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Colliers Park, Gresford, Wrexham LL12 8PW
National Grid Reference: SJ 34322 54116

Preliminary Ecological Appraisal

Prepared for:

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Summary

A planning application regarding Colliers Park, proposes an extension to the main building (B1), in addition to creating two additional football pitches over the pre-existing areas of amenity grassland; the scheme also includes the installation of floodlighting. One of the pitches will comprise of an artificial surface, whilst the other will be natural turf. This is in accompaniment to a car park extension and creation of a facility management area. It is understood that proposals will involve the removal of some scrub, ephemeral/short-perennial and amenity grassland to facilitate the expansion of car parking, football pitches and the development of a building extension and facilities management area. Therefore, the Tyrer Partnership was commissioned by Lawray Architects to undertake a preliminary ecological appraisal of the site including standardised habitat mapping, which was conducted during October 2017. If additional surveys are necessary following the initial site visit the report will outline the details of those further requirements.

Broadly, in its current condition the site consists of a relatively modest sized plot, which comprises of two buildings, areas of hardstanding, ephemeral/short-perennial; amenity grassland is concentrated to the central areas that are currently used for sporting activities. To the boundaries of the site areas of scrub and trees are noted.

As a consequence of these broad habitat types, the site offers potential for foraging / commuting bats, / breeding birds, foraging / commuting amphibians and sheltering / foraging for Hedgehog / Badger. As a result the report will recommend procedures to ensure that any potential impact to wildlife species can be avoided or significantly reduced.

Plants: The site is host to a relatively limited array of indigenous, naturalised and otherwise planted flora, although one regionally notable species was located in the form of Long-Stalked Cranesbill (*Geranium columbinum*). This species is locally abundant on a large disturbed pile of soil (See TN1, Appendix I) and is known to be local in the region (BSBI maps, 2017). The species is extinct in the neighbouring county of Cheshire and the area where *G. columbinum* is located will be lost as part of the proposals. Thus, it is recommended that the mound at which *G. columbinum* occurs is excavated and soil trans-located to the north boundary outside of the proposed football pitches, the aim of which is the retention of this species.

No invasive species were encountered throughout the site although there were five injurious weeds that were infrequent on site in the form of Creeping Thistle (*Cirsium arvense*), Broad-Leaved Dock (*Rumex obtusifolius*), Curled Dock (*Rumex crispus*), Spear Thistle (*Cirsium vulgare*) and Common Ragwort (*Senecio jacobaea*). Given their infrequent nature over the study area, no recommendations for control of these species are provided within this report. For a full botanical site species list, see Appendix III.

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Bats: There are two buildings at Colliers Park that were inspected in relation to bats. The main building to the south of the area (B1) is to be extended, whilst the small outbuilding to the north (B2) is unaffected by the proposals. Both buildings were inspected for evidence of bat use or roost potential, which concluded that potential and evidence for bats was lacking in both structures. Consequently they are classified as being of “negligible” value according to Bat Conservation Trust (BCT) guidelines; therefore the report will not recommend further surveys in the form of dusk emergence or/and dawn re-entry observations.

A mixture of broad-leaved and coniferous, mature, semi-mature trees and saplings are located at the boundaries although to the east and north boundaries they are more numerous and consolidated. All trees apart from one were assessed as possessing “negligible” bat roost potential; from ground level a mature Beech (*Fagus sylvatica*) (TN2 Appendix I) was assessed as having moderate bat roost potential; this is due to a large, extensive fissure that extends vertically within the trunk. TN2 is however, situated away from areas of disturbance and proposed development. Unless the scheme alters in any way that may affect this tree then no further investigations/surveys is/are required.

Birds: During the inspection of the buildings no historic nests were located at Colliers Park, although there is an abundance of nesting opportunities in the form of shrub, scrub and trees that could be used by typical woodland species. The report will recommend that if the trees and/or shrub/scrub and/or hedgerow cannot be retained then removal should be undertaken outside of the breeding season of birds (March - August) unless it can be conclusively established, by an ecologist, that nesting birds are absent. All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected under the Wildlife & Countryside Act 1981 (as amended).

Terrestrial mammals: Based on the survey results the report will recommend that if any scrub or other dense vegetation is to be removed, it is done so in a careful manner to check for the presence of Hedgehog. If Hedgehogs are discovered during their most vulnerable time, i.e. during hibernation/breeding then they are to be left in situ, and the habitat retained around them. If they are in danger of being harmed then they should be carefully relocated to a suitable sheltered area away from the work.

No recent Badger activity was found on the site (such as grubbing, setts, etc) or close to the site boundaries; given the nature of the immediate and extending surrounding habitat it is possible Badger could use the site for commuting and foraging purposes.

No water bodies were present on or within close proximity to the site, thus the possibility of Water Vole at Colliers Park is deemed to be absent.

Amphibians: There is localised habitat to the boundaries in the form of hedgerow, scrub and trees that would form favourable corridors for Great Crested Newt (GCN) foraging, refuge and commuting activity. Whilst a single pond is located within a 250 metre radius east of the football pitches, it is however, isolated by the B5445 that will act as a barrier to newt migration onto site. The presence of GCN at Colliers Park therefore, is deemed highly unlikely and no recommendations/surveys in relation to this species are applicable.

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The on site habitat is more likely to be productive for other, more generalist species of amphibian such as the Common Frog (*Rana temporaria*) or Common Toad (*Bufo bufo*) which could utilise areas of refuge. Thus, it is recommended that features including general debris are removed by hand to check for the presence of any frogs or toads and should they be present, they should be carefully relocated out of harms way to a suitable like for like habitat.

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1.0 Introduction & Reason for Survey

- 1.1 A planning application regarding Colliers Park, Gresford (Figure 1) proposes to extend the main building (B1) in accompaniment to the extension of the existing car park and installation of floodlighting. The area of amenity grassland and existing artificial pitch is to be converted into three playing fields i.e. two natural turf fields and one artificial surface pitch to the north. (Figure 2) As part of the scheme it is understood that the proposals will involve shrub/tree removal. The Tyrer Partnership was commissioned by Lawray Architects to undertake a preliminary ecological appraisal of the site including standardised habitat mapping, which was conducted during October 2017. If additional surveys are required following the initial site visit the report will outline the details of those further requirements.

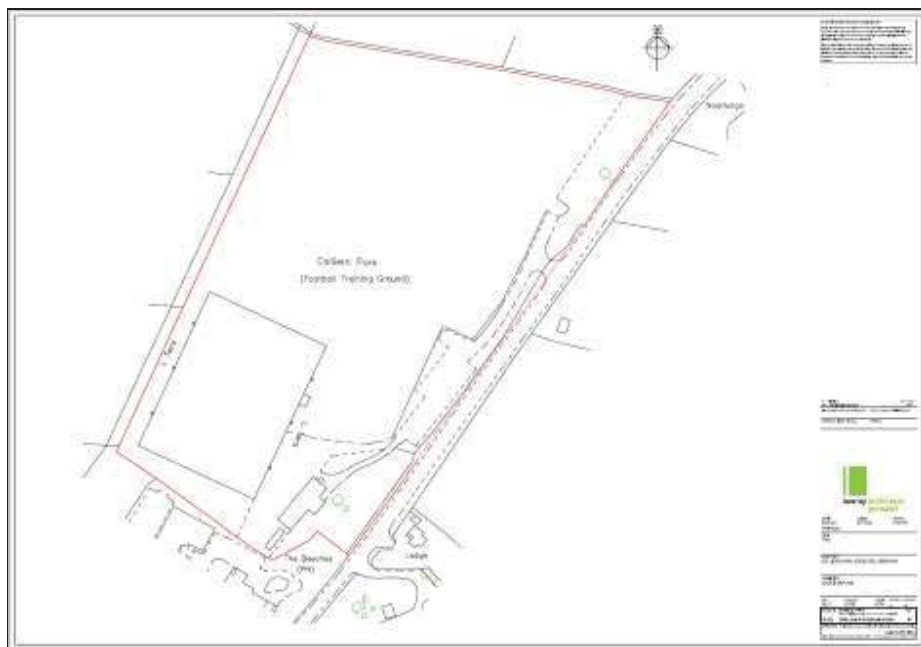


Figure 1: Existing site plan



Figure 2: Proposed site plan

1.2 The basic objective of the survey was to ascertain the nature of the land and buildings, and where possible obtain information on any sensitive wildlife habitats or species that may be present and if so if they will be affected by future development. To achieve this objective the survey aimed to identify/assess any of the following:

- The presence of species with non-statutory protection
- The presence/potential presence of species protected under the Wildlife and Countryside Act 1981, as amended or the conservation of Habitats and Species Regulations 2010 (as amended)
- Identify any species or habitats that require special consideration during future development.
- Identify the presence of statutory or non-statutory designated sites in close proximity
- If the above are present assess any impacts that may occur as a result of development

If the habitat was found to be suitable for the aforementioned species or signs of use were found then more detailed surveys would be recommended. If any European Protected Species was subsequently found during those detailed surveys and may be affected by the development proposals then a European Protected Species Licence would be required to proceed with the development.

2.0 UK Biodiversity Plans

- 2.1 Section 7 of the Environment Act (2016) provides an updated version of the United Kingdom Biodiversity Action Plan, which lists priority species/habitats. Based upon the site visit, there were two s.7 species seen in the form of Hedge Accentor and Black-Headed Gull; in addition to these, there is the potential for twelve other priority species to be present within the locality, all of which are listed in Table 1 below. However, the presence of these species may not have been ascertained by observational methods but by an assessment of the habitats present and their presence is not conclusive.

<u>Common name</u>	<u>Species name</u>
Garden Tiger	<i>Arctia caja</i>
Common Toad	<i>Bufo bufo</i>
Black-Headed Gull	<i>Choricocephalus ridibundus</i>
West European Hedgehog	<i>Erinaceous europaeus</i>
Kestrel	<i>Falco tinunculus</i>
Purple Ramping Fumitory	<i>Fumaria purpurea</i>
Herring Gull	<i>Larus argentatus</i>
Brown Hare	<i>Lepus europaeus</i>
House Sparrow	<i>Passer domesticus</i>
Tree Sparrow	<i>Passer montanus</i>
Hedge Accentor	<i>Prunella modularis</i>
Common Starling	<i>Sturnus vulgaris</i>
Song Thrush	<i>Turdus philomelos</i>
Cinnabar Moth	<i>Tyria jacobaeae</i>

Table 1 – s.7 species present in the locality

One s.7 Priority Habitat (i.e. Hedgerows) was noted on the site. The hedgerow to the boundaries comprised largely of Hawthorn (*Crataegus monogyna*), Garden Privet (*Ligustrum ovalifolium*) and Dog Rose (*Rosa canina* agg.) with trees such as Beech (*Fagus sylvatica*) throughout.

3.0 Local Biodiversity Action Plan (LBAP)

- 3.1 LBAP's are simply a way of encouraging people to work together and deliver a programme of continuing action for biodiversity at a local level. They set out practical steps that aim to:
- Help protect biodiversity
 - Enhance and improve biodiversity where possible, and
 - Promote biodiversity at a local level

Sites of Local Biological Interest

- 3.2 Whilst there is no legal protection for Sites of Local Biological Interest per se the presence of a protected species within them would attract the usual protection afforded to it/them. The former Wrexham Biodiversity Action Plan (WBAP) listed key local species/habitats considered to be rare or declining in the area. Some may be of national concern, while others may only be locally rare. Given that the WBAP is no longer available online, the information contained within the WBAP could not be used to inform this report.

4.0 Protected Species in North Wales

- 4.1 Up to eleven bat species have been recorded in North Wales most of which use built structures, notably occupied residential properties, for roosting. The most frequently encountered species is the Pipistrelle bat (*Pipistrellus*) and its abundant status in North Wales is reflected throughout the UK. All British bats and their **roosts are afforded protection under the 1981 Wildlife & Countryside Act (as amended) and are listed in Schedule 2 of the Conservation of Habitats & Species Regulations 2010 (as amended).
- 4.2 All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected under the Wildlife & Countryside Act 1981 (as amended). Birds listed on Schedule 1 e.g. barn Owls and Kingfisher are afforded a greater level of protection. Where nesting birds are present then work should be timed outside of the nesting season (March – August) so as to avoid disturbance.
- 4.3 Great Crested Newts (*Triturus cristatus*) have declined within the UK over recent years, due to the destruction and pollution of their breeding sites and terrestrial habitat. They spend a high percentage of their adult life in a terrestrial habitat and often hibernate under log piles or amongst general rubble. GCN's are protected under the Wildlife and Countryside Act 1981(as amended) and the Conservation of Habitats & Species Regulations 2010 (as amended). It is illegal to catch, possess or handle Great Crested Newts without a licence and it is also illegal to cause them harm or death, or to disturb their habitat in any way.
- 4.4 Badgers (*Meles meles*) are frequently encountered in many parts of North Wales; they may not be deliberately killed or trapped except under licence. Badger baiting has been outlawed since 1835, and digging for them was made illegal by the Badgers Act 1973. The Protection of Badgers Act 1992 consolidates past badger legislation and, in addition to protecting the animal itself, makes it an offence to damage, destroy or obstruct badger setts.
- 4.5 Water voles (*Arvicola amphibius*) are legally protected in Britain and in 1998 were included on Schedule 5, Section 9 (4) a & b of the Wildlife and Countryside Act 1981 (as amended), this protection has recently been extended (6th April 2008), so the Water Vole is now fully protected under Section 9. Water voles are frequent occupiers of drainage ditches, streams, canals and rivers.

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Guidance for Local Authorities: Extract from Office of the Deputy Prime Minister: Circular 06/2005

“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, otherwise all relevant material considerations may not have been addressed in making the decision.”

5.0 Survey Methodology

Desk study

- 5.1 Prior to the site visit a desktop study was conducted using online resources to obtain information pertaining to any sites afforded statutory (e.g. SSSI) and non-statutory (e.g. LWS) designations within 2km of the site boundary. To do so, the Multi Agency Geographic Information for the Countryside (MAGIC – provided by Defra) was accessed to gather such information.

Satellite imagery was reviewed using sources such as Google Earth (© 2016) to determine the nature of the adjoining and extending habitats; such information aids in the understanding of how the site might interact with its surroundings ecologically and its value in that context, and how the development may impact at a wider scale.

A map and field search was undertaken in relation to the presence of ponds or waterways that may support Great Crested Newts or Water voles; the information gathered would then be used to establish if more detailed surveys will be required.

Field Survey

- 5.2 The survey was conducted on the 30th October 2017 by Mr J. Styles (AMRSB), a highly experienced botanist with a FISC level 5, ecologist and accredited agent of Mr S. Irwin, an experienced bat surveyor who holds a Natural Resources Wales bat disturbance licence 73156:OTH:CSAB:2016. The results, conclusions, and recommendations have been assessed by Mr Irwin, director of The Tyrer Partnership and his assessment concurs with that of Mr Styles.
- 5.3 There are two properties on site consisting of a large main building to the south (B1) and a small outbuilding to the north of the site. (B2) The buildings were inspected for potential places that may be of value to bats and if evidence of use was present. External elevations of the buildings were investigated from ground floor level for places that are frequently used by bats as roosts or ingress points that may provide access into roost chambers. Both buildings were devoid of a true loft space, although it appears that a small roof void exists in B1, which could not be accessed, due to the suspended ceiling and lack of a hatch opening.
- 5.4 Trees (deciduous) located within the development area were inspected at a time when tree foliage is partially present, which is not the ideal time to identify bat roost potential as foliage, when present can impede the surveyors view. They were assessed from ground level using binoculars for features that are frequently utilised by bats as roosts or the presence of ingress points such as natural/woodpecker holes splits of fissures that may provide access into further cavities within the tree/s.

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Criteria for roost assessment are based upon the following determinant which is based upon the Bat Conservation Trust 'Bat Surveys: Good Practice Guidelines' (2016) (see Figure 3:

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions ^a and/or suitable surrounding habitat to be used on a regular basis or by larger numbers of bats (i.e. unlikely to be suitable for maternity or hibernation ^b). A tree of sufficient size and age to contain PRFs but with none seen from the ground or features seen with only very limited roosting potential. ^c	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated, i.e. not very well connected to the surrounding landscape by other habitat. Suitable, but isolated habitat that could be used by small numbers of foraging bats such as a lone tree (not in a parkland situation) or a patch of scrub.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due to their size, shelter, protection, conditions ^a and surrounding habitat but unlikely to support a roost of high conservation status (with respect to roost type only – the assessments in this table are made irrespective of species conservation status, which is established after presence is confirmed).	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions ^a and surrounding habitat.	Continuous, high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edge. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. Site is close to and connected to known roosts.

^a For example, in terms of temperature, humidity, height above ground level, light levels or levels of disturbance.
^b Evidence from the Netherlands shows mass swarming events of common pipistrelle bats in the autumn followed by mass hibernation in a diverse range of building types in urban environments (Korsten et al, 2015). This phenomenon requires some research in the UK but ecologists should be aware of the potential for larger numbers of this species to be present during the autumn and winter in large buildings in highly urbanised environments.
^c This system of categorisation aligns with BS 8896:2015 Surveying for bats in trees and woodland (BSI, 2015).

Figure 3: CT guidelines extract

BCT Survey Good Practice Survey Guidelines state:

The guidance should be interpreted and adapted on a case-by-case basis, according to the expert judgement of those involved. There is no substitute for knowledge and experience in survey planning, methodology and interpretation of findings, and these guidelines are intended to support these. Where examples are given they are descriptive rather than prescriptive.

5.5 A number of factors are used for the bat survey methodology, which include:-

*Knowledge of bat species relevant to the site location and geographical range
Nature of the immediate and surrounding habitat in relation to foraging opportunities
Presence/absence of roost potential
Value of roost potential – if present*

Following the survey the results, conclusions and recommendations are based upon surveyor experience and knowledge of bat ecology.

5.6 A 'walkover' of the site and immediate boundaries was conducted which included a search for typical signs of Badger activity which includes digging, occupied setts, 'runs' leading to and from a sett or the existence of latrines or 'snuffle' holes where badgers have foraged in the ground. At the same time, identification of any actual fauna species and any physical evidence signifying the presence of fauna species would also be documented.

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5.7 During the walkover, botanical assemblages were assessed and the land was inspected for the presence of red-listed, s.41, BAP, regionally and nationally notable botanical species alongside specially protected species as listed under Schedule 8 of the Wildlife and Countryside Act (1981) (as amended) where appropriate.

5.8 Alongside assessing the land in relation to flora of conservation importance it was also assessed in relation to the presence of invasive species as listed under Schedule 9 of the Wildlife and Countryside Act (1981) (as amended) and noxious weeds present on site (as listed under the Weeds Act (1959)).

6.0 Constraints

6.1 Trees were assessed, in relation to bat roost potential at a time when foliage is partially present, however on this occasion it did not significantly impede the investigation.

6.2 Within B1 it appears that a small roof void exists, which could not be accessed, due to the presence of a suspended ceiling and lack of a hatch opening; notwithstanding a lack of access a conclusion on its value relative to loft dwelling bats was achievable.

6.3 B2 could not be accessed internally as result an internal inspection was not possible; however taking into consideration the construction of the building this was deemed not to be a significant constraint.

6.4 Botanical assemblages on site were surveyed at a time outside of the optimum period for the identification of most vascular plant species. Notwithstanding this, the knowledge and expertise of the surveyor was sufficient to identify all identify flora / botanical assemblages that were present on the day of the survey in addition to an assessment of its botanical value at times other than the day of the survey.

6.5 Taking into account the above constraints in context with the site it is considered that on balance the seasonal timing of the survey presented no significant constraints that would prevent the gathering of information on which to base conclusions and recommendations.

7.0 Desk study results

7.1 Colliers Park and its associated grounds are located on the suburban fringes of Gresford village at approximately 3.5km north of the centre of Wrexham. It is a relatively modest sized plot, which comprises of two buildings, hardstanding, amenity grassland (including an area of astro turf) and small areas of ephemeral/short-perennial; site boundaries were characterised by areas of scattered scrub, trees and hedgerow.

7.2 The contiguous landscape to all aspects of the site comprises of a largely rural/sub-urban environment with moderate connectivity between areas of pasture with hedgerows and lines of trees connecting areas (see Figure 4). There are however, many man made barriers in the form of main roads and development in the nearby vicinity. There are several notable habitat features including a large area of woodland to the west of the site at approximately 300 metres, accompanied by the River Alyn, which runs through this continual stretch of woodland.

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Figure 4: Approximate site location within the contiguous landscape

There are 15 ponds within a 1 kilometre radius, the closest of which is located at approximately 230 metres south-east of the site. The previously identified habitats can be considered as being of value for many of the species for which the survey was undertaken, subject to them being present in the locality. Where opportunities for ingress exist for bats in close proximity to good habitat, the probability of occupancy hence increases.

- 7.3 The site is located outside of the impact zone for all nearby designated sites, namely the River Dee (SSSI, SAC). It is therefore deemed highly unlikely that the proposals for Colliers Park will have any impact on this designated area or the qualifying species/habitats for which it is designated.

8.0 Field survey results

8.1 Vegetation

Occurring at Colliers Park, there were no notable floristic assemblages on either a regional or national scale, with the majority of species being generalists with a widespread distribution and least concern from a conservation perspective. This is with the exception of one species which occurred as locally abundant on a disturbed soil embankment labelled TN1 (Appendix I), in the form of Long-Stalked Cranesbill (*Geranium columbinum*). This species is highly localised in North Wales (see Figure 5 below) and is known to be recently extinct in the neighbouring region of Cheshire. It is therefore considered to be of regional conservation importance. A full site botanical species is listed at Appendix III.



Figure 5: 2000-2017: Recorded distribution of *Geranium columbinum* (BSBI Maps, 2017)

In relation to invasive species as listed under Schedule 9 (Part II) of the Wildlife and Countryside Act (1981) (as amended), none were located on the site.

There were five injurious weed species as listed within the Weeds Act (1959) occurring as infrequent at Colliers Park in the form of: Creeping Thistle (*Cirsium arvense*), Broad-Leaved Dock (*Rumex obtusifolius*), Curled Dock (*Rumex crispus*), Spear Thistle (*Cirsium vulgare*) and Common Ragwort (*Senecio jacobaea*).

8.2 Bats

There are two buildings within the survey boundary in the form of a large main building located to the south (B1) and a small outbuilding used for storage purposes to the north (B2). Both are in generally good condition and are fully functional (see Figure 6 for locations of B1 and B2).



Figure 6: Locations of buildings B1 and B2

B1: Is a largely rectangular building of approximate dimensions 30 metres by 14 metres is of part brick, part metal construct with a corrugated metal pitch roof. Internally, the roof is predominately vaulted and a true loft space is absent, although it appears that a small roof void exists in B1. The void is estimated as being of approximate dimensions 8 metres long x 2.5 metres wide x 0.5 metres high, which could not be accessed, due to the suspended ceiling, lack of a hatch opening and safety reasons. The remaining interior is entirely illuminated, lacks places for shelter and relative to loft-dwelling bat species, such as the Brown Long-Eared (*Plecotus auritus*) roost opportunities are concluded as being absent.

The presence of underfelt or similar roof lining could not be determined during the inspection inspection, where such materials are present beneath the primary roofing material present it can increase the probability of crevice dwelling bat occupancy, whereby they often roost between the two materials, provided external access exists.

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During the external inspection it was established that features that are typically utilised for entry into a building by bats, including crevice and open flight opportunities, are absent due to design and constructional elements of the building, notably the steel profile cladding. No evidence of bat species in the form of droppings or prey remains for example was located during the inspection. The building has thus been categorised as being absent of bat roost potential.

B2: A small outbuilding structure of metal construction with a corrugated metal monopitch roof to approximate dimensions of 5 metres long x 3.5 metres wide x 2.5 metres in height. The structure could not be accessed internally although is known to have a vaulted ceiling and is regularly used for storage purposes.

During the external inspection it was established that features that are typically utilised for entry into a building by bats, including crevice and open flight opportunities, are absent due to design and constructional elements of the building, notably the steel profile cladding. No evidence of bat species in the form of droppings or prey remains for example was located during the inspection. The building has thus been categorised as being absent of bat roost potential.

A mix of coniferous and deciduous mature, semi-mature and sapling trees were located to the boundaries. All trees apart from one were assessed as possessing “negligible” bat roost potential; from ground level a mature Beech (*Fagus sylvatica*) (TN2 Appendix I) was assessed as having moderate bat roost potential; this is due to a large, extensive fissure that extends vertically within the trunk. TN2 is however, situated away from areas of disturbance and proposed development.

8.3 Terrestrial Mammals

During the search of the land encompassed within or close to the site boundaries, no evidence of recent Badger (*Meles meles*) presence such as grubbing holes, latrines, footprints, day nests or scratching areas were found. It is feasible that Badger may use the site for commuting and foraging purposes but breeding is considered unlikely.

It is deemed likely that Hedgehogs (*Erinaceus europaeus*) could be present on the site due to the presence of general debris, scrub/shrub and other dense vegetation, which is of a suitable nature for foraging, refuge and breeding purposes.

There is a lack of water bodies on or near to Colliers Park and thus, the potential for Water Vole (*Arvicola amphibius*), is absent.

Evidence of Rabbit (*Oryctolagus cuniculus*) and Grey Squirrel (*Sciurus carolinensis*) in the form of actual individuals was located during the survey, although neither will be an ecological constraint to the proposed works.

8.4 Breeding birds

No historic nests were located during the site survey and there is no potential for species listed under Schedule 1 of the Wildlife and Countryside Act (1981) (as amended) such as Kingfisher on site. There were, however, abundant areas in the form of hedges/trees that could act as a viable nesting platform for common species of bird. During the site visit, several bird species were encountered (see Table 2 below).

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Despite House Sparrow and Black-Headed Gull being priority species of conservation concern within s.41 of the NERC Act (2006) there is a lack of breeding opportunities with the application boundaries.

<u>Common name</u>	<u>Scientific name</u>
Blackbird	<i>Turdus merula</i>
Black-Headed Gull	<i>Chroicocephalus ridibundus</i>
Blue Tit	<i>Cyanistes caeruleus</i>
Carrion Crow	<i>Corvus corone</i>
House Sparrow	<i>Passer domesticus</i>
Long Tailed Tit	<i>Aegithalos caudatus</i>
Magpie	<i>Pica pica</i>
Robin	<i>Erithacus rubecula</i>
Rook	<i>Corvus frugilegus</i>
Wood Pigeon	<i>Columba palumbus</i>
Wren	<i>Troglodytes troglodytes</i>

Table 2 – Bird species encountered on site at the time of the survey

8.5 Amphibians

The study area has no suitable area for breeding GCN, although there is a degree of favourable habitat that is confined to the boundaries in the form of scrub, hedgerow and trees. There is a single pond located approximately 230 metres to the east (see Figure 7), which is isolated from Colliers Park by the B4554. This will form a barrier to newt migration into the site and therefore, notwithstanding the degree of favourable habitat at Colliers Park, their presence is deemed highly unlikely.

The habitat at Colliers Park has potential to be productive for other, more generalist amphibians such as the Common Frog (*Rana temporaria*) or Common Toad (*Bufo bufo*) which could utilise areas of refuge at Colliers Park.

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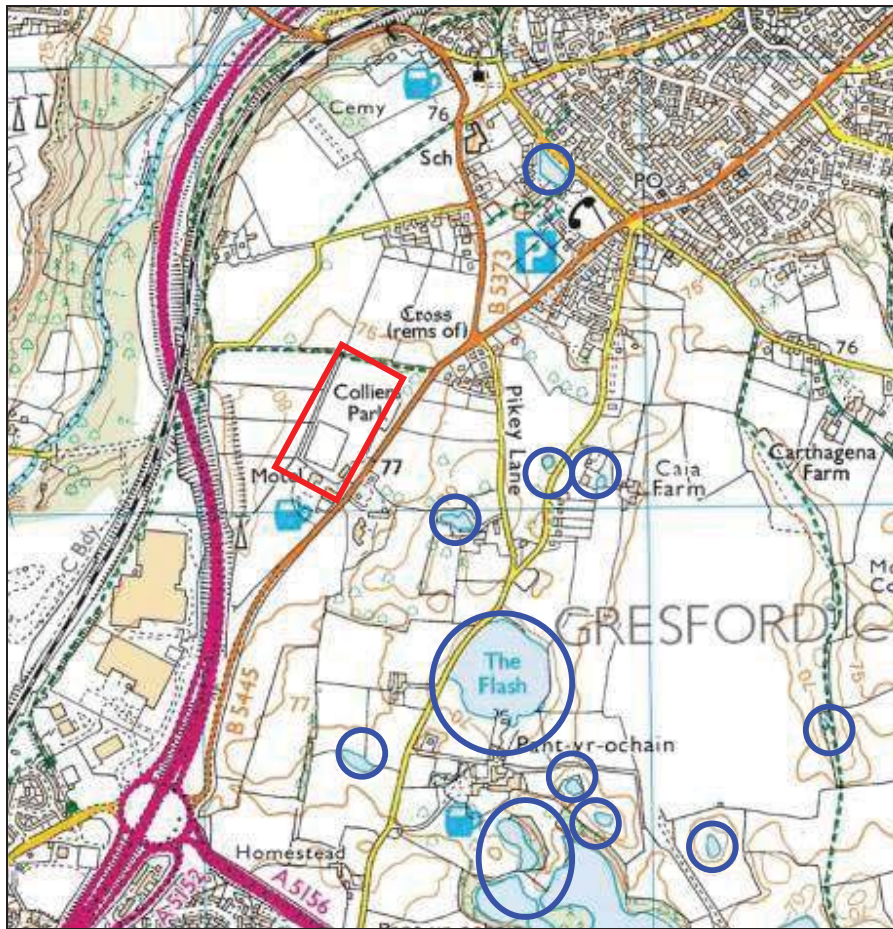


Figure 7:  Approximate site location
 Ponds ranging from 230 – 980 metres

Risk to GCN:

In order to assess risk to the species a number of factors need to be considered, these include:

- Site proximity to potential breeding Pond and to any additional ponds
- Habitat linkage / barriers between potential breeding Ponds and the site
- Nature and extent of available terrestrial habitat around the Pond
- Area of site habitat loss
- Nature of habitat to be lost and its potential value to GCN as refuge/ overwintering habitat.

Research has shown that where favourable habitat exists around GCN ponds the vast majority of the population is likely to be contained within 100m of the breeding pond creating a 'terrestrial sponge' effect.

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The nature of the development site accompanied by distance and isolation from potential breeding ponds indicates that there is no incentive for GCN at the site thus the potential for GCN to be present at the development site is deemed to be low. A Risk Assessment was conducted as shown below.

Component	Likely effect (select one for each component; select the most harmful option if more than one is likely; lists are in order of harm, top to bottom)	Notional offence probability score
Great crested newt breeding pond(s)	No effect	0
Land within 100m of any breeding pond(s)	No effect	0
Land 100-250m from any breeding pond(s)	0.01 - 0.1 ha lost or damaged	0.01
Land >250m from any breeding pond(s)	No effect	0
Individual great crested newts	No effect	0
Maximum:		0.01
Rapid risk assessment result:	GREEN: OFFENCE HIGHLY UNLIKELY	

8.6 PHASE 1 HABITAT SURVEY:

Habitats Present:

A2.2	Scattered Scrub
A3	Scattered Trees – Broadleaved & Coniferous
J1.2	Amenity Grassland
J1.3	Ephemeral/Short Perennial
J2.1	Intact Hedgerow
J3.6	Buildings/Hardstanding
J5	Other Habitat

Habitat Descriptions:

All species nomenclature follows Stace, C. (1996) – definitive English names

(Refer to Figure 8, Appendix I for the location of all described habitats)

Scattered Scrub

Areas of species-poor scattered scrub were present on site dominated by Downy Birch (*Betula pubescens*), English Oak (*Quercus robur*), Dog Rose (*Rosa canina*) and Holly (*Ilex aquifolium*).

Scattered Trees – Broadleaved & Coniferous

Site boundaries are characterised by semi-mature, mature and sapling broadleaved and coniferous trees, including Downy Birch (*Betula pubescens*), Scotts Pine (*Pinus sylvestris*) and Beech (*Fagus sylvatica*).

Amenity Grassland

A limited range of graminoids dominates the amenity grassland within the central area of the site including Perennial Rye Grass (*Lolium perenne*) and White Clover (*Trifolium repens*). Occasional species within the amenity grassland includes Cocks Foot (*Dactylis glomerata*), Dandelion (*Taraxacum* sp.) and Annual Meadow Grass (*Poa annua*).

Ephemeral/Short Perennial

There were banks to the north and central aspects of the site with recently disturbed spoil host to an array of ruderal and grassland flora including: Musk Mallow (*Malva moschata*) Cocks Foot (*Dactylis glomerata*), Ox-Eye Daisy (*Leucanthemum vulgare*) and the regionally notable Long-Stalked Cranesbill (*Geranium columbinum*).

Intact Hedgerow

Hedgerows on site were composed from a diverse range of species including Hawthorn (*Crataegus monogyna*), Dog Rose (*Rosa canina*), Garden Privet (*Ligustrum ovalifolium*) and Beech (*Fagus sylvatica*), though no notable species were contained within them.

Buildings/Hardstanding

The hardstanding and buildings provide restrictive botanical diversity, with only small areas colonized by a limited cover of bryophytes. Dominant species included: *Bryum capillare*, *B. argenteum*, *Brachythecium rutabulum* and *Tortula muralis*.

Other Habitat

The area described as 'other habitat' on site is the rectangular sports field has an astro turf surface that contains no botanical diversity.

Target Notes

TN1: Location of Long-Stalked Cranesbill (*G. columbinum*)

TN2: Location of Beech (*F. sylvatica*) with moderate bat roost potential

9.0 Conclusions

- 9.1 From the survey results it can be concluded that the buildings B1 and B2 are absent of bat roost potential; if interpreted according to current BCT guidelines (see Figure 8 below) then the classification is “Negligible”) Thus, further surveys in relation to this taxon group and the buildings will not be required.

Table 4.1 Guidelines for assessing the potential suitability of proposed development sites for bats, based on the presence of habitat features within the landscape, to be applied using professional judgement.		
Suitability	Description	
	Roosting habitats	Commuting and foraging habitats
Negligible	Negligible habitat features on site likely to be used by roosting bats.	Negligible habitat features on site likely to be used by commuting or foraging bats.

Figure 8: BCT extract

- 9.2 There is an abundance of broadleaved and coniferous, mature, semi-mature and sapling trees at the boundaries, with one tree (TN2 Appendix I) identified as pertaining moderate bat roost potential. As a result, the overall nature of the boundaries is considered to be of good quality foraging and commuting habitat relative to bats due to the structural variability created by the semi-natural features. Given that the proposed works involve the installation of 500 lux floodlighting then there is the distinct probability that this habitat will be affected by increased light levels. Consequently, an increase in illumination at the aforementioned features would have an impact upon bats, if they are currently using them for foraging/commuting purposes.
- 9.3 There are no apparent implications in relation to Schedule 1 specially protected bird species. However, the presence of other more common bird species has been deemed likely as the site offers breeding and foraging opportunities for some passerine species, specifically where tree and shrub is present. Thus, development or significant modification of the site resulting in loss of shrub/scrub and trees is likely to result in the loss or diminution of resource for breeding, foraging and nesting birds.
- 9.4 The site has some suitable habitat for foraging/refuge/commuting for GCN, however is isolated from the single pond located within a 250 metre radius by the B4554, and thus their presence on site is deemed highly unlikely.
- 9.5 No invasive species were on site though five injurious weeds in the form of: Broad Leaved Dock (*Rumex obtusifolius*), Curled Dock (*Rumex crispus*), Common Ragwort (*Senecio jacobaea*), Creeping Thistle (*Cirsium arvense*) and Spear Thistle (*Cirsium vulgare*). These occurred infrequently over the site and similarly, do not instigate recommendations for further work on an on-site scale.
- 9.6 In relation to Badger, no evidence of Badger presence was located during the survey although given the favourability of the surrounding habitats in the form of agricultural land and extensive woodland; it is possible that Badger could use the site for commuting and foraging purposes.
- 9.7 Despite a lack of a particularly rich and diverse flora, there is one species of regional importance on the site in the form of Long-Stalked Cranesbill (*Geranium columbinum*).

10.0 Recommendations

- 10.1 If any trees or shrub are to be removed, it should be undertaken outside of the breeding season of birds (March - August) unless it can be conclusively established, by an ecologist, that nesting birds are absent.
- NB:** All wild birds (with only minor exceptions) and their nests whilst being built or containing eggs or dependant young are protected under the Wildlife & Countryside Act 1981 (as amended).
- 10.2 In the unlikely event that a newt/s is/are discovered, work should cease and an ecologist contacted as soon as possible to verify species.
- 10.3 Given the regional significance of *G. columbinum* it is recommended that that an area of approximately 5 metres x 5 metres is cleared of shrub/scrub to ground level outside the boundaries of the proposed sports pitch to the north. Once clearance of vegetation has been completed the spoil where *G. columbinum* has been identified should be spread evenly over this area.
- 10.4 As the habitat has been identified as offering possible foraging potential and shelter for Hedgehogs, it is recommended that if any shrub/scrub or other dense vegetation is to be removed, it is done so in a careful manner to check for the presence of hedgehogs. Additionally it is recommended that if Hedgehogs are discovered during their most vulnerable time, i.e. during hibernation/breeding then they are to be left in situ, and the habitat retained around them. If they are in danger of being harmed then they should be carefully relocated to a suitable sheltered area away from the work.
- 10.5 Where open vertical-sided trenches are excavated it should be ensured that they are not left open overnight to avoid Hedgehogs and small animals falling into them and becoming trapped. If trenches cannot be back filled after the working day planks of 150 mm wide should be placed in them to serve as an escape. Excavations should also be checked in the morning on a daily basis for the presence of any animals that may have fallen in during the night. Plastic netting, wire coils or similar hazardous features should not be left on the ground, to avoid entanglement. Aggregates/constructional materials should be stored on pallets as opposed to the storing on the ground.
- 10.6 From the proposed lighting scheme it is evident that illumination at typical bat commuting routes and foraging areas around the proposed pitches will significantly increase, therefore without mitigation or alteration of the scheme then impact would occur at what foraging habitat and commuting routes currently exist. The following recommendations for operational use of the floodlights would negate the potential impact upon bats:-
- Use of floodlights to be seasonally adjusted in the following manner:-
 - Beginning of October-end of March – No lighting restrictions
 - Beginning of April-end of September – Lighting to be in-operative before sunset onwards

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If this lighting regime is considered not to be viable or the lighting scheme cannot demonstrate that light spillage will not occur at the boundary habitat as described at paragraph 9.2 then habitat activity surveys would be required to establish if bats are using the habitat for foraging/commuting purposes and if so by what species and to what extent.

In order to achieve that objective dusk manual and automated bat detectors activity surveys would need to be undertaken during the main active season of bats i.e. April-August and comprise of several visits during that time. The results of the surveys would then be used to provide information relative to the specific use of the habitat by bats and formulate a scheme to avoid any impact that may occur as a result of the floodlighting. (See Appendix IV Bats & Lighting: Bat Conservation Trust)

- 10.7 If work will in anyway affect the identified mature Beech (*Fagus sylvatica*) (TN2 Appendix I), a further site visit will be required which will consist of a licensed bat ecologist in association with the services of an arboriculturist 'tree climber' who is familiar with this type of work undertaking; a more detailed investigation would assess the potential roost features for actual bats or any evidence of use by bat/s by way of narrow beam torchlight and/or endoscope.

If the results from the further investigation provide a conclusive absence of bats or evidence of use then holes etc can be immediately blocked to allow for future operations (including removal) to take place. However, if bat/s or evidence of use is found or the area can not be conclusively investigated then further survey work i.e. dusk/dawn surveys will need to be undertaken at the tree. If bat/s were found to be using a tree then a European Protected Species Mitigation License (EPSML) would be required to legally fell.

Appendix I – Phase 1 Habitat Map



Habitat Key

	Survey boundary		Amenity grassland
	Scattered scrub		Hardstanding
	Scattered trees - broad-leaved		Building
	Scattered trees - coniferous		Target note
	Other Habitat		Ephemeral/short-perennial
	Intact Hedgerow		

Appendix II – Site Photographs



Plate 1: Front elevation of B1



Plate 2: B1 side elevation



Plate 3: Interior section of B1 – vaulted ceiling with roof void above



Plate 4: Area of B1 with vaulted ceiling



Plate 5: B2 front elevation – no potential



Plate 6: Beech with large extensive fissure on main trunk to the north of Colliers Park

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Plate 7: Football pitch and amenity grassland with trees to the outside boundary and existing flood-lighting



Plate 8: *G. columbinum*

Appendix III – Site Specific Botanical Species List

<u>Scientific Name</u>	<u>Common Name</u>
<i>Acer platanoides</i>	Norway Maple
<i>Achillea millefolium</i>	Yarrow
<i>Agrostis capillaris</i>	Common Bent
<i>Alliaria petiolata</i>	Garlic Mustard
<i>Arrhenatherum elatius</i>	False Oat Grass
<i>Betula pubescens</i>	Downy Birch
<i>Betula x aurata</i>	Birch hybrid
<i>Cerastium glomeratum</i>	Clustered Mouse ear
<i>Chenopodium album</i>	Fat Hen
<i>Cirsium arvense</i>	Creeping Thistle
<i>Cirsium vulgare</i>	Spear Thistle
<i>Crataegus monogyna</i>	Hawthorn
<i>Dactylis glomerata</i>	Cock's-Foot
<i>Epilobium montanum</i>	Broad Leaved Willowherb
<i>Epilobium sp.</i>	Willowherb sp.
<i>Euphorbia peplus</i>	Petty Spurge
<i>Festuca rubra</i>	Red Fescue
<i>Festuca sp.</i>	Fescue sp.
<i>Fraxinus excelsior</i>	Ash
<i>Fumaria muralis</i>	Common Ramping Fumitory
<i>Fumaria sp.</i>	Ramping Fumitory sp.
<i>Galium aparine</i>	Cleavers
<i>Geranium columbinum</i>	Long-Stalked Cranesbill
<i>Geranium pusillum</i>	Small-Flowered Cranesbill
<i>Geum urbanum</i>	Wood Avens
<i>Hedera helix</i>	Ivy
<i>Hedera sp.</i>	Ivy sp.
<i>Heracleum sphondylleum</i>	Hogweed
<i>Holcus lanatus</i>	Yorkshire Fog
<i>Ilex aquifolium</i>	Holly
<i>Lamium album</i>	White Dead Nettle
<i>Lamium rubrum</i>	Red Dead Nettle
<i>Leucanthemum vulgare</i>	Ox-Eye Daisy
<i>Ligustrum ovalifolium</i>	Garden Privet
<i>Lolium perenne</i>	Perennial Rye-Grass
<i>Malva moschata</i>	Musk Mallow
<i>Medicago lupulina</i>	Black Medick
<i>Papaver dubium</i>	Long-Headed Poppy
<i>Persicaria maculosa</i>	Redshank
<i>Pilosella aurantiaca</i>	Fox & Cubs
<i>Pinus sylvestris</i>	Scotts Pine
<i>Plantago major</i>	Greater Plantain
<i>Poa annua</i>	Annual Meadow Grass
<i>Poa sp.</i>	Meadow Grass sp.
<i>Poa trivialis</i>	Rough Meadow Grass
<i>Prunella vulgaris</i>	Selfheal
<i>Quercus robur</i>	English Oak
<i>Ranunculus repens</i>	Creeping Buttercup

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<i>Reseda luteola</i>	Weld
<i>Rosa arvensis</i>	Field Rose
<i>Rosa canina</i>	Dog Rose
<i>Rumex crispus</i>	Curled Dock
<i>Rumex obtusifolius</i>	Broad-Leaved Dock
<i>Sagina apetala</i>	Annual Pearlwort
<i>Sambucus nigra</i>	Elder
<i>Senecio jacobaea</i>	Common Ragwort
<i>Silene dioica</i>	Red Campion
<i>Sonchus oleraceus</i>	Smooth Sow-Thistle
<i>Stachys sylvatica</i>	Hedge Woundwort
<i>Stellaria media</i>	Common Chickweed
<i>Taraxacum sp.</i>	Dandelion sp.
<i>Trifolium repens</i>	White Clover
<i>Urtica dioica</i>	Perennial Nettle
<i>Veronica serpyllifolia</i>	Thyme-Leaved Speedwell

Bryophytes

Brachythecium rutabulum
Brachythecium sp.
Bryum argenteum
Bryum capillare
Calliergonella cuspidata
Didymodon insulanus
Rhytidiadelphus squarrosus
Schidistichum sp.
Tortula muralis

Appendix IV – Bats & Lighting

Type of lamp (light source)

The use of asymmetric beam floodlights (as opposed to symmetric) orientated so that the glass is parallel to the ground will ensure that the light is cast in a downward direction and avoids horizontal spill.

Lighting should be directed to where it is needed and light spillage avoided. This can be achieved by the design of the luminaire and by using accessories such as hoods, cowls, louvres and shields to direct the light to the intended area only. Planting can also be used as a barrier or manmade features that are required within the build can be positioned so as to form a barrier.

Predicting where the light cone and light spill will occur

There are lighting design computer programs that are widely in use which produce an image of the site in question, showing how the area will be affected by light spill when all the factors of the lighting components listed above are taken into consideration. This should be a useful tool to inform the mitigation process.

Light levels

The light should be as low as guidelines permit. If lighting is not needed, don't light.