survey report (TG Ref 2001/R07 was submitted to Ribble Valley Borough Council on the 25th June 2014).

1.7 This bat survey report provides details of surveys undertaken to inform both applications and will be submitted during the validation process for the outline application.

1.8 It also addresses comments made in connection with bats in the consultation letter provided by the Lancashire County Council Ecologist Rebecca Stevens (letter reference 03/14/0438/ASM/ASP/RS) provided to Ribble Valley Borough Council in relation to the detailed application.

1.9 The aims of bat surveys undertaken were to:

- Assess the potential value of habitats within the site to bats;
- Assess structures (trees and a building) within the site for their potential to support roosting bats; and
- Determine bats' use of the site – species present and relative abundance

Section 2: Methodology

2.1. The surveys followed standard methodologies set out in the Bat Mitigation Guidelines[1], the Bat Workers Manual[2] and Bat Surveys - Good Practice Guidelines[3] (Hundt, L. 2012) and comprised:

- Daytime ground based assessment of the trees on site for potential to support roosting bats;
- Detailed climbing inspection of trees assessed as having potential to support roosting bats;
- An initial inspection survey of the cricket club building (see **plan 2001/P46)** to assess potential to support roosting bats;
- Emergence survey of the cricket club building to assess whether roosting bats are present;
- Activity surveys - three dusk walked transects to assess bat activity across the site; and
- Automated activity surveys – deployment of static bat detectors (SM2+) left to record for several nights in different locations across the site.

2.2. Surveyor details are listed below in Table 2.1.

Name	Licence numbe	Bat survey experience	Surveys
Simon Holden MCIEEM	WML CL18 (level 2); CLS registration CLS00773	7 years	Tree assessment, building inspection a emergence survey
John Moorcroft MCIEEM CEnv	N/A	8 years	Tree assessment and climbing inspecti
Hayley Care MCIEEM	N/A	4 years	Evening activity surveys
Paul Moody MCIEEM	N/A	4 years	Tree assessment, tree climbing inspect and Emergence survey
Laura Dennis Grad CIEEM	N/A	First season	Evening activity surveys
Samantha Pritchard Grad CIEEM	N/A	First season	Evening activity survey

Table 2.1: Surveyor information

[1] Mitchell-Jones, A.J. (2004). *Bat Mitigation Guidelines*. English Nature, Peterborough.

[2] Mitchell-Jones, A.J. and McLeish, A.P. 2004 *–Bat Workers Manual – 3rd Edition* JNCC

[3] Hundt, L. (ed) (2012) *Bat Surveys Good Practice Guidelines – 2nd Edition,* Bat Conservation Trust, London.

Survey Methods

Daytime Tree Assessment and Inspection

2.3. Daytime inspections of the trees on site were made on 30th January and13th August 2014. The purpose of the surveys was to assess trees for their potential to support roosting bats. This ground based survey was aided by the use of binoculars, an endoscope and a high-powered torch.

2.4. Tables 2.2 and 2.3 show the tree features assessed and inspected during the surveys and the categorisation of trees regarding their potential to be used by roosting bats.

Features of Trees Used As Bat Roosts	Signs Indicating Possible Use by Bats
Natural holes	Tiny scratches around entry points.
Woodpecker holes	Staining around entry points.
Cracks/splits in major limbs	Flies around entry points.
Loose bark	Smoothing of surfaces around cavity.
Behind dense, thick stemmed ivy	Bat droppings in/around/below entrance.
Hollows/cavities	Audible squeaking at dusk or in warm weather.
Within dense epicormic growth	Distinctive smell of bats.
Bird & bat boxes	

Table 2.2: Common features used by bats for roosting and fields signs that may indicate use by bats

Tree Category	Description
Category 1*	Trees with multiple highly suitable features capable of supporting larger roosts.
Category 1	Trees with definite bat potential but supporting fewer features than 1*.
Category 2	Trees with no obvious potential but are of an age and size that may mean that there are cracks and cavities that could be used that are not visible from ground level.
Category 3	Trees with negligible potential to support bat roosts.

Table 2.3: Classification of trees (taken from BCT Guidelines 2012)

2.5. Trees assessed as offering roost potential of moderate or higher (category 2 +) were subject to detailed inspections. Climbing inspections undertaken on the 30th January were used to refine initial ground based assessments.

2.6. Further climbing inspections were undertaken on the 28th August 2014 of category 2+ trees affected by development, together with several category 3 trees (where further information has been requested by the Lancashire County Council Ecologist Rebecca Stevens).

2.7. Suitable trees were climbed by a qualified tree climber using rope and harness techniques. Potential roost features were inspected using an endoscope to identify signs indicating use by, or high suitability for roosting bats. Signs may include:

- Cavities extending upwards with smooth sides;
- Cavities extending more than 70mm;
- Presence of bat droppings; or
- Presence of live or dead bats.

2.8. The purpose of the detailed inspection was to investigate potential roost features up close and to determine whether bats may be using them as roost sites.

Building Inspection Survey

2.9. An inspection survey of the cricket club building was undertaken on the 13th August 2014. The potential of the building to support roosting bats was assessed using professional judgement and the criteria shown in Table A2.4 below.

Main Category	Sub Category	Category Description	Indicators
1 (Roost)	n/a	Evidence of use by bats.	• Sighting/hearing of bats (including emergence). Droppings, staining, smoothing and/or scratch marks. OR • Anecdotal record of bat roost e.g. from land owner.
2 (Potential Roost)	A	High potential to support bat roost(s)	• Numerous or high potential roosting features that are not exposed to the elements: e.g. crevices deeper than 100mm, width 15-70mm. • Unobstructed flyways. • Low disturbance levels. • Situated within or near to woodland, parkland or next to water bodies, buildings (i.e. potential foraging and roosting habitat). • Well connected to wider landscape through presence of continuous linear features such as hedgerows, watercourses, farm tracks etc.
	B	Moderate potential to support bat roost(s)	Some of the above features but considered to be less suitable on account of age, location and disturbance levels.
3 (Low Roost Potential)	n/a	Low potential to support bat roost(s)	• Limited suitable roosting features: Trees – dense ivy cover or superficial loose bark. • Exposed roosting features e.g. open to wind/rain. • High levels of regular disturbance e.g. from lighting or noise. • Exposed roosting features e.g. open to wind/rain; Isolated from suitable foraging habitat & commuting features.
Negligible	n/a	Negligible potential to support bat roost(s)	• No features suitable for use by roosting bats. Features offering some roosting potential but considered unlikely to be used due to access restrictions or disturbance levels.

Table 2.4: Bat roost assessment categories – adapted from Hundt (2012)

2.10. Externally the building was carefully examined and a visual inspection undertaken of structures such as brickwork, lead flashing, fascia boards and tiles for evidence of bat use, including droppings and staining from fur-oil or urine. Internally the building is fitted with a suspended ceiling and no access to a roof void was possible.

2.11. The inspection was aided by the use of binoculars, a high powered torch and an endoscope.

Dusk Emergence Survey

2.12. One dusk emergence survey of the cricket club building was undertaken on 13th August 2014. Two surveyors were positioned around the building to allow clear observation of all features offering potential to be used by roosting bats. Surveyors used a combination of visual observation and

echolocation detection techniques (BatBox Duet detectors) to identify any bats emerging from the building. The survey started 10 minutes before sunset and ended around 1.5 hours after sunset.

2.13. Details of the timings and the weather conditions during the dusk emergence survey are shown in Table A2.5 below.

Survey	Date	Sunset Time	Weather Conditions		Temp. (0^C)		Start time	End time
			At start	At end	Start	End		
Dusk Emergence	13.08.14	20:45	66% - 100% cloud, breezy and dry but rain earlier in day	33% - 66% cloud, breezy and dry but rain earlier in day	15	14	20:30	22:00

Table 2.5: Survey Date and Weather Conditions

Activity Surveys

2.14. Three dusk activity surveys were undertaken on 24th June, 17th July and 13th August 2014. Surveyors used a combination of visual observation and echolocation detection techniques to identify any bat activity on the site. BatScan® software was used to analyse sonograms of any calls which could not be identified in the field. The surveys started approximately at sunset and ended approximately two hours after sunset.

2.15. One transect route was walked per survey by a pair of surveyors, which covered all field boundaries and potential features of interest such on the site such as mature trees, hedgerows and ponds (see bat activity survey summary plan **2001/P46**). Regular stop points of three minutes were conducted along the transect route to record the number of passes, activity and species of bats present. Bat passes recorded in transit between stop points were also noted.

2.16. A 'bat pass' was defined as a registration (as heard on bat detector) lasting up to 10 seconds, i.e. a single bat heard for 11 seconds was counted as two passes.

2.17. Batbox Duet detectors connected to Zoom H2 digital recorders were used during the dusk activity surveys. The detectors record in both heterodyne and frequency division formats. Recordings were analysed using BatSound® software to examine any unidentified or queried calls.

2.18. Details on the timings and the weather conditions for the activity surveys are shown in Table 2.6 below.

Survey	Date	Sunset Time	Weather Conditions		Temp. (0^C)		Start time	End time
			At start	At end	Start	End		
Evening Activity 1	24.06.14	21:46	66% - 100% cloud, light wind and dry.	66% - 100% cloud, light wind and dry.	15	15	22:22	00:24
Evening Activity 2	17.07.14	21:31	0% - 33% cloud, light wind and dry.	0% - 33% cloud, breezy and dry	19	17	21:40	23:35

Survey	Date	Sunset Time	Weather Conditions		Temp. (0^C)		Start time	End time
			At start	At end	Start	End		
Evening Activity 3	13.08.14	20:48	66% - 100% cloud, breezy and dry but rain earlier in day	33% - 66% cloud, breezy and dry but rain earlier in day	15	14	20:59	22:46

Table 2.6: Weather conditions and timings of the bat activity surveys

Automated Activity Surveys

2.19. To supplement the transect activity survey data, automated surveys of the site were also conducted. One SM2+ static detector was placed on the site at three separate locations for a minimum of four consecutive nights. SM2 locations are shown on plan **2001/P46**.

2.20. The SM2s were set to begin recording half an hour before sunset and to continue until half an hour after sunrise. The dates and weather conditions for the automated survey are shown in table A2.7 below.

SM2 Location	Date	Temperature Max (C)	Temperature Min (C)	Humidity A	Wind Speed Avg (KMH)	Gust Speed Max (KMH)	Precipitation (CM)
A	24/06/2014	19	13	84	8	-	0
	25/06/2014	20	10	69	5	-	0
	26/06/2014	19	13	64	11	33	0
	27/06/2014	15	11	84	13	-	0
	28/06/2014	15	11	83	12	-	0
B	17/07/2014	26	11	68	6	-	0
	18/07/2014	24	17	75	18	-	0
	19/07/2014	22	17	90	8	-	0
	20/07/2014	23	16	85	9	39	0
	21/07/2014	23	14	72	7	28	0
C	13/08/2014	17	11	88	15	41	0
	14/08/2014	18	10	87	10	-	0
	15/08/2014	20	11	78	7	39	0
	16/08/2014	17	10	76	14	54	0
	17/08/2014	16	12	76	23	61	0

Table 2.7: Dates and weather conditions for the automated bat surveys – sourced from www.wunderground.com (Weather Station: Manchester).

Survey Limitations

2.21. Bat surveys are subject to numerous variables. The echolocation calls of species such as brown long-eared bats *Plecotus auritus* are of low amplitude and may not always be picked up on bat detectors. Survey results represent a sample of bat activity during the surveys. It is possible that bats may use the site at other times. However, no evidence of roosting bats was identified during any of the surveys and a high degree of confidence is placed on the results.

2.22. Bats use a variety of roosts, ranging from maternity, mating or swarming and hibernation roosts, containing a large number of individuals, to mating or night-time feeding roosts containing few individuals or single animals. Bats also tend to be nomadic (although are faithful to certain favoured roosting sites), spending variable lengths of time in a variety of roosts. As a result, even with the considerable survey effort it is possible that small transient roosts of bats may have been missed, although these tend to be less important to bats and so this should not affect the evaluation and recommendations made.

2.23. As the cricket building had a suspended ceiling an internal inspection was not possible. However, the building had low potential for roosting bats. A dusk emergence survey was undertaken and a high degree of confidence is placed on the results.

2.24. The SM2 at location A stopped working during the 4th night it was placed out.

Quality Control

2.25. All ecologists at Tyler Grange LLP are members of CIEEM and abide by the Institute's Code of Professional Conduct.

Section 3: Survey Results

Previous Records

3.1 Two records of bats recorded within 2km of the site in the last 10 years were provided by Lancashire Environmental Records Centre LERN. These are :

- Common pipistrelle;
- Unidentified bat species.

Daytime Inspection Surveys

Tree Assessment and Tree Climbing Inspection

3.2 Forty two were identified as requiring assessment for bat roosts. Tree locations are shown on plan **2001/P47a**, no other mature trees were identified that required further assessment. The results of the tree assessment are provided in table 3.1 below. Those subject to detailed climbing or ladder inspections are highlighted in grey.

3.3 The consultation from Lancashire County Council ecologist letter identifies two trees (scheduled for removal) in Hedgerow 8 that not shown as individual trees on plan **2001/P47a.** They are also referenced in tree group G2 of the Tree survey report (TG ref: 2001/ R05. These were checked and found to be part of the hedge H8 and are not individual trees. They did not possess features that would enable them to support bat roosts and therefore did not require any further assessment.

Tree Reference	Species	Description	Bat Roost Assessment Category
T1	Alder	Semi-mature alder no obvious potential roost features (PRFs) but with ivy cover.	3
T2	Alder	Mature alder with a damaged stem and possible bat access hole (tree climbed 30th January 2014). Suitability of potential roost feature confirmed but no evidence of use by bats found.	2
T3	Ash	Double stemmed mature ash knot holes present but appear blind	3

Tree Reference	Species	Description	Bat Roost Assessment Category
T4	Ash	Mature ash, no obvious PRFs	3
T5	Alder	Mature alder with three knot holes. These were found to be exposed with remains of starling nests inside.	3
T6	Ash	Mature ash with knot holes and a damaged stem; however these are blind and exposed.	3
T7	Willow species	Group of four mature willows with no obvious PRFs.	3
T8	Alder	Mature alder, no obvious PRFs, some blind knot holes on main stem.	3
T9	Alder	Mature alder with knot hole about 1.5m high, facing south. Inside is shallow and full of debris.	3
T10	Alder	Mature alder with split stem, however open and exposed from above.	3
T11	Alder	Mature alder with split limb to the south, however this appears blind (climbed 30th January 2014). Knot hole confirmed not to lead to a cavity capable of providing bat roost.	3
T12	Alder	Alder with knot hole; however this appears blind (climbed 30th January 2014). Knot hole confirmed not to lead to a cavity capable of providing bat roost.	3
T13	Alder	Mature alder with good knot hole approximately 3m up main stem to the south. This opens into a dry, smooth sided cavity extending up into the main stem (climbed 30th January 2014. Suitability of potential roost feature confirmed but no signs indicating previous occupation by bats was found).	1
T14	Alder	Mature alder with long frost crack extending up main stem (Inspected from ladder 30th January 2014) Suitability of potential roost feature confirmed but no evidence of use by bats found.	2
T15	Alder	Two stemmed alder with two knot holes to south and west. Cavities are damp inside. One stem has butt rot and the top of the stem is open to the elements.	3
T16	Alder	Mature alder with no obvious PRFs.	3
T17	Ash	Mature ash, no obvious PRFs.	3
T18	Sycamore	Mature sycamore, some old ivy cover (ivy has been cut) one knot hole is present to the west but appears blind (climbed 28th August 2014). Ivy was dead and falling off and contained no suitable roost features.. Rot hole was inspected found not	3

Tree Reference	Species	Description	Bat Roost Assessment Category
		lead to a cavity capable of supporting bat roosts. Ivy was falling off and contained no suitable roost features.	
T19	Ash	Mature ash with old dead ivy cover and a damaged limb, however this appears to be exposed and not lead to a cavity (climbed 28th August 2014). Damaged limb was inspected; cracks were full of rotting tree matter and did not lead to cavities capable of supporting roosting bats. A rot hole was found at 4m on the western side. This was inspected with an endoscope. No bats were present and no signs of previous occupation were found. Cavity was damp inside many slugs, not much room inside. . Ivy was falling off and contained no suitable roost features.	3
T20	Ash	Semi-mature ash with no obvious PRFs.	3
T21	Ash	Mature multi-stemmed ash, no obvious PRFs.	3
T22	Ash	Mature ash with three shallow knot holes.	3
T23	Alder	Alder with single woodpecker hole which extends upwards into the stem. (Inspected from ladder 30th Janu 2014) Suitability of potential roost feature confirmed but no evidence of use by bats found.	2
T24	Sycamore	Mature sycamore, no obvious PRFs.	3
T25	Alder	Multi stemmed alder, no obvious PRFs.	3
T26	Alder	Multi stemmed alder, no obvious PRFs.	3
T27	Ash	Mature ash, no obvious PRFs.	3
T28	Oak	Mature oak with a long split along a limb. This extends into a dry cavity (tree climbed 30th January 2014). Suitability of potential roost feature confirmed but no evidence of use by bats found. (Inspected from ladder 30th January 2014)	2
T29	Willow species	Willow at edge of Pond 2, no obvious PRFs.	3
T30	Willow species	Willow at edge of Pond 2, no obvious PRF's.	3
T31	Willow species	Willow at edge of Pond 2, no obvious PRF's.	3
T32	Willow species	Willow at edge of Pond 2. Three knot holes on main stem plus a hazard beam. One of knot holes extends upwards towards the pond. (1 hole inspected from ladder). Suitability of potential roost feature confirmed but no signs indicating previous occupation by bats was found).	1

Tree Reference	Species	Description	Bat Roost Assessment Category
T33	Willow species	Willow at edge of Pond 2, no obvious PRFs.	3
T34	Willow species	Willow at edge of Pond 2, no obvious PFs.	3
T35	Willow species	Willow at edge of Pond 2, no obvious PRFs.	3
T36	Oak	Several splits in main stem but these are open and exposed.	3
T37	Oak	Several splits in main stem but these are open and exposed trunk is very exposed from above.	3
T38	Oak	Multiple splits along limbs. Large cavity which is dry but open at the top. May be suitable for owls (tree climbed 30th January 2014). Suitability of potential roost feature confirmed but no evidence of use by bats found.	2
T39	Oak	No obvious PRFs.	3
T40	Oak	Mature oak with snag end on broken limb. Cavity is shallow and exposed.	3
T41	Ash	Dead oak with numerous areas of lifted bark (Climbed 28th August 2014). All areas of lifted bark examined and no evidence of occupation by bats was found. Conditions in cracks / under lifted bark were generally very damp, many cracks were filled with decaying vegetation or covered in cobwebs.	2
T42	Ash	Semi-mature ash with no obvious PRFs.	3

Table 3.1: Results of tree assessment and inspection

Daytime Building Inspection Survey

3.4 The results of the inspection of the cricket club building are detailed in Table A2.9 below and potential related to the categories listed in Table 3.2. **Plan 2001/P47a** shows the location of the building.

3.5 Plate 3.1 shows the exterior construction.

Plate 3.1 showing the exterior construction of the cricket pavilion

Building	Description	Assessment
Cricket Club	Single- storey stone building with flat steel/ iron roof. Occasional gaps behind steel fascia boards and wooden soffits which may offer some potential access point for bats.	**Low Potential – Category 3**

Table 3.2 Results of building inspection.

Dusk Emergence Survey

3.6 The results of the one dusk emergence survey are summarised in Table 3.3 below. The raw survey data forms can be found in appendix 1.

Survey Date	Surveyor Position	Species	Number of Bats	Bat Activity	Time
13 August 2014	1 (North Western corner)	Common pipistrelle	Max 2	First bat pass recorded but was not seen (32 mins after sunset) Bat commuting east to west past building. Bat passes recorded but bat was not seen. **No bats emerged from surveyed building.**	21:17 21:20

					21:27 - 21:45
	2 (South Eastern Corner)	Common pipistrelle and Soprano pipistrelle	Max 2	First bat (common pipistrelle) pass recorded but not seen (42 mins after sunset). Soprano pipistrelle passing across fie behind building **No bats emerged from surveyed building.**	21:27 21:32

Table 3.2 Dusk Emergence Survey Results Summary

Activity Surveys

3.7 Five bat species were recorded during the dusk activity surveys; common pipistrelle *Pipistrellus pipistrellus*, soprano pipistrelle *P. pygmaeus*, Daubenton's *Myotis daubentonii*, an unidentified Myotis sp. and noctule *Nyctalus noctula*.

3.8 Common pipistrelle was recorded across the site, although the majority of the activity was concentrated around Pond 2, where at least 3 individuals were recorded foraging on the second and third survey visits. Constant foraging activity by soprano pipistrelles was also recorded around Pond 1 (at least 5 individuals) and along H3 (2 individuals).

3.9 One noctule pass was recorded on the third survey by Pond 1.

3.10 Daubenton's were recorded on the first and second surveys foraging over both Ponds 1 and 2.

3.11 One Myotis sp. pass was recorded on the third survey by Pond 2.

3.12 A summary of bat activity recorded across the site is shown on plan 2001/ P46. Raw survey data is provided in **Appendix 1.**

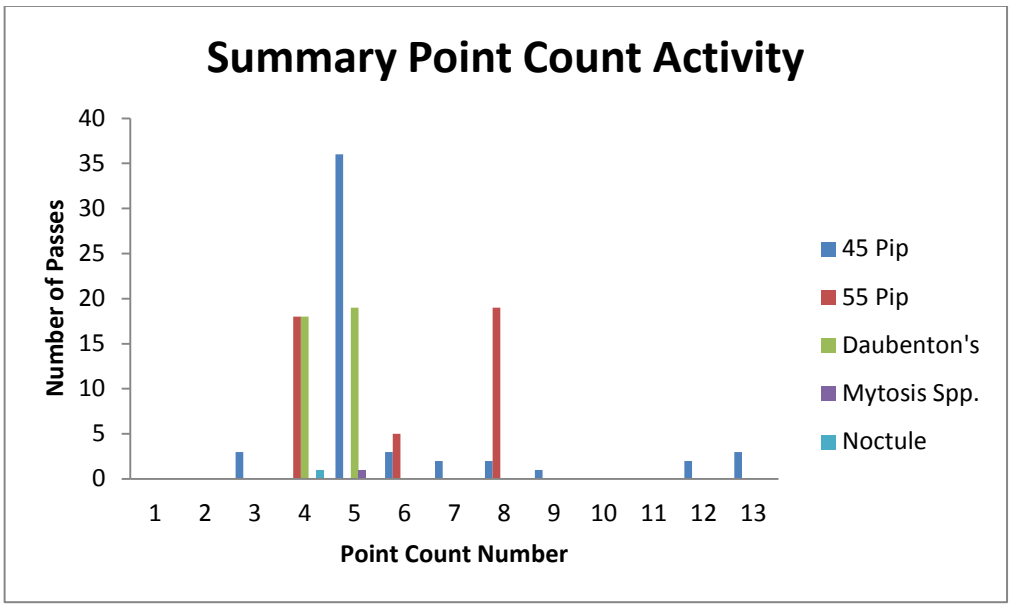


Figure 3.1: Bat species and number of bat passes recorded at stop point counts during the dusk activity surveys

Automated Activity Surveys

3.13 SM2 locations (A, B and C) are shown on **plan 2001/P46.** The SM2s recorded activity by common and soprano pipistrelles and an unidentified Myotis species of bat.

Assessment

Tree Assessment and Inspection

3.14 All trees identified with possible roost potential that are affected by proposed development have been climbed and inspected for bat roosts. None of the trees were found to contain any evidence of roosting by bats.

Building Inspection

3.15 The cricket pavilion was found to have low potential to support roosting bats due to the limited presence of suitable features. No evidence of use by bats was recorded during the building inspection.

Dusk Emergence

3.16 To provide greater confidence in the negative result of the building inspection, a single dusk emergence survey was undertaken. No evidence of roosting bats was recorded. It is concluded that there are currently no bat roosts within the building.

Activity Survey

3.17 A minimum of four and a maximum of five bat species were recorded: common pipistrelle, soprano pipistrelle, Daubentons, Myotis spp. and noctule (one pass by a bat flying over the site). The majority of the Daubentons activity was concentrated around Ponds 1 and 2. The majority of pipistrelle activity was also focused around these two ponds as well as along Hedgerows H3 and H4.

Automated Activity Survey

3.18 Common pipistrelle, soprano pipistrelle and an unidentified Myotis sp. were recorded by the static detectors.

Section 4: Conclusion

Conclusion

4.1 No evidence of roosting bats was recorded during any of the surveys undertaken. However, bats' use of trees is often transitional, with individual trees often being used for a few days at a time. Consequently, in order to avoid any potential impacts to roosting bats it is recommended that prior to felling any of the trees identified as offering roosting potential (add tree numbers), a further climbing inspection is undertaken and, if necessary, soft-felling techniques are used as a precaution. If trees with suitable features are to be lost then bat boxes should be installed on retained trees, under the supervision of a suitably qualified ecologist.

4.2 Surveys of the cricket club building identified no evidence of use by bats and therefore any works to this building, including demolition, are very unlikely to result in any impacts to bats.

4.3 Habitats within the site, notably Ponds 1 and 2 and the hedgerow network, notably H3, are used by relatively low numbers of common species of bats for foraging and commuting. These habitats should be retained within the proposed development and an ecological management plan (EcMP).

Appendix 1: Raw Bat Survey Data

Dusk Emergence Survey Forms

BAT ROOST/DAWN - RECORDING FORM
Project Number: 2001
Project Name: Bowlands Meadows and Higgins Brook, Land East of Chipping Lane, Longridge
Date: 13.08.14

Survey: Dusk Emergence survey	Surveyor: S. Holden	
Sunset/sunrise time: 20:45	Start time: 20:30	End time: 22:00
Equip. Used (incl. Zoom no.): -	Location of surveyor: North Western Corner	
Weather	**At start:**	**At end:**
Cloud Cover (%):	66% - 100%	66% - 100%
Wind (Beaufort Scale):	2	2
Temperature (°C):	15°C	14°C
Precipitation (dry/dry but rain earlier in day/ rain/persistent drizzle/rain/heavy rain):	Dry	Dry
Notes: No Bats Emerged, Only 4 passes recorded.		

Real Time	**Track No.**	**Time on Recorder**	**Bat Species** (& number)	**Activity** (emerging, pass, foraging, "socializing", swarming**)**
21:17	-	-	Ppi (1)	Pass (Not seen)
21:20	-	-	Ppi (2)	Passed behind building moving east to west
21:27	-	-	Ppi (1)	Pass (Not seen)
21:45	-	-	Ppi (1)	Pass (not seen)

Surveyor: P. Moody	
Equip. Used (incl. Zoom no.): -	Location of surveyor: South Eastern Corner
Notes: No bats seen entering the building. One common and one soprano pipistrelle recorded.	

Real Time	**Track No.**	**Time on Recorder**	**Bat Species** (& number)	**Activity** (emerging, pass, foraging, "socializing", swarming**)**
21:27	-	-	Ppi (1)	Pass (not Seen)
21:32	-	-	Ppy (1)	Passed south to north in field behind cricket pavilion

KEY: (peak frequency)

Pipistrelle	**Myotis**	**Nyctalus**	
Ppi – 45 Pipistrelle	My – Myotis sp	Nn – Noctule (25	LHS – Lesser Horseshoe (110)
Ppy - 55 Pipistrelle	Mbe – Bechstein's (50)	Ni – Leisler's (25	GHS Greater Horseshoe (82)
Pip – Unid. pipistrelle	Mbr – Whiskered/Brandt's (45)		Bb – Barbastelle (32)
	Md – Daubenton's (45-50)		Pa – Brown Long-Eared (35)
Unid – Unidentified ba	Mn – Natterer's (50)		Ep – Serotine (25-30)

Dusk Summary: No bats emerged from the building.

Bat Activity Survey Forms

Activity Survey Visit 1 (24/06/14)

Survey: Dusk Activity V1	Transect No: 1	Surveyors: H. Care and Pritchard
Sunset/sunrise time: 21:46	Start time: 22:22	End time: 24:24
Equip. Used (incl. Zoom no.): Batbox and Zoom (Z1)	Location of surveyor: Whole site – see **2001/P46** for transect route.	
Weather	**At start:**	**At end:**
Cloud Cover (%):	2/3 – 3/3	2/3 – 3/3
Wind (Beaufort Scale):	1	1
Temperature (°C):	15	15
Precipitation (dry/dry but rain earlier in day/light rain/persistent drizzle/rain/heavy rain):	Dry	Dry
Notes:		

POINT COUNTS – 3 MINUTES

Point Count Number	**Real Time**	**Bat Species** (and number)	**No. of passes.**	**Activity** (pass, commuting, foraging)
Start – 11	10:22	Ppi (1)	-	Foraging
10-9	10:37	Ppy (1)	-	Foraging
9-8	10:46	Ppi (1)	-	Pass
8	22:53	Ppi (1)	1	Pass
8	22:53	Ppy (1)	1	Pass
6-3	23:14	Ppi (1)	-	Pass
6-3	23:20	Ppi (1)	-	Pass
6-3	23:24	Ppi (1)	-	Pass
6-3	23:26	Ppi (1)	-	Pass
3-2	23:34	Ppi (1)	2	Pass
3-2	23:42	Ppi (1)	-	Pass
2-1	23:51	Ppi (1)	1	Pass
2-1	23:52	Ppi (1)	1	Pass

2-1	23:55	Ppi (1)	1	Pass
5	23:56	Md (1)	1	Pass
5-4	24:01	Ppi (1)	1	Pass
5-4	24:03	Ppi (1)	1	Pass
5-4	24:05	Ppi (1)	1	Pass
13	24:18	Ppi (1)	1	Pass

KEY: (peak frequency)

Pipistrelle	**Myotis**	**Nyctalus**	
Ppi – 45 Pipistrelle	My – Myotis sp	Nn – Noctule (25)	LHS – Lesser Horseshoe (110)
Ppy - 55 Pipistrelle	Mbe – Bechstein's (50)	Ni – Leisler's (25)	GHS - Greater Horseshoe (82)
Pip – Unid. pipistrelle	Mbr – Whiskered/Brandt's (45)		Bb – Barbastelle (32)
	Md – Daubenton's (45-50)		Pa – Brown Long-Eared (35)
Unid – Unidentified bat	Mn – Natterer's (50)		Ep – Serotine (25-30)

Activity Survey Visit 2 (17/07/14)

Survey: Dusk Activity V2	Transect No: 1	Surveyors: H.Care and Dennis
Sunset/sunrise time: 21:31	Start time: 21:40	End time: 23:35
Equip. Used (incl. Zoom no.): Batbox and Z (Z00530701)	Location of surveyor: Whole site – see **2001/P46** for transect route	
Weather	**At start:**	**At end:**
Cloud Cover (%):	0-1/3	0-1/3
Wind (Beaufort Scale):	1	1
Temperature (°C):	19	17
Precipitation (dry/dry but rain earlier in day/light rain/persistent drizzle/rain/heavy rain):	Dry	Dry
Notes: Low levels of bat activity. Pip, Ppi, Ppy and MD recorded. Most activity around ponds early Bats seen flying around dead tree and defunct hedge at around emergence time.		

POINT COUNTS – 3 MINUTES

Point Count Number	**Real Time**	**Bat Species** (and number)	**No. of passes.**	**Activity** (pass, commuting, foraging)
2-3	22:04	Ppi (1)	-	Pass

3	22:05	Ppi (1)	3	Bats flying around defunct hedge and old tree
3-4		Ppy (1)	1	Pass
3-4	22:10	Ppi (1)	-	Foraging
3-4	22:12	Ppi (1)	-	Foraging
4	22:14	Md (2)	18 x 2	Foraging around pond
5	22:22	Md (2)	18	Two cont. MD and Ppi being joined sporadically by up to 4 more bats
5	22:22	Ppi (3)	18	
6	22:30	Ppi (1)	3	Pass
7-8	22:46	Ppi (1)	-	Pass
8	22:47	Ppi (1)	1	Pass
8-9	22:52	Ppi (1)	-	Pass
8-9	22:53	Ppi (1)	-	Foraging
9	22:58	Ppi (1)	1	Pass
9-10	23:02	Ppi (1)	3	Passes along hedge HNS
10-11	23:14	Ppi (1)	-	Pass
12	23:23	Ppi (1)	2	
12-13	25:28	Ppi (1)	-	Pass
13	23:29	Ppi (1)	4	Pass
13- End	23:34	Ppi (1)	-	Pass / Foraging

KEY: (peak frequency)

Pipistrelle	**Myotis**	**Nyctalus**	
Ppi – 45 Pipistrelle	My – Myotis sp	Nn – Noctule (25)	LHS – Lesser Horseshoe (110)
Ppy - 55 Pipistrelle	Mbe – Bechstein's (50)	Ni – Leisler's (25)	GHS - Greater Horseshoe (82)
Pip – Unid. pipistrelle	Mbr – Whiskered/Brandt's (45)		Bb – Barbastelle (32)
	Md – Daubenton's (45-50)		Pa – Brown Long-Eared (35)
Unid – Unidentified bat	Mn – Natterer's (50)		Ep – Serotine (25-30)

Activity Survey Visit 3 (13/08/14)

Survey: Dusk Activity V3	Transect No: 1	Surveyor: H.Care and Dennis
Sunset/sunrise time: 20:48	Start time: 20:59	End time: 22:46
Equip. Used (incl. Zoom no.): Batbox and Z (Z00530701)	Location of surveyor: Whole site – see **2001/P46** for transect route	
Weather	**At start:**	**At end:**
Cloud Cover (%):	2/3-3/3	1/3- 2/3
Wind (Beaufort Scale):	3	2
Temperature (°C):	14	14
Precipitation (dry/dry but rain earlier in day/light rain/persistent drizzle/rain/heavy rain):	Dry but rain earlier in d	Dry
Notes: Cows were an obstacle forced to miss point count 3.		

POINT COUNTS – 3 MINUTES

Point Count Number	Real Time	Bat Specie (and numbe	No. of passes.	Activity (pass, commuting, foraging)
2-4	21:18	Ppy (1)	-	Pass (faint)
2-4	21:18	Ppy (1)	-	Foraging
2-4	21:18	Ppy (2)	-	Foraging
4	21:24	Ppy (5)	18	Constant foraging activity
4	21:24	Nn (1)	1	Pass
4-5	21:30	Ppi (1)	1	
5	21:33	Ppi (2)	18	Foraging
5	21:33	My (1)	1	Pass
5-6	21:43	Ppi (1)	1	Repassing stop 4 lots of bats
12-13	21:51	Ppi (1)	1	Pass
13	21:52	Ppi (1)	2	Pass
6	22:17	Ppy (1)	5	

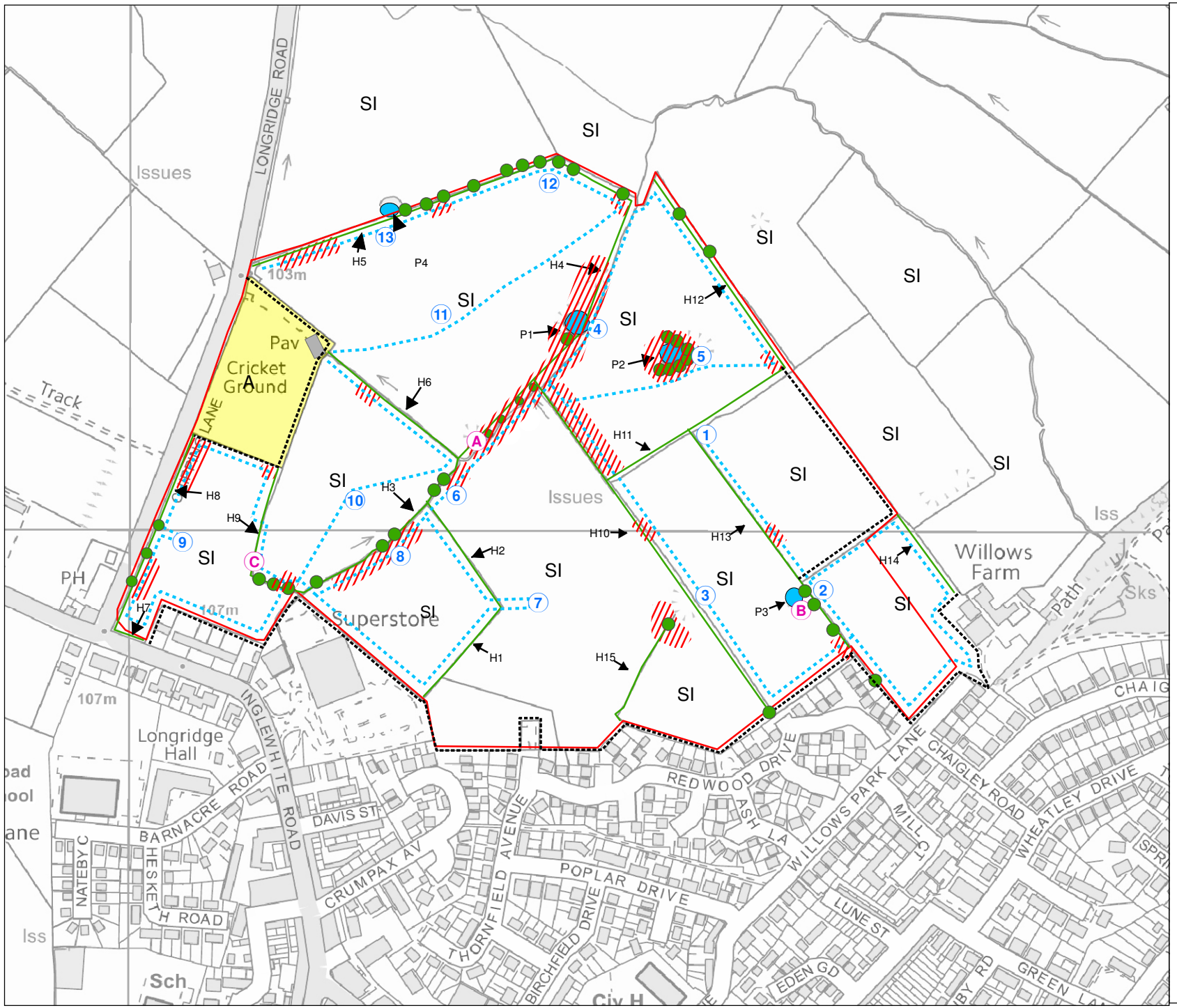
Point Count Number	Real Time	Bat Specie (and numbe	No. of passes.	Activity (pass, commuting, foraging)
6-7a	22:22	Ppi (1)	-	Foraging
7a	22:25	Ppi (1)	2	Pass
7-8	22:29	Ppy (2)	-	Foraging
8	22:31	Ppy (2)	18	Foraging along hedgerow
8-9	22:35	Ppy (2)	-	Foraging further along hedge
8-9	22:39	Ppi (1)	-	Foraging near pub

KEY: (peak frequency)

Pipistrelle	Myotis	Nyctalus	
Ppi – 45 Pipistrelle	My – Myotis sp	Nn – Noctule (25)	LHS – Lesser Horseshoe (110)
Ppy - 55 Pipistrelle	Mbe – Bechstein's (50)	Ni – Leisler's (25)	GHS - Greater Horseshoe (82)
Pip – Unid. pipistrelle	Mbr – Whiskered/Brandt's (45)		Bb – Barbastelle (32)
	Md – Daubenton's (45-50)		Pa – Brown Long-Eared (35)
Unid – Unidentified bat	Mn – Natterer's (50)		Ep – Serotine (25-30)

Plans

2001/ P46 – Bat Activity Summary
2001/ P47a – Assessment of Trees for Bat Roosts



Red Line Boundary

Building

SI — Species Poor Semi-improved Grassland

A — Amenity Grassland

Pond

Mature Hedgerow Trees

Hedge

Dry Stone Wall

Fence

H1 — Hedge Number

P1 — Pond Number

A — Static Detector Locations

Transect Route

1 — 3 Minute Point Counts

Recorded Activity

N

0 100m

Project	Bowlands Meadow and Higgins Brook, Land East of Chipping Lane, Longridge
Drawing Title	Bat Activity Summary
Scale	As Shown (Approximate)
Drawing No.	2001/P46
Date	August 2014
Checked	JM/VH

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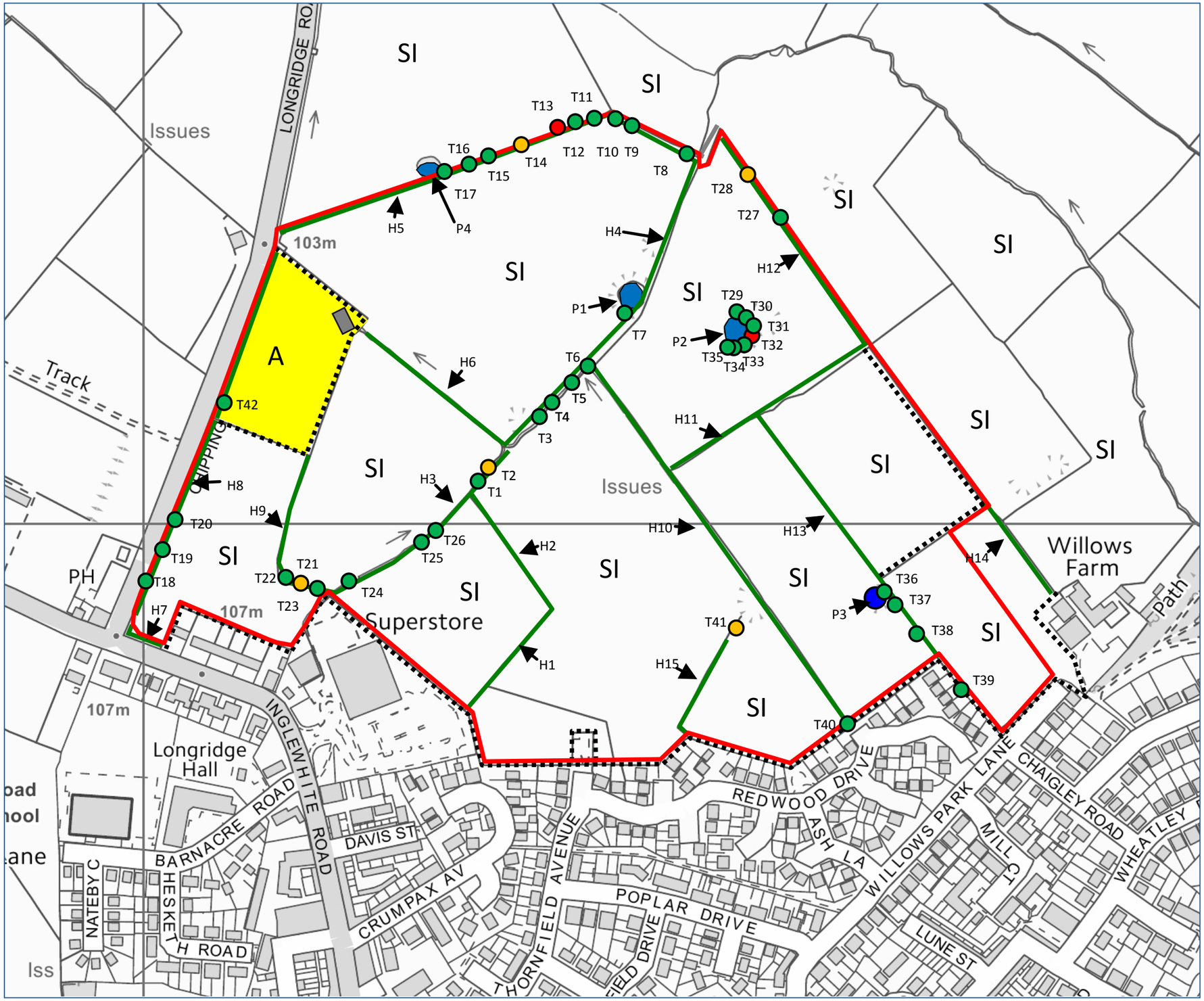

- Building
- SI — Species Poor Semi-improved Grassland
- A — Amenity Grassland
- Pond
- Hedgerow
- Dry stone wall
- Fence
- Site boundary
- H1 — Hedge number
- P1 — Pond number
- Category 1 tree
- Category 2 Tree
- Category 3 Tree

N

0 100m

Project	Bowland Meadows and Higgins Brook, Land East of Chipping Lane, Longridge
Drawing Title	**Assessment of Trees for Bat Roosts**
Scale	As Shown (Approximate)
Drawing No.	2001/P47a
Date	September 2014
Checked	JM/JE

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Appendix 6: Revised Illustrative Masterplan (Ref: 013-008-008 Rev F)

e*SCAPE
urbanists

Project Title
Higgin Brook, Longridge

e*SCAPE Job No.
013-008

Client
Barratt Homes

Drawing Number
013-008-P017

Revision
REV E

Drawing Title
Parameters Masterplan

Scale
1:2500 @ A3

Date
February'15

Proposed Cricket Pitch

Naturalistic Amenity Space

Proposed Primary School

Land Retained In Agriculture

Car Park

Secondary Gateway

Secondary Gateway

Secondary Gateway

Primary Gateway

Secondary Gateway

Secondary Gateway

Secondary Gateway

Secondary Gateway

Secondary Gateway

Mews

Square

Square

Pocket Park

LEAP

NEAP

Visual Axis

Visual Axis

Visual Axis

Visual Axis

Mews

Mews

Mews

Circus

Square

Crescent

Key

- Site Boundary
- Green Infrastructure
- Development Parcels
- Active Frontages
- Gateways
- Dedicated Footpaths and/or Cycleways
- Village Avenue
- Village Street
- Village Lane
- Squares & Mews
- Emergency Access
- Sustainable Urban Drainage System
- Formal Play: NEAP LEAP
- Focal Features
- Habitat Buffer (50m from edge of pond)
- Restored/Replanted Hedgerows
- Retained Trees

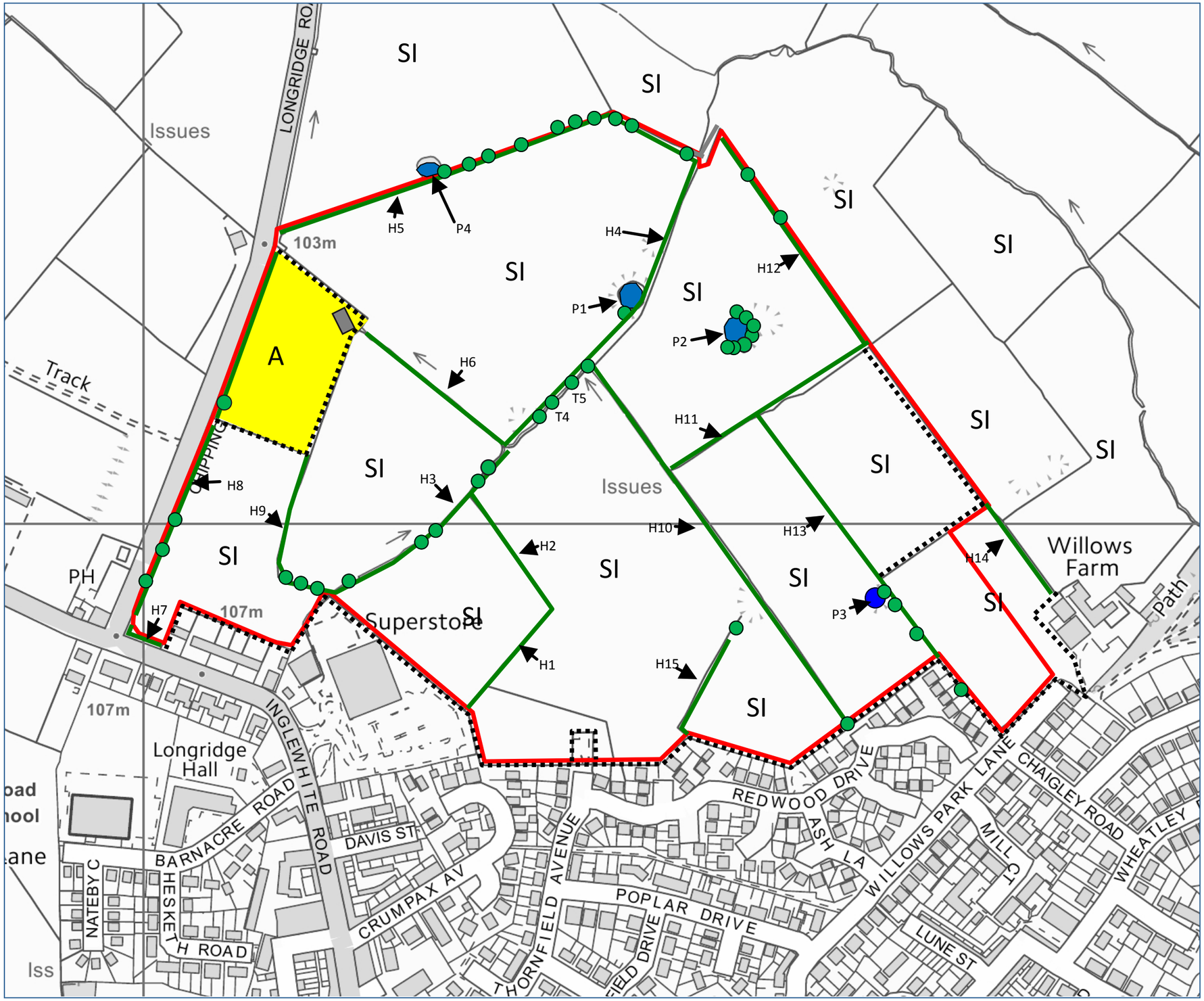
n*ORTH

0m 20m 40m 60m 80m 100m

Scale 1:2500 (@A3)

Plans

Habitat Features Plan
(2001/P04c August 2014 JM/JE)



- Building
- SI — Species Poor Semi-improved Grassland
- A — Amenity Grassland
- Pond
- Mature Hedgerow Trees
- Hedgerow
- Dry stone wall
- Fence
- Site boundary
- H1 — Hedge number
- P1 — Pond number

N

0 100m

Project	Bowland Meadows and Higgins Brook, Land East of Chipping Lane, Longridge
Drawing Title	**Habitat Features Plan**
Scale	As Shown (Approximate)
Drawing No.	2001/P04c
Date	August 2014
Checked	JM/JE

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